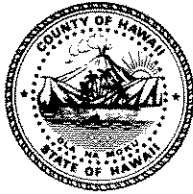


Stephen K. Yamashiro
Mayor



Virginia Goldstein
Director

Norman Olesen
Deputy Director

County of Hawaii

PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252
(808) 961-8288 • Fax (808) 961-9615

COPY

March 11, 1994

Mr. Eugene McCain
Kukuihaele Development Company
P.O. Box 44394
Kawaihae, HI 96743

Dear Mr. McCain:

**RE: Final Environmental Impact Statement for Amanresort
Kananonua and Waikoekoe, Hamakua District, Hawaii
Tax Map Key: 4-8-6:3, 13, 43, 44, por. 9 & 11**

This is to notify you of the acceptance of the Final Environmental Impact Statement for the Amanresort project as satisfactory fulfillment of the requirement of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in the process of deciding if the action described therein should be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws and does not necessarily constitute an endorsement of the proposed action.

Upon notice of the decision in the OEQC Bulletin, we will be acknowledging receipt of the various applications and proceeding with their review.

Sincerely,

VIRGINIA GOLDSTEIN
Planning Director

RKN:mjs

xc: Office of Environmental Quality Control
Sandra Schutte, Esq.

March 11, 1994

FINAL ENVIRONMENTAL IMPACT STATEMENT ACCEPTANCE REPORT

PROJECT: Amanresort
APPLICANT: Kukuihaele Development Company
LOCATION: Kanahonua and Waikoekoe, Hamakua District, Hawaii
TMK: 4-8-6:3, 13, 43, 44, por. 9 & 11

A. BACKGROUND

Kukuihaele Development Company proposes the following uses on approximately 113 acres in Kukuihaele on the Hamakua Coast: 1) retreat resort consisting of Amanhideaway, a 36-unit resort hotel located near the cliff edge with views of the beautiful coastline, and the Plantation Inn, a 4-suite inn in the renovated and preserved 85-year old Plantation Manager's Estate; 2) 1-acre lots (38 residential-agriculture lots and 7 residential-resort lots) to be sold in fee simple; and 3) various community benefits including boundary adjustments for existing residents bordering the project site, improvements to the Social Hall and Kukuihaele Park for community use, donation of land for expansion of cemeteries, establishment of a property tax trust fund to offset increases in property taxes resulting from the project, contribution of in-lieu affordable housing fee, granting of a lifetime license to an existing elderly Kukuihaele resident, and voluntary commitment to comply with recommendations relating to Waipio Valley tours. The project site makai boundary follows the clifftop edge and excludes the cliff area to the shoreline. The design and operation objective is to integrate the project into the rural character and community of Kukuihaele. This resort project will add to the Amanresort chain which has eleven other world-ranked resorts in Thailand, French Polynesia, Bali, and other areas.

Most of the project site consists of abandoned fields of sugar cane. The structures that do exist include: the 85-year old Plantation Manager's Estate, which will be preserved and converted into the Plantation Inn; a residence currently leased to an elderly resident, which will not be disturbed during the lifetime of the resident; and the Community Social Hall, which will be improved and dedicated to community use. The extensive landscaping and low scale architecture will maintain the open space character of the area and minimize the view of the resort from Waipio Valley. Landscaped areas will buffer adjacent uses, including the existing Kukuihaele town, two cemeteries, and the Roman Catholic Church, from the resort.

The project is outside of the SMA. The project will require State Land Use District Boundary Amendment, General Plan Amendment, and rezoning.

B. PROCEDURE

1. The Notice of Availability of the Environmental Impact Statement Preparation Notice (EISPN) for this project was published in the August 8, 1993 "OEQC Bulletin."
2. The 30-day consultation period for this project expired on September 7, 1993. During this period 19 letters were received which offered comments. The substantive comment letters as well as the responses to them are included in the Final EIS.
3. The Notice of Availability of the Draft EIS for this project was published in the November 23, 1993 "OEQC Bulletin."
4. The 45-day review period for this project ended on January 7, 1994. The Applicant responded to 38 letters of comment. These letters and the responses are included in the Final EIS.
5. The Notice of Availability of the Final EIS for this project was published in the March 23, 1993 "OEQC Bulletin."

C. ENVIRONMENTAL IMPACT STATEMENT CONTENT

The Final EIS consists of one volume. As required, this document contains:

1. Summary sheet
2. Table of contents
3. Statement of purpose and need for action
4. Project description
5. Discussion of known alternatives to the proposed action
6. Description of the environmental setting
7. A statement of the proposed actions' relationship to the land use plans, policies, and controls for the affected area
8. A statement of probable impact on the environment
9. Relationship between local short-term uses and enhancement of long-term productivity
10. Discloses all irreversible and irretrievable commitments of resources
11. Addresses all probable unavoidable adverse environmental effects
12. Description of mitigation measures to minimize impacts
13. A summary of unresolved issues
14. A list of organizations and individuals consulted in preparation of the Environmental Impact Statement
15. Reproductions of all substantive comments and responses made during the Environmental Impact Statement review period

The County of Hawaii Planning Department, as the Accepting Agency, has determined that the content requirements of the Environmental Impact Statement, as specified in Section 11-200-17 of

the Environmental Impact Statement Rules, have been met.

D. RESPONSES TO COMMENTS

The Applicant has responded to all substantive comments made during the review period of the Draft Environmental Impact Statement. Copies of the substantive comments and responses are included in the Final EIS.

The County of Hawaii Planning Department, as the Accepting Agency, has determined that this Environmental Impact Statement has fulfilled the public review requirement of Chapter 200 of Title 11, Administrative Rules, Environmental Impact Statement Rules.

E. UNRESOLVED ISSUES

1. **Offsite infrastructure**
 - a. **Road**-- The Applicant, community, County, and State Department of Transportation need to agree on the access road and extent of improvements.
 - b. **Water**-- The Applicant and Department of Water Supply need to agree on a feasible water supply option.
 - c. **Electrical/Telephone**-- The Applicant needs to determine its power requirements in greater detail, negotiate with HELCO on the extent of improvements, and decide whether to use HELCO's system or investigate alternative energy sources.
 - d. **Civil Defense**-- The Applicant and County must determine the need and location of a civil defense warning siren.
2. **Access easement.** Although the Applicant acknowledges the access easement rights of the landlocked 2.119-acre lot surrounded by the Project Site, the specific nature and location of the easement through the Project Site has not been determined. The land burdened by the easement is currently owned by the Roman Catholic Church and leased to the Applicant. The Applicant will resolve this access issue with the owner of the 2.119-acre lot when the Applicant obtains legal title from the Roman Catholic Church. Any changes to the site plan, if necessary, to accommodate the easement will not be significant.
3. **Soil stability.** The extent of setback from the cliff edge and/or appropriate structural mitigation measures need to be determined on the basis of a soils engineering study. The study would be conducted only upon securing the various land use approvals. The setback and/or structural mitigation measures would be checked at Plan Approval.
4. **Affordable housing in-lieu fee.** The amount of the fee would need to be resolved during the rezoning process.

F. SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

After this Final Environmental Impact Statement for the Amanresort project is accepted, a supplemental environmental impact statement shall be prepared if there is a major or substantial change to the proposed project, or if new or different environmental impacts are anticipated.

Any supplemental environmental impact statement shall be reviewed in accordance with Chapter 343, Hawaii Revised Statutes, and Chapter 200 of Title 11, Hawaii Administrative Rules, Environmental Impact Statement Rules.

G. **DETERMINATION**

The Planning Department, as the Accepting Agency, hereby determines this Final Environmental Impact Statement for Amanresort to be acceptable under the procedures established in Chapter 343, Hawaii Revised Statutes.



VIRGINIA GOLDSTEIN
Planning Director

Feb. 1994 FEIS Hawaii
Amanresort

FINAL
Environmental Impact Statement

Amanresort

Waikoekoe and Kanahonua, Hamakua District,
Hawaii

February 7, 1994

Office of Environmental Quality Control
235 S. Beretania #702
Honolulu HI 96813
586-4185

DATE DUE
APR 28 1999

Office of Environmental Quality Control

Final
Environmental Impact Statement

AMANRESORT

Kanahouua and Waikoekoe, Hamakua District, Hawaii

Prepared For:

Kukuihaele Development Company
Kawaihae, HI

EIS Consultant:

Roy R. Takemoto
P.O. Box 131
Hilo, HI 96721

February 7, 1994

This document has been prepared pursuant to Chapter 343, Hawaii Revised Statutes, for submission to the Hawaii County Planning Department.

Submitted by:

Roy R. Takemoto
Roy R. Takemoto

2/7/94
Date

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SUMMARY

1. **APPLICANT:** The Applicant is Royal Coast Resorts Corporation and Silverlink Holdings Limited ("Silverlink"), dba Kukuihaele Development Company. Silverlink is the holding ("parent") company of Amanresort, an international resort hotel chain. Amanresort will operate the resort upon completion of construction. The applicant's petition for a General Plan amendment triggers Chapter 343, Hawaii Revised Statutes.
2. **ACCEPTING AUTHORITY:** Planning Department, County of Hawaii
3. **LOCATION AND OWNERSHIP**
 - a. **Region:** Waikoeke and Kanahoua, Hamakua District, Island and County of Hawaii, within the vicinity of Kukuihaele town.
 - b. **Project Site:** The Project Site is comprised of six parcels (TMK: 3/4-8-6:3, 13, 43, 44, por. 9 & 11) totaling approximately 113 acres. The Project Site makai boundary follows the clifftop edge and excludes the cliff area to the shoreline.
 - c. **Ownership:** The applicant currently owns in fee simple about one-third of the Project Site, and has a lease with an option to purchase with the Roman Catholic Church for most of the remainder of the property.
4. **PROJECT DESCRIPTION**

During the Consultation Period, the Applicant modified the project in response to comments received. The modifications consisted primarily of replacing the resort "villa" lots with agricultural lots, proposing a new access route to the project, and substantially enhancing the community benefits package.

 - a. **Retreat Resort Facilities.** The proposed retreat resort facilities consist of two components: 1) *Amanhideaway*, a 36-unit one-story luxury resort located at the cliff edge with views of the ocean, coast, and Waipio Valley; and 2) *Plantation Inn*, a 4-suite inn in the renovated and preserved 85-year old Plantation Manager's Estate. Characteristic of other Amanresorts around the world, the design and operational objective for this resort is to create a low-scale, low-density resort using indigenous architecture to blend with the surrounding environment and culture.
 - b. **1-Acre Lots.** In addition to the retreat resort facilities, the Applicant proposes to develop 38 agricultural lots and 7 residential-resort lots to be sold in fee simple. The lot owners would be subject to design covenants to ensure compatibility and acceptable quality of development. The agricultural lots, zoned A (agricultural) under the County's zoning ordinance, would maintain Kukuihaele's rural character; transient uses would also be restricted on these lots. The residential-resort lots, zoned Resort, would allow transient uses and thus would be available as overflow for Amanhideaway or the Plantation Inn.
 - c. **Community Benefits.** The Applicant has committed to provide the following:
 - i. Property tax trust fund to offset potential increases in property taxes resulting from the resort;
 - ii. Boundary adjustments for certain Kukuihaele residents bordering the Project Site;
 - iii. Improvements to the Social Hall and Kukuihaele Park with input from an Advisory Committee of community representatives;

- iv. Contribution of in-lieu affordable housing fee and construction of limited employee housing onsite;
 - v. Voluntary commitment to comply with agency recommendations relating to Waipio Valley tours;
 - vi. Donation of additional land for expansion of cemeteries;
 - vii. Granting of a lifetime license to an elderly Kukuihaele resident; and
 - viii. Allowing public access on certain mauka-makai roads running along the boundaries of the Project Site.
- d. **Infrastructure.**
- i. **Roads.** The Applicant will construct a new road from Highway 240 to access the project. This new access will minimize impact on the Old Route 240 since visitors to the project would cross the Old Route 240 at only one intersection. Internal roadways would be private.
 - ii. **Water.** The existing County system has capacity to serve the proposed project; however, the system needs to be upgraded to meet the federal Safe Drinking Water Act standards. An alternative is for the Applicant and County to jointly develop a deepwell source.
 - iii. **Wastewater.** The hotel would use a private package treatment plant with effluent disposal by a subsurface leaching field. The 1-acre lots would use individual wastewater systems.
 - iv. **Drainage.** The drainage along the roadways would be directed to drywells. The hotel may also use drywells.
 - v. **Electrical/Telephone.** The distribution lines from the Honokaa substation may need to be upgraded in capacity. Onsite distribution will be overhead lines.

5. ENVIRONMENTAL SETTING

- a. **Climate.** The Project Site is located on the northeast side of the island exposed to the prevailing northeasterly tradewinds. The elevation at the top of the cliff is about 500' above mean sea level. The area receives moderate rainfall with an annual median of 59 inches. This area of the Hamakua Coast is in a relatively "dry" pocket compared to the average annual rainfall in excess of 100 inches north of Waipio Valley and south of Honokaa.
- b. **Soils and Topography.** The soil in the area is classified as Paauhau silty clay loam with moderate slopes of 6 to 12% and 12 to 20% (PaC, PaD), with steeper slopes confined to the gullies (PaE). A small portion is classified as Kukaiau silty clay loam, 12 to 20% (KuD). The Land Study Bureau ranks this soil as Class C (fair) for overall agricultural suitability. The State Department of Agriculture ranks this soil as prime agricultural land under the Agricultural Lands of Importance to the State of Hawaii (ALISH) system.
- c. **Hydrology and Wetlands.** According to the Aquifer Classification System adopted by the State, the Project Site is in the Honokaa Aquifer System in the East Mauna Kea Aquifer Sector. This Sector has abundant groundwater resources which have been successfully exploited, though to only a very limited degree. Sustainable yields of this fresh water lens far exceed the quantity pumped. The current sources for domestic water in the area is a perched aquifer feeding a spring to supply the County system at Kukuihaele, a deep well in Haina to serve the County system at Honokaa, and the Honokaa Ditch to serve Paauhau. The Project Site is not in the Critical Wastewater Disposal Area. The intermittent Waikoekoe Stream transects the mauka portion of the

- Project Site. There are no wetlands within the Project Site.
- d. **Flora and Fauna.** There are no endangered species.
 - e. **Natural Hazards.** According to the Flood Insurance Rate Map (FIRM), the entire Project Site is in Zone X (outside the 500 year flood plain). The Project Site is in lava flow hazard zone 8 (on a scale of 1 to 9 with the greatest hazard in zone 1).
 - f. **Archaeological/Historical Resources.** An archaeological inventory survey identified four archaeological or historical resources within the Project Site. Three of the sites are within gulches and would not be impacted by the project. Interim preservation measures will be taken to protect these sites. The fourth site is the Plantation Manager's Estate, which is on the Hawaii State Register of Historic Places. This site will be rehabilitated in accordance with the State's rehabilitation standards for historic buildings.
 - g. **Scenic Resources.** Waipio Valley is a significant scenic resource in the vicinity of the Project Site.
 - h. **Socioeconomic Characteristics.** Kukuihaele's population has declined over the last fifty years from 590 persons in 1950 to 316 in 1990. The ethnic diversity of the current population is characteristic of its plantation labor force. Kukuihaele's adult percentage of 70% (over 18 years old) is comparable to the islandwide norm. Kukuihaele's elderly percentage of 20% (over 65 years old) is higher than the islandwide norm of 13%. Kukuihaele's median family income of \$8,463 is less than the islandwide norm of \$13,169.

6. IMPACTS AND MITIGATION MEASURES

The following list organizes the impacts and mitigation measures according to the party responsible for implementing the suggested mitigation measure. For example, all the mitigation measures within the power of the Applicant to implement are grouped together. Besides the Applicant, other parties who would implement mitigation measures include the hotel operator (Amanresort), the Applicant's designers (architects, engineers), and the various agencies who administer environmental permits.

IMPACTS/CONCERNS	SUGGESTED MITIGATION MEASURES	EIS §
Mitigation Measures to be Implemented by Applicant (with commitment memorialized by a Letter of Commitment (see Appendix H); at the discretion of decisionmakers, the commitments may be enforced as permit conditions):		
Increase in property taxes.	None required. The Applicant agreed to establish a trust fund on specified conditions and amounts.	§3.2 (Socioeconomic Characteristics)
Community participation in design and management of important cultural landmarks-- Social Hall and Kukuihaele Park.	None required. The Applicant agreed to establish an Advisory Committee comprised of community representatives for the design, maintenance, and operation of the facilities. The terms of this commitment need to be detailed in a management agreement or other appropriate instrument.	§3.2 (Socioeconomic Characteristics)

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

- Project Site. There are no wetlands within the Project Site.
- d. **Flora and Fauna.** There are no endangered species.
 - e. **Natural Hazards.** According to the Flood Insurance Rate Map (FIRM), the entire Project Site is in Zone X (outside the 500 year flood plain). The Project Site is in lava flow hazard zone 8 (on a scale of 1 to 9 with the greatest hazard in zone 1).
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IMPACTS/CONCERNS	SUGGESTED MITIGATION MEASURES	EIS §
Mitigation Measures to be Implemented by Applicant (with commitment memorialized by a Letter of Commitment (see Appendix H); at the discretion of decisionmakers, the commitments may be enforced as permit conditions):		
Increase in property taxes.	None required. The Applicant agreed to establish a trust fund on specified conditions and amounts.	§3.2 (Socioeconomic Characteristics)
Community participation in design and management of important cultural landmarks-- Social Hall and Kukuihaele Park.	None required. The Applicant agreed to establish an Advisory Committee comprised of community representatives for the design, maintenance, and operation of the facilities. The terms of this commitment need to be detailed in a management agreement or other appropriate instrument.	§3.2 (Socioeconomic Characteristics)

IMPACTS/CONCERNS	SUGGESTED MITIGATION MEASURES	EIS §
Impact on cemetery.	None required. The Applicant agreed to donate land for expansion of the cemeteries.	§3.2 (Socioeconomic Characteristics)
Loss of agricultural lands.	Reduced impact. The Applicant agreed to seek State Land Use District Boundary Amendment from Agriculture to Urban for four separate areas totaling 24.844 acres instead of all 77 acres within the State Land Use Agriculture district as originally proposed.	§3.2 (Socioeconomic Characteristics)
Loss of privilege to use backyard "encroachment" area.	None required. The Applicant agreed to adjust property boundaries by surveying, deeding, and resubdividing affected properties.	§3.2 (Socioeconomic Characteristics)
Impact on animal raising.	None required. The Applicant agreed to seek rezoning to A (agriculture) instead of resort for most of the 1-acre lots.	§3.2 (Socioeconomic Characteristics)
Impact of construction vehicles.	None required. Construction vehicles will use the proposed access from Highway 240 instead of the Old Route 240.	§3.2 (Socioeconomic Characteristics)
Dislocation of elderly resident.	None required. The Applicant agreed to allow resident to live his lifetime in the current residence.	§3.2 (Socioeconomic Characteristics)
Mitigation Measures to be Implemented by Hotel Operator (with commitment memorialized by a Letter of Commitment (see Appendix H); at the discretion of decisionmakers, the terms of the agreement may be enforced as permit conditions and recorded in the Bureau of Conveyances):		
Public access to historic Plantation Manager's Estate.	None required. The Applicant agreed to public access to the Plantation Inn.	§3.1.6 (Archaeological/Historic Resources)
Cultural education of visitors and hotel management; forum for community relations.	None required. The Applicant agreed to establish a standing community relations committee comprised of representatives of the community and hotel management.	§3.2 (Socioeconomic Characteristics)
Impact on Waipio Valley.	None required. The Applicant agreed to abide by the recommendations of the Waipio Task Force or other applicable agency.	§3.2 (Socioeconomic Characteristics)
Commitment to hire local residents.	None required. The Applicant agreed to give preference in hiring in the priority order determined with the community.	§3.2 (Socioeconomic Characteristics)

IMPACTS/CONCERNS	SUGGESTED MITIGATION MEASURES	EIS §
Commitment to raise qualifications of local residents.	None required. The State DLIR provides job training that will be supplemented by the hotel operator's training program.	§3.2 (Socioeconomic Characteristics)
Mitigation Measures to be Implemented by Applicant's Designers and checked at Plan Approval (at the discretion of decisionmakers, the commitments may be enforced as permit conditions):		
Minimal grading.	Review grading plan.	§3.1.2 (Soils and Topography)
Blending with surroundings with earthtone colors and low buildings.	Review pertinent architectural plans submitted for building permit.	§3.1.7 (Scenic Resources)
Location of wastewater treatment plant to minimize odor problems.	Review site plan.	§3.3.3 (Wastewater)
Inventory of exceptional plant species and protection during construction, if necessary.	Review landscaping plan.	§3.1.4 (Flora & Fauna)
View impact of structures near cliff.	Review landscaping plan to ensure cliff vegetation preserved or replaced to serve as a landscape screen. Review pertinent architectural plans to ensure the building height of the resort hotel is limited to 1-story.	§3.1.7 (Scenic Resources)
Preserving public shoreline access.	Review civil engineering plans to ensure that the access road is designed to County dedicable standards; approve perpetual easement or other document to ensure public access if the road to the chlorination station is proposed to be private.	§3.3.10 (Recreation and Public Access)
Mitigation Measures Implemented by Permit Compliance:		
Coastal water quality impact of erosion and sedimentation control during construction; dust control.	Grading Permit; NPDES Permit	§3.1.2 (Soils and Topography)
Groundwater quality impact of subsurface discharge of wastewater effluent and storm water; odor impacts.	DOH Wastewater System Approval; UIC Permit	§3.1.3 (Hydrology); §3.3.3 (Wastewater)
Adequate drainage facilities to prevent impact on downstream properties and streams.	Compliance with County drainage standards as part of subdivision, grading, or building permit.	§3.1.5.1 (Flooding Hazards)
Structural adequacy for earthquakes.	Building Permit	§3.1.5.3 (Earthquake Hazards)

IMPACTS/CONCERNS	SUGGESTED MITIGATION MEASURES	EIS §
Appropriate rehabilitation of historic Plantation Manager's Estate; adequacy of interim preservation plans for archaeological sites.	Division of Historic Sites review and approval (HRS §6E-10 review).	§3.1.6 (Archaeological/Historic Resources)
Impact of well on sustainable yield; drinking water quality of well.	Well drilling permit; Safe Drinking Water approval	§3.3.2 (Water)

7. ALTERNATIVES

Three alternatives in addition to the proposed project were considered:

- a. *No Project.* This alternative would preserve the *status quo*, at least for the immediate future, at the expense of lost opportunities related to the proposed project (e.g., jobs, improvements to the Social Hall, boundary adjustments of affected residents). Depending on economic forces, Kukuihaele could diminish upon Hamakua Sugar Company's closing similar to Hawi's experience when Kohala Sugar Company closed, or could expand if other economic opportunities arise. If Kukuihaele grows, the full build-out under existing zoning would result in a potentially larger population than the proposed project.
- b. *Alternative Site Location.* This alternative was rejected on the basis that it was highly unlikely that a suitable site could be found on the Hamakua Coast that could be consummated within an expeditious time period and would have less impacts than the proposed site.
- c. *Diversified Agriculture.* Based on an analysis by the State Department of Agriculture (DOA), the estimated acreage to meet the market potential for diversified agriculture on Hawaii Island is 12,000. The DOA and Department of Land and Natural Resources (DLNR) have plans to lease 7,000 acres on the Hamakua Coast for diversified agriculture. The prospects for the Roman Catholic Church to offer terms competitive with the State to attract diversified agricultural ventures on the lands within the proposed Project Site is not favorable in the immediate future.

Compared with the alternatives, the proposed project will provide substantial economic and community benefits while minimizing adverse impacts.

8. COMPATIBILITY WITH LAND USE PLANS, POLICIES, CONTROLS

State Land Use Commission:

Existing: Agriculture (approx. 77 acres); Urban (approx. 36 acres)
Proposed: Agriculture to Urban: hotel site (15.0 acres); residential-resort lots and employee housing (8.757 acres); boundary adjustment for residential lot mauka of County road (0.25 ac.); boundary adjustment for residential lots makai of County road (0.837 ac.)

County General Plan:

Existing: Extensive Agriculture (approx. 5 acres); Intensive Agriculture (approx. 48 acres); Low Density Urban (approx. 60 acres)
Proposed: Extensive Agriculture to Resort (approx. 2 acres) [hotel site]; Intensive Agriculture to Resort (approx. 13 acres) [hotel site]; Low Density Urban to Resort (approx. 27 acres) [Plantation Inn, residential-resort lots,

employee housing]

County Zoning:

Existing:

A-40a (approx. 87 acres); RS-15 (approx. 26 acres)

Proposed:

A-40a to V-18(15.0 acres) [hotel site]; A-40a to V-43 (approx. 12.5 acres)[residential-resort lots, employee housing]; RS-15 to V-43 (approx. 14.5 acres) [Plantation Inn, residential-resort lots]; A-40a to A-1a (51.982 acres) [1-acre agricultural lots]; A-40a to RS-7.5 (2.656 acres) [boundary adjustment Tiger Camp lots]; A-40a to RS-15 (0.837 + 0.25 acre) [boundary adjustment for existing residential lots]

The State Plan and County General Plan both support the development of visitor facilities that are compatible with the physical and social environment. Although both plans also support diversified agriculture on important agricultural lands, in reconciling these policies it must be noted that the soils within the Project Site are considered marginal agricultural lands (LSB Class C). The County General Plan specifically supports a retreat resort within the Hamakua District.

9. **UNRESOLVED ISSUES**

- a. **Offsite infrastructure--** the following issues would be resolved during the rezoning process:
 - i. **Road--** The Applicant, community, County, and State Department of Transportation need to agree on the access road and extent of improvements.
 - ii. **Water--** The Applicant and Department of Water Supply need to agree on a feasible water supply option.
 - iii. **Electrical/Telephone--** The Applicant needs to determine its power requirements in greater detail, negotiate with HELCO on the extent of improvements, and decide whether to use HELCO's system or investigate alternative energy sources.
 - iv. **Civil Defense--** The Applicant and County must determine the need and location of a civil defense warning siren.
- b. **Access easement--** Although the Applicant acknowledges the access easement rights of the landlocked 2.119-acre lot surrounded by the Project Site, the specific nature and location of the easement through the Project Site has not been determined. The land burdened by the easement is currently owned by the Roman Catholic Church and leased to the Applicant. This access issue will be resolved with the owner of the 2.119-acre parcel when the Applicant obtains legal title from the Roman Catholic Church. Any changes to the site plan, if necessary, to accommodate the easement will not be significant.
- c. **Soil stability.** The extent of setback from the cliff edge and/or appropriate structural mitigation measures need to be determined on the basis of a soils engineering study. The study would be conducted only upon securing the various land use approvals. The setback and/or structural mitigation measures would be checked at Plan Approval.
- d. **Affordable housing in-lieu fee.** The amount of the fee would need to be resolved during the rezoning process.

INTRODUCTION

1.1 APPLICANT

The applicant is Royal Coast Resorts Corporation and Silverlink Holdings Limited ("Silverlink"), dba Kukuihaele Development Company ("Applicant"). Silverlink is the holding ("parent") company of Amanresort, an international resort hotel chain. Amanresort currently owns and operates ten other resorts in Indonesia (e.g., Aman-dari), Thailand (e.g., Amanpuri), Tahiti (Hotel Bora Bora), Malaysia, France, and elsewhere. Amanresort will operate the resort upon completion of construction. In recent ratings, Amanpuri and Amandari ranked #2 and #3 among foreign resorts.¹

1. "Where Executives Most Prefer to Stay", Forbes, September 27, 1993; see also "The Top 100", Conde Naste Traveler, October 1993 (Amanpuri #1 foreign resort).

1.2 PURPOSE OF THIS DOCUMENT

The Applicant's petition for a General Plan amendment triggers Chapter 343, Hawaii Revised Statutes relating to Environmental Impact Statements. As the accepting authority for this document, the County of Hawaii Planning Department determined that an Environmental Impact Statement was required to address the impacts of the proposed project.²

The purpose of this document is to provide decisionmakers and the general public with information regarding the significant environmental effects of the proposed project. This EIS also identifies feasible means to mitigate such effects or identifies alternatives where appropriate.

This document has been compiled from published and unpublished studies, field investigations, and input from various agencies and the community. Technical studies conducted specifically for this project are included as appendices in this EIS.

The EIS process consists of the following steps:

1. *EIS Preparation Notice.* The purpose of the EIS Preparation Notice is to succinctly describe the project in sufficient detail to enable the public to identify major issues that should be addressed in the Draft EIS. The EIS Preparation Notice was distributed to various agencies, community groups, and individuals who had a potential interest in the project. The public had 30 days from the publication date in the OEQC Bulletin to send comments. This 30-day period, referred to as the Consultation Period, officially ended on September 7, 1993. The list of consulted parties, as well as the comments and responses, are attached in Appendix I.
2. *Draft EIS.* The Draft EIS is a fact-finding document that provides pertinent information on the project, the existing conditions, the issues, and possible solutions (mitigation measures) to resolve issues.
3. *Public Review Period.* The public has 45 days to review the Draft EIS and provide comments. The objective during this period is to resolve disputes and document any agreements reached, to correct any inaccuracies stated in the Draft EIS, and to provide additional information pertinent to the decisionmaking.

2. EIS Preparation Notice for Aman Resort, July 26, 1993, published in the OEQC Bulletin dated August 8, 1993.

1.2 PURPOSE OF THIS DOCUMENT

4. *Final EIS.* The Final EIS is a decisionmaking reference that contains a comprehensive record of pertinent information, incorporating any comments or commitments made during the Review Period.

PROJECT DESCRIPTION

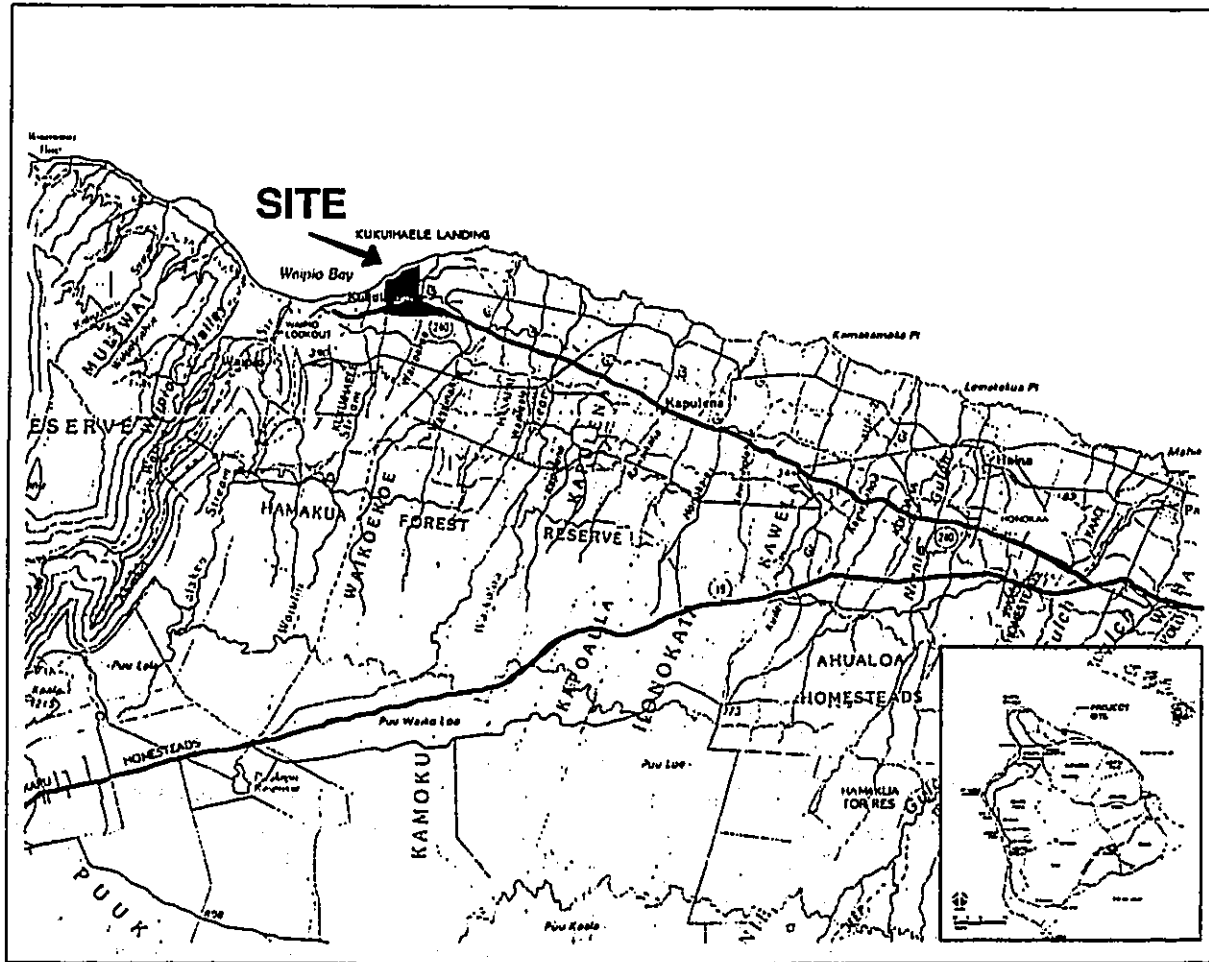
2.1 LOCATION AND OWNERSHIP

The Project Site is comprised of six parcels (TMK: 3/4-8-6:3, 13, 43, 44, por. 9 & 11) totaling approximately 113 acres located in Waikoekoe and Kanahonua, Hamakua District, Island and County of Hawaii, within the vicinity of Kukuihaele town ("Project Site") (see Figure 1, "Location Map," on page 2-2). The Project Site is approximately seven miles from Honokaa. The Applicant currently owns in fee simple approximately one-third of the Project Site, and has a lease with an option to purchase with the Roman Catholic Church for the remainder of the property (see Figure 2, "Ownership Map," on page 2-3). The Project Site excludes a 2.119-acre lot recently granted final subdivision approval (October 20, 1993, Subdivision No. 6345). The Project Site makai boundary follows the cliff top edge and excludes the cliff area to the shoreline.

The Waipio Valley lookout is about one-half mile away from the Project Site (see Figure 3, "Project Site Location in Relation to Waipio Valley," on page 2-4).

PROJECT DESCRIPTION

FIGURE 1. Location Map



2.1 LOCATION AND OWNERSHIP

FIGURE 2. Ownership Map

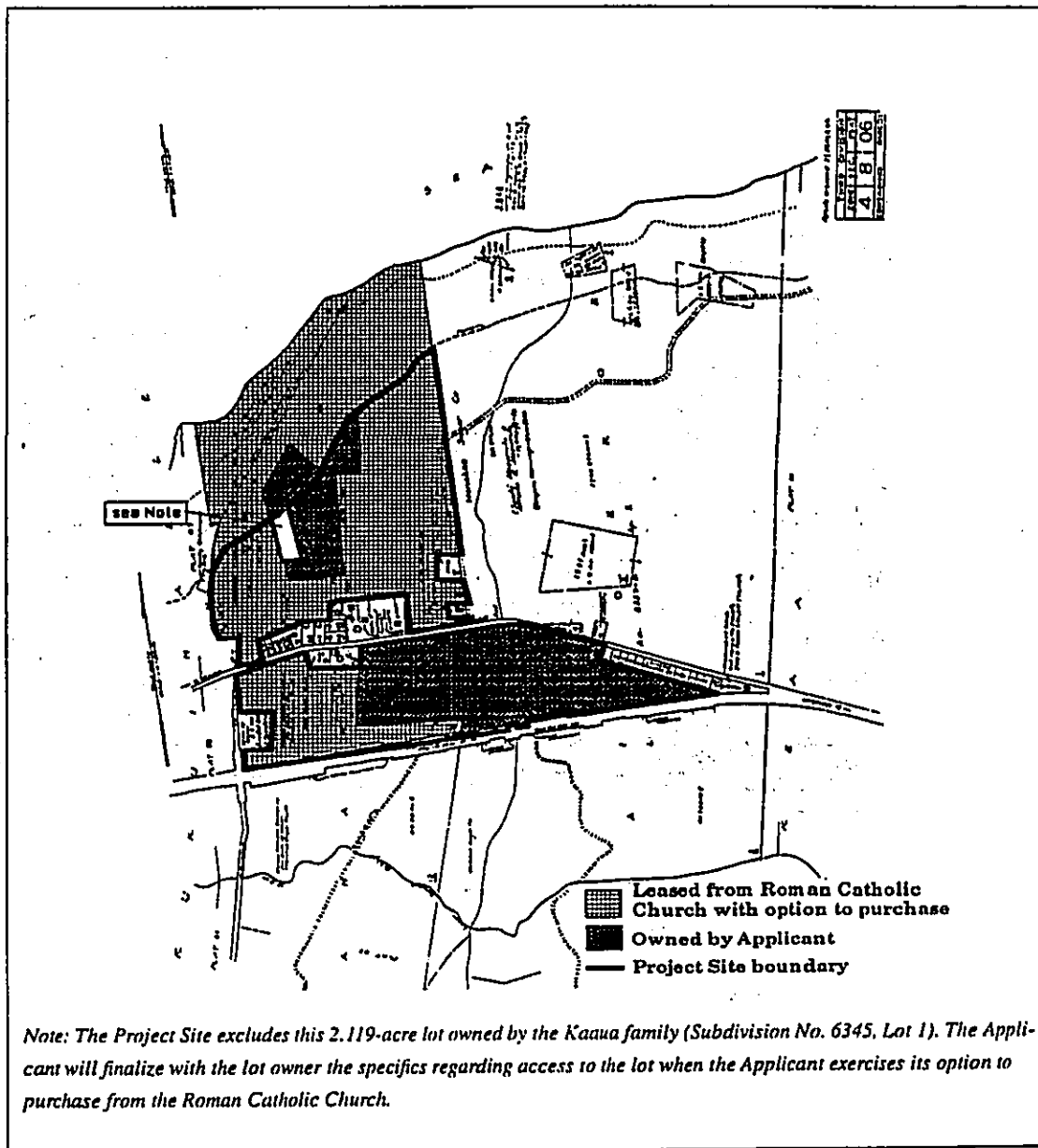
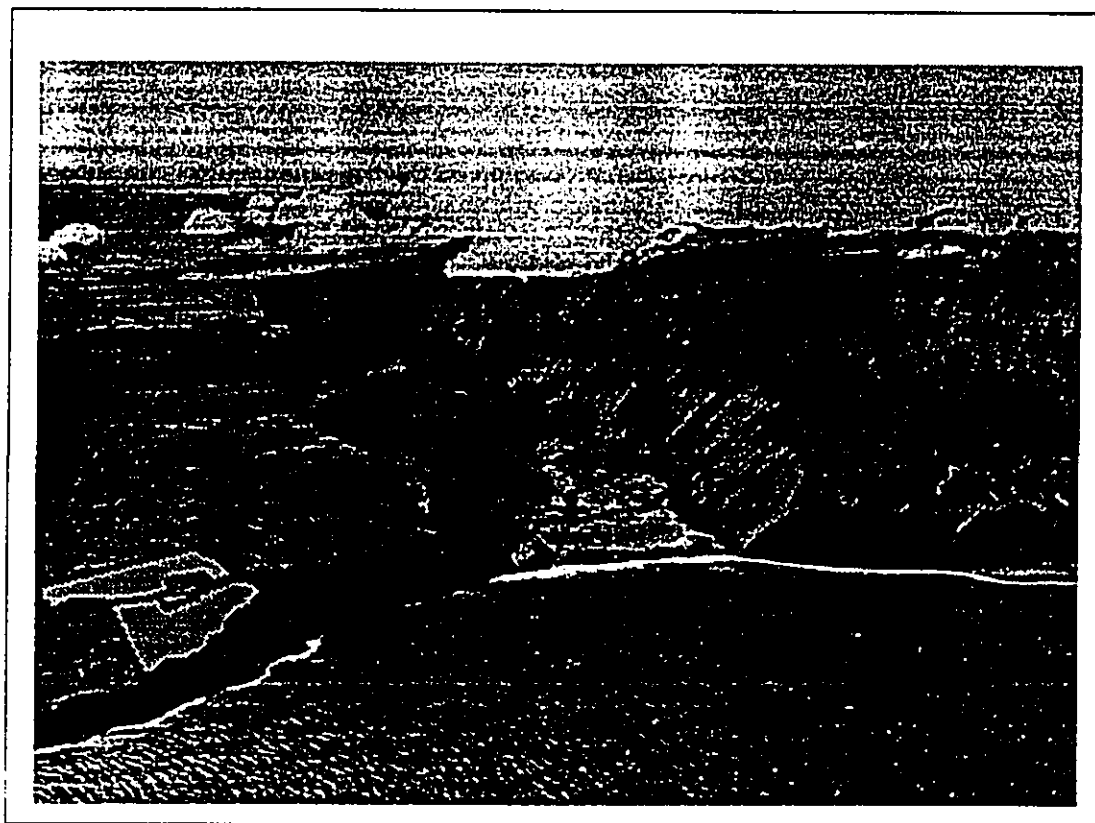


FIGURE 3. Project Site Location in Relation to Waipio Valley



2.2 EXISTING CONDITIONS

2.2.1 Project Site

Most of the Project Site consists of abandoned fields of sugar cane (see Figure 4 on page 2-6 and Figure 5 on page 2-7). The structures that do exist include: the Plantation Manager's Estate (see Figure 6 on page 2-8), which will be renovated into an inn (see discussion below in §2.5.1 "Retreat Resort Facilities" on page 2-18); a resi-

2.2.2 Surrounding Areas

dence currently leased to an elderly resident, which will not be disturbed during the lifetime of the resident (see §2.5.3 "Community Benefits" on page 2-24); and the Community Social Hall (see Figure 7 on page 2-9), which will be redesigned in accordance with community input (see §2.5.3 "Community Benefits" on page 2-24). For an overview of the existing and surrounding conditions, see Figure 8, "Existing Conditions," on page 2-10 and Figure 9, "Topographic Map," on page 2-11.

2.2.2 Surrounding Areas

The existing community of Kukuihaele includes about 60 homes and a population of approximately 300. Some of the homes are remnants of the plantation days built in the 1910's to 1930's. These extant plantation homes are clustered around the Last Chance Store in "Camp 105". A few homes in "Camp 104" also still remain across from the Roman Catholic Church. More recent plantation homes line Highway 240 near the entrance to Kukuihaele ("Kona Camp") and also along the Old Route 240 traversing through Kukuihaele ("Tiger Camp"). The Kukuihaele Park, a 3.2-acre County park, is located across the Plantation Manager's Estate. Kukuihaele Landing, a popular shoreline recreation area, is located about one mile east from the Project Site.

FIGURE 4. Site Photograph (looking mauka from hotel site)

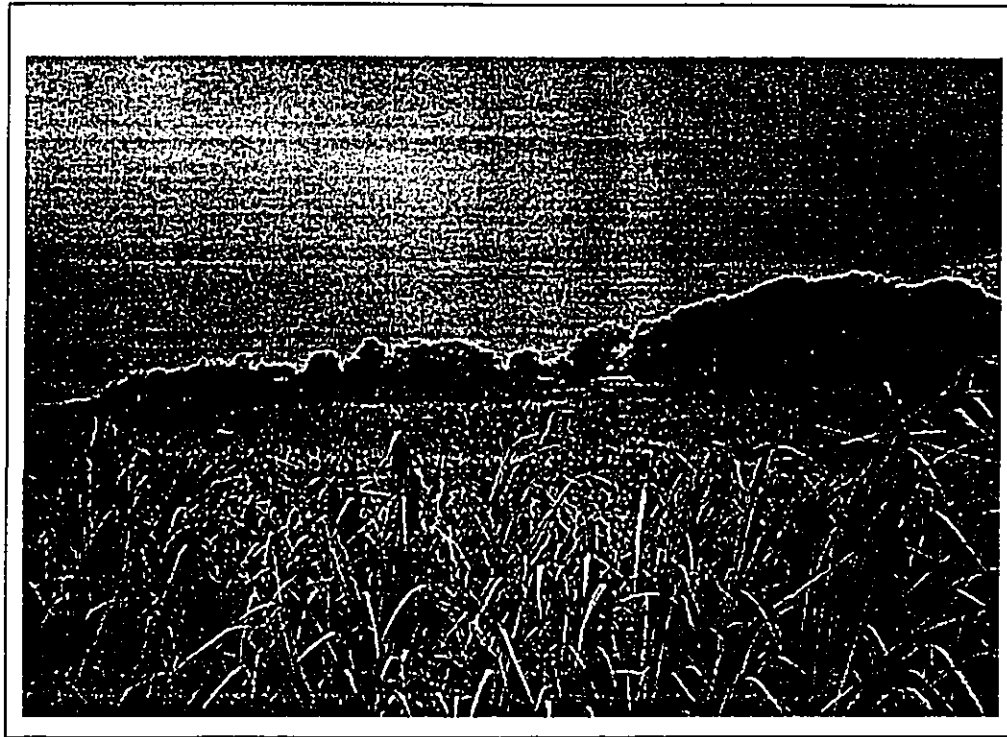


FIGURE 5. Site Photograph (looking makai from hotel site)

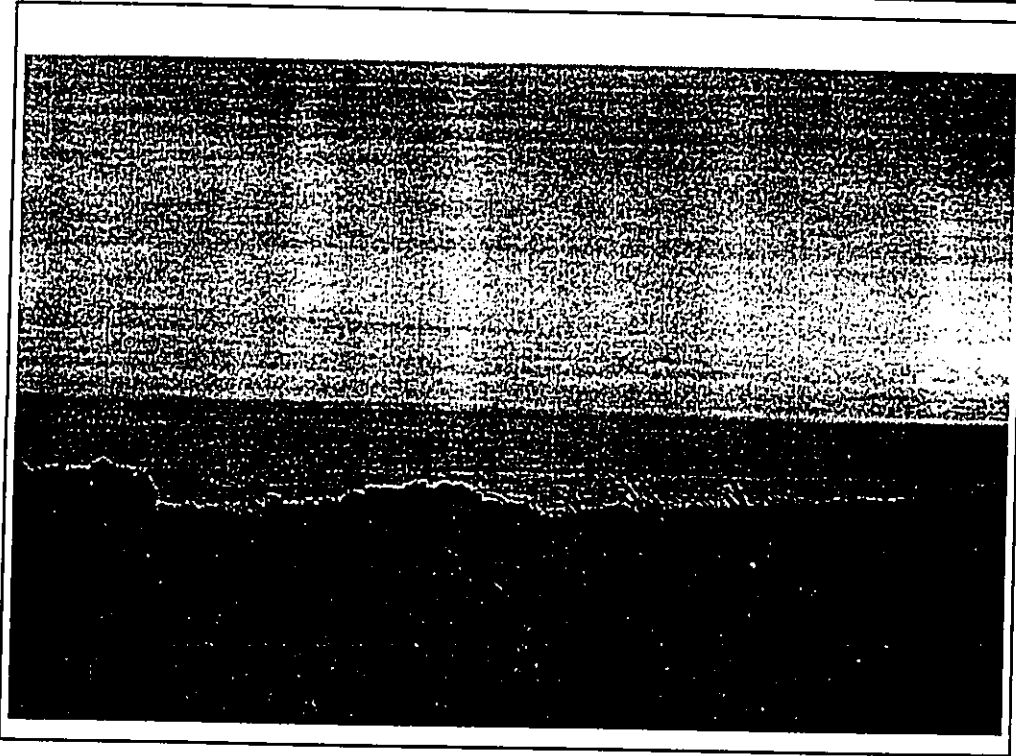


FIGURE 6. Plantation Manager's House

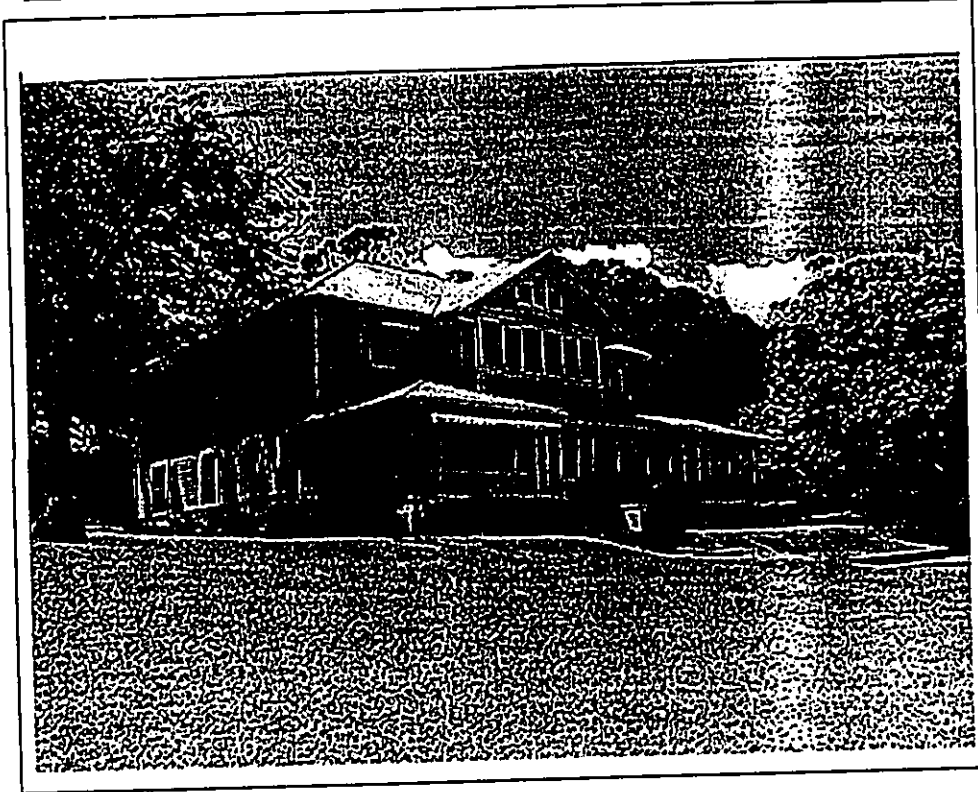


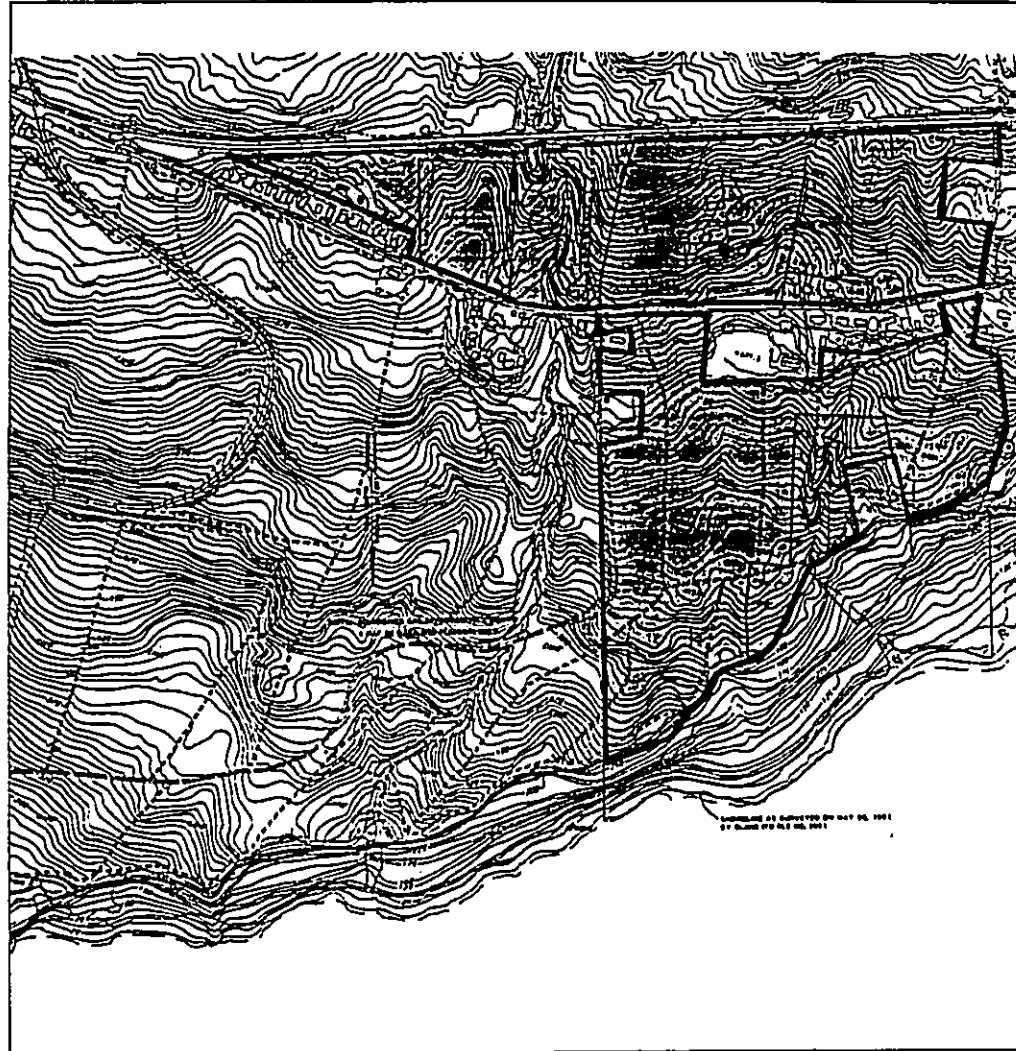
FIGURE 7. Social Hall



FIGURE 8. Existing Conditions



FIGURE 9. Topographic Map



2.3 PROJECT BACKGROUND

In an attempt to save Hamakua Sugar Company from bankruptcy, the County Council rezoned a portion of Hamakua Sugar Company's lands which included the Project Site. The proposed use included a 200-unit hotel (proposed rezoning from Agriculture-40a to Commercial Village) and golf course (proposed rezoning from Agriculture-40a to Agriculture-1a) to be located on the Honokaa side of the Project Site, as well as 25 1-acre lots (proposed rezoning from Agriculture-40a to Agriculture 1a) within the Project Site (see Figure 10, "Previous Hamakua Makai Land Use Plan," on page 2-13). A 3rd Circuit Court decision overturned the County's rezoning action on procedural grounds, thereby reverting the zoning to the original designation prior to the Council's decision.¹ Although the Use Permit issued for the golf course in 1991 was not affected by the litigation, when a Use Permit "not otherwise conditioned has not been utilized within a period of two years from the date of final approval, then without any further action such . . . use permit . . . shall become voided and thereafter may not be used."² No action has been taken to utilize the Use Permit since it was issued in 1991. Notwithstanding the court decision, Hamakua Sugar Company failed to obtain the entitlements by a specified deadline and the purchase agreement with the hotel/golf course developers expired.

The attempt to save Hamakua Sugar Company failed. Hamakua Sugar Company filed for bankruptcy to liquidate the Company's assets.³ The creditors have agreed to allow a last harvest of the existing planted sugar cane. This harvest, which started in April 1993 and will last 14 months, ends in mid-1994 at which time Hamakua Sugar Company operations will officially close.

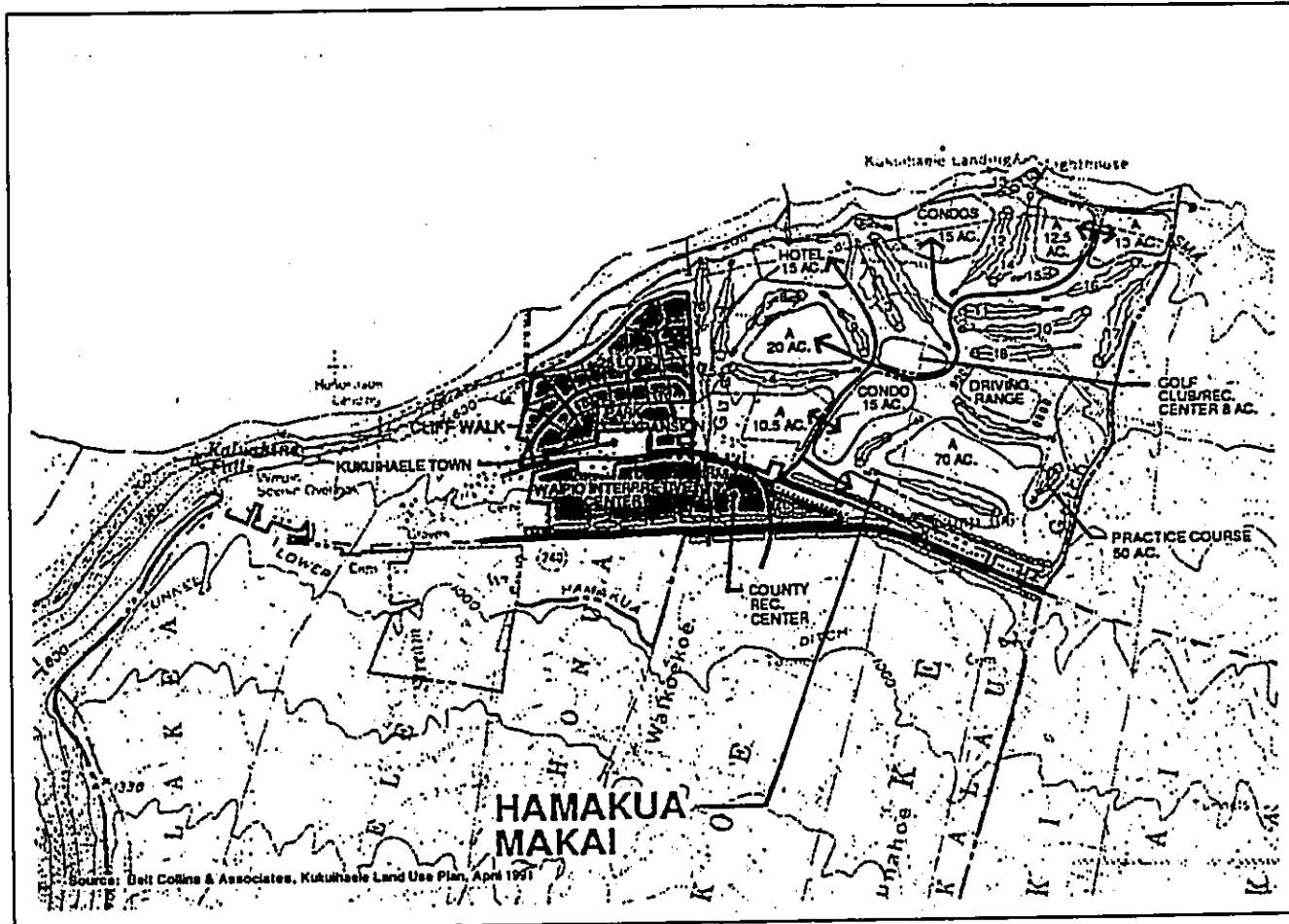
1. *Ross v. County Council of Hawaii, et. al.*, 3rd Circuit Court, Civ. No. 92-93 (zoning held invalid because Council did not follow proper notice procedures); see also. *Greenpeace Foundation Hawaii, Inc. v. County Council of Hawaii*, 3rd Circuit Court, Civ. No. 92-068 (partial summary judgment granted that compliance with *Hawaii Revised Statutes* Chapter 343 (EIS Law) was required).

2. *Hawaii County Code* §25-10.

3. U.S. District Court for the Hawaii District, Case No. 92-00865.

2.3 PROJECT BACKGROUND

FIGURE 10. Previous Hamakua Makai Land Use Plan



The above events provide the context for the proposed project: Hamakua Sugar Company has gone bankrupt; the last sugar cane harvest will occur in mid-1994 at which time hundreds of plantation employees will be unemployed; the previous plans for a 200-unit hotel and golf course have been scrapped; and the rezoning designations have reverted to the original Agricultural designations.

2.4 STATEMENT OF OBJECTIVES

The Applicant's objectives in the design and operation of the proposed project include:

- *Maintain a low-key presence.* Amanresorts locate in quiet areas. The entrance to the resort is intentionally inconspicuous. This understated identity lends itself to a sense of seclusion, peacefulness, and discovery as the experience of the resort subtly unfolds. The number of hotel units must remain very few to provide the intimate, personalized ambience in a natural environment characteristic of Amanresorts.
- *Design to blend with exquisite natural surroundings.* Amanresorts locate in exquisite natural surroundings. The simple yet elegant architectural design uses indigenous materials, subtle colors, and minimal site grading to blend with the existing contours and showcase the beauty of the area.
- *Maintain the existing rural ambience.* Amanresorts recognizes that the character of a place is an intangible priceless asset. It is not something that can be willfully created; it is something easily destroyed. The physical components of ruralness are fairly rudimentary: keep roads and other improvements simple and minimal; and keep development very low density. The social component is more elusive. The trust, the friendliness, the sense of community-- the resort operators recognize that these virtues must be carefully cultivated with their employees and the community.
- *Promote the local culture.* Amanresorts guests experience a culture not only by the entertainment, food, and arts and crafts, but also by the informal interaction with the residents. For this reason, Amanresorts prefers local residents as employees. The sharing of recreational facilities with the community to encourage interaction with the community furthers this objective. On the other hand, the resort does not wish to intrude on the community.

The Amanresorts chain has successfully developed and operated ten other world-ranked resorts in Thailand, French Polynesia, Bali, and other areas based on objectives similar to those listed above. The success of the resorts is due in part to Amanresorts' sensitivity to the surrounding environment and culture which serve as model examples of "eco-tourism". The target market is primarily the FIT (free and independent traveler), with minimal facilities to accommodate groups.⁴

2.5 PROJECT CHARACTERISTICS

The proposed project includes retreat resort facilities, one-acre lots, community benefit package, and infrastructure (see Table 1, "Land Use Plan," on page 2-16 and Figure 11, "Amanresort Master Plan," on page 2-17).

In response to comments received during the Consultation Period, the Applicant modified the project:

- added several items to the community benefits package;
- replaced the originally planned resort villa lots with agricultural lots;
- changed the access route to the project to access the project from a new road from Highway 240 instead of using the Old Route 240;
- relocated and downsized the original proposal to provide affordable housing behind Tiger Camp and instead will construct limited housing onsite but removed from Tiger Camp and contribute in-lieu fees for offsite affordable housing; the Applicant will deed most of the area behind Tiger Camp to the Tiger Camp residents.

The original proposal required a State Land Use District Boundary Amendment from Agriculture to Urban for the proposed villa lots and the hotel. The current proposal requires a reclassification only for four smaller areas (15.0 acres for the hotel site, approximately 9 acres for the residential-resort lots and employee housing, 0.837 acre for the boundary adjustments to the existing makai residential lots, and 0.25 acre for the boundary adjustment to the existing mauka residential lot). The original proposal also required a General Plan Amendment from Intensive Agriculture, Extensive Agriculture, and Low Density Urban to Resort for nearly the entire Project Site. The current proposal requires an amendment only for the hotel site, Plantation Manager's Estate, residential-resort lots and employee housing to Resort. The agricultural lots remain in Intensive and Extensive Agriculture and

4. The term "free and independent traveler" is used by the tourist industry to distinguish this type of guest who makes their own travel arrangements from the group tours. Whether a hotel caters to groups or FIT has a bearing on the types of facilities (e.g., size of meeting rooms), types of guests, occupancy patterns, and transportation modes (e.g., buses).

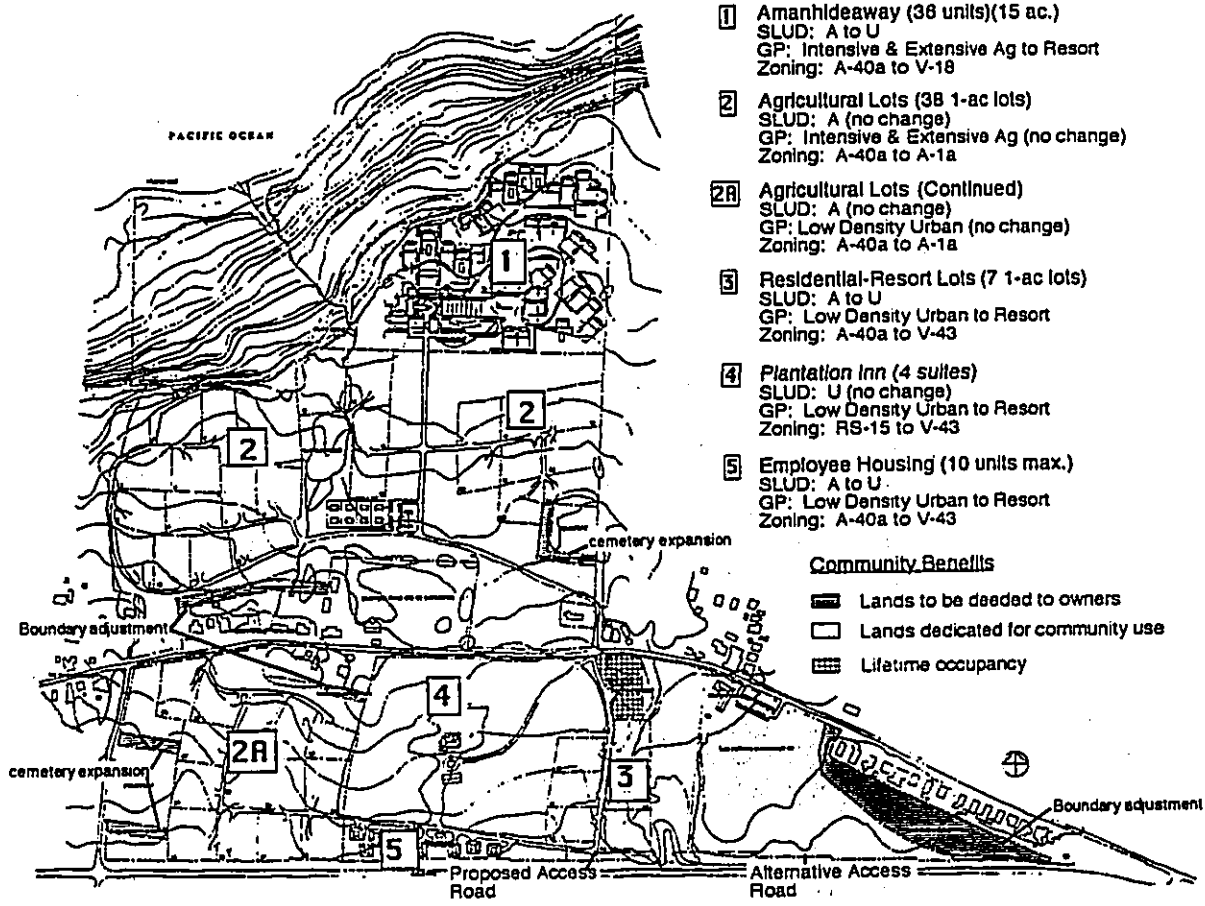
PROJECT DESCRIPTION

Low Density Urban. The modifications are listed in the Developer's Letter of Commitment in Appendix H.

TABLE 1. Land Use Plan

MASTER PLAN	#UNITS	ACREAGE (approx.)
Retreat Resort (Amanhideaway)	36	15
1-acre agricultural lots	38	52
1-acre resort-residential lots	7	10
Plantation Inn	4 suites	12
Employee Housing/Open Space/ Misc.	10	8
Social Hall/Community Center		12
Boundary adjustments for resi- dents		4
Total	85 (excluding employee housing)	113

FIGURE 11. Amanresort Master Plan



PROJECT DESCRIPTION

2.5.1 Retreat Resort Facilities

The proposed retreat resort facilities consist of three components: 1) *Amanhideaway*, a 36-unit luxury resort located near the cliff edge with views of the ocean, coast, and Waipio Valley; 2) *Plantation Inn*, a 4-suite inn in the renovated and preserved 85-year old Plantation Manager's Estate; and 3) seven 1-acre residential-resort lots.

Amanhideaway (15 acres)

The Amanhideaway would be a single-story, 36-suite resort hotel set back from the cliff edge (see Figure 12, "Section View of Amanhideaway," on page 2-20). Guests would arrive at the porte cochere and lobby via a main entry road. Service vehicles will take a separate service road to the back of house area. The open-air lobby, situated on a knoll, provides a panoramic view of the ocean and coastline. Adjacent to the lobby is a restaurant, swimming pool, library, meeting rooms (2), and limited retail shops (see Figure 13, "Public Areas Floor Plan," on page 2-21 and Figure 14, "Section and Elevation of Public Areas," on page 2-22).

The detached bungalow guest units would be nestled into the existing contour. The roofs would be made of materials and colors to blend the units into the landscape. Guests would either walk to their units or ride a "buggy" (golf cart). The guest units feature a courtyard design constructed with wood and stone reflecting the locality and culture. A typical unit would be about 2,890 square feet, of which approximately 1,620 square feet (56%) would comprise the courtyard and the balance of 1,270 square feet would be a terrace facing the ocean, a veranda surrounding the courtyard, and enclosed air-conditioned space for the bedroom(s), bathroom, and living area (see Figure 15, "Typical Guest Suite Floor Plan," on page 2-23).

Based on the conceptual plan, the gross floor areas would be as shown in Table 2.

TABLE 2. Amanhideaway Schedule of Areas

Typical Garden Suite	Area (s.f.)	Subtotal Area (s.f.)
Bedroom (a/c)	247.5	
Bathroom (a/c)	247.5	
Pantry (a/c)	129	
Veranda (covered)	506	

2.5.1 Retreat Resort Facilities

TABLE 2. Amanhideaway Schedule of Areas (Continued)

Terrace (trellis)	140	
Subtotal (unit)	1,270	
<i>Total (36 units)</i>		4,670
Public Areas		
Lobby	1,356	
Bar	1,184	
- veranda	743	
Restaurant	2,034	
- veranda	581	
- terrace	1,076	
Library & meeting rooms	1,356	
Retail & smoking cabin	1,356	
Buggy pick-up	872	
Restrooms	388	
Covered circulation areas	3,498	
<i>Total</i>		14,444
Swimming pool	7,535	
- pool deck/outdoor areas	3,229	
Back of House		
Administration	1,356	
Kitchen	2,131	
Other	9,494	
<i>Grand Total</i>		73,145

PROJECT DESCRIPTION

FIGURE 12. Section View of Amanhideaway

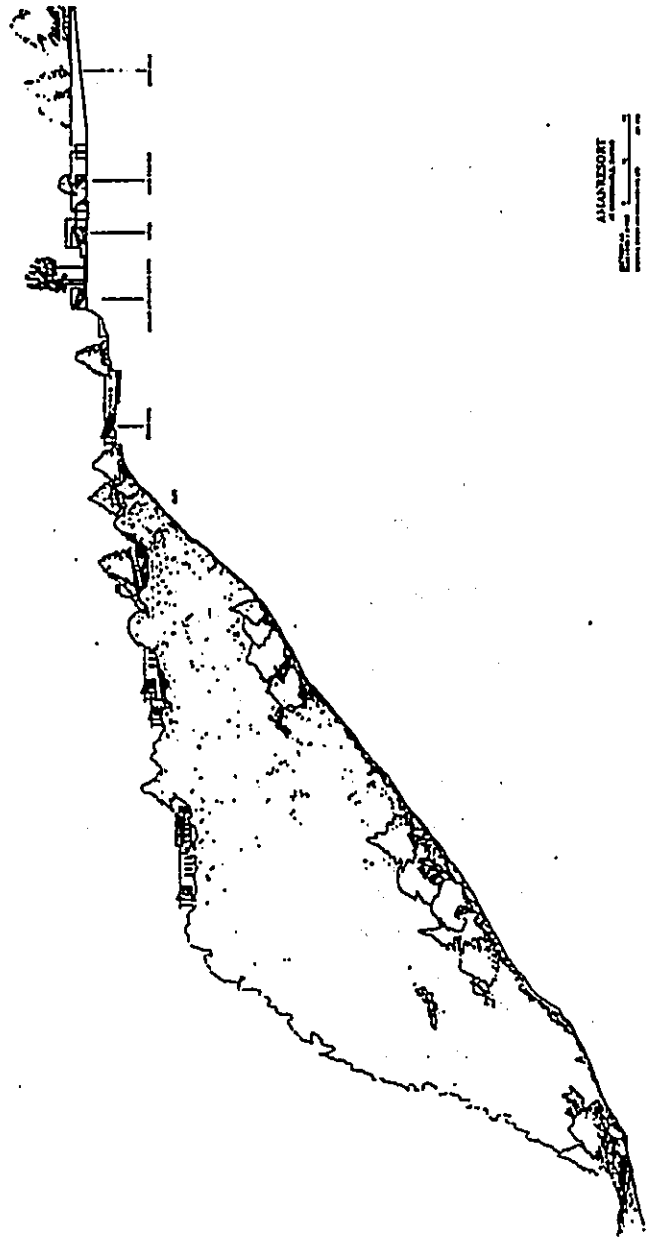
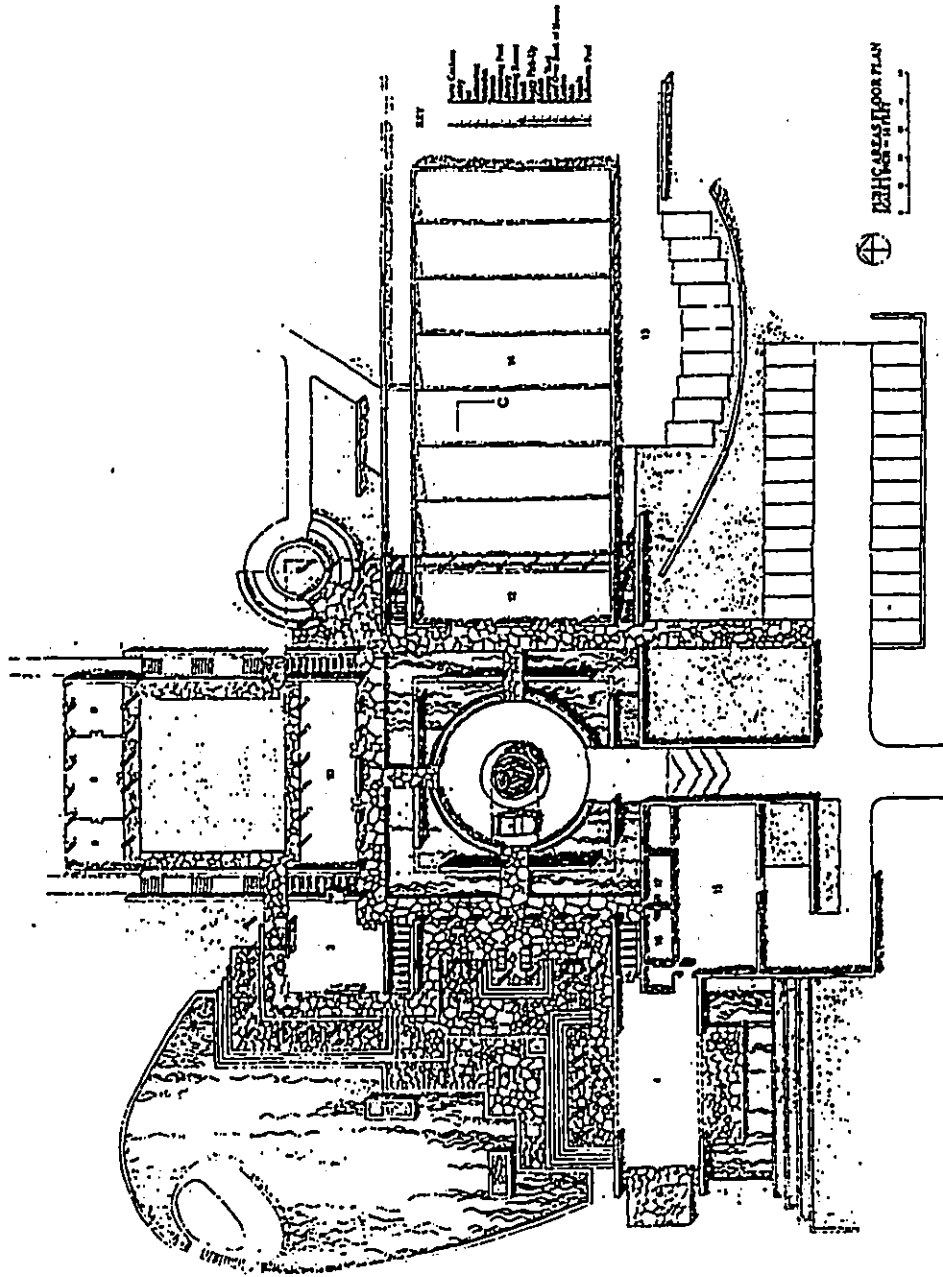


FIGURE 13. Public Areas Floor Plan



PROJECT DESCRIPTION

FIGURE 14. Section and Elevation of Public Areas

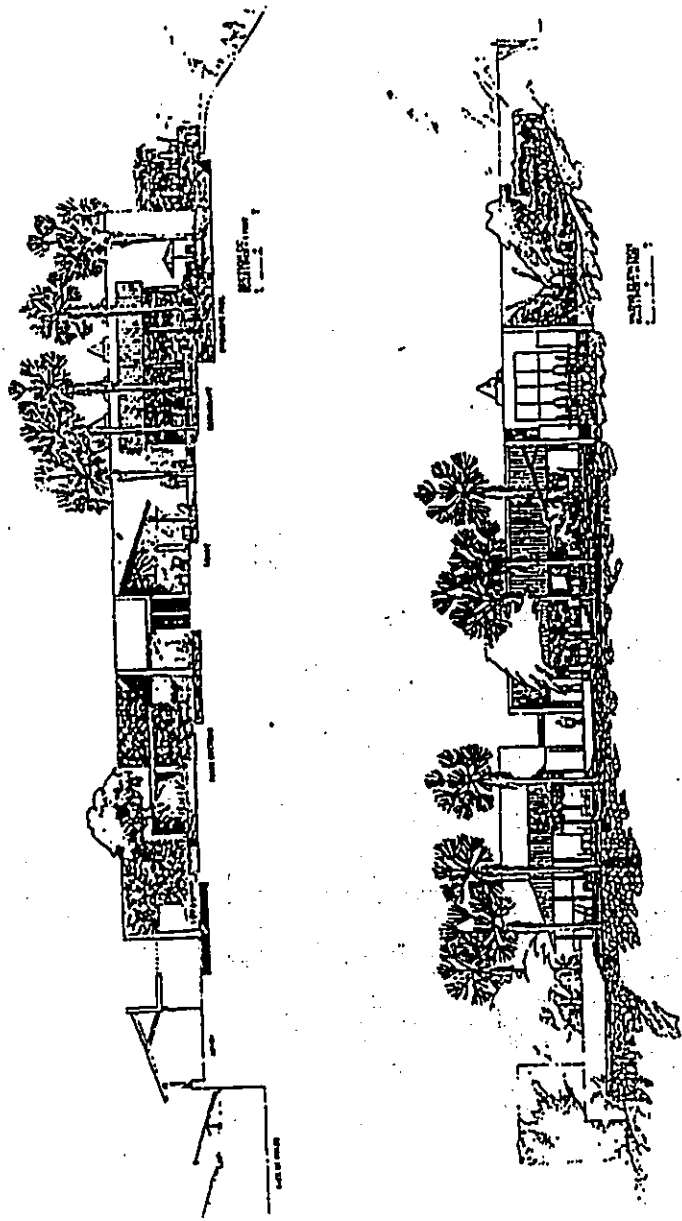
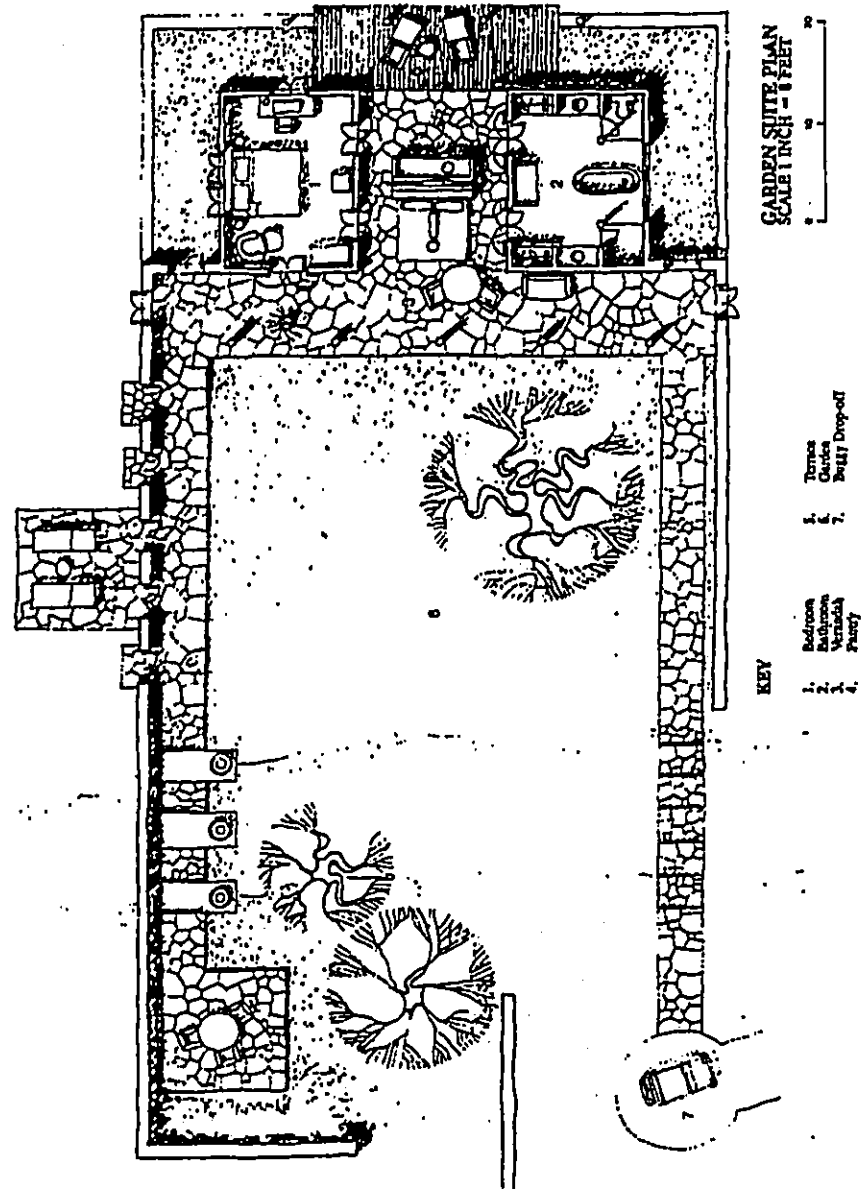


FIGURE 15. Typical Guest Suite Floor Plan



PROJECT DESCRIPTION

Plantation Inn

The Plantation Manager's Estate would be preserved and restored as the Plantation Inn. The Plantation Inn will have 4 guest suites and dining facilities. The beautiful 85-year old landscaped grounds will also be preserved and maintained. On weekends, a buffet brunch open to the public will allow people to visit the estate.

1-Acre Residential-Resort Lots

The seven 1-acre residential-resort lots would be sold in fee simple. For purposes of design control, covenants will require the owner to have the house designed by the same architect who designed the Amanhideaway with final design approval by the resort hotel owners. The lot owners will have the option to affiliate with the resort (e.g., room service, maid service, and charge privileges would be available from the hotel). Since these lots will be zoned resort, transient uses would be permitted thereby allowing the units to serve as standby overflow for the Amanhideaway and Plantation Inn. One of the residential-resort lots will be encumbered by a lifetime license (see §2.5.3 "Community Benefits" below).

2.5.2 1-Acre Agricultural Lots

The 1-acre agricultural lots will be similar to the 1-acre residential-resort lots, with one major difference-- the lots will be subject to the restrictions of the zoning code, especially those restrictions on transient uses since these lots will be zoned agriculture (A-1a).

2.5.3 Community Benefits

To compensate for some of the impacts on the community, the Applicant has committed to the following actions (see Appendix H for the executed Developer's Letter of Commitments):

- *Property Tax Trust Fund.* In order to offset increases in property taxes that may be caused by the resort, the Applicant will establish a trust fund to subsidize increased property tax payments incurred by existing owner-occupant residents within Kukuihaele.
-Who qualifies: To qualify for the subsidy, the property owner (1) must have residentially zoned property, (2) must dedicate the property under the existing County ordinance (Ordinance No. 91-122) that freezes the property tax for ten years (adjusted only by the Consumer Price Index), and (3) continue to retain ownership of the property (except for transfers to immediate family members by inheritance).

2.5.3 Community Benefits

-Funding: The trust fund would be initially funded with \$25,000 and increased with 2% of the gross sales price of each of the 38 one-acre residential-agricultural lots and 7 residential-resort lots when they are sold. The funds will stay in an interest-bearing account during the ten-year period in which the existing ordinance is protecting the taxed amount. An estimated \$300,000 to \$500,000 would be available at the end of the first ten-year period.

-Distribution: When the homes that still qualify re-dedicate the property for the next ten years, the County will reassess the property. This is when there may be a potential impact in terms of increased taxes to the homeowner. The trust fund will cover the difference between the taxes charged after reassessment and the previous assessed tax (adjusted by the Consumer Price Index).

If the County Council passes a bill which would freeze homeowners' property taxes until the home is sold, this trust fund would be unnecessary. In that event, the funds would be made available for other community benefits.

- *Boundary Adjustment for Local Homeowners.* Many of the local homeowners (e.g., Tiger Camp) have been using portions of the former Hamakua Sugar Company lands over the past 30-50 years. The Applicant will deed these areas to them. In many cases, the additional land represents areas nearly as large in size as the resident's existing lot. The Applicant has also agreed to deed additional land area to the owners of other residential lots adjoining the Project Site. The boundary adjustments will require State Land Use boundary amendments in two areas from Agriculture to Urban and rezoning from the existing A-40a to RS-15 and RS-7.5 to permit consolidation and resubdivision. The Applicant will apply for the boundary amendments and rezoning as part of the project.
- *Community Recreational Facilities.* The Applicant proposes to improve and maintain the Kukuihaele Park. In addition, the Applicant proposes to reserve, for community use, the parcel of approximately 8.5 acres on which the Kukuihaele Social Hall is situated (TMK 4-8-6:03) and the strip of land of approximately 3.5 acres mauka of the expanded Tiger Camp lots (4-8-6: por. 44). The Applicant proposes to work with an Advisory Committee of community representatives, or another type of forum determined by the Kukuihaele community, to ensure that the community has input into the design, operation, and maintenance of the facilities. The Applicant will commit a fund of \$175,000 for the initial capital improvements (such as the renovation or rebuilding of the Social Hall, and the construction of playground and/or other facilities).
- *Affordable Housing In-Lieu Fee and Employee Housing.* Instead of constructing affordable housing units behind Tiger Camp as initially planned, the Applicant will contribute in-lieu fees determined at approximately \$200,000 based on the

PROJECT DESCRIPTION

County's housing policy. The County would use the fees to construct affordable housing at an offsite location. Additionally, in response to comments from the State housing agency (Housing Financing and Development Corporation), the Applicant proposes to construct limited employee housing (maximum 10 units) in the area between Highway 240 and the Plantation Manager's House.

- *Waipio Valley Controls.* The Applicant will abide by the recommendations of the various government and local organizations involved with remedying the problems in Waipio Valley caused by the growing number of visitors to the Valley.
- *Additional Cemetery Lands.* In response to concerns expressed by members of the community of inadequate space at the cemeteries, the Applicant proposes to convey a strip of land 50' wide on two sides of each of the cemeteries to the Roman Catholic Church and to the County for purposes of expanding the respective cemeteries.
- *Lifetime Occupancy to Kukuihaele Resident.* An elderly resident resides in one of the structures owned by the Applicant. The Applicant will grant this resident a lifetime license to live out his life on the property.
- *Public Access.* Public access will be provided along the access road on the western or Waipio Valley boundary of the property leading to the County chlorination station. Public access is also being reopened on the government road extending along the eastern or Honokaa boundary of the property. This road continues on to Hamakua Sugar Company land extending to the Kukuihaele Landing.

2.5.4 Infrastructure

A Preliminary Engineering Report (PER) provided the basis for the proposed infrastructure improvements (see Appendix A).

Roads. The Applicant will construct a new road from Highway 240 to access the project. The proposed access is the existing dirt/gravel road passing through the Applicant's property on the Honokaa side of the Plantation Manager's Estate. The Applicant will upgrade this road in accordance with County requirements. This new access will minimize the traffic impact to the community. Visitors to the project would cross the Old Route 240 at only one intersection. Previously, the Applicant had planned to use the Old Route 240 which would have impacted the Tiger Camp residents. An alternative access route is to upgrade the existing dirt road between Tiger Camp and the Social Hall. The Applicant is willing to use either the proposed or alternative access route depending on comments from the community, State Department of Transportation, and the County Department of Public

2.6 PROJECT SCHEDULE AND CONSTRUCTION COST

Works. Internal roadways may be narrow private roads in keeping with the low-scale, quiet nature of the resort.

Water. The existing County system has capacity to serve the project. However, the system needs to be upgraded to meet the federal Safe Drinking Water Act standards. An alternative is for the Applicant and County to jointly develop a deepwell source.

Wastewater. The 36-unit resort hotel will be serviced by a private treatment plant. The effluent will be disposed by a subsurface leaching field planted over with acceptable landscaping. The Plantation Manager's Estate is currently served by one or more cesspools, which may need to be upgraded to septic tanks to accommodate dining facilities. The 1-acre lots will use individual wastewater systems.

Drainage. The drainage system will be designed to contain onsite-generated runoff so that downstream properties are not impacted. Proposed drainage improvements will consist of drywells connected to grated inlets by reinforced concrete pipe (RCP) culverts. These drywells would be located within the road rights of way to pick up the runoff along the roadways. Storm runoff caused by the proposed hotel would be handled onsite by drywells located within the development.

Electrical/Telephone. The existing electrical system does not have adequate capacity to accommodate the proposed project. One alternative is for the project to reconstruct the existing distribution lines from the existing Honokaa Substation to the Project Site. The line reconstruction is required to increase the current carrying capacity of the distribution lines. Transmission lines within the project may be overhead.

2.6 PROJECT SCHEDULE AND
CONSTRUCTION COST

The total construction cost is estimated to be approximately \$15 million. The target date to start construction of the hotel is the latter part of 1994, with anticipated completion 12 months later at the end of 1995. Job training will start one year before the planned opening date towards the end of 1994.

*ENVIRONMENTAL SETTING,
IMPACTS, AND MITIGATION
MEASURES*

Each section in this chapter contains the following information:

- *Setting*-- provides background information on the existing conditions;
- *Impacts*-- analyzes the potential impacts of the project;
- *Mitigation Measures*-- identifies measures to prevent or minimize the impacts. The mitigation measures are categorized depending on when implementation should occur:

Design Phase. These mitigation measures should be implemented by the Applicant during the design phase of the project. To ensure compliance, the measure could be required as a permit condition (e.g., rezoning) and checked by the Planning Department upon Plan Approval.

Construction Phase. These mitigation measures should be implemented during the construction phase by the contractor. To ensure compliance, the measure could be incorporated in the building or grading permits, which would be inspected for compliance by the county during construction, and/or incorporated into the owner-contractor construction contract, which would be inspected by the owner's representative as a condition for payment.

Operational Phase. These mitigation measures should be implemented during the operational phase by the resort operator. To ensure compliance, the measure could be required as a permit condition (e.g., rezoning), and possibly recorded in the Bureau of Conveyances to run with the land and give subsequent purchasers notice of this condition.

3.1 PHYSICAL CHARACTERISTICS

3.1.1 Climate

Setting

The Project Site is located on the northeast side of the island exposed to the prevailing northeasterly tradewinds. The wind blows from the northeasterly or easterly direction more than 50% of the time. The Project Site is at an elevation ranging from about 500' above mean sea level (MSL) at the makai cliff top boundary to about 850' (MSL) at the highest point along the mauka boundary. The area receives moderate rainfall with an annual median of 59" (see Figure 16, "Rainfall Map and Windrose," on page 3-3).¹ This area of the Hamakua Coast is situated in a relatively "dry" pocket compared to the average annual rainfall in excess of 100 inches north of Waipio Valley and south of Honokaa. The wetter months are November through April, with the drier summer months of May through October receiving a monthly average of less than 5".

Impacts

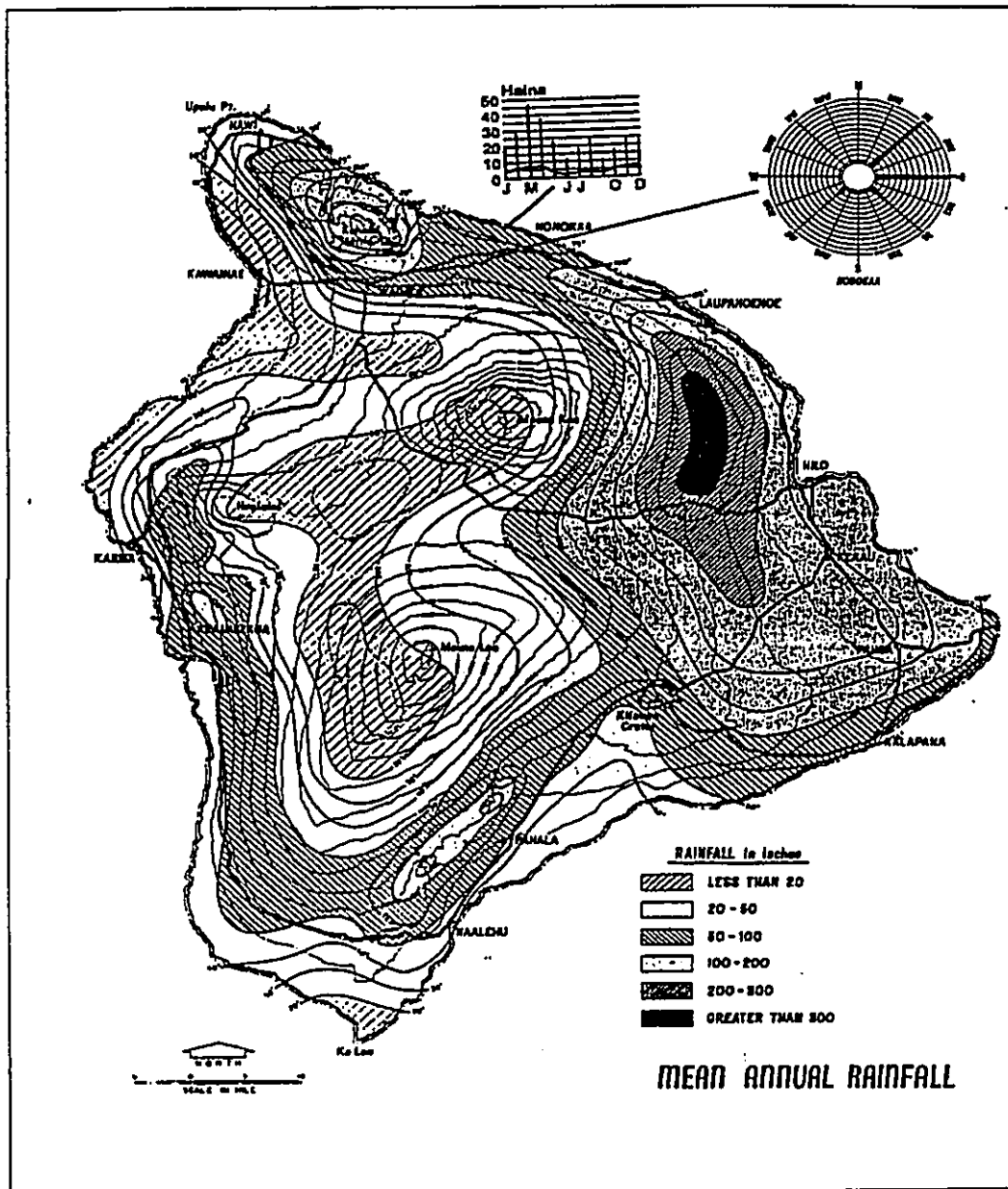
None-- the project will not alter the microclimate of the region.

Mitigation Measures

None required.

1. State of Hawaii, Department of Land and Natural Resources. *An Inventory of Basic Water Resources Data: Island of Hawaii*. Report R34, 1970 (average annual rainfall and windrose); State of Hawaii, Department of Land and Natural Resources. *Median Rainfall: State of Hawaii*. Circular C88, June 1982 (annual and monthly median rainfall).

FIGURE 16. Rainfall Map and Windrose



3.1.2 Soils and Topography

Setting

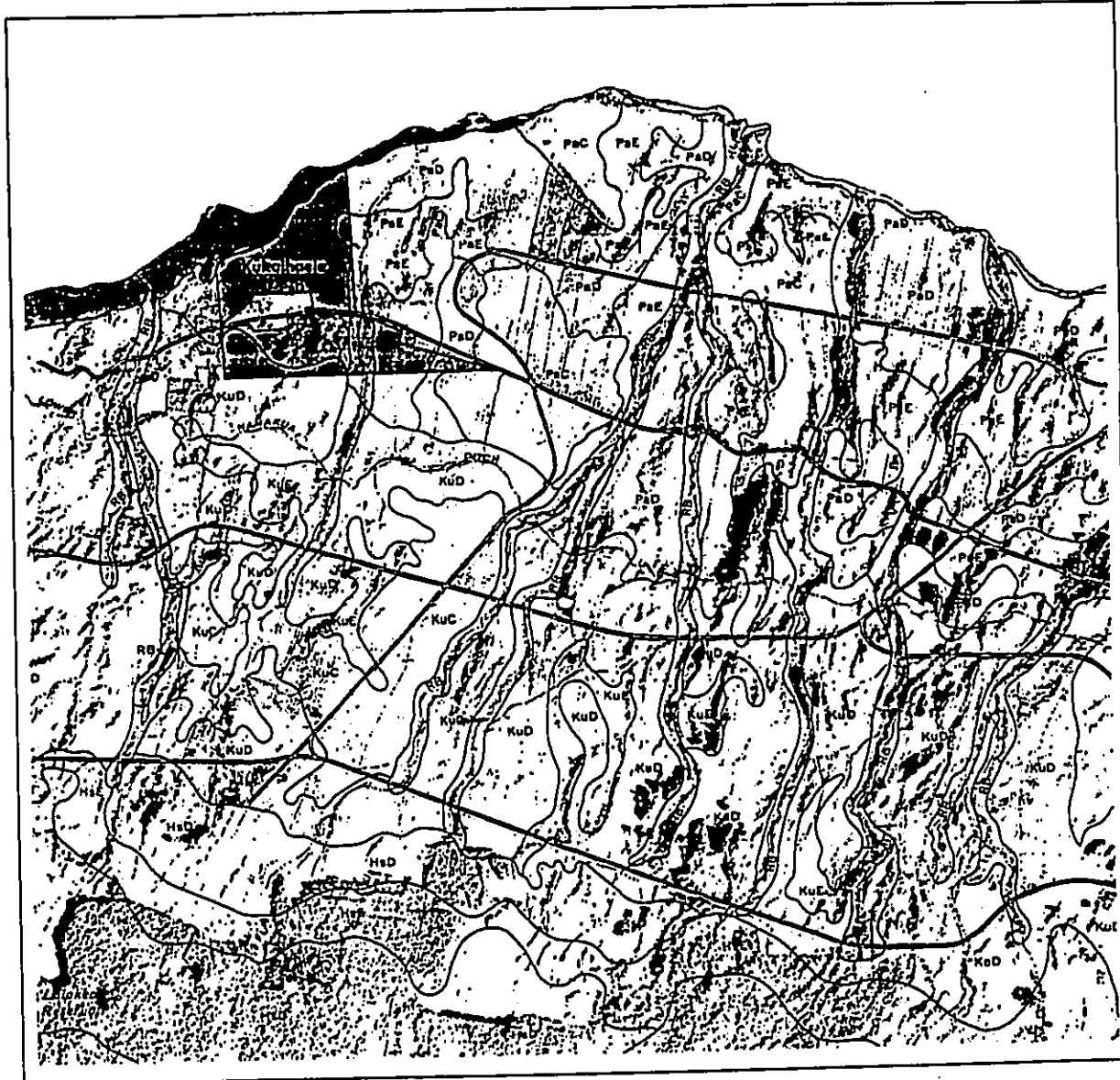
The predominant soil within the Project Site is classified as Paauhau silty clay loam with slopes of 6 to 12% and 12 to 20% (PaC, PaD), with steeper slopes confined to the gullies (PaE) (see Figure 17, "Soil Survey Map," on page 3-5).² A small portion in the mauka area of the Project Site is classified as Kukaiau silty clay loam, 12 to 20% slopes (KuD). Both soil series consist of well-drained silty clay loams that formed in volcanic ash. In a representative profile of the Paauhau soil, the surface layer is very dark grayish-brown silty clay loam about 10 inches thick, strongly acid. The subsoil is dark-brown silty clay loam about 34 inches thick, medium to slightly acid. The substratum is weathering, basic igneous rock. The depth to bedrock ranges from 36 inches to 60 inches. The Kukaiau profile is similar except the surface layer is more acidic. In their natural state, both soils are always moist. When dried, the surface layer has moderate shrinkage but low swelling potential (unlike montmorillonite soils which have high shrinkage *and* swelling capacity). If allowed to dry, both soils dehydrate into fine sand-size aggregates. These soils possess thixotropic properties-- that is, the soil behaves as a solid if undisturbed and liquefies if agitated.³ In the more level areas (6 to 12%), permeability is moderately rapid, runoff is slow, and the erosion hazard is slight. In the steeper areas (12 to 20%), permeability is moderately rapid, runoff is medium, and erosion hazard is moderate. These soils belong to the family of geologically young soils (Inceptisols) that formed from volcanic ash in moderately high rainfall areas (Dystrandepts), having high concentrations of amorphous aluminum and iron oxides, low base saturation, and high organic matter content.⁴

2. U.S. Department of Agriculture, Soil Conservation Service. *Soil Survey of Island of Hawaii*. State of Hawaii, 1973.

3. MacDonald, G., et al. *Volcanoes in the Sea: The Geology of Hawaii*. Honolulu: University Press of Hawaii, 1983, p. 184 (description of thixotropic properties); U.S. Department of Agriculture, Soil Conservation Service. *Soil Survey of Island of Hawaii*. State of Hawaii, 1973, p. 101 (classification as thixotropic).

4. McCall, W. *Soil Classification in Hawaii*, Cooperative Extension Service, University of Hawaii, Circular 476. 1975.

FIGURE 17. Soil Survey Map



Agricultural Suitability. The Land Study Bureau ranks all soils within the Project Site as Class C (fair) for overall agricultural suitability (see Figure 18 on page 3-7). The State Department of Agriculture ranks this soil as prime agricultural land under the Agricultural Lands of Importance to the State of Hawaii (ALISH) system (see Figure 19 on page 3-8). However, since the soils do not strictly meet all of the Department of Agriculture's criteria for "Prime Agricultural Land",⁵ it must be presumed that these soils were classified on the basis of their use for sugarcane cultivation at the time of the mapping. The Soil Conservation Service rated the capability of these soils in Class III or IV.⁶

Structural Suitability. The *Soil Survey* provides preliminary information on the soil characteristics for structural purposes; the Applicant will retain a soil engineer to conduct appropriate site-specific studies during the design phase of the project. According to the *Soil Survey*, the Paauhau and Kukaiau soils have high compressibility, low density if compacted, low bearing capacity, and high organic matter content. Therefore, these soils have limitations for road fill and foundations for low buildings. A soil engineer would recommend proper measures to mitigate these conditions (e.g., replace the soils to a specified depth with imported fill material).

5. State of Hawaii, Department of Agriculture, *Agricultural Lands of Importance to the State of Hawaii (Revised)*, brochure, November 1977. The brochure lists as one of the criteria for prime agricultural land the following: "Must not be thixotropic and have isomesic temperature regime."

6. U.S. Department of Agriculture, Soil Conservation Service. *Soil Survey of Island of Hawaii*. State of Hawaii, 1973. Class I= soils have few limitations that restrict their use; II= soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices; III= soils have severe limitations that reduce the choice of plants, require special conservation practices, or both; IV= soils have very severe limitations that reduce the choice of plants, require very careful management, or both; V= soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife; VI= soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife; VII= soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife; VIII= soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife, or water supply, or to aesthetic purposes.

FIGURE 18. Land Study Bureau Soils Map

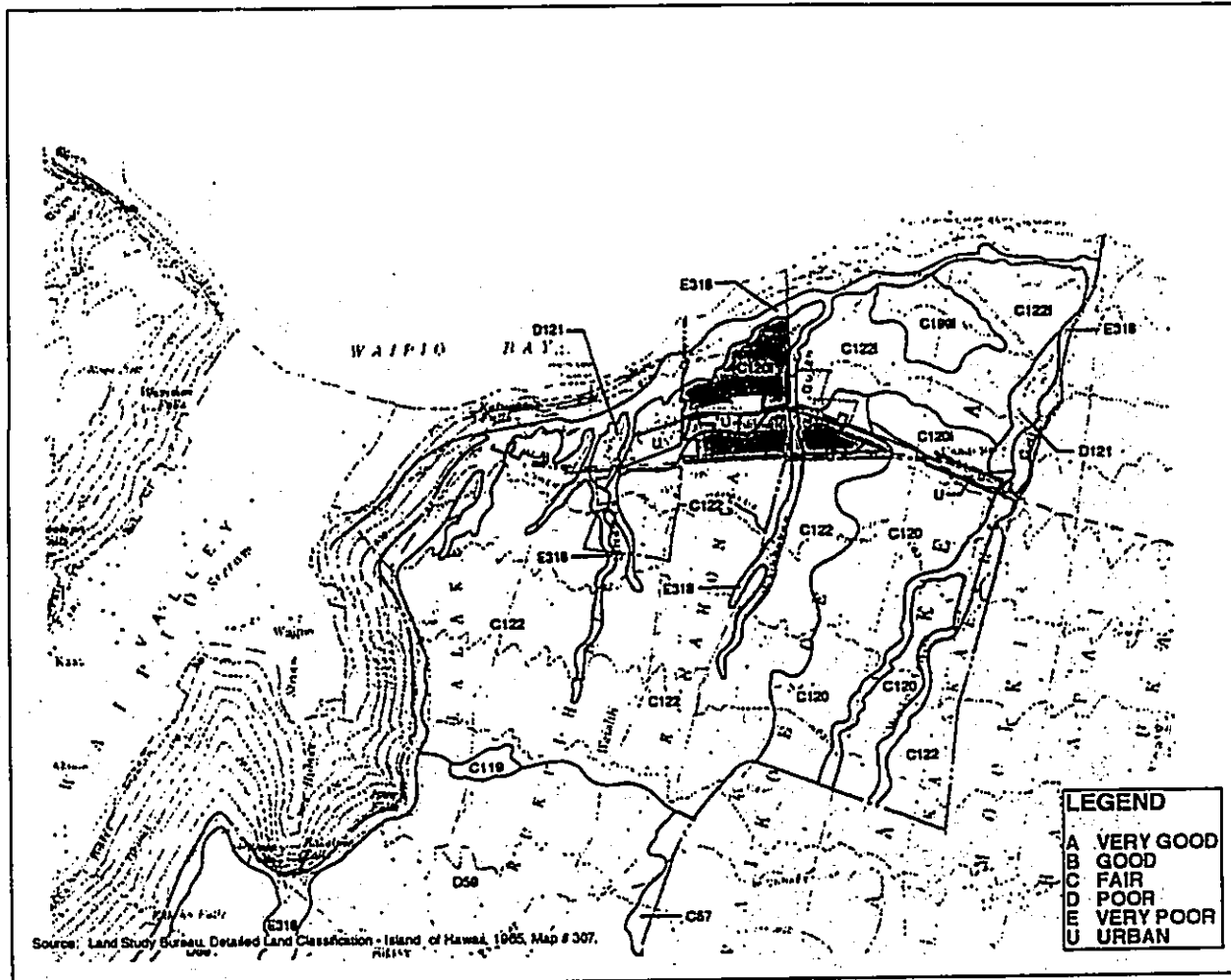
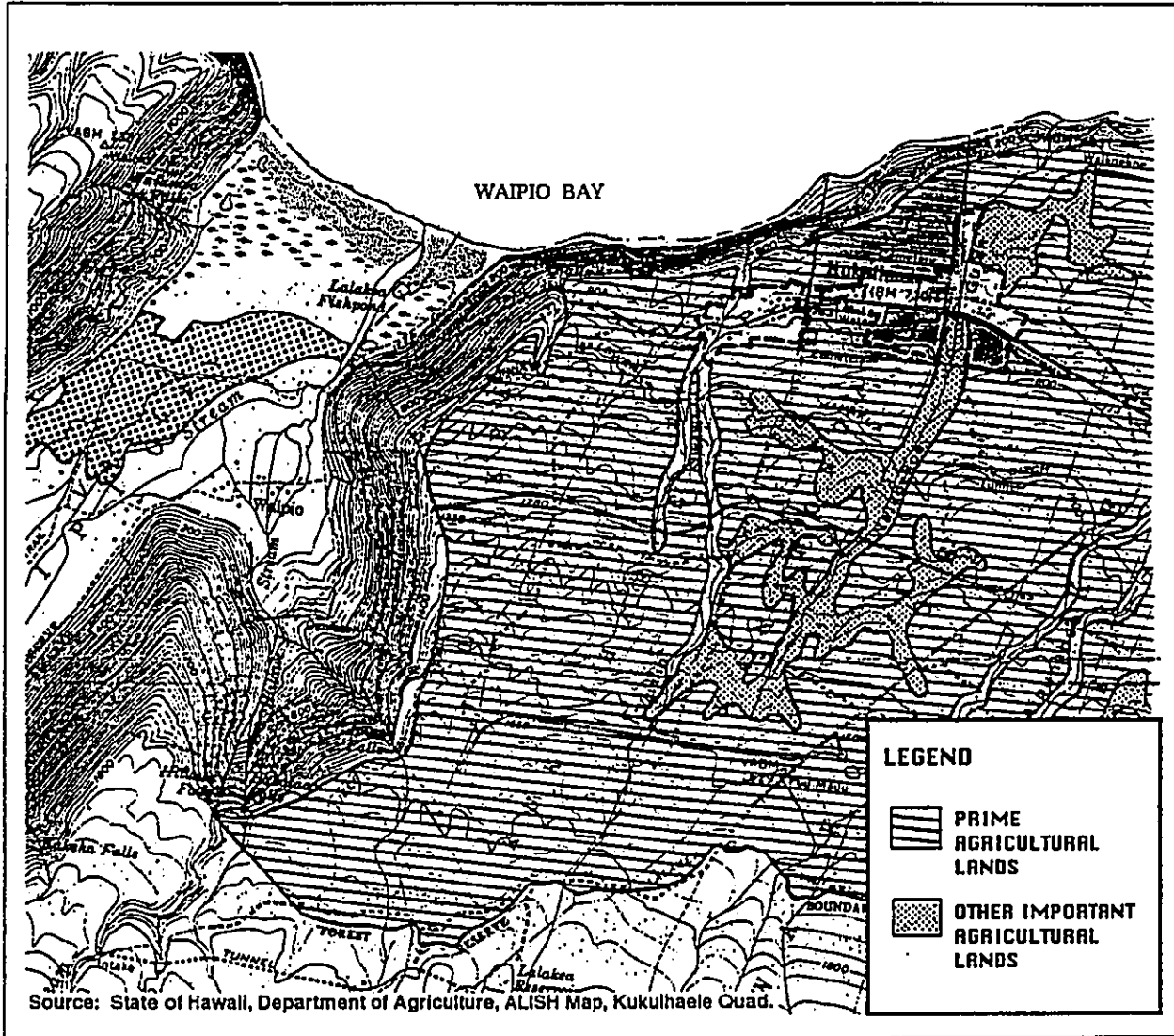


FIGURE 19. Agricultural Lands of Importance to the State of Hawaii (ALISH) Map



Impacts

Soil Erosion and Sedimentation. Agricultural practices have historically exposed the soil to erosion, resulting in "red" coastal waters after storms along the Hamakua Coast.⁷ Plantation roads in particular, which comprise an average of 9 to 15% of the field area, have considerably higher erodibilities than corresponding agricultural sites.⁸ During construction of the proposed project, grubbing and grading activities will expose the soil to erosion. Construction sites that have been filled, graded, and supported no vegetation have considerably higher erodibilities than bare agricultural sites.⁹ However, contractors may use several means to control erosion as discussed below under mitigation measures. Provided erosion control measures prevent construction site runoff into the watercourses traversing the site, there should be no sedimentation impact on the streams and coastal receiving waters. The extent of erosion control measures required depends on the rainfall intensity of the area, the erodibility of the soil, and the proximity and vulnerability of the receiving waters. Soil properties which influence soil erodibility include particle-size distribution, percentage of organic matter, soil structure, and permeability. The Kukaiau soils were found to have a low erodibility factor due probably to its irreversible dehydration into more stable sand-sized particles which occurs when the soil is exposed during grading or tilling operations.¹⁰ The rainfall intensity is moderately high (see Figure 20, "Rainfall Intensity Map (10 Year Storm)," on page 3-10), thus requiring basic measures that limit the exposed area, mulching, or planting with vegetative cover.

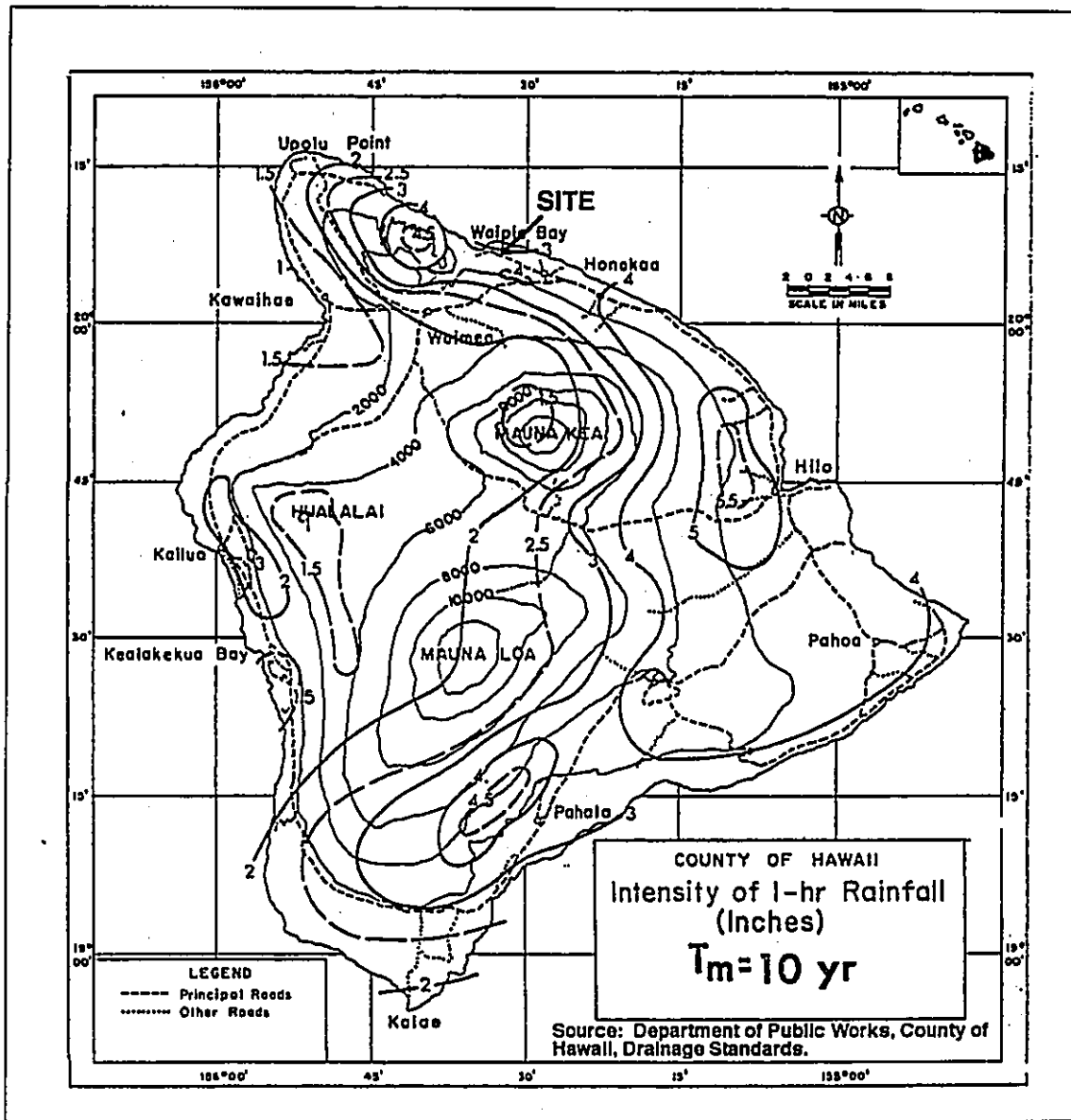
7. Fukunaga & Associates, Inc. *Statewide Silt Basin Investigation: State of Hawaii*. Prepared for Division of Water & Land Development, Department of Land & Natural Resources, December 1980, p. 103 & plate VI-42.

8. Dangler, E.W., et. al., *Erodibility of Selected Hawaii Soils by Rainfall Simulation*, Agricultural Research Service of the U.S. Department of Agriculture in cooperation with the University of Hawaii Agricultural Experiment Station, ARS W-35, May 1976, p. 45.

9. Dangler, E.W., et. al., May 1976, p. 44.

10. Dangler, E.W., et. al., May 1976, p. 31.

FIGURE 20. Rainfall Intensity Map (10 Year Storm)



Fugitive dust. The predominant easterly winds blow in a direction parallel to Kukuihaele town. Therefore, fugitive dust from construction activity would not normally blow towards any residences or businesses. Northeasterly winds, however, may blow dust towards some residences and businesses. Mitigation measures discussed below would be necessary.

Removal of agricultural land from production. The proposed project would remove from production about 65 acres formerly used for sugarcane cultivation. However, according to the Land Study Bureau's ratings, the soils within the Project Site are not prime agricultural lands (prime lands are rated Class A or B; the soils within the Project Site are rated Class C). Hamakua Sugar Company utilized approximately 35,000 acres.¹¹ In the effort to save Hamakua Sugar Company, the plantation identified 9,500 acres as surplus marginal land that it was willing to sell without affecting the viability of its operations. The removal of 65 acres of marginal lands, therefore, should not have a significant adverse impact (see §5.3 "DIVERSIFIED AGRICULTURE" on page 5-5 for further discussion on the limited prospects for alternative use of the Project Site for diversified agriculture).

Foundations. Soil engineering studies would need to recommend proper foundations to mitigate potential earthquake-induced settlement due to the thixotropic soil properties. The study should also investigate the need, if any, for special conditions to ensure the stability of structures in proximity to the cliff edge. According to preliminary consultation with a soils engineer, the concerns due to the soil and proximity to the cliff are mitigable by either setting the structures back from the cliff edge at a distance to be determined by geotechnical investigations (e.g., borings), or to allow building closer to the cliff edge using structural slabs that are anchored with piers to solid rock and structurally tied from front to back.¹² The proper geotechnical studies are costly and justified only if the project is approved. Projects in similar conditions close to a cliff edge have been allowed to proceed with the proper structural mitigation measures (e.g., Princeville on Kauai). Once the project is approved, the geotechnical study should be done almost immediately to provide input into further design and cost estimating for the project.

11. Hamakua Steering Committee, *Hamakua Regional Plan: From Kaiaka to Waipio*. Endorsed by the County Council, County of Hawaii, by Resolution No. 244-90, November 1990, p. 1.

12. Telephone conversation with Dames & Moore, Honolulu, January 1994.

Pesticide Residues in Soil. Hamakua Sugar Company used crop dusters to apply pesticides to the sugarcane fields. Diuron and Atrazine were among the pesticides used. In a Phase I environmental assessment for hazardous waste conducted for Hamakua Sugar Company lands, the soil sample concentrations for these two pesticides were considerably below the allowable EPA concentrations.¹³ For Atrazine, the allowable concentration is 400 mg/kg; the soil sample concentrations ranged from 0.19 to 17 mg/kg. For Diuron, the allowable concentration is 160 mg/kg; the highest soil sample concentration was 10 mg/kg. Arsenic, a common natural element in soils near volcanoes and formerly used in herbicides, was found in certain samples outside the Project Site above the normal range of 0.1 to 40 mg/kg. The arsenic concentrations for soil samples taken from the Kukuihaele area ranged from 12.0 to 40.2 mg/kg, within the normal range for arsenic in soils. Based on these results, there should be no public health hazard for non-agricultural uses of the former sugarcane lands within the Project Site.

Mitigation Measures

Design Phase:

- *Geotechnical (soil engineering) studies for the hotel to determine the proper mitigation measures, if necessary, for foundations and minimum distance from the cliffs.* These studies are usually done in the normal course of design and submitted with the building permit. Until the study is completed, the proposed mitigation measure remains unresolved. The Planning Department should verify the selected mitigation measure through Plan Approval.
- *Minimal grading by designing with the existing contours.* The County Council could require this design consideration as a permit condition and monitor compliance under Plan Approval.

Construction Phase:

- *Erosion and Dust Control Plan.* The County's erosion and sedimentation control ordinance requires the submittal of an erosion control plan if grading more than 15,000 square feet, which would apply to this project.¹⁴ The State Department

13. Harding Lawson Associates. *Environmental Site Assessment: Hamakua Sugar Company Lands*. December 1990.

of Health imposes additional erosion control measures under the NPDES Permit for grading activities over five acres, which would apply to this project.¹⁵ In terms of dust control, the County's erosion and sedimentation control ordinance authorizes the chief engineer to require additional dust control measures (e.g., sprinkling water, applying mulch or hydro mulch) if dust problems jeopardize health, property, or public welfare; if these measures are still not effective, the chief engineer may stop operations.¹⁶ The Applicant would submit the grading plans to both the County and Department of Health for concurrent review and approval. During construction, the State and County would send inspectors to the jobsite to monitor compliance. In addition, since the approved grading plans would be part of the Owner-Contractor construction contract, the Applicant would monitor the contractor's compliance with the approved grading plans as a condition for payment. Mitigation measures incorporated into erosion control plans could include:¹⁷

-Manage soil cover:

- conduct grubbing and grading activities during the low rainfall months as much as possible;
- minimize the amount of exposed area by grading in stages;
- replant or cover bare areas as soon as grading or construction is completed using high seeding rates, soil amendments, fertilizers, and temporary irrigation to ensure rapid stand establishment;
- install permanent vegetation and drainage structures as soon as possible;

-Manage runoff:

14. *Hawaii County Code*, Chapter 10 (Erosion and Sedimentation Control) §10-10(b)(2).

15. *Hawaii Administrative Rules*, Chapter 11-55, Department of Health, Water Pollution Control.

16. *Hawaii County Code*, Chapter 10 (Erosion and Sedimentation Control) §10-24(e).

17. See, for example, U.S. Department of Agriculture, Soil Conservation Service. *Handbook for Erosion and Sediment Control in Urbanizing Areas in Hawaii*. March 1972; for sample erosion control plan, see City & County of Honolulu, Department of Public Works. *Soil Erosion Standards & Guidelines*. November 1975, as amended.

- use diversion ditches or dikes to intercept runoff above disturbed slopes and convey it to a safe outlet;
- use sediment basins, sediment traps, or other means to remove sediment from runoff waters before it leaves the site;
- contain runoff in appropriate level areas with containment dikes and allow to infiltrate;
- maintain sediment basins, diversions, dikes, and any other erosion control structure to sustain their runoff capacity and remain effective;
- reduce lengths of disturbed slopes with terraces or interceptor ditches;
- Locate potential pollutant sources (e.g., stockpiles, staging areas) away from streams and gulches.

3.1.3 Hydrology

3.1.3.1 Groundwater

According to the Aquifer Classification System adopted by the State, the Project Site is in the Honokaa Aquifer System in the East Mauna Kea Aquifer Sector. This Sector has abundant groundwater resources which have been successfully exploited, though only to a very limited degree.¹⁸ The most voluminous source is the basal lens. The lens is on the order of 100 feet thick near the coast, and thickens to several hundred feet further inland. Sustainable yields of this fresh water lens far exceed the quantity pumped. Due to the depth of the wells in the order of 1000' deep, groundwater development is costly. The most probable area for potable groundwater is between 800-1000' elevation by means of wells with capacities of 1.0 to 1.5 mgd.

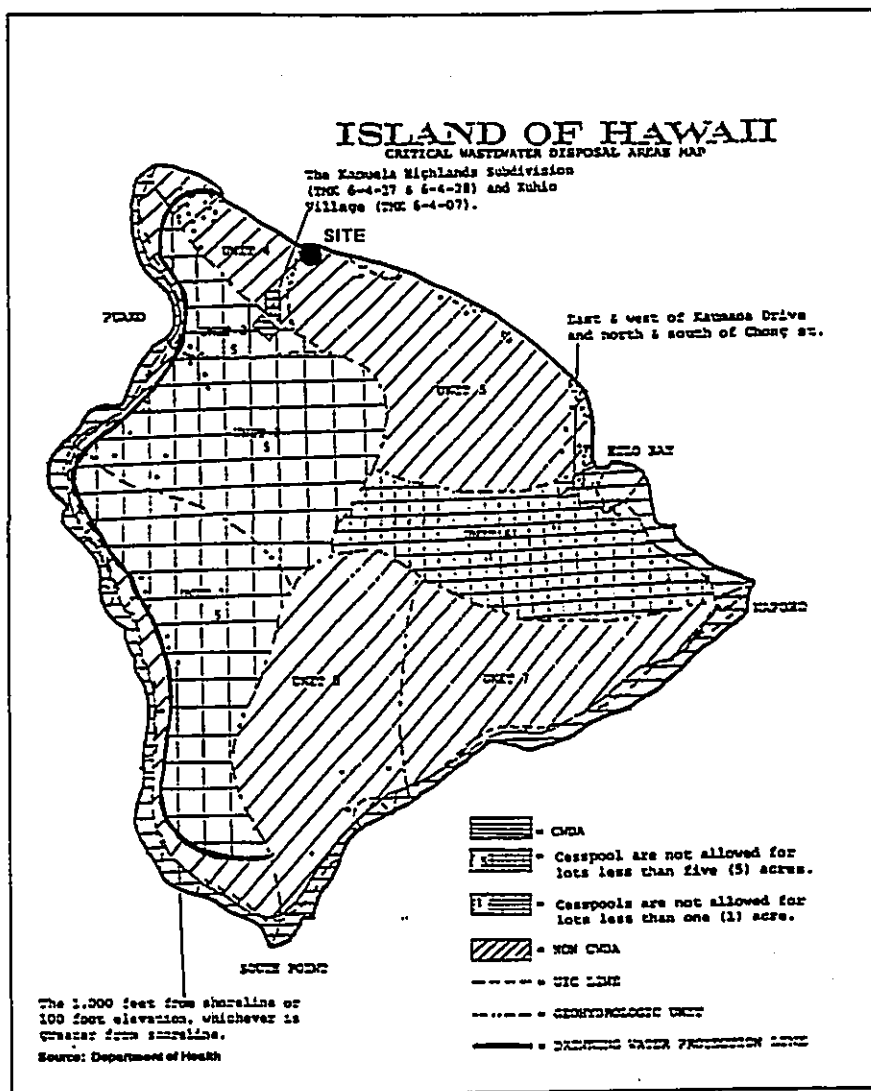
The current sources for domestic water in the area is a perched aquifer feeding a spring to supply the County system at Kukuihaele, a deep well in Haina to serve the County system at Honokaa, and the Honokaa Ditch to serve Paauhau (see §3.3.2 "Water" on page -79 for further discussion of water systems and their rela-

18. Description of the groundwater resource and irrigation system is based on Mink & Yuen, Incorporated. *Water Resources Study: Hamakua Sugar Company Lands (Phase I-Waipio)*. Prepared for Western Farm Credit Bank, December 28, 1990. Included as Appendix E in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*, Prepared for the Hamakua Sugar Company, April 1991.

3.1.3 Hydrology

relationship to the groundwater and surface water resources). The Project Site is not in the Critical Wastewater Disposal Area; thus, cesspools could be an option for the one-acre lots (see Figure 21, "Critical Wastewater Disposal Areas," on page 3-16). The entire Project Site is above the Underground Injection Control (UIC) line. Any injection wells for stormwater would be regulated by the Department of Health's UIC permit; wastewater injection wells would be prohibited.

FIGURE 21. Critical Wastewater Disposal Areas



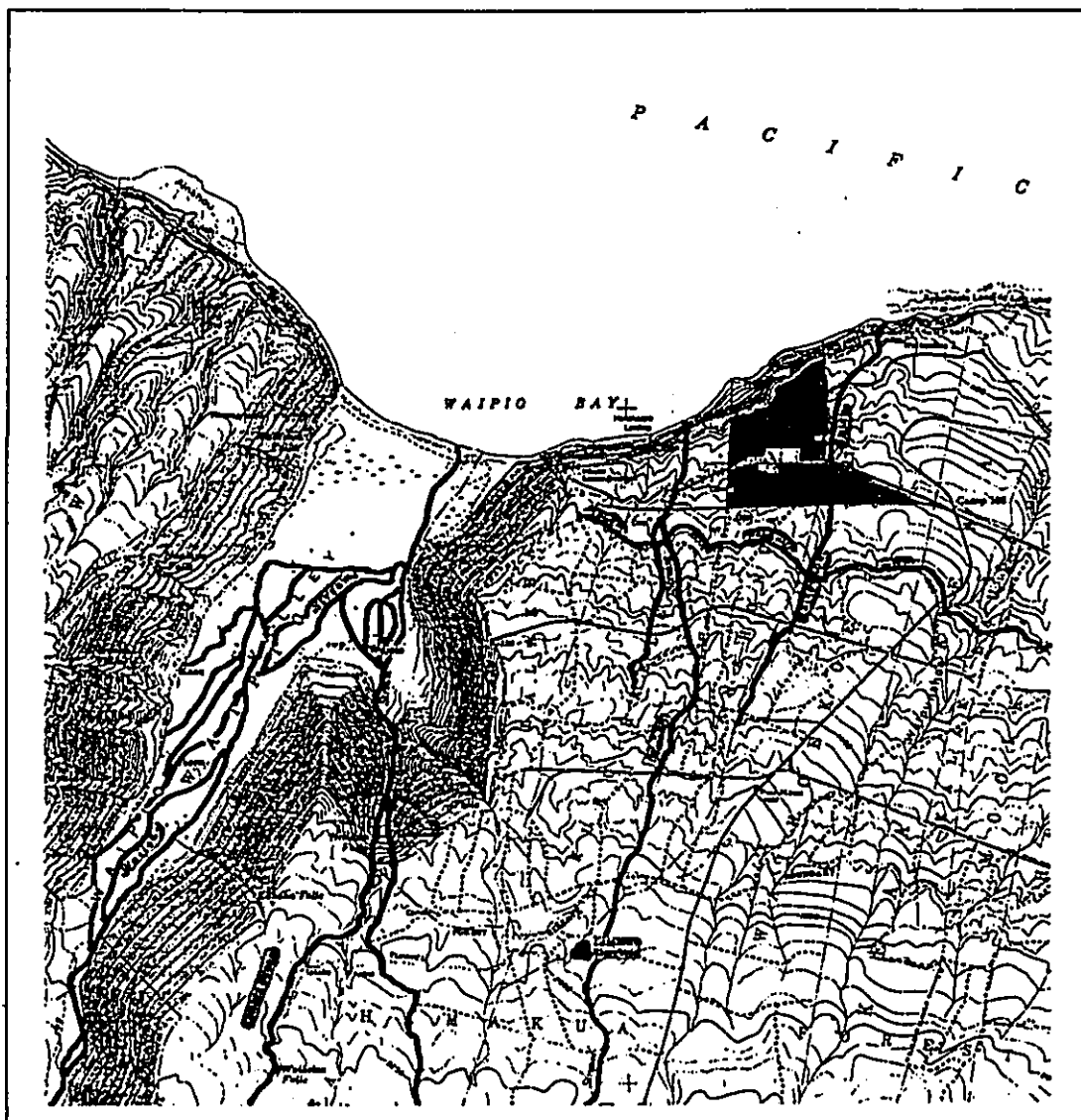
3.1.3.2 Surface Water

There are two perennial streams located outside the project boundaries which were designated as candidate streams for protection in the *Hawaii Stream Assessment* study prepared for the Commission on Water Resource Management: Wailoa/Waipio Stream and Lalakea Stream (see Figure 22, "Surface Water Map," on page 3-18).¹⁹ Both streams are more than 1000' feet from the Project Site. The intermittent Waikoeke Stream transects the mauka portion of the Project Site; the intermittent Waiulili Stream is on the Waipio side outside the Project Site. An unnamed gully conveys storm runoff through the Project Site (refer to Figure 9, "Topographic Map," on page 2-11). No proposed development will occur within the intermittent stream course nor the unnamed gully.

Two ditch and tunnel systems provided a source of irrigation water for the sugarcane operations. The Lalakea ditch and tunnel system diverts an average flow of 1 mgd from Lalakea Stream by an intake at an elevation of 2000'. The water is conveyed to Lalakea Reservoir (elevation of about 1500'). Lalakea Reservoir was used to irrigate sugarcane, but its use was suspended in 1989 due to reduced sugarcane operations. Overflow from the reservoir spills into Waiulili Gulch, a normally dry stream bed. The Lower Hamakua Ditch starts in the interior Waipio Valley at Kawainui Stream, diverts water from four main tributaries of Waipio Valley, and connects with an irrigation distribution system at Kukuihaele at 1000' elevation. The ditch system extends about 21.9 miles ending at Paauilo. Historically, a portion of the water from the ditch was taken for domestic use, but currently this use has been virtually eliminated (about 0.5 to 1 mgd used by Paauilo Village for domestic purposes). Sugarcane irrigation accounted for about two-thirds of the flow, while sugar mill use accounted for most of the balance. The Applicant does not propose to use water from Lalakea Reservoir or Hamakua Ditch.

19. 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.

FIGURE 22. Surface Water Map



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

3.1.3.3 Coastal Waters

Substrate. The nearshore waters in the vicinity of the Project Site and Waipio Valley is unsheltered, open coastline dominated by the effects of wave action.²⁰ During the winter months, large waves impact the north shores of the Hawaiian Islands, especially the Waipio Valley region of the Hamakua Coast which faces more directly north than the more southern parts of the Hamakua Coast. Throughout the year, tradewind-generated waves impact the windward coasts. Thus, rather than lush coral growth, the nearshore area extending from the shoreline to approximately the 60-80' depth is primarily sand and basaltic boulders. The surfaces of all rock surfaces are covered with a ubiquitous layer of fine sediment, apparently of terrigenous origin, bound in a short algal turf. Such sediment layers, however, were much thinner in the Waipio area compared to areas to the south in the vicinity of the mill discharges. Where living coral did grow, the coral colonies were consistently more abundant on the tops of boulders, compared to the sides which were subject to more sediment scouring. Channels and pockets filled with coarse black sand occurred between the boulders.

In a study conducted for EPA, coral surveys showed less coral cover in the Waipio area compared to both the Pepeekeo and Haina Mill areas.²¹ On three transects ranging from one mile north and one-half mile south of Waipio Stream, total coral cover averaged 12% of bottom cover. In areas to the southeast, coral cover beyond the influence of sugar mills averaged 29% (vicinity of Haina Mill) and 18% (vicinity of Pepeekeo Mill). This reduction did not appear to be a result of the stream discharge influence, since it was observed that water clarity was greater, and sediment deposits were lower near Waipio compared to other areas of the Hamakua Coast further south. A likely cause of the reduced coral cover at Waipio is an increased degree of stress associated with breaking waves, a predominant factor in defining coral community structure in Hawaii.²²

20. Marine Research Consultants. "An Assessment of Potential Effects to the Marine Environment from the Hamakua Land Use Program" Appendix C in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*. Prepared for the Hamakua Sugar Company, April 1991.

21. TetraTech, *Hawaii Sugar Mill Marine Environmental Study*. Prepared for the Assessment and Watershed Protection Division, Office of Water Regulations and Standards, U.S. Environmental Protection Agency, Washington, D.C. U.S. EPA Contract 68-C8-001, TC-4100-14, 1989.

Biota. Despite the low overall coral coverage, large boulders and rocky ledges provide shelter for many species and support a rich community of reef fish.²³ Typical for Hawaiian reef fish assemblages, the dominant herbivores were surgeonfish (Family Acanthuridae including kole, manini, pualu, palani) and rudderfish (nenu, *Kyphosus spp.*). Parrotfish (uhu, *Scarus spp.*), jacks (papi, *Caranx melampygus*), goatfish, butterflyfish, and wrasses were seen. Notable among the wrasses were the relatively rare *Coris* species (hilo, *C. Ballieui* and *C. flavovittata*). The boulder-rich areas harbored fair numbers of nocturnal "red fish," especially menpachi (u'u, *Myripristis spp.*). The presence of large numbers of fish overall, their tendency not to avoid divers, the large size of many of the fish, and fair numbers of jacks and "red fish" all suggest that this area harbors a healthy reef fish community that has not been substantially affected by fishing pressure.

Green sea turtles (*Chelonia mydas*), an endangered species, were observed in the area. The Hamakua Coast is not considered an important habitat for humpback whales (*Megaptera novaengliae*) during their residence in Hawaiian waters.²⁴

Water Quality. The Department of Health classified the nearshore waters along the Hamakua Coast as Class A (see Figure 23, "Water Quality Classification Map," on page 3-22), defined as follows:

It is the objective of class A waters that their use for recreational purposes and aesthetic enjoyment be protected. Any other use shall be permitted as long as it is compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving

22. Marine Research Consultants, "An Assessment of Potential Effects to the Marine Environment from the Hamakua Land Use Program" Appendix C in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*, Prepared for the Hamakua Sugar Company, April 1991, citing Dollar, S.F., 1982, "Wave Stress and Coral Community Structure in Hawaii," *Coral Reefs* 1:71-81.

23. Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*. Prepared for the Hamakua Sugar Company, April 1991, p. 4-13.

24. U.S. Department of Commerce, NOAA, Office of Ocean and Coastal Resource Management, Sanctuary Programs Division, and State of Hawaii, Department of Planning and Economic Development. *Draft Management Plan and Environmental Impact Statement for the Proposed Hawaii Humpback Whale National Marine Sanctuary*, December 1983.

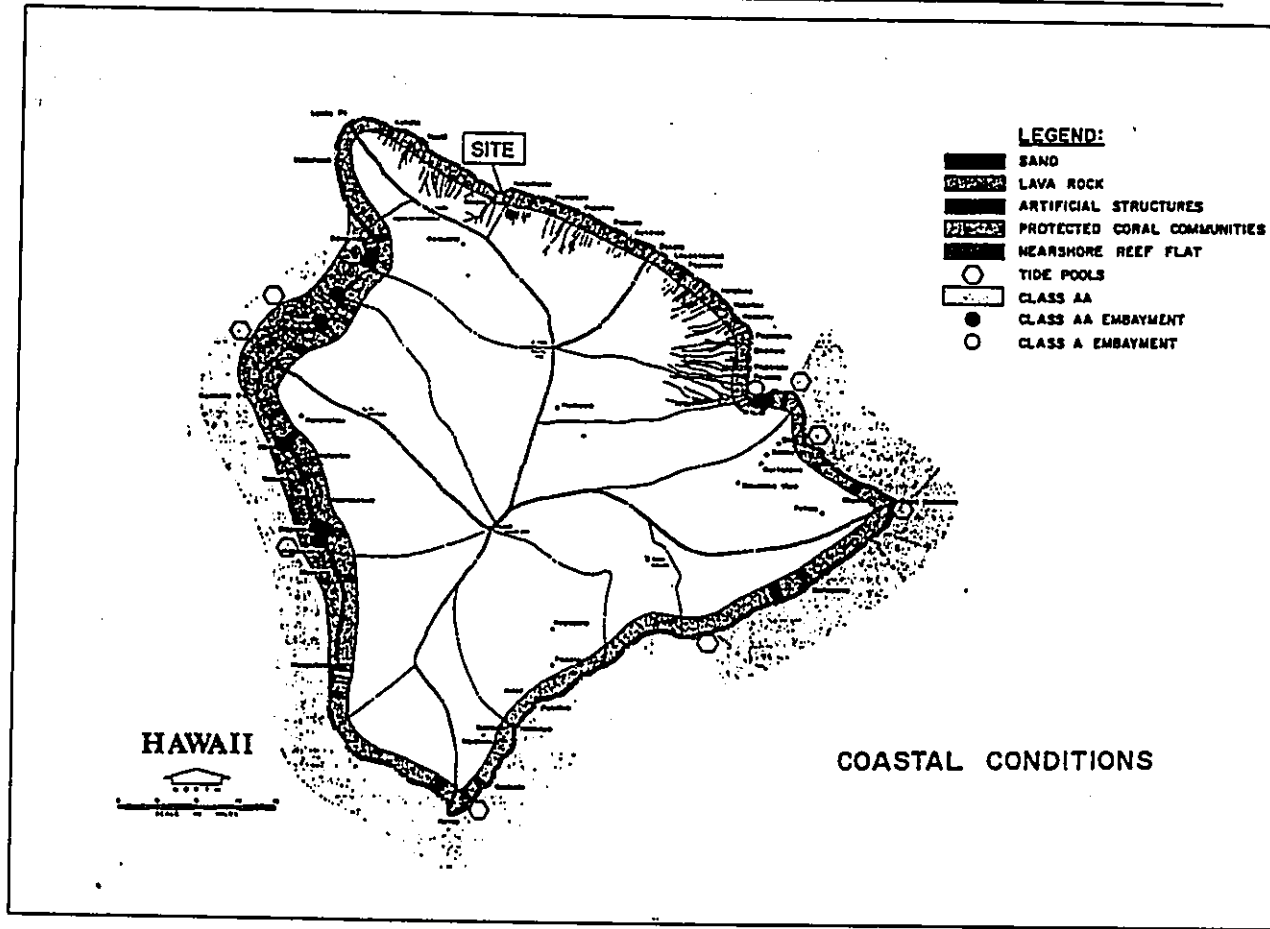
3.1.3 Hydrology

waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class.²⁵

The EPA survey showed no exceedences of Department of Health water quality standards for Class A marine waters at sampling sites in the vicinity of Waipio. The low results for nitrate and suspended solids indicate that there is little input of materials from land. Herbicide analyses from samples collected in the Waipio-Waimanu area were below detection limits.

25. *Hawaii Administrative Rules*, Department of Health, Water Quality Standards, §11-54-03(c)(2).

FIGURE 23. Water Quality Classification Map



3.1.3.4 Wetlands

According to U.S. Fish & Wildlife Service criteria, a wetland must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is mainly undrained hydric soil, and (3) the substrate is saturated with water or covered by shallow water at some time

during the growing season of each year.²⁶ The U.S. Fish & Wildlife Service did not identify any wetlands within the Project Site; most of the wetlands in the vicinity are concentrated in Waipio Valley (see Figure 24, "Wetlands Map," on page 3-24).

Impacts

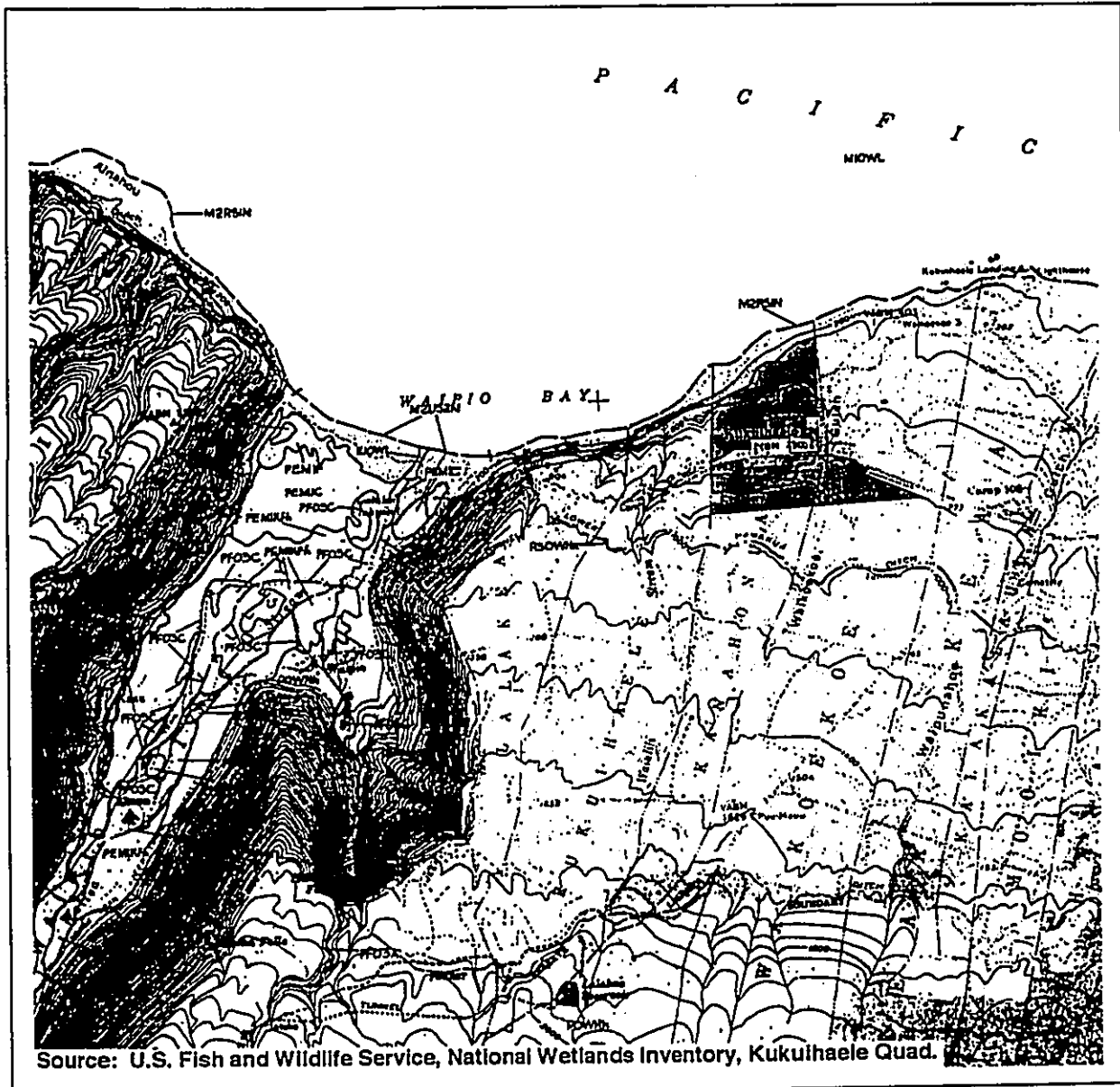
Impact of Groundwater Development on Sustainable Yield and on the County Water System. The Applicant proposes potential drinking water source development with deepwell(s). The description and impact of this proposal is discussed in the section on Water Facilities (see §3.3.2 "Water" on page -79).

Impact of Wastewater Disposal and Storm Water Injection Wells on Groundwater and Coastal Water Quality. The proposed methods of wastewater disposal include individual cesspools or septic systems for the one-acre lots and a package treatment plant for the hotel. The treated effluent from the treatment plant would be disposed by subsurface leaching fields. Since the treatment plant and leaching fields would be located at the lowest area of the Project Site, it would be downgradient from any proposed drinking water well and would also be a sufficient distance (greater than 1000') from the County's spring source. The proposed drainage system will consist of drywells at appropriate intervals within the road rights of way. The stormwater would recharge the groundwater supply. Any dissolved pollutants in the wastewater effluent or stormwater recharge that has not been absorbed by plant roots or adsorbed to soil particles, and infiltrates to the groundwater with subsequent seepage to the coastal waters, would not significantly impact the coastal water quality due to the vigorous mixing capacity of the nearshore waters. The resilience of the nearshore ecosystem has been demonstrated by the insignificant impacts caused by sugarcane operations despite the heavy applications of fertilizer (about 213 tons of nitrogen and 74 tons of phosphorous per year on 800 acres), pesticides, and sedimentation.²⁷

26. U.S. Department of the Interior, U.S. Fish & Wildlife Service. *Classification of Wetlands and Deepwater Habitats of the United States*. National Technical Information Service. stock #PB80168784.

27. Marine Research Consultants, "An Assessment of Potential Effects to the Marine Environment from the Hamakua Land Use Program" Appendix C in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*, Prepared for the Hamakua Sugar Company, April 1991, p. 13.

FIGURE 24. Wetlands Map



3.1.4 Flora and Fauna

Impact of Construction Activities on Coastal Water Quality and Marine Endangered Species. The implementation of the mitigation measures discussed above for soil erosion control would mitigate sedimentation impacts on coastal water quality from construction activities (refer to §3.1.2 "Soils and Topography" on page 3-4).

Mitigation Measures

Design Phase:

- **Wastewater System Approval.** Compliance with the Department of Health's rules for the design and operation of individual wastewater systems and treatment plants should protect the groundwater quality from subsurface wastewater disposal. The Department of Health reviews and approves the wastewater system design as part of the building permit process.
- **UIC Permit.** Depending on the design, drywells could fall under the definition of "injection well." If the drywell falls within this definition, compliance with the Department of Health's Underground Injection Control (UIC) Permit requirements should ensure that the location and design of the stormwater injection wells would not degrade the groundwater quality. The Applicant would likely apply for this permit during the building permit process, if applicable.

3.1.4 Flora and Fauna

A previous botanical study encompassing the Project Site divided the original study area into five botanical zones, although only two occur within the Project Site:

Sugar Cane Fields and Gulch Vegetation.²⁸ The Coastal Vegetation Zone identified in that study lies seaward of the Project Site; the Eucalyptus and Ohia Forest zones lie inland at a higher elevation. A synopsis of each botanical zone present within the Project Site is given below.

- **Sugar Cane Fields--** The major portion of the Project Site is abandoned sugarcane fields. Observed introduced species include yellow-flowered wild radish (*Raphanus raphanistrum*), white clover (*Trifolium repens* L.), Indian paintbrush

28. Char & Associates. "Botanical Assessment Survey: Waipi'o Mauka and Waipi'o Makai, Hamakua District, Hawaii" Appendix A in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*. Prepared for the Hamakua Sugar Company, April 1991.

(*Castilleja arvensis*), marsh purslane (*Ludwigia palustris* [L.] Ell.) and others. Native species in this area include *popolo* (*Solanum americanum*) and *koali'awa* (*Ipomoea indica* [Burm.] Merr.).

- **Gulch Vegetation**-- Vegetation in the undisturbed gullies of the Project Site is dominated by introduced ironwood, Java plum, guava, and Christmas-berry shrubs. Scattered patches of banana are also present.

The study indicated that none of the native species located during the survey are officially listed as threatened or endangered plants nor are any proposed candidates. Most of the native species are ubiquitous in the native forests of Hamakua and Kohala.

A bird and mammal field and literature survey of the Project Site identified one species endemic to the island of Hawaii (*Io*, Hawaiian Hawk), two indigenous seabirds (White-tailed Tropicbirds, Great Frigatebird), and one indigenous migratory bird (Pacific Golden Plover).²⁹ The Hawaiian Hawk was first listed as an endangered species in 1967. This species has probably adapted better than any other endemic avian species to the alien-dominated lowland areas of the island. Hawaiian Hawks occupy a wide variety of habitats; they are to be found in almost all habitats lacking trees. It is generally thought among the scientific community that the Hawaiian Hawk population is healthy and maintaining itself, unlike many other endemic species. Therefore, this species is currently under review by the U.S. Fish and Wildlife Service for down-listing from endangered to threatened status. Traditionally, the Hamakua area has had one of the denser populations of Hawaiian Hawks on the island.

The White-tailed Tropicbirds were seen flying along the shoreline on the north boundary of the site. This species nests along the Hamakua Coast in the cliff faces. The Great Frigatebird was seen soaring over the open fields to the east of the site. This pelagic species is not known to nest on the island of Hawaii; it nests on many offshore islets, Oahu, Kauai, and the Leeward Hawaiian Islands. They are not

29. David, Reginald. *Ornithological and Mammalian Survey of the Proposed Amanresort Development Site at Kukuihaele, Hamakua District, Island of Hawaii*, September 1993 (see Appendix B). The fauna description and impact assessment in this section is based on this report. The findings of this report are consistent and more detailed than a previous report of a larger geographic area that included the Project Site: Bruner, Phillip L. "Survey of the Avifauna and Feral Mammals at Waipio-Mauka and Waipio-Makai, Hamakua, Hawaii", Appendix B in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*. Prepared for the Hamakua Sugar Company, April 1991.

uncommon visitors to this island, most often seen immediately prior to or following high winds or low pressure systems. Neither seabird is considered endangered or threatened.

Migratory waterbirds and shorebirds make up a large part of the winter avian population of Hawaii. These annual visitors are found throughout the island from August through May. It can be expected that during the migration season, several of these species utilize the proposed site. Only one indigenous migratory bird species was detected during the survey. The Pacific Golden Plover (*Kolea*) is the most common of the migratory shorebirds that visit Hawaii each year. Many return to the same territory every year. This species is not considered endangered or threatened.

The survey made a special effort to find Hawaiian hoary bats and Hawaiian Owls; neither were found. The survey also identified many other introduced bird species. A previous study observed endangered native waterbirds beyond the Project Site at Lalakea Reservoir (coot) and Lalakea Stream (*Koloa*).³⁰

A total of four species of feral mammals were observed (dogs, cats, mongoose, rats/mice). None of these mammal species are native to Hawaii; they all were introduced to Hawaii by man. All of them are deleterious to the avian species found on the site-- dogs disturb and kill ground-nesting birds; cats, rats, and mongoose prey on eggs and the young.

Impact

None. The cliffs will not be affected by the proposed project and will be left in their natural state. The project will not significantly impact the Hawaiian Hawk population. There are more favorable habitats along the Hamakua Coast (e.g., Waipio Valley), especially since the vicinity of the Project Site has been developed with Kukuihaele town and disturbed by agricultural activity. With the conversion of abandoned sugarcane fields to grassed areas and water features, it is likely that the project may attract more Pacific Golden Plover to the site as well as other species.

30. Bruner, Phillip L. "Survey of the Avifauna and Feral Mammals at Waipio-Mauka and Waipio-Makai, Hamakua, Hawaii", Appendix B in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*. Prepared for the Hamakua Sugar Company. April 1991.

Mitigation Measures

Design & Construction Phases:

None required. However, in response to a comment received during the Consultation Period, the Applicant should consider the following action:

- *Inventory of Exceptional Plant Specimens.* The Applicant should survey the site with members of the community to identify any exceptional plant specimens that should be preserved. If any specimens are identified, the site plan should identify the location of these specimens and describe how the landscaping would incorporate this feature. Any identified specimens should be clearly marked in the field and protected during construction.

3.1.5 Natural Hazards

3.1.5.1 Flooding

Setting

According to the Flood Insurance Rate Map (FIRM), the entire Project Site is in Zone X (outside the 500 year flood plain) (see Figure 25 on page 3-29). However, Kukuihaele residents have reported occasional flooding problems in the area behind Tiger Camp and the area between the Plantation Manager's Estate and the County cemetery.

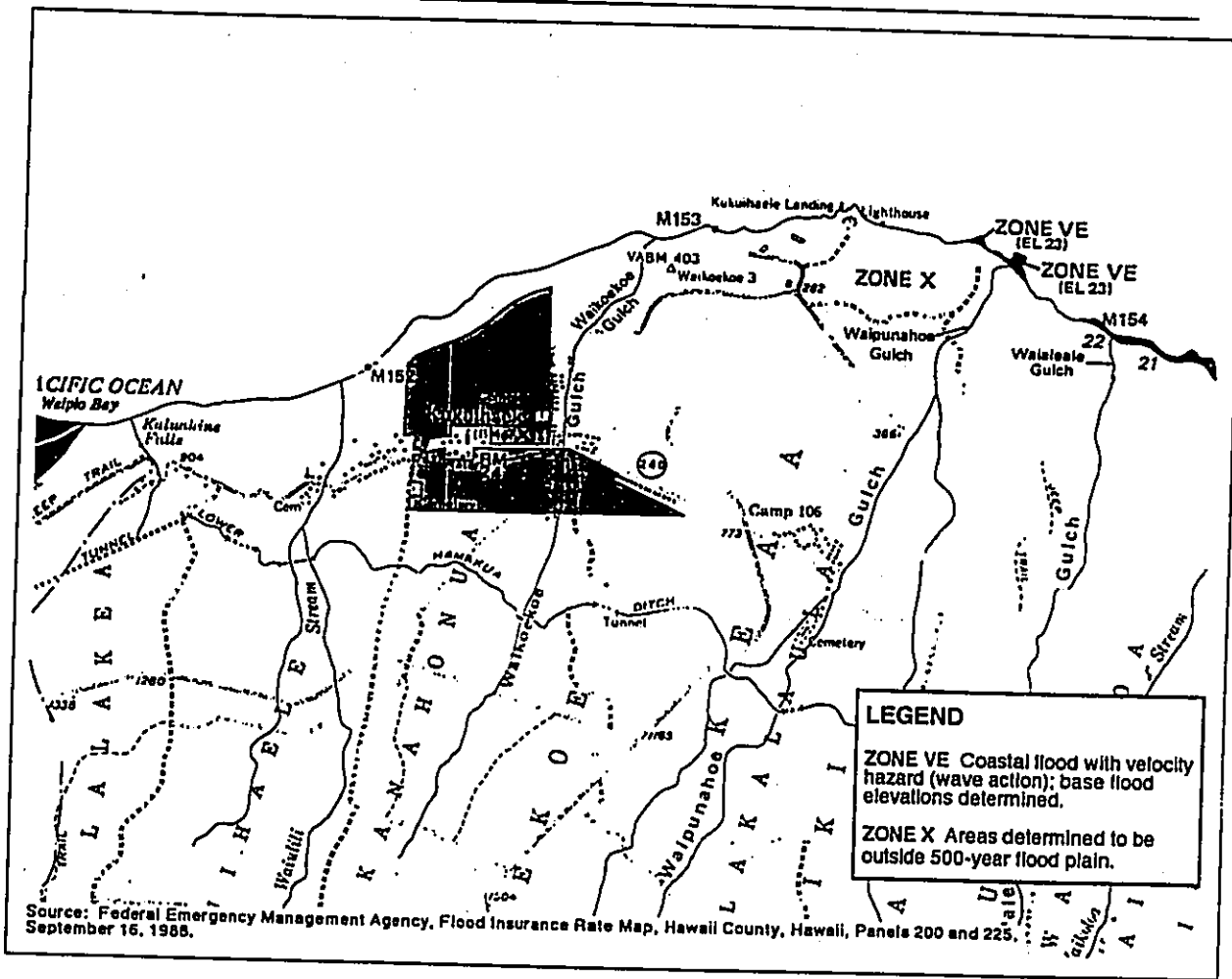
Impact

Impact on Streams and Gulches. The proposed drainage system will direct runoff by swales along the roads to drywells. The drywells, designed for a 10-year storm, will minimize runoff into the streams and gulches. In the event of exceptional storms, any overflow from the drywells will drain into a settling basin where the sediment would be removed before flowing into the stream. The drywells should offset the increase in impervious surfaces so that the resulting runoff to the streams should not be significantly greater than the existing conditions.

3.1.5 Natural Hazards

Impact on Downstream Properties. The hotel site is downstream of Kukuihaele town and would not affect any existing residents. The proposed drainage improvements for the mauka one-acre lots may have a beneficial impact on the existing residents by alleviating some of the current flooding problems.

FIGURE 25. Flood Insurance Rate Map



Impact on Existing Drainage Improvements. There are no drainage improvements within Kukuihaele; runoff is conveyed by the existing gullies and gulches.

Mitigation

Design Phase:

- *Compliance with County Drainage Standards.* The Applicant will prepare a flood study during the design phase of the project. The County will review and approve the drainage plans as part of the subdivision, grading, or building permit process.

3.1.5.2 Volcanic

Setting

The Project Site is in lava flow hazard zone 8 (on a scale of 1 to 9 with the greatest hazard in zone 1) (see Figure 26 on page 3-31).³¹

Impact

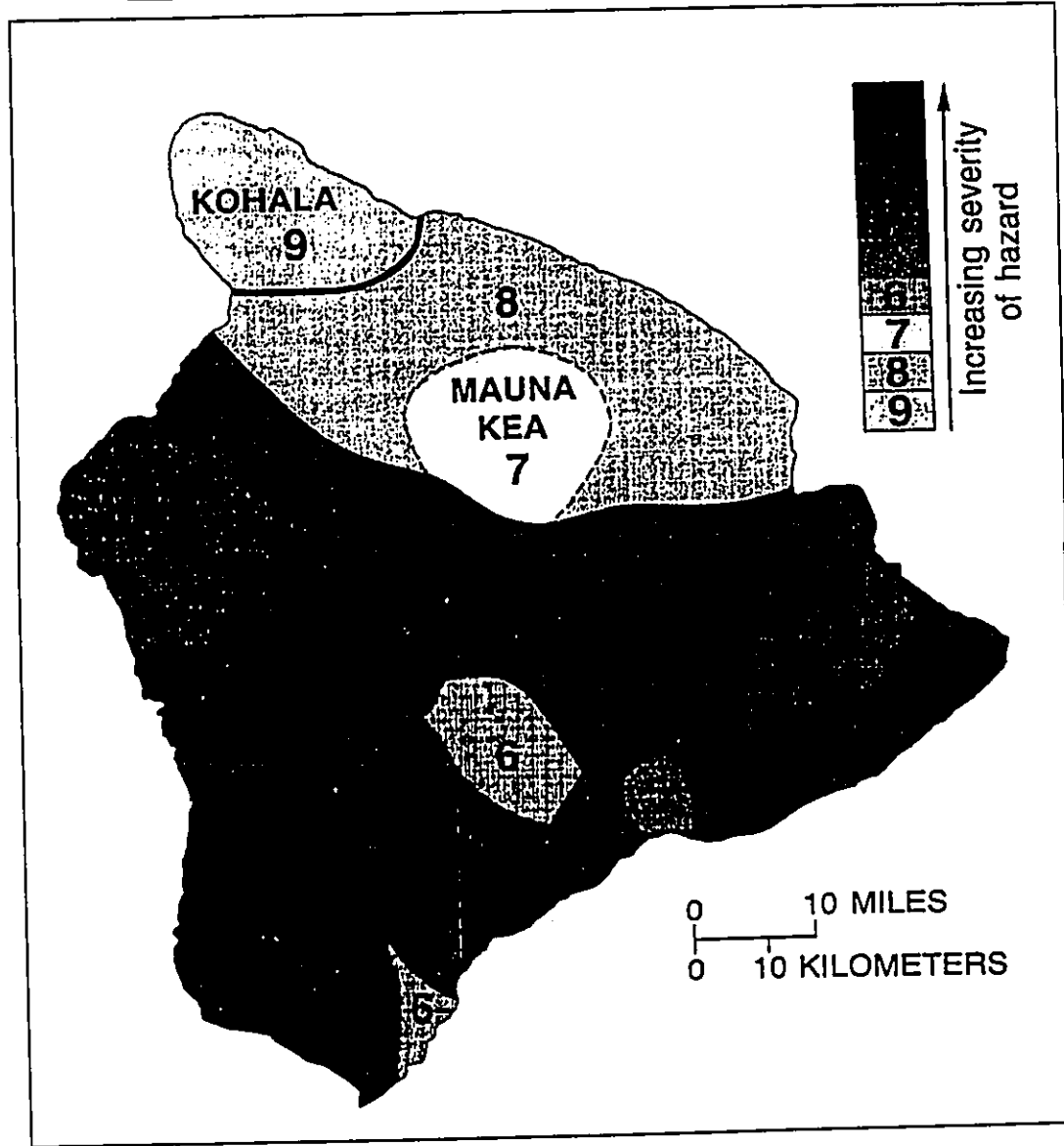
None.

Mitigation

None required.

31. Heliker, C. *Volcanic and Seismic Hazards on the Island of Hawaii*. U.S. Geological Survey, 1991.

FIGURE 26. Volcanic Hazards Map



3.1.5.3 Earthquake

Setting

Strong earthquakes endanger people and property by shaking structures and by causing ground cracks, ground settling, and landslides.³² Locally, such damage can be intensified where soft, water-saturated soils amplify earthquake ground motions; on steep slopes, such soils may result in mudflows or landslides. The island of Hawaii experiences thousands of earthquakes each year-- most are so small that they can only be detected by instruments, but some are strong enough to be felt, and a few cause minor to moderate damage. Most of the island's earthquakes are directly related to volcanic activity (magma moving beneath the earth's surface), concentrated beneath Kilauea and Mauna Loa, particularly beneath the south flanks of both volcanoes and in the Kaoiki region between them. Although originating in the volcanically active area, these earthquakes can have damaging effects that are widespread. A few earthquakes are less directly related to volcanism and originate in zones of structural weakness at the base of the volcanoes or deep within the earth beneath the island, such as the earthquake of magnitude 6.2 centered 25 miles deep beneath Honouliuli in 1973. Such earthquakes unrelated to volcanic activity have no known recurrence interval and are difficult to predict. The Building Code designates the entire island of Hawaii in Earthquake Zone 3 and contains certain structural requirements to address the relative seismic hazards.

Impacts

Impacts to Public Safety and Property Damage. Since the proposed buildings are all one-story in height, there are no special concerns associated with high-rise buildings. The buildings will be designed in accordance with the local building code, which should ensure that the foundations and buildings are earthquake-proof. Hawaii County adopted the most recent Uniform Building Code (UBC) effective November 8, 1993. The recent UBC includes several new requirements to address hazards from earthquakes and strong winds. The Applicant's soil engineer will determine whether the thixotropic properties of the soil within the Project Site require any special treatment in relation to earthquake concerns.

32. The discussion in this section is from Heliker, 1991. *ibid.*

Mitigation

Design and Construction Phases:

- *Compliance with Building Code.* The County reviews and approves the construction drawings for compliance with the current building code. The County also inspects the completed structures and issues a certificate of occupancy to certify compliance with the building code.

3.1.6 Archaeological/Historical Resources

Archaeological/Historical Sites. This section summarizes the findings of an archaeological inventory survey of the Project Site conducted by Paul H. Rosendahl, Ph.D., Inc. (PHRI) (see Appendix C). The survey-- which consisted of an aerial survey, 100% variable-intensity ground survey, and limited subsurface testing-- identified four (4) sites within the Project Site and three (3) sites adjacent to the Project Site (see Figure 27 on page 3-34).

Of the four sites within the Project Site, one (15014, habitation terrace) is significant solely for information content with further data collection recommended. Two sites (14986, habitation/agricultural terrace; 15006, historic Plantation Manager's Estate) are significant for information content, for cultural value, and as excellent site type examples. For both sites, PHRI recommended further data collection followed by preservation with some interpretation. The fourth site (14987, habitation/agricultural complex) is provisionally significant for information content and as an excellent site type example; a final assessment depends on further data collection. Sites 14986 and 14987 are significant site type examples on a regional, rather than islandwide basis. If, in the future, better examples are found in the Hamakua region, then the present assessments should be reevaluated. The Plantation Manager's Estate is on the State Register of Historic Places. Table 3, "Summary of Archaeological Significance Assessment and Recommended General Treatments," on page 3-35 summarizes the findings and recommendations.

FIGURE 27. Archaeological Sites Map

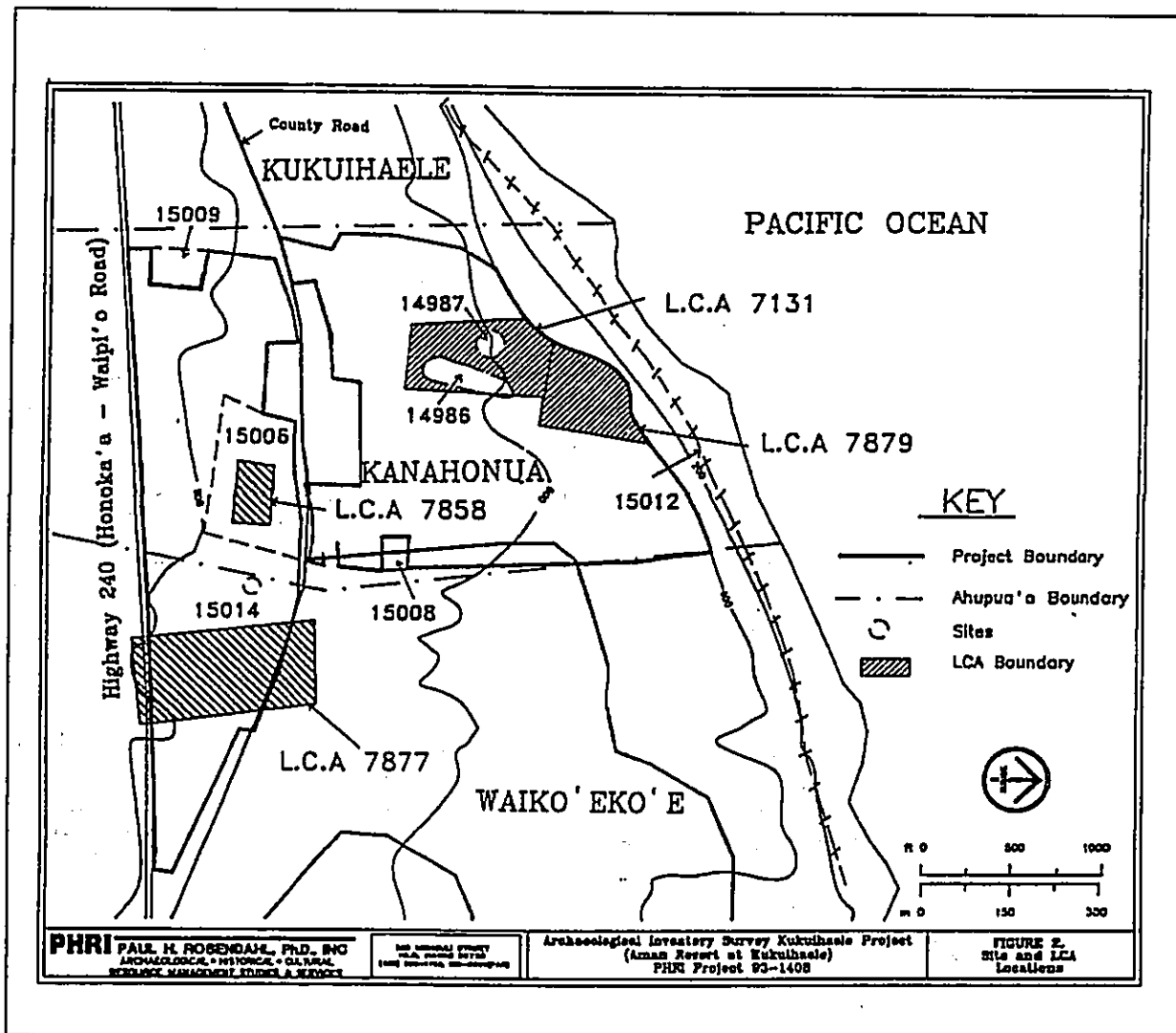


TABLE 3. Summary of Archaeological Significance Assessment and Recommended General Treatments

SITE NO.	FUNCTION	AGE	VEGETATION	SIGNIFICANCE CATEGORY				RECOMMENDED TREATMENT			
				A	X	B	C	FD C	NFW	PID	PAI
Within Project Site											
14986	Habitation/ Agricultural terrace	LP/EH	GV	+	-	+	+	+	-	+	-
14987	Habitation/ Agricultural complex	LP/EH	CV	+	-	*	-	+	-	*	-
15006	Habitation	LH/H	--	+	-	+	+	+	-	+	-
15014	Habitation terrace	LP/EH	GV	+	-	-	-	+	-	-	-
Adjacent to Project Site											
15008	Burial	LH/H	--	+	-	-	+	-	-	-	+
15009	Burial	LH/H	--	+	-	-	+	-	-	-	+
15012	Trail	LH/H	CV	+	-	+	+	-	-	-	-

Age
 LP=Late Prehistoric
 EH=Early Historic
 LH=Late Historic
 H=Historic

Vegetation
 CV=Coastal Vegetation
 GV=Gulch Vegetation

ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Significance Categories

A=Important for information content, further data collection necessary

X=Important for information content, no further data collection necessary

B=Interpretive value

C=Culturally significant

Recommended Treatment

NFW=No further work of any kind necessary

FDC=Further data collection necessary

PID=Preservation with some level of interpretation

PAI=Preservation as is

Historical Background. The Project Site lies within two traditional *ahupua'a* (land divisions) in the district of Hamakua: Kanahonua and Waiko'eko'e. The *Mahele* of 1848 made land available to native tenants, and at least eight LCAs were awarded to Hawaiian claimants in or adjoining the Project Site. Use of the land by native tenants at the time appears to have been traditional wet- and dryland agricultural practices, and also included crops and livestock of western importation.

In 1850, it became possible for foreigners to purchase Hawaiian land. Much of the Project Site, once a part of the land award of High Chiefess Kakauonohi (LCA 11216 'Apana 50), had been acquired by c. 1868 by the Roman Catholic Church of Hawaii. By c. 1878, other portions of land had been acquired by the Pacific Sugar Mill and sugar operations began modifying the natural and cultural landscape of the region. Foreign laborers brought about increased growth of the plantation community.

Because the town of Kukuihaele is built around the government road and takes up much of the land of Kanahonua, most of the evidence of early land use would have been destroyed by construction of modern buildings, as well as by the extensive sugarcane cultivation activities. As this is a small, relatively poorly endowed *ahupua'a*, population density was probably never very high.

Pacific Sugar Mill had the distinction of introducing the first mongoose into Hawaii. In 1883, the plantation imported them from India and Africa for rat control on the plantation. While most plantations had a small herd of cattle, Pacific Sugar Mill was unusual because it also had over 600 head of sheep. Free mutton was provided for employees along with free housing, fuel, and medical care. As on most plantations, the early work force consisted of Chinese and native Hawaiians. Later,

Japanese, Portuguese, Spaniards, Puerto Ricans, Koreans, and Filipinos came to work on the plantation both as day laborers and contract workers.

By 1908, Pacific Sugar Mill had a nine-roller mill and produced an average crop of three acre. The cane was delivered by flumes to a railroad which stretched across the plantation from east to west. The railroad was about four miles long and extended from the mill at Kukuihaele Landing to the plantation's Honokaa boundary. Pacific Sugar Mill also had a wire rope landing to transport sugar bags to steamers for shipment.

The water for flumes was obtained by diverting the Hi'ilawe Stream which had its source in the Kohala Mountains. Pacific Sugar Mill also had the water rights to Lalakea Stream and to Kukuihaele Valley Stream. The was transported partly through a flume and partly by a ditch to a reservoir at the head of the plantation. Four more reservoirs with an estimated capacity of 50 MG were also constructed. This supply of water not only enabled Pacific Sugar Mill to transport all of its cane to the mill but was sufficient to enable Honokaa Sugar Company to flume 50% of its crop.

Most of the residents of Kukuihaele were either former residents of Waipio Valley or plantation laborers who had come from many different places. The first camp out of Kapulena heading towards Waipio was known as Kona Camp as most of the people in this camp had moved from Kona. The second camp was known as Tiger Camp since many of the Spanish and Portuguese laborers living there "fought like tigers" all the time. What is now known as the Last Chance Store was the Old Plantation Store; next to that there was a theater. On the makai side of the existing park was where the Kukuihaele Elementary School used to be, and mauka of that was a Congregational Church. Further along toward the village there used to be many stores, saloons, restaurants and a tailor shop. There also used to be a Japanese vegetable garden, Chinese drug store, poi shops, paddocks, stables, blacksmith shops, and even a hotel. The hotel indicates that visitors frequented this area in the early 1900's. By 1913, Pacific Sugar Mill closed and was succeeded by Honokaa Sugar Company. When Honokaa Sugar Company took over Pacific Sugar Mill, most of the Kukuihaele businesses moved to Honokaa since the cane was milled in Honokaa and the Honokaa Landing was used to ship out most of the sugar.

Around 1900, the Hilo Breakwater was being built and large boulders were quarried from the cliffs between Waipio Valley and Kukuihaele. Below Kukuihaele at Waiulili Stream, there was a peninsula called Waiulili. A small breakwater was built there, but the 1946 tidal wave destroyed this breakwater.

Impact

Impact on Archaeological Sites. The project will not adversely impact any of the sites within or adjacent to the Project Site. Sites 14986, 14987 and 15014 are located in gulches and would not be disturbed by the project, provided the mitigation measures below are implemented. The proposed project will not disturb the cemeteries nor the trail at the bottom of the cliff.

Impact on Plantation Manager's Estate. Before any construction or alteration by a private landowner on a registered historic property, the landowner must notify the State Historic Preservation Division.³³ Provided the Applicant designs and rehabilitates the structure pursuant to the Division's standards,³⁴ the impact should be beneficial for it will allow the public to enjoy and learn about this historical period. "Rehabilitation" is defined as "the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."³⁵

Mitigation Measures

Design Phase:

Prepare and implement an Archaeological-Historical Mitigation and Interim Preservation Plan. There are two parts to this plan:

1. Mitigation plan for the rehabilitation of the Plantation Manager's Estate for review and approval by the State Historic Preservation Division.

33. *Hawaii Revised Statutes*, §6E-10 (Supp. 1992).

34. The State Historic Preservation Division uses the national standards to review appropriate rehabilitation of historic properties reproduced in U.S. Department of the Interior, National Park Service, *The Secretary of the Interior's Standards for the Treatment of Historic Properties 1992*.

35. U.S. Department of the Interior, National Park Service, *The Secretary of the Interior's Standards for the Treatment of Historic Properties 1992*.

3.1.7 Scenic Resources

2. Interim Preservation Plan for Sites 14986, 14987, and 15014. Such a plan may involve surrounding each site with a barricade (fence or natural vegetation) to deter vandalism. Stabilization may also be required if the sites are threatened by erosion. The sites should be accurately located and plotted by surveyors.

Construction Phase:

- Should any sites be uncovered during construction, work should stop and the State Historic Preservation Division and County Planning Department notified. Work in the affected area would resume only upon approval by the State and County agencies.

Operational Phase:

None required. The Applicant will allow access to the Plantation Manager's Estate for the public to enjoy this feature of Kukuihaele's plantation history.

3.1.7 Scenic Resources

Setting

The General Plan highlights the natural beauty of Waipio Valley.³⁶ The Project Site offers breathtaking views of the makai portion of Waipio Valley and the Hamakua coastline.

Impacts

To assess the visual impacts of the project, a survey crew erected and located poles marking the makai edge of the Project Site and the high points of the hotel and makai one-acre lots (see Figure 28, "Visual Impact Analysis Location Map," on page 3-41). The poles were visibly marked at the height approximating a one-story building (15') and the top of the pole (minimum 24'). Photographs were taken from points along the Old Route 240, the new Highway 240, the Waipio Valley Scenic Lookout, and from points along the Waipio Valley beach to determine the extent, if any, the poles could be seen. The photographic record is included in Appendix D.

³⁶ General Plan, 1989, p. 34.

The poles could be seen only from Highway 240 and the Old Route 240 fronting Kukuihaele Park (see Figure 29, "View Impact from Highways," on page 3-42). The poles could not be seen at all from the Old Route 240 near Tiger Camp, from the Waipio Valley Lookout, nor from Waipio Valley beach.

A previous study done for Hamakua Sugar Company in relation to the previously proposed Hamakua Makai plan (refer to Figure 10, "Previous Hamakua Makai Land Use Plan," on page 2-13) confirmed that a one-story building less than 15' and located about 500' from the cliff edge would not be seen from the far end (Waimanu Valley side) of Waipio Valley beach (see Figure 30, "Visual Impact from Waipio Valley," on page 3-43).³⁷ For the one-story buildings located closer to the cliff edge, the cliff vegetation would screen the structures. Structures built to the height limit of 45' under Resort zoning would be visible from Waipio Valley projecting above the cliff vegetation.

Mitigation

Design Phase:

- *Earhtone colors.* The hotel's roof and building should be an earthtone color to blend with the surroundings.
- *One-story limit.* Due to the visual sensitivity of the hotel's location near the cliff edge, the height limit should be limited to one-story even if the allowable maximum height under resort zoning is 45'. If decisionmakers impose this restriction as a permit condition, the condition should also be required to be recorded to give subsequent purchasers notice of this restriction.
- *Preserve or replace existing cliff vegetation that provide a visual screen from Waipio Valley.* The Planning Department should review the landscaping plan at Plan Approval to ensure that the existing or proposed vegetation at the cliff edge provides an adequate visual screen.

37. View Plane from West End Waipio Valley Floor to Makai Hotel Site, by Blane Ito Registered Licensed Surveyor No. 5691, prepared for Hamakua Sugar Company, undated.

FIGURE 28. Visual Impact Analysis Location Map

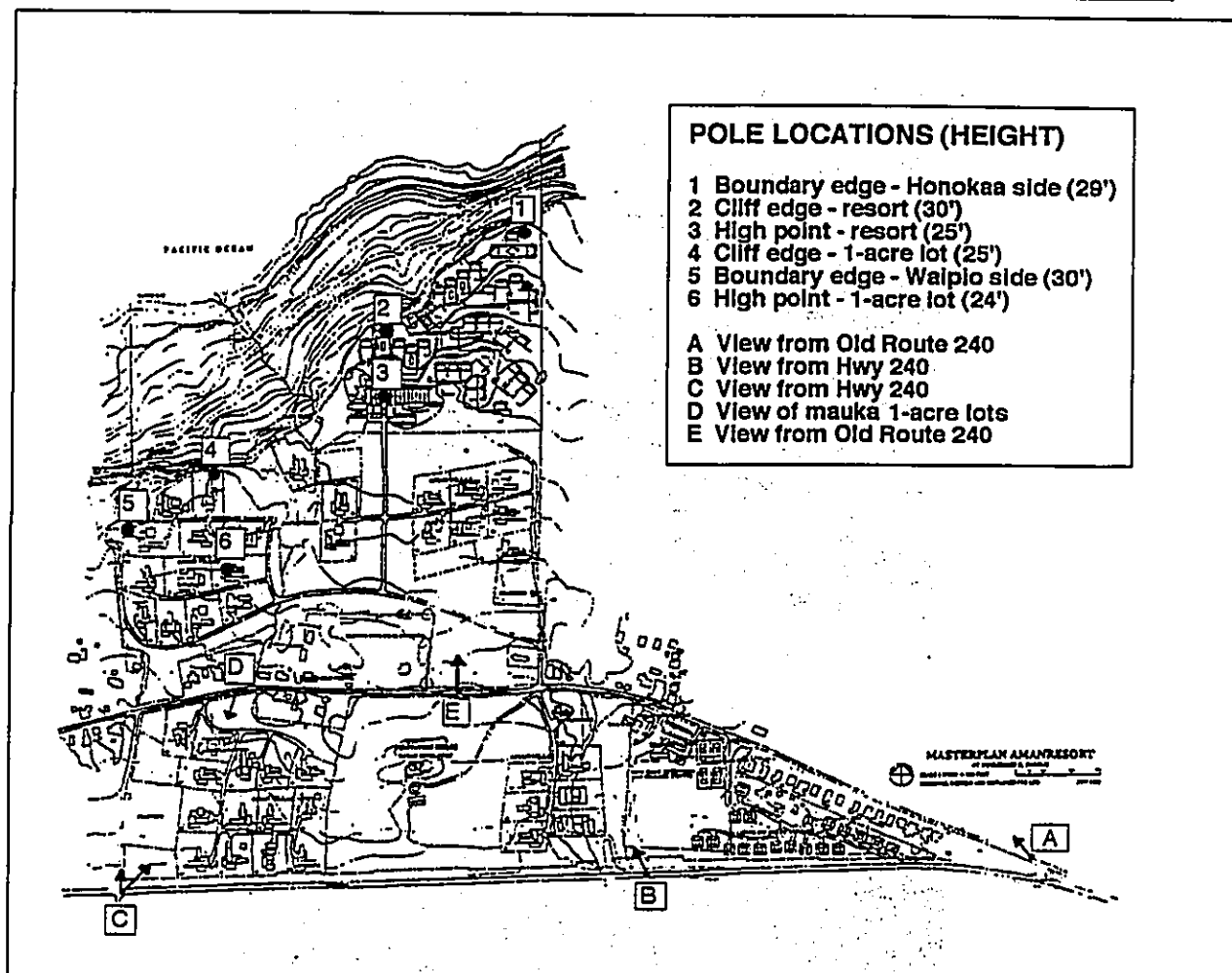
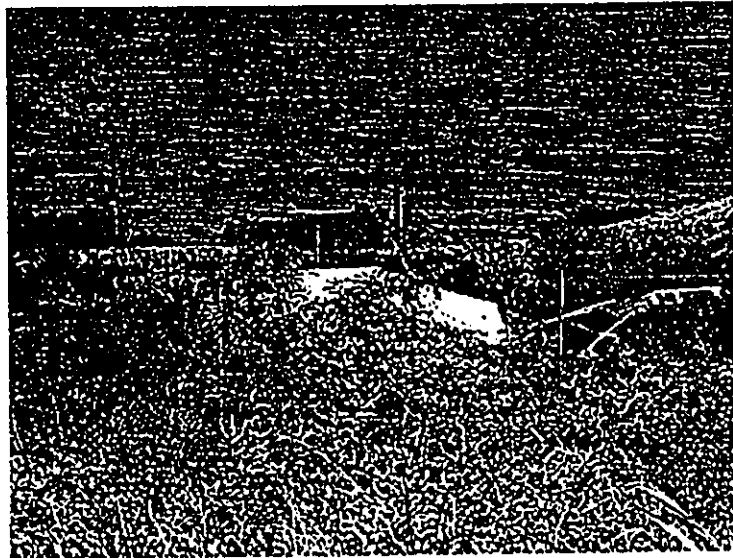
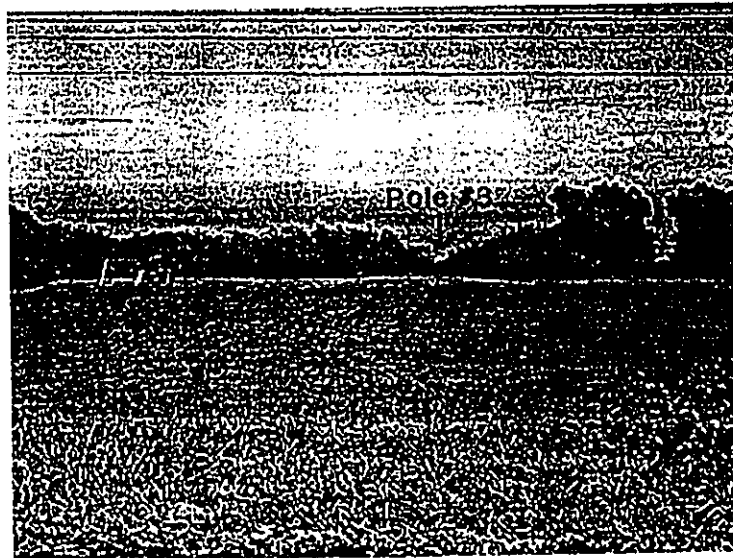


FIGURE 29. View Impact from Highways

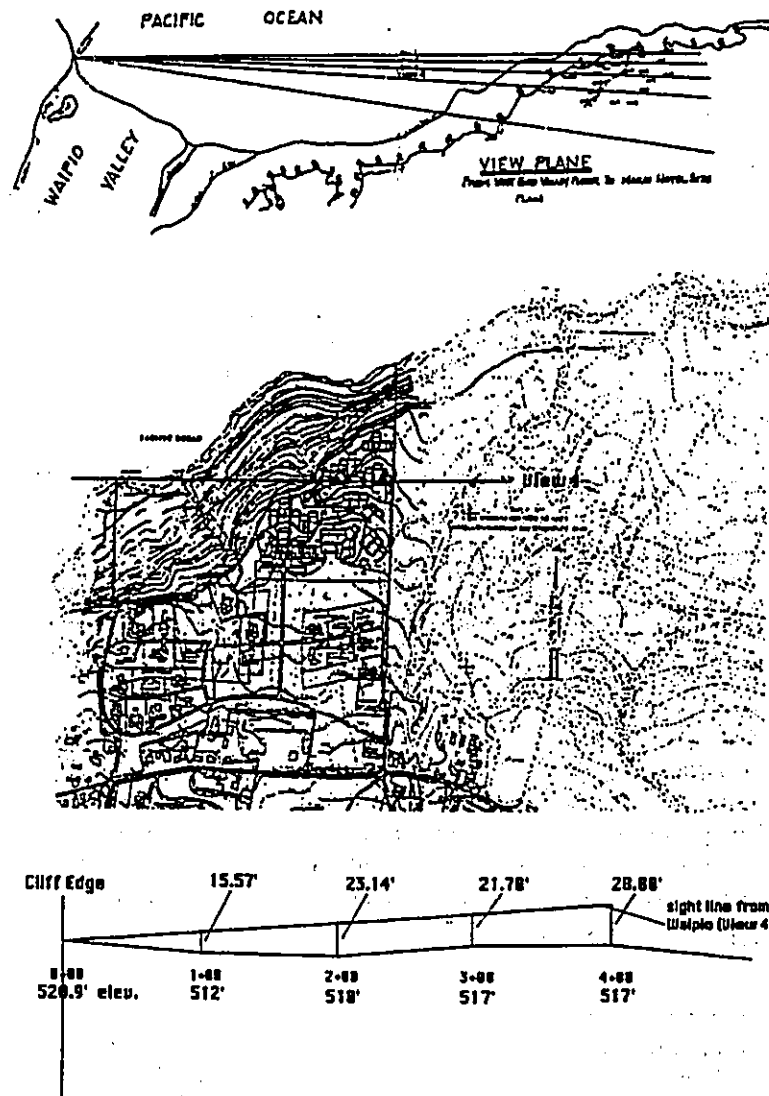


Hwy 240 above Tiger Camp.



Old Route 240 fronting Kukuihaele Park.

FIGURE 30. Visual Impact from Waipio Valley



3.1.8 Air Quality

Setting

The State Department of Health (DOH) maintains a network of air monitoring stations around the state to gather data on regulated pollutants, such as total suspended particulates (TSP), particulate matter less than 10 microns (PM-10), sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), and lead (Pb). DOH maintained an air monitoring station in Honokaa during 1979-1982. Since 1985, DOH discontinued routine air monitoring on the island.

The last available data indicate that federal standards for all criteria pollutants were being met, with some below the detectable limit of measurement. The worst air pollution episodes experienced in Hawaii County are due to volcanic eruptions. However, the Project Site is normally upwind of the volcanic vents under prevailing northeasterly tradewinds; when southerly winds blow, the air quality at the Project Site may be slightly affected. A sampling in 1991 along Highway 19 (Hawaii Belt Road) in the vicinity of Honokaa indicated that CO concentrations were well below state and federal one-hour standards.³⁸

Impacts

Since the project would attract mobile sources of air pollution (i.e., motor vehicles), it is considered a potential "indirect source" of air pollution as defined in the Federal Clean Air Act. Therefore, the focus of analysis is on the air quality associated with increased traffic.

The previous study done for the Kukuihaele Land Use Plan, which involved a much larger project, modeled the projected impacts of future traffic with and without the project. The study found that state and federal one-hour and eight-hour standards for CO would be met.³⁹

38. Morrow, J.W., "Air Quality Impact Report: Hamakua-Waipio Development, Island of Hawaii," Appendix G in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*, Prepared for the Hamakua Sugar Company, April 1991.

39. *Ibid.*

3.1.9 Noise

Agricultural burning emits particulates, carbon monoxide, and trace amounts of other organics. Concentrations of particulates can reach high levels within about one mile of the fires. The discontinuance of this practice would have a beneficial impact on air quality.

Construction activity will cause particulate dust emissions.

Mitigation

Construction Phase:

- *Dust control.* Discussed in §3.1.2 "Soils and Topography" on page 3-4.

3.1.9 Noise

Setting

A previous study for the Kukuihaele Land Use Plan measured the existing background ambient noise levels around Kukuihaele.⁴⁰ The existing noise levels are low and typical of rural areas. Background noise levels are controlled by traffic on Highway 240, local traffic on the Old Route 240, tour and transiting aircraft, birds, wind, foliage, or surf.

There are several standards to determine acceptable noise levels. According to national standards used by the Federal Housing Administration (FHA) and Veterans Administration (VA), the acceptable level is 65 Ldn.⁴¹ In Hawaii, an exterior noise level of 65 Ldn does not eliminate all risks of noise impacts because of our open, naturally ventilated structures which afford relatively low exterior-to-interior sound attenuation. A lower level of 55 Ldn is considered as the "unconditionally accept-

40. Ebisu, Y. and Associates, "Noise Study for the Hamakua Master Plan Project, Waipio, Hawaii," Appendix H in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*, Prepared for the Hamakua Sugar Company, April 1991.

41. The noise descriptor currently used by federal agencies to assess environmental noise is the Day-Night Average Sound Level (Ldn). This descriptor incorporates a 24-hour average of instantaneous A-Weighted Sound Levels as read on a standard Sound Level Meter (decibels dB).

able" level of exterior noise. The State Department of Health noise regulations, which apply only to Oahu but are used as a standard of reference on the neighbor islands, are intended to minimize noise impacts from stationary and motor vehicle noise sources.

Due to very low traffic volumes, the average background ambient noise levels along Highway 240 and the Old Route 240 range from 45 to 55 dB-- within the "unconditionally acceptable" category. In the sugarcane fields in the vicinity of the proposed hotel, the existing background noise levels range from 25 to 60 dB.

Impacts

Since the previously proposed Kukuihaele Land Use Plan was significantly larger than the proposed project, the impact analysis for that project would represent a worst case scenario for the proposed project. The previous study found a major impact to be along the high-speed sections of Highway 240. Setback distances from the highway centerline had to be greater than 56' to meet the 65 Ldn standard. The Kona Camp residences have setbacks in excess of 100'.

Mitigation

- *Setbacks from Highway 240.* Any occupied structures on the proposed one-acre lots along Highway 240 should be setback a minimum of 56' (or lesser distance based on findings of a noise study specific to the proposed project) from the centerline of the highway, or use other noise attenuating measures such as berms, landscaping, walls, or air-conditioning.

3.2 SOCIOECONOMIC CHARACTERISTICS

The following analysis of the socioeconomic impacts of the proposed project is based on a study by GeoMetrician Associates and Y.K. Hahn and Associates attached as Appendix E.

3.2.1 Population

Setting

Resident Population Size. The population of Hawaii County has increased in the period since 1960 as the economic mainstay shifted from plantation agriculture to tourism. Most of this increase has been concentrated on the west side of the island, especially in North Kona and South Kohala, where hotels, condominiums and resort-retirement homes have mushroomed.

The Hamakua coast has not shared equally in the population growth of the last several decades. Gradual trimming of the plantation labor force brought about by increasing mechanization and reduced acreage has restricted growth. Kukuihaele itself has seen a steady and dramatic decline in its population over the last fifty years (see Table 4, "Population Trends," below).

TABLE 4. Population Trends

	1950	1960	1970	1980	1990
Hawaii County	68,350	61,332	63,468	92,053	120,317
Hamakua	6,056	5,221	4,648	5,146	5,545
Kukuihaele	590	424	310	331	316

Sources: U.S. Bureau of the Census: "1990 Census of Population. General Population Characteristics," 1990 CP-1-13; Hawaii County Data Book; Note: The boundaries of Kukuihaele were slightly changed for the 1990 census.

Resident Population Characteristics. The Big Island as compared with O'ahu is rural, relatively low-income, and stable, and like all of Hawaii is known for its multi-ethnic composition. Kukuihaele displays these traits strongly (see Table 5, "Selected Socioeconomic Characteristics of Study Area," on page -48). A full 81% of the population in Kukuihaele is non-Caucasian (this contrasts greatly, however,

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with nearby Waipio, which is over 50% Caucasian). The major component clearly reflects the plantation labor force. Another component is the original Hawaiian population, many of whom moved to Kukuihaele after life in Waipio became more difficult.

TABLE 5. Selected Socioeconomic Characteristics of Study Area

CHARACTERISTIC	Hawaii Island	Honokaa/ Kukuihaele Division	Kukuihaele Census Designated Place
Total Population	120,317	3681	316
Percent White	39.9	34.9	17.0
Percent Asian/Pacific Islander	57.1	62.7	81.0
Percent Under 18 Years	28.7	28.5	30.7
Percent Over 65 Years	12.6	16.0	20.2
Percent Over 16 Years with Work Disability	5.1	3.6	8.8
Percent Over 16 Years in Labor Force	64.2	63.0	69.8
Median Family Income	\$13,169	\$11,586	\$8,463
Percent Whose Home Was Built After 1980	35.1	25.5	not available
Percent Whose Home Was Built Before 1939	10.8	17.0	81.0

Source: U.S. Bureau of the Census: "1990 Census of Population. General Population Characteristics," 1990 CP-1-13 and "1990 Census of Population. Housing, Summary Population and Housing Characteristics," 1990 CPH-1-13.

Several characteristics mark Kukuihaele as a somewhat disadvantaged community. Its percentages of elderly and adults with work disabilities are considerably higher than the norm. The median family income is also low -- less than 65% of the County average.

Nevertheless, it would be inaccurate to characterize the community as elderly and/or unemployed. The census figures for 1990 reveal a high proportion of the adult population in the workforce -- almost ten percent higher than the island average.

3.2.1 Population

Also, large families help account for the fact that there are actually more children under 18 for the population than the island as a whole.

A breakdown of Kukuihaele population by ethnicity is not available yet from the U.S. Census Bureau, but the proportions are somewhat similar to those of Hamakua in general (see Table 6, "Ethnic Composition of Resident Population," below). Again, this ethnic breakdown strongly reflects the plantation heritage of the community.

TABLE 6. Ethnic Composition of Resident Population

	Jpnse	Hawn	Fillipino	White	Other
Hawaii Island	20.8	19.2	12.9	39.7	7.4
Honokaa CDP	20.5	13.4	27.9	33.6	4.6

Source: U.S. Census Data: Table 6, "1990 Census of Population. General Population Characteristics," 1990 CP-1-13.

Kukuihaele's population is distinguished by its greater than usual proportion of Hawaii natives. This contrasts with many plantation towns, where there are many first-generation immigrant laborers and their families (see Table 7, "Length of Residence," below). Also notable is the fact that its inhabitants do not relocate as often as is normal for the island. Indeed, several middle-aged and elderly residents were interviewed who reside in the same house in which they were born.

TABLE 7. Length of Residence

CHARACTERISTIC	Hawaii Island	Honokaa/ Kukuihaele Division	Kukuihaele Census Designated Place
Percent Foreign Born	8.5	14.0	8.6
Percent of U.S Natives Born in State of Hawaii	71.9	90.3	96.9
Percent Who Lived in Same House in 1985	53.1	63.4	69.6

Source: U.S. Bureau of the Census: "1990 Census of Population. General Population Characteristics," 1990 CP-1-13 and "1990 Census of Population. Housing, Summary Population and Housing Characteristics," 1990 CPH-1-13.

Visitor Population. Currently, the primary reason visitors go to Kukuihaele is that it is the gateway to Waipio Valley. A previous study reported that over 60,000 visitors per year currently enter Waipio Valley on shuttle tours. This figure was derived from a 1988 survey, and is said to be considerably lower today according to some Waipio Valley shuttle operators. The actual number of shuttle companies that may enter the valley is controlled by a PUC moratorium on Waipio license tours. An unknown but much smaller number of tourists rent four-wheel drives and tour the valley on their own, and some also walk or hitchhike into the valley. Many local people from around the island also visit the valley, particularly on the weekend.

Impacts

Increased Population. The project will have an impact on population in three ways: temporarily during construction; directly from visitors and in-migration of employees; and indirectly.

Temporary Impact During Construction. The construction of the resort and individual houses in the one-acre lots is expected to occupy a relatively short time span. Because of this fact and the existence of a sufficiently large construction labor force within commuting distance of Kukuihaele, increases in population during the construction period would probably be negligible if they occurred at all, as demonstrated by the recent construction of the \$20 million Honokaa Hospital which would be comparable in scale to the resort hotel construction.

Direct and Indirect Impact. The total increase of resident population will be the sum of three components: new residents in the one-acre lots; employees of the resort who choose to move to Kukuihaele or other parts of Hamakua as a direct result of job availability at the resort and/or one-acre lots; and those who choose to relocate to Kukuihaele or other parts of Hamakua as an indirect result of the resort. This last category could include, for example, relatives of new inhabitants, retired people who were drawn to settle in the area because of the ambience and amenities of the resort, and those whose jobs are indirectly dependent upon income generated by the resort.

If homes were built on all of the 45 one-acre lots, and assuming the County average of 3.15 residents per household (calculation based on data from U.S. Bureau of the Census 1990), approximately 140 new residents could be added to Kukuihaele. This figure assumes full build-out and 100 percent occupancy of the units, and may be considered an "extreme-case" scenario. In reality, since the Applicant projects

3.2.1 Population

that approximately 80 percent of the homes will be second or vacation homes, the occupancy rate may be considerably less, yielding a lower total population.

The resort will offer employment to roughly 100 people. The vast majority of the employees are expected to come from the Kukuihaele-Honokaa area and will live near enough to the resort to commute. Even workers who live as far away as Paauilo and Waimea would not experience an excessive commute. Given the low stock of housing in Kukuihaele, it is unlikely that more than 10 employees of the resort would relocate to Kukuihaele. Assuming that some of these workers would either relocate without other family members and/or would be residing with other resort workers, the extreme-case figure of new residents attributable to resort employment would be 20.

The number of new residents drawn to the area for indirect reasons is expected to be negligible, since the resort will offer few general-public attractions and is of sufficiently small scale to exercise only a modest influence on the local business climate. For the purposes of calculating an extreme-case scenario, a figure of 5 new residents attributable to indirect reasons is used.

Summing these three components yields a figure of 170 new residents. This represents a 50% addition to the present population of Kukuihaele for a total of approximately 490. This figure is still below the population of Kukuihaele pre-1950.

De facto population would include the 490 projected residents plus the occupants of the hotel rooms. The buildout scenario for 2004 projects 40 rooms, with an occupancy rate averaging 80 percent and an average guest per room ratio of 2.0. Thus, at any given time there is likely to be less than 64 guests present. Therefore, the total de facto population of Kukuihaele would probably not exceed 554 people.

Mitigation

None. The increase in de facto population is an unavoidable impact; however, the worst case projected increase (total of 554 residents and visitors) would be less than the historical population of Kukuihaele (1950 population of 590). The increase due to the proposed project is also less than the potential population assuming full build-out under existing zoning (total of 580 residents) (see §5.1 "NO PROJECT" on page 5-1).

3.2.2 Rural Lifestyle and Residents' Concerns

Setting

Kukuihaele consists of several distinct clusters of population. Most of the pattern is attributable to what has survived of plantation housing, while some houses were built independently.

On the southeastern margin of town, with frontage on Highway 240, is Kona Camp, so named because many of its original residents were recruited by the plantation from the Kona district. Tiger Camp is located to the northwest after the split between the main highway and the Old Road. Next is a cluster of houses near the Last Chance Store. Across the gulch is the Catholic Church, the plantation manager's home, a simple grassy park, and a few homes. This area, which is actually the center of Kukuihaele, is very low-density. Past this center area the houses are strung out along both sides of the Old Road. This pattern continues at lower and lower densities until the Old Road again intersects the main highway. Over half a dozen homes, many of them recent and large, are situated near the Waipio Lookout. Several large, new houses also front the new highway.

Kukuihaele is basically a mile-long line of houses that only in a few places exceed a hundred yards in width. Foot and bicycle traffic by children and neighbors visiting one another relies almost exclusively on the Old Road. The low-density center of the village is also noteworthy. Many of the residents have gardens and raise animals. To the community, the rural values most mentioned and cherished were peace, little traffic, greenery, low population densities, community identity, acquaintance with neighbors, wide open spaces and agriculture.

Impacts

The impact on "rural lifestyle" has several sub-issues. These sub-issues were identified through previous surveys, previous testimony at public hearings, public meetings, and interviews.

Traffic. Construction will disrupt traffic, produce dust and noise, and create a general sense of change that may appear negative and disturbing. Although the residents of the region are accustomed to heavy machinery, noise, dust and smoke associated with sugar cane cultivation and harvesting, the impacts of construction may still be disturbing. It is at this time that the reality of the project may first come home to some residents, and they may feel anxious. The impact to Kukuihaele residents would be minimized during the construction and operational phases of the

project by using the proposed access road. Only one resident currently lives along this road who would be impacted by the project-generated traffic; this resident will be compensated by a lifetime license (see §3.2.6 "Dislocation" on page -69). The project-generated traffic would cross the Old Route 240 at only one intersection. The Tiger Camp residents and the rest of Kukuihaele town would still be impacted by visitor traffic to and from the Waipio Valley Scenic Lookout who choose to travel on the Old Route 240; this traffic impact is unrelated to the proposed project and would occur even without the project.

Perception of Tourism. The data from a survey, a social impact assessment and public testimony reveal that the Hamakua community is ambivalent about the effects of tourism. On the one hand, it is seen as a benefit in that it provides jobs, economic diversity and spin-off benefits. On the other hand, there are serious concerns regarding its effects on community life, cultural resources and natural features. Survey results revealed that a majority of Hamakua residents were opposed to large scale development but a small majority "would accept a 'small scale luxury resort', golf courses along the Hamakua Coast, and development (with a buffer) near the Waipio rim."

There is also a socio-geographic differentiation of support for/opposition to tourism. Support for tourism in Hamakua is strongest among business and labor leaders, and also among current and former plantation workers and long-time residents of the region. The strongest opposition is centered (although by no means restricted to) Waipio Valley. This is understandable in that tourism impacts in Waipio are so far the most severe in the region.

The small scale of the proposed resort distinguishes this project from typical resort development in Hawaii. This "retreat resort" concept in itself mitigates several concerns associated with typical resort development.

Complaints about Animal Raising. Many Kukuihaele residents raise animals (e.g., dogs, chickens). These residents expressed concern that the new residents and/or hotel guests would complain about the animals' noise or odor. The proposed boundary adjustments to those residents bordering the project will increase the buffer area between the existing residents and the proposed 1-acre lots. Most of the proposed lots will be zoned agriculture which permits animal-raising. The increased buffer areas and the agricultural zoning should minimize the probability of conflicts related to animal raising. For interested residents whose zoning is currently Residential, the Applicant is also willing to include these residents' property as part of the rezoning application to redesignate their property to agricultural.

Loss of agricultural land use. Some community members seemed to regard agriculture as the key element, and while they despair at the demise of Hamakua Sugar, they are hopeful that diversified agriculture can substitute. For some of these people, the use of a very small proportion of Hamakua's agricultural land for the proposed project is seen as minimal impact, at least if they are assured that resort development in the area is "one-time only." Some residents spoke of the positive aspect of gaining an additional market for local crops. Others seemed to consider any resort, no matter how small or inconspicuous, an unpardonable blight upon the rural and cultural purity of the area. The project minimizes the impacts on agriculture by: (1) encouraging existing residents to continue and expand their backyard farming by giving certain residents additional land (see Figure 11, "Amanresort Master Plan," on page 2-17); (2) maintaining approximately 20 acres in open space that could be "landscaped" with orchards, gardens, taro fields, or other agricultural use; (3) providing agricultural lots that permit agricultural activities, including animal raising; and (4) providing an opportunity for local farmers and the hotel restaurant chefs to discover mutual beneficial relationships.⁴²

Compatibility of Guests/Newcomers vs. Locals. Given the expected high-market orientation of the 1-acre lots, the new residents would almost certainly be high-income individuals and families. The addition of this group would change the income profile of the community to become bi-modal; i.e., one group would be wealthy, and another mostly middle-class; such stratification would be even more apparent if the proposed lots are a gated community. A study done for the Manele Golf Course on Lanai revealed some community attitudes relevant to the Kukuiahae project. One concern expressed by residents was that "affluent Koele or Manele resort residents could treat longtime Lanai residents in a superior or disrespectful way. Some community informants linked this concern to memories of earlier plantation days, where Caucasians dominated an ethnically-stratified society." The study went on to note that relationships between locals and affluent residents at

42. For example, a workshop was held recently in Hilo, Waimea, and Kona (September 28, 29, 30, 1993) on "Hawaii Grown: From Farm to Restaurant" to further develop the alliance between farmers and chefs. One of several sponsors of this workshop was the University of Hawaii College of Tropical Agriculture & Human Resources. See also, "Hotel chefs cultivating boutique farms in Isles", *Pacific Business News*, August 9, 1993; "Producing fresh produce on Lanai", *Pacific Business News*, September 27, 1993 (former plantation worker supplying Koele Lodge fresh vegetables); "A Restaurant Takes Root", *Eating Well*, v.III, n.16, March/April 1993 (Chez Panisse, a successful restaurant in California, tailors the menu to the supply of ingredients from the local network of farmers, fishermen, and ranchers).

older, similar projects had generally mellowed into mutual respect if not complete acceptance. They cited the importance of respectful behavior among new residents as a key to this mutual respect.

The Applicant projects that most of the hotel guests will come from North America (40%), Asia and Australia (30%), Europe (20%), and other areas (10%). The projected 1-acre lot residents would be Asians (33%), Americans (33%), Europeans (17%), and Hawaii residents (17%). This projected ethnic mix would diversify the Kukuihaele population. There is the potential for conflict among current residents and future residents and hotel guests in the realm of values, particularly cultural values. This is especially true because not only will the new residents and guests be "newcomers," unfamiliar with local history and people, they will also be from different socio-economic groups, in some cases, vastly different. On the other hand, not all interaction between newcomers/guests and locals is likely to be negative. Interaction between members of different socio-economic groups can be healthy, enlightening and fruitful to all parties, leading to new understandings and sympathies.

One area of conflict cited by area residents in interviews was the issue of privacy. Local residents may sometimes feel that newcomers curious about their new surroundings may intrude or bother. The privacy requirements of newcomers may also cause problems, particularly if they construct imposing fences or begin to complain about noise, odors or eyesores derived from residents' home businesses, parties, animals or other habits. A second area of conflict may arise as a result of misunderstandings concerning ethnic, cultural or religious practices. Examples include possible opposition to cockfighting and insensitivity regarding Hawaiian cultural practices. Another general area of conflict is over the issue of strictly "rural" values. For example, some new residents may see Kukuihaele as "substandard" and begin to demand infrastructure changes or new services not in keeping with local desires. More personal conflicts involve resentment over judgements by newcomers that locals are "country bumpkins," or perceptions by locals that the newcomers are "rich snobs."

Whether conflicts will actually arise is very speculative and highly dependent on the unique mix of individuals. The limited number of guests will in itself mitigate potential conflicts. The buildout rate of the 1-acre lots over several years will also ease the transition and acceptance of newcomers into the community.

Depending on the interest and initiative of the community, the Applicant has agreed to organize a standing committee comprised of representatives of the hotel and the community to discuss any problems with community relations, promoting Hawai-

ian values in the resort industry, providing workshops on Hawaiiana and the local history, and other purposes. The Po'okela Program, established by a nonprofit group on Lanai, may be examined as a model.⁴³

Property Tax Increase. Most residents fear that a resort would drive land values higher, resulting in higher property taxes. Because many residents are on fixed incomes, the higher property taxes may force the residents to sell and move. A bill is currently pending before the County Council that would freeze homeowners' property taxes. Should the County Council not pass this bill, the Applicant's proposed trust fund will compensate owner-occupants any increase in taxes. The closest model for the proposed project is Hana Hotel. Hana Hotel is a low-scale, high-quality hotel in a rural setting. Old timers have continued to live in that community, and have not been forced out over the generations as a result of property taxes or inheritance taxes. According to the County Real Property Tax Office, properties within a resort are not considered comparable to properties outside a resort; therefore, the values of the proposed hotel and 1-acre lots will not be used to determine the assessed values of the surrounding non-resort properties, even if these properties are contiguous (e.g., Keauhou resort area where homes inside and outside the resort are not evaluated on the same basis).⁴⁴

Reduction in Land Area Used for Backyard Gardening. Several residents, especially in Tiger Camp, use the area behind their homes for gardens and other uses with tacit approval of the former landowner, Hamakua Sugar Company. These residents fear they would lose this privilege under the proposed development. The Applicant has agreed to deed to these residents the area currently used by them.

Impact on Important Community Landmarks. The Social Hall, Kukuihaele Park, and the cemeteries are important landmarks to the long-time residents. Any changes to the Social Hall and park should recognize the importance of these landmarks in terms of the social functions and cultural identity values to the community. The Roman Catholic Church cemetery is already full and expansion is desirable. The Applicant has agreed to provide funds and work with an advisory committee or other forum comprised of community representatives established for the design.

43. Belt Collins & Associates, *Manele Golf Course and Golf Residential Project*. Prepared for Lanai Company, Inc., October 1991, p. IV-71.

44. Public meeting held by representatives of the County Real Property Tax Office at the Kukuihaele Social Hall on December 9, 1993.

operation, and maintenance of the Social Hall and Kukuihaele Park. The Applicant has agreed to donate land to the Roman Catholic Church and the County to expand the respective cemeteries.

Precedent for Future Growth. Although some residents do not oppose this particular project, they fear that approving this project would set a precedent and open the door to rampant resort development along the Hamakua Coast. The State and County have the power to contain and direct growth through various land use controls. The County General Plan provides the means to limit future resorts by establishing five levels of resort development: destination resort community, major resort area, intermediate resort area, minor resort, and retreat resort. The proposed project falls under the retreat resort classification, the most restrictive resort classification. The General Plan policies do not support large-scale resort destination areas anywhere in Hamakua; instead, the General Plan encourages small family-operated hotels and small-scale retreat resort development. To allow the proposed retreat resort to "open the door" to uncontrolled resort development would be contrary to the General Plan (see §4.4 "COUNTY GENERAL PLAN" on page 4-23 for further discussion on the General Plan).

Mitigation

None required. The Applicant has mitigated potential impacts by committing to the following measures (see Developer's Letter of Commitment in Appendix H).

- *Property Tax Trust Fund.* The Applicant will establish a trust fund to compensate existing Kukuihaele residents for increases in property taxes. Should the County Council pass the freeze on homeowners' property taxes, the fund will be available for other community benefits. The details on the trust fund require further dialogue with the community since the trust fund, as currently proposed, is targeted for owner-occupants who comprise approximately 64% of Kukuihaele according to the 1990 Census. Renters may be affected by property tax increases if a landlord elects to raise the rent due to property tax increases, depending on the landlord's carrying cost and the market rent in the area.
- *Advisory Design Committee.* The Applicant will provide funds and work with an Advisory Committee or other forum to design, operate, and maintain the Social Hall and Kukuihaele Park. A management agreement between the Applicant and an appropriate entity established by the community needs to be negotiated.
- *Cemetery Expansion.* The Applicant will set aside land to expand the Roman Catholic and County cemeteries.

- *Readjust Property Boundaries.* The Applicant will convey that portion used by certain residents as part of their backyards.
- *Agricultural Lots.* The low-density 1-acre agricultural lots would maintain the rural ambience of Kukuihaele. Agricultural uses and animal raising are permitted uses within this zoning district. The existing animal-raising activities by the Kukuihaele residents would be consistent with the proposed agricultural zoning.
- *Access Route.* The proposed access from Highway 240 would avoid impacts to the existing Kukuihaele residents from project-generated traffic during the construction and operational phases.
- *Community Relations & Cultural Promotion Committee.* Depending on the interest and initiative of the community, the hotel operator has agreed to organize a standing committee comprised of representatives of the hotel and the community to discuss any problems with community relations, promoting Hawaiian values in the resort industry, providing workshops on Hawaiiana and the local history, and other purposes.

3.2.3 Waipio Valley

Setting

Waipio Valley, although not within the Project Site, requires attention in any discussion of land use changes in Kukuihaele. The valley is a valuable cultural, natural and scenic resource which many feel to be threatened by overuse and conflicting land uses. Its proximity and history connect it closely to Kukuihaele.

Waipio is memorialized in many legends. In one, the god Lono descends to earth on a rainbow to find a wife in a breadfruit grove besides Hiilawe falls. Waipio is also associated with Umi, the famous king of Hawaii, who had many of his greatest adventures in Waipio and Hamakua. He is also said to have laid out the taro patches of Waipio.

Waipio has always been the finest location on the island of Hawaii for taro cultivation. Its rich agriculture supported possibly as many as 10,000 inhabitants during prehistory. Early descriptions of Waipio by Western travellers are invariably rhapsodies upon its beauty. For all these reasons, the memory of Waipio's past is cherished in Hawaiian history.

Since Western contact in 1778, the population and area under cultivation has steadily declined, although taro farming has persisted. The rice-growing era at the

end of the 19th century introduced new ethnic groups, especially Chinese, to the valley. Since that time Waipio has been home to members of diverse ethnic groups. The devastating tsunami of 1946 in the Hawaiian Islands was a disaster in Waipio and impelled many of the few remaining residents to move out of the valley.

Most who farm taro today do so part-time and reside outside the valley. Most taro land for taro was on month-to-month leases (which reportedly have recently been lengthened) from Bishop Museum, which owns approximately 90% of the valley. However, most of the actual inhabitants of Waipio are now transplanted Mainlanders who enjoy the rural isolation of Waipio and do not rely on taro farming as their major source of income or sustenance. A previous study reported that in 1991 there were sixty inhabitants of the valley.

Traffic into Waipio Valley is restricted to four-wheel drive vehicles and must use the steep and dangerous Waipio Valley Access Road, the scene of several major car accidents. Residents, visitors from other parts of the island, some individual tourists and tour operators use this road. Waipio offers scenic views, historic sites and a beautiful beach and river with opportunities for swimming and surfing.

Waipio is currently a center of controversy. Problems of overuse by visitors are compounded by existing problems of conflicting land uses, unsatisfactory land tenure for farmers, inadequate infrastructure (particularly the Access Road) and stream flooding.

The State Legislature established the Task Force to Preserve Waipio Valley by Resolution in 1990. It consists of representatives of State and County government, large landowners, and community and farming associations. Its purpose is to discuss and develop long-term solutions to the conflicts of the valley.

The Task Force has published several reports (1991, 1993) that outline its findings and recommendations. According to the 1991 report:

"The influx of visitors negatively impacts the natural and cultural resources of the Valley. The lack of adequate restroom and camping facilities, potable water, and waste disposal services on the Valley floor has led to the deterioration of the stream beds, the roads and trails, and the beach front area."

Because of this, the task force has concluded that "There is a need for enhanced regulatory controls on the commercial and public uses of the trails."

Impacts

Increased Visitor Use of Waipio Valley. Currently, about 60,000 visitors per year enter Waipio Valley using the shuttle tours (or about 10,000 trips per year assuming an average of 6 visitors per shuttle tour). This number already stresses the residents and resources in the Valley. Any increase would only exacerbate the problem. The PUC controls the number of shuttle companies licensed to conduct Waipio tours. The uncontrolled component includes the rental cars and local residents. The proposed hotel would add an estimated 1 van trip per day based on the hotel operator's experience at their other resorts located in similar conditions where the only beach required 4-wheel transportation from the hotel to the beach-- less than 5% of the existing shuttle tour trips ((1 trip/day x 365 days/year) + 10,000 trips/year).

Mitigation

None required. The Applicant has committed to abide by the recommendations of the various agencies and organizations involved with the control of Waipio Valley.

3.2.4 Employment and Income

Setting

Economic Trends. Hawaii's economy grew rapidly during the 1970's and 1980's at an annual average rate of 10.8% and 8.6%, respectively, measured by the Gross State Product in current dollars. Hawaii County's economy grew at a faster rate than Oahu largely due to the bustling resort development in the North Kona and South Kohala districts.

The sugar industry was the pillar of Hamakua region since the late 1800's. The 45,000 acres in sugarcane cultivation along the Hamakua Coast amounted to 79% of the total sugar production acreage in Hawaii County and 27% of sugar acreage statewide. Besides sugar, the district also supports ranching and small truck farming activities (ginger, taro, tropical flowers and ornamentals). Unlike other districts in the County, there has been minimal shift in the Hamakua district from sugar production to tourism or other industries, largely a result of climate and historical land use patterns. A 1986 Department of Labor and Industrial Relations survey reported that 46% of all employment in Hamakua derives from agricultural related occupations (agriculture, forestry, fishery). Most of the balance of employment in the district, estimated at 35%, commutes to resort related employment in South Kohala.

A combination of events-- the Gulf War of 1991, recession on the mainland, and changing economic conditions in Japan-- have contributed to an economic slow-down since 1991. Visitor arrivals, the primary barometer of the health of the tourism industry, declined in 1991 and in the first six months of 1992. Statewide, visitor arrivals were down by 2.8% when compared to the same period in 1991; in Hawaii County, visitor arrivals were down by 7.3%. Statewide civilian unemployment rates have also risen from an average of 2.8% to 4.8% for the six months of 1992. For Hawaii County, unemployment increased from 4.0% to 7.1%.

In addition to the drastically declining tourist trade, Hawaii County and Hamakua in particular is undergoing further economic ills with the closing of two major sugar operations. Hamakua Sugar Company and Mauna Kea Agribusiness have suffered financial setbacks resulting from low yields and fluctuating sugar prices. The expected closing of both plantations by the end of 1994 will cause 1,100 immediate unemployment.

The longer term outlook for the nation and the State does not appear bright. Compared to the '70s and '80s, the '90s is expected to be a decade of "slow growth" reflecting the slow recovery of the global economy with which the U.S. and Hawaii economies are largely impacted. Economic adjustments are necessary in the Hamakua district. Although there is a wide range of possible diversified agricultural products that can be grown in the region, the list is very short for those that can be produced at profit within a relatively short term. Experimentation and innovation is necessary. Until other crops can be developed and tested for market feasibility, more immediate solutions need to be implemented.

Labor Force Characteristics. The Honokaa-Paauilo-Kukuihaele area has been the primary source for labor for the Hamakua Sugar Plantation. As of March of 1993, union members, their families and retirees of the plantation made up 52 percent of the total population. This area is also where the resort is expected to obtain some 90 percent of their employees. The closing of the plantation, which will be complete after early 1995, has begun to release hundreds of workers from their jobs. By that time, approximately 447 field operations, 519 factory/garage, 17 medical and 39 feedlot/slaughterhouse jobs are projected to be terminated.

Table 8 on page -62 summarizes the characteristics of the plantation workers as analyzed by a union survey in early 1993.

TABLE 8. Plantation Labor Characteristics

Characteristic	
Careers	Two-thirds have worked for company for 10 years or more. Almost 27 percent have worked between 11 and 20 years for the company. Another 24 percent have between 21 and 30 years with the company.
Ethnic	American citizens are 92 percent. The largest ethnic group is Filipino, with 36 percent. Japanese and Chinese make up 30 percent, Part-Hawaiians are 18 percent, and Portuguese, other Caucasian and Puerto Rican are also represented.
Retirees	There are 863 pensioners and their spouses enrolled in the retiree medical plan - 178 of whom are less than 65 years of age.
Families	There are 661 workers and 1381 dependents. Hamakua's workforce are mostly stable families. Over 71 percent are married, with another 7 percent divorced or widowed. Only 22 percent are single. Over 60 percent have dependent children.
Homeowners	Almost 37 percent own their homes, with another 47 percent renting company housing and 17 percent renting outside housing.
Education	Over 83 percent are high school graduates. Of these, about 13 percent went to trade school or higher education. The remaining 17 percent have completed various levels of grade school.
Age	Over 43 percent are 45 years and older. Some 30 percent are between 35 and 44 years old. Only 26 percent are under age 35. Only 5 percent indicated they were ready to retire.
Veterans	Almost 22 percent are veterans.
Community Attachment	Only 14 percent indicated that they would move from the Big Island to find another job. Only 29 percent indicated they would move to another area of the Big Island to find work.

Source: *Voice of the ILWU, March 31, 1993, p. 7*

Plantation workers themselves are not the only Hamakua residents who will be entering the labor market in the next few years. Hundreds of previously unemployed or part-time working family members of plantation members are seeking jobs in order to supplement family income. Another source of potential workers are the graduates of Honokaa High School. A total of 1456 students are enrolled in Honokaa School (K-12) at the beginning of the 1993-1994 school year (Source: Hawaii Department of Education). In 1993, 134 students graduated with high school degrees. Under present conditions, many students who do not enroll immediately in college are compelled to leave the area because of a lack of jobs. In the

future, with the closing of Hamakua Sugar Company, this proportion will be significantly higher.

Impacts

Increased Employment Opportunities. The project would generate three types of employment opportunities during the construction and operational phases (see Table 9, "Projected Direct, Indirect, and Induced Employment During Construction and Operational Phases," on page -64);

- Direct employment: jobs that are created by the project to construct the project as well as permanent resort staff.

Construction Phase: Based on comparable resort construction in the State, the one-year construction phase beginning in the latter part of 1994 would generate jobs for 81 persons with an estimated construction payroll of \$3.83 million. The build-out of Aman one-acre lots could add an additional 75 jobs.

Operational Phase: Once the hotel opens, Amanresort will provide about 100 full-time equivalent jobs. It is estimated that 32% of these jobs would be classified as management/salary class.

- Total Direct Jobs: The total direct jobs generated by the hotel during the construction and operational phases would be about 182 jobs. The one-acre lots would add another 75 jobs during construction, for a total of 257 direct jobs.
- Indirect employment: jobs that are created as the project begins to purchase goods and services from local businesses.
- Induced employment: jobs created as the project-related employees begin to spend their money.

Construction Phase: The State's input-output economic model calculates that 2.18 additional full-time jobs are generated for every full-time job in the building sector and 1.77 additional jobs for every full-time job created in the infrastructure sector of the construction industry. Based on this assumption, the project will generate an additional 157 indirect and induced jobs. Aman one-acre lots could add 164 more indirect and induced jobs, for a total of 321 indirect and induced jobs during construction.

Operational Phase: The State's input-output economic model calculates that 0.9 additional full-time jobs are generated for every full-time job in resort operations. Based on this assumption, the project will generate an additional 90 indirect and induced jobs.

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Total Indirect and Induced Jobs: The total indirect and induced jobs generated by the hotel during the construction and operational phases would be about 247 jobs. The one-acre lots would add another 164 jobs during construction, for a total of 411 indirect and induced jobs.

- **Total employment:** sum of direct, indirect, and induced jobs.

Construction Phase: The hotel would generate about 238 direct, indirect, and induced jobs. The one-acre lots would add another 239 jobs, for a total of 477 jobs.

Operational Phase: The hotel would generate about 191 direct, indirect, and induced jobs. It is conservatively assumed the one-acre lots would not generate any jobs during the operational phase.

Total: The total direct, indirect, and induced jobs generated during the construction and operational phases is about 429 jobs for the hotel and 239 for the one-acre lots, for a total of 668 jobs.

TABLE 9. Projected Direct, Indirect, and Induced Employment During Construction and Operational Phases

FACILITY	CONSTRUCTION PHASE			OPERATIONAL PHASE			TOTAL
	Direct	Indirect/ Induced	Total	Direct	Indirect/ Induced	Total	
Amanhide-away Hotel	81	157	238	101	90	191	429
1-Acre Lots	75	164	239			0	239
TOTAL	156	321	477	101	90	191	668

Income for those directly employed by the hotel would be higher than the plantation wages, especially when tips and bonuses are included. Business establishments in Honokaa or Waimea may realize benefits from visitor and employee spending.

Labor Fit. The breakdown of Hamakua Sugar employees as of January 1993 is given in Table 10, "Existing Employee Classifications at Hamakua Sugar Company," on page -65.

TABLE 10. Existing Employee Classifications at Hamakua Sugar Company

FACTORY/GARAGE		FIELD OPERATIONS	
Machinist	39	Equipment Operators	147
Electrician	15	Heavy Equipment	172
Welder	60	Field Workers	85
Mechanic	132	Pest Control	29
Utility Workers	69	Lead Personnel/APT	13
Equipment Operators	64	Administrative/Clerical	1
Repair/Maintenance	55		
Administrative/Clerical	19		
Lead Personnel/APT	70		
Plumber	4		
Carpenter	9		
FEEDLOT/SLAUGHTERHOUSE		MEDICAL	
Equipment Operators	17	Admin/Prof/Technical	5
Livestock Handlers	4	Nurses	6
Factory Workers	15	Clerical	6
Drivers	2		
Mechanic	1		

Source: Hawaii Island Economic Development Board.

The job requirements as projected by the Applicant are listed in Table 11, "Planned Employment at Amanresort," on page -66. The area of greatest fit between the soon-to-be-unemployed Hamakua Sugar Company workforce and the needs of the Amanresort is found in the maintenance area. These fourteen jobs could potentially be filled many times over by the Hamakua workforce. There will probably be competition among ex-plantation workers for these jobs, since hotel jobs usually pay as high or higher than plantation work (projected wages at the Amanresort have not been determined and/or disclosed by the Applicant).

The other sectors of resort employment, although not related as directly to plantation work as the maintenance sector, offer promising opportunities for Hamakua Sugar workers. Employees who were involved in office work may find that their

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skills are desired and readily transferable. Certain supervisors and managers may also make a smooth transition. Housekeeping and food and beverage work, however, might require considerable re-training and adaptability on the part of ex-plantation workers.

TABLE 11. Planned Employment at Amanresort

Operation	Number of Jobs
ROOMS	12
Housekeeping and Room Attendants	8
Other Attendants	3
Others	1
FOOD AND BEVERAGE	27
Kitchen	12
Restaurant/Bar	15
MINOR OPERATIONS/GENERAL ADMIN/MARKETING	27
Shops/Services	7
Financial/Accounting	10
Clerical	2
Security	4
Other	4
FACILITY MAINTENANCE	14
Plumber, Electrician, Engineer	3
Carpenter, Painter, Mechanic	4
Nursery and Grounds	2
Truck Drivers	2
Laundry	3
MANAGEMENT AND SUPERVISORY	21
TOTAL	101

Potential Job Satisfaction. A social impact assessment conducted for Lanai Company sampled the opinions of Lanai's current plantation workers as well as former plantation workers who had made the transition to resort work. Some of their findings shed light on the impacts that may occur at Amanresort.

Some hotel workers mentioned that they were uncomfortable with the formal atmosphere, uniforms, and hours. This opinion was not shared by the majority, apparently. For potential employees currently working in pineapple, the single most preferred type of future job was landscaping. Few reported wanting jobs with significant amounts of public contact (particularly food and beverage jobs). Instead, "back of the house" resort jobs (e.g., housekeeping) were preferable. The Lanai study reasoned that some of this reluctance arose from deficiencies and discomfort with oral and written communication skills, particularly among Filipino immigrants.

In the case of Amanresort, which will be the first of its kind in Hawaii (not to mention Hamakua), one may only speculate about potential job satisfaction. Worker satisfaction is reported to be high and job turnover low at other Amanresorts throughout the world. Most of these resorts, however, are located in Third World countries and their experiences may not transfer to Hawaii. It is important to note, however, that job satisfaction of whatever degree is possible only when one has a job. As few employment opportunities are unfolding in Hamakua, a job at the Amanresort is likely to be prized.

Mitigation

Operational Phase:

- **Job Training.** The State Department of Labor and Industrial Relations Employment Services Division (DLIR) is the lead agency in coordinating job training for the affected sugar workers. DLIR has organized an Employment Assistance Committee comprised of representatives of the union and community to identify needs and coordinate services. The Committee not only addresses job training, but related matters that affect job training such as transportation to and from the training centers, child care, housing, and stress management. Other State agencies (e.g., Department of Economic Development and Tourism) work through DLIR and the Committee in providing assistance. DLIR has also organized an Employment and Training Task Force comprised of about ten agencies (e.g., Department of Education, community colleges, etc.) who provide the training services. DLIR trains the workers in a variety of jobs that have potential employment opportunities in the Hamakua or South Kohala region including hotel services, health services, diversified agriculture, and golf course maintenance. If the proposed project proceeds, DLIR would coordinate with the hotel operator (Amanresort) in establishing a custom-designed training program to

meet the needs and timetable specific to the project.⁴⁵ Amanresort would provide supplementary training as necessary to meet the standards and expectations of Amanresort.

- *Hiring Preferences.* For job applicants equally qualified, the hotel operator and the community/union could decide on a priority order for hiring based on factors such as whether the job applicant is a resident of Kukuihaele, former plantation worker, related to resident in Kukuihaele-Honokaa, or other criteria.

3.2.5 Housing

Setting

The County has imposed an inclusionary employee housing requirement through the rezoning process since 1974 based on the premise that new developments should be held accountable for the impacts they generate. To be fair and consistent, the County adopted an affordable housing policy that sets forth definitive standards.⁴⁶ The current assessment is 42% of the number of resort units (i.e., 42 affordable units for every 100 resort units) and 10% of the number of residential units. The requirement may be satisfied by providing the affordable units onsite, providing the units offsite, contributing developable land, payment of in-lieu fees, or contributing infrastructure/services comparable in value to in-lieu fees. The 1993 in-lieu fee, based on the amount of subsidy required to provide housing units affordable to target groups, is \$12,500/unit.

Impacts

To satisfy the affordable housing requirements, the Applicant would need to provide a maximum of 21 affordable units (42% of 40 resort units and 10% of 45 residential units). The Applicant originally proposed to provide affordable housing in the approximately six acres behind Tiger Camp which would have significantly reduced the amount of backyard area currently used by the Tiger Camp residents

45. Description of DLIR's job training program is from personal communication with the Hilo office of DLIR's Employment Service Division (Mr. Blane Hanagami) on 9/23/93.

46. Hawaii County Housing Agency Resolution No. 65, Resolution to Approve an Interim Affordable Housing Policy for the County, effective May 2, 1990.

3.2.6 Dislocation

(refer to §3.2.2 "Rural Lifestyle and Residents' Concerns" on page -52). Instead of satisfying the affordable housing requirement by providing affordable units onsite, the Applicant has elected to contribute in-lieu fees. The maximum in-lieu fee, based on \$12,500/unit for 21 units, would be \$266,000 payable prior to issuance of the building permit. These estimated fees would be subject to negotiation with the County housing agency based on the current rates and relative impact of the proposed project. In response to comments from the State Housing and Finance Development Corporation, the Applicant will also provide a limited number of employee housing onsite in the area between Highway 240 and the Plantation Manager's House.

Mitigation

None required. The Applicant has agreed to pay the in-lieu fee and a limited number of onsite employee housing.

3.2.6 Dislocation

Setting

An elderly resident currently rents a home within the Project Site near the Plantation Manager's Estate. This is the only occupied structure within the Project Site (other than the Plantation Manager's Estate which is currently occupied by the Applicant).

Impacts

According to the proposed site plan, the rented house sits on one of the residential-resort lots. However, the Applicant will grant the resident a lifetime license to live in the house.

Mitigation

None required. The resident will not be displaced.

3.2.7 Fiscal Impacts

Fiscal impact analysis is a projection of the direct public (State and County) costs and revenues associated with the proposed project. The revenue analysis distinguishes the cost and revenues accruing during the construction vs. the operational

phase, and whether the source is the visitor vs. resident. For residents, the analysis uses an average revenue/cost approach to estimate fiscal impacts. For visitors, the analysis uses a modified average revenue/cost approach with visitor expenditure data from the Hawaii Visitors Bureau and visitor-sensitive components of the State and County operating budgets. Per capita revenue estimates contain all sources of revenue, including taxes, user fees, and other sources. Per capita expenditure estimates contain all expenditures including operations, maintenance, debt service, and cash capital expenditures.

Revenues

State. The State will realize a one-time construction-related revenue of \$914,00 from general excise tax on direct cost of construction, excise tax on building materials, conveyance tax, and income tax as a result of the hotel construction. As the one-acre lots are being developed, this will generate similar tax revenues amounting to an additional \$936,600. The annual revenues generated by the hotel during the operational phase is estimated to be \$989,000 from excise taxes and income taxes.

County. The expected county revenue is primarily from property taxes on the hotel and one-acre lots. All real property except unimproved residential lots are taxed at \$10/\$1,000 assessed value of the land and \$8.50/\$1,000 assessed value of the improvements. Unimproved residential lots are taxed at \$8.50/\$1,000 value. The projected annual revenue is \$268,349 from property taxes on the hotel, one-acre lots, and other facilities (e.g., recreation center), as well as other tax sources (e.g. liquid fuel tax, motor vehicle weight tax, utility franchise tax, other fees).

Expenditures

State. Based on average annual expenditures of \$3,954 per resident and \$860 per visitor, the projected annual expenditure attributable to the proposed project is \$386,484.

County. Based on average annual expenditures of \$811 per resident and \$511 per visitor, the projected annual expenditure attributable to the proposed project is \$97,340.

Net Benefit (Cost)

State. The estimated annual revenues relating to the project are \$988,800, while annual expenditures are \$386,484, resulting in a net annual revenue of \$602,316-- a revenue/expenditure ratio of 2.6 In addition, the State realizes a one-time infusion of \$914,000 during construction.

County. The estimated annual revenues relating to the project are \$268,349, while annual expenditures are \$97,340, resulting in a net annual revenue of \$171,009-- a revenue/expenditure ratio of 2.76.

3.3 PUBLIC FACILITIES AND SERVICES

3.3.1 Roads

A traffic engineer analyzed the existing conditions and impacts of the project on the roads in the vicinity of the Project Site (see Appendix F).

Setting

The Honokaa-Waipio highway (State Highway 240) is a two-lane highway, with twelve-foot lanes and wide (greater than six-foot wide) shoulders, and is generally posted for a speed limit of 45 mph. An old portion of the highway ("Old Route 240") parallels the existing highway for about 1.2 miles, providing local service to Kukuihaele village.

Old Route 240 is a County two-lane roadway, approximately 18 feet wide with minimal shoulders. Old Route 240 connects to the newer Highway 240 at stop-controlled intersections at both ends.

Traffic conditions on Highway 240 and Old Route 240 are at Level of Service A ("good"). On Highway 240 between Kukuihaele and Honokaa, a 24-hour count taken in June 1992 showed a two-way volume of 1,652 vehicles per day (vpd). The highest hourly volume occurred between 9:30 and 10:30 AM, with a two-way volume of 138 vehicles per hour (vph).

Traffic heading from the Project Site to Hilo would use Highway 240 through Honokaa to its junction with the Hawaii Belt Road (Highway 19). Highway 19 has a posted speed limit of 55 mph. Traffic heading from the Project Site to Waimea would use Lehua Street to access Highway 19.

Traffic volumes on Highway 19 and Highway 240 have been increasing and are expected to increase. Based on the State's Long-Range Plan for the island of Hawaii, daily traffic volumes are projected to increase for Highway 19 and Highway 240 at an average compounded rate of 4.6% and 2.7% per year. Peak hour volumes are expected to increase in proportion to daily volumes.

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Impacts

Project Traffic. The traffic generated by the proposed hotel, one-acre lots, inn, and recreation center was estimated based on the number of units, number of employees, or floor area. The estimated total daily traffic volume is 1,570 vpd. The afternoon peak hour volume is 61 vph entering the project and 71 vph exiting the project.

Impact on Highway 19 and 240. Figure 31 on page -74 shows the projected peak hour volumes at the intersection of Highway 240 and Highway 19 with and without the project for the year 1996 (estimated opening date of the project) using the compounded annual growth rates. The existing condition of this intersection is a Level of Service A for left turns from Highway 19 onto Highway 240; the Level of Service for left turns from Highway 240 onto Highway 19 is D. The projected Level of Service for 1996 at this intersection would not change from the existing conditions with or without the project (see Table 12, "Highway Intersections Level of Service," below).

TABLE 12. Highway Intersections Level of Service

	RESERVE CAPACITY	LEVEL OF SERVICE
Existing (1993) PM Peak Hour		
Left turn into Highway 240	640	A
Shared lane out of Highway 240 (stopped)	180	D
Future (1996) PM Peak Hour (without project)		
Left turn into Highway 240	612	A
Shared lane out of Highway 240 (stopped)	128	D
Future (1996) PM Peak Hour (with project)		
Left turn into Highway 240	601	A
Shared lane out of Highway 240 (stopped)	103	D

Impact of Proposed Access. A new access road will be constructed to provide access to the resort. An existing dirt/gravel road passing near and on the Honokaa side of the Plantation Manager's Estate would be upgraded to County standards. This new roadway would also serve seven one-acre lots and would minimize traffic impact to the existing community. This roadway would intersect Highway 240 in a T-intersection. The traffic assignment shown in Figure 32 on page -75 represents the estimates of peak hour traffic at this intersection; these estimates include a por-

tion of the existing traffic using Old Route 240 since this connection is expected to provide an alternate path to/from the highway. The projected conditions at this intersection will remain at Level of Service A (see Table 13, "Highway Intersection Level of Service: Proposed Access Road," on page -76).

FIGURE 31. Traffic Assignment 1996 With and Without the Project: Highway 240 at Highway 19

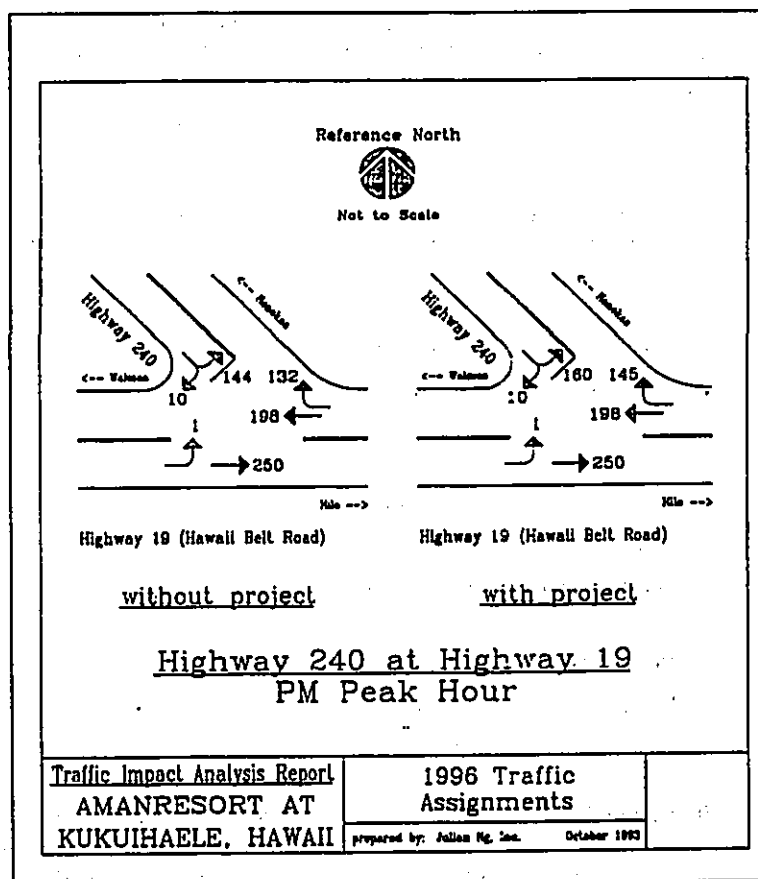


FIGURE 32. Traffic Assignment 1996: Proposed Access at Highway 240

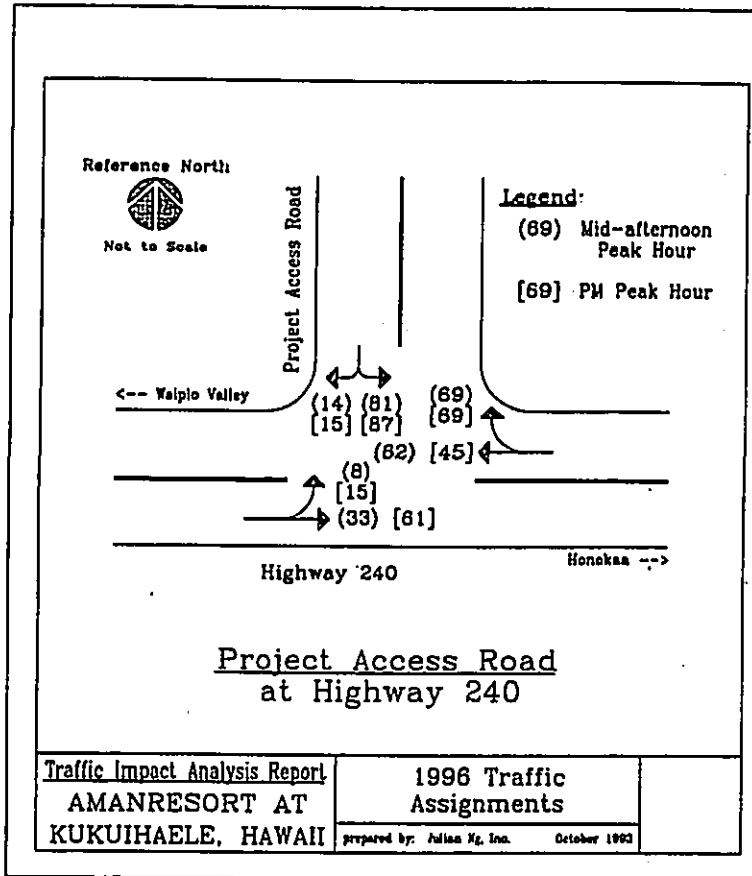


Figure 33, "Traffic Assignment 1996: Proposed Access Road at Old Route 240," on page -77 shows the traffic estimates for the intersection of the new access road with Old Route 240. Stop controls at this intersection could be placed on either roadway or on all approaches for Level of Service A conditions. The alternative access route between the Social Hall and Tiger Camp would result in greater impacts (see Figure 34, "Traffic Assignment 1996: Alternative Access at Old Route 240," on page -78).

TABLE 13. Highway Intersection Level of Service: Proposed Access Road

	RESERVE CAPACITY	LEVEL OF SERVICE
Future (1996) mid-PM Peak Hour		
Left turn into project access road	950	A
Shared lane out of project access road (stopped)	553	A
Future (1996) PM Peak Hour		
Left turn into project access road	959	A
Shared lane out of project access road (stopped)	530	A

FIGURE 33. Traffic Assignment 1996: Proposed Access Road at Old Route 240

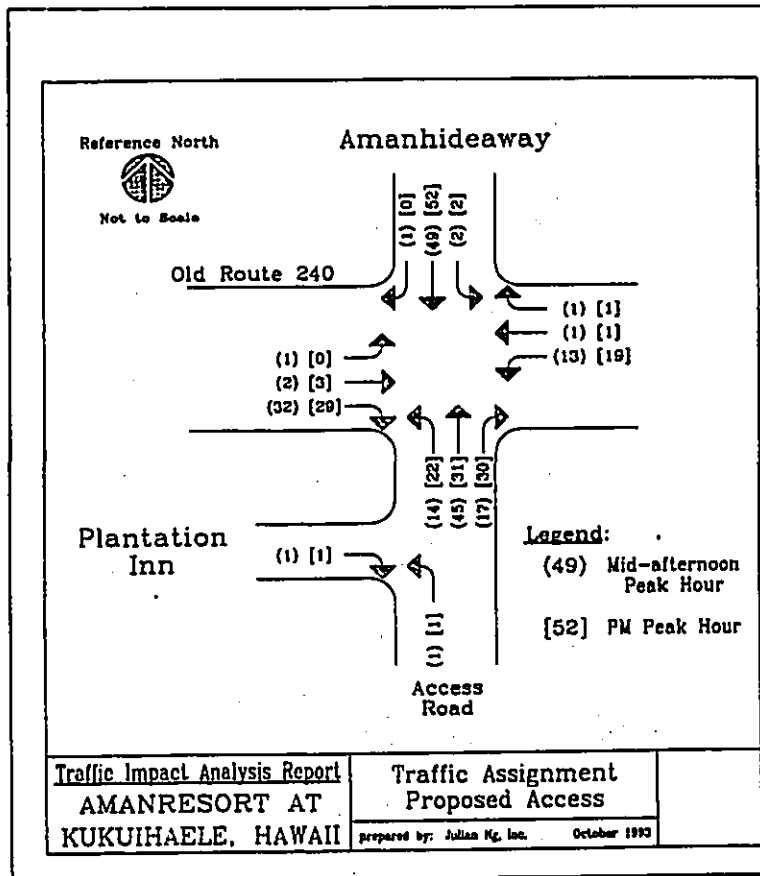
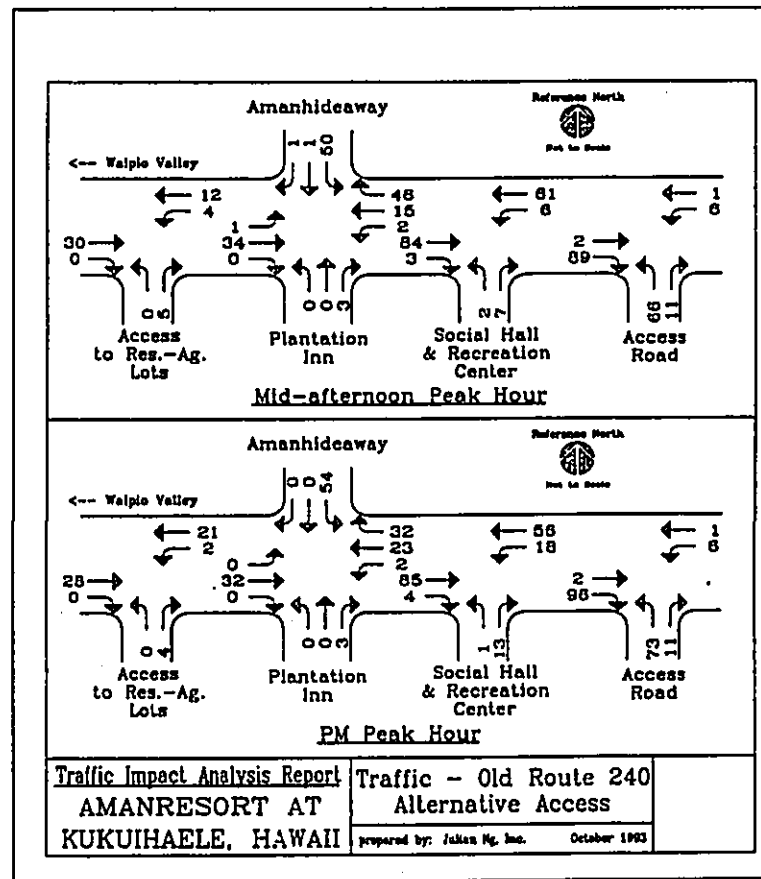


FIGURE 34. Traffic Assignment 1996: Alternative Access at Old Route 240



Mitigation

- **Intersection with Highway 240.** The projected traffic volumes at this intersection would not warrant a left turn lane. A T-intersection, constructed by the Applicant, should provide adequate acceleration/deceleration for the projected traffic volumes.
- **Other intersection improvements.** Each connection to an existing roadway should be designed to accommodate the largest vehicle (including delivery and emergency vehicles) expected to enter or exit the resort roadways. Stop signs

should be installed to control traffic exiting from the project. For the intersection of the proposed access road with Old Route 240, stop controls could be placed on the access road, on the Old Route 240, or create an all-way stop. In each case, all controlled movements would operate at Level of Service A. Other appropriate signing should be placed if desirable sight distances are not available along the Old Route 240.

3.3.2 Water

Setting

Existing County Water System. The Hawaii County Department of Water Supply (DWS) has three systems in the Hamakua district.⁴⁷ The Ahualoa-Honokaa system uses a combination of surface and groundwater sources. The surface water supply comes from the Waimea Water Treatment Plant via the Waimea-Puukapu-Nienie system which crosses into Hamakua from South Kohala. Groundwater is supplied from the Haina Well near Honokaa. The Paauilo system receives its supply from an extension of the Ahualoa-Honokaa system. In the vicinity of the Project Site, the Kukuihaele System relies on a spring source.

The Kukuihaele Spring is fed from a perched groundwater source. The Project Site lies on the interface of lava flows from the Kohala and Mauna Kea volcanoes (see Figure 35, "Hydrogeological Section," on page -84). Locally, the Mauna Kea lavas (Hamakua Volcanics) overlies the weathered soil surface of the Kohala lavas (Pololu Volcanics). The Kukuihaele Spring is perched on this soil. Such perched sources are sensitive to variations in rainfall. The spring, at an elevation of 540', reportedly has a capacity of 100 gpm. The supply of water is lifted by two 100 gpm booster pumps to a 100,000 gallon reservoir at elevation 940'.⁴⁸

The Kukuihaele System services Kukuihaele and Kapulena through an 8" main transmission line along Highway 240 (Old Route 240 within Kukuihaele). In 1991,

47. Kon, M. *Hawaii County Water Use and Development Plan*. Prepared for the Department of Water Supply, County of Hawaii, February 1992 (revised draft), p. 5-3.

48. Waimea Water Services, *Kukuihaele Water Supply Alternatives*, September 15, 1993 (see Appendix G).

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this system had 158 meters and water sales of 38,000 gpd.⁴⁹ Because the spring is considered a surface water source, this system may be affected by the federal Safe Drinking Water Act regulations which will require expensive treatment.⁵⁰ In short, the system will need to be upgraded due to its susceptibility to dry weather conditions and the need for treatment to comply with the federal Safe Drinking Water regulations.

Water Demand. According to DWS, the current (1993) estimated demand for the Kukuihaele System is:

<u>Average Day</u>	<u>Max. Day</u> ⁵¹
42,000 gpd (30 gpm)	63,000 gpd (44 gpm)

Given a source capacity of 100 gpm, which converts to 144,100 gpd, the uncommitted capacity of the system is:

<u>Average Day</u>	<u>Max. Day</u>
54,000 gpd (37 gpm)	81,000 gpd (56 gpm)

According to DWS, the uncommitted capacity is subject to low dry weather flows and portions of this capacity will be needed for ohana dwelling requests and 2-lot subdivisions in the future.

The estimated demand for the project is:

<u>Average Day</u>	<u>Max. Day</u>
35,000 gpd (27 gpm)	52,000 gpd (40 gpm)

49. Kon, M. *Hawaii County Water Use and Development Plan*. Prepared for the Department of Water Supply, County of Hawaii, February 1992 (revised draft), p. 5-3.

50. Kon, M. *Hawaii County Water Use and Development Plan*. Prepared for the Department of Water Supply, County of Hawaii, February 1992 (revised draft), p. 5-7.

51. Max. day = ave. day x 1.5 and is used to determine pump capacity requirements.

3.3.2 Water

The estimated demand (max. day), based on DWS's standards, is summarized in Table 14, "Estimated Water Demand for Amanresort (Max. Day)," below.

TABLE 14. Estimated Water Demand for Amanresort (Max. Day)

LAND USE	UNITS	GPD/UNIT	TOTAL (GPD)
Potable Water			
1-Acre Lots	45	600	27,000
Hotel units	36	600	21,600
Plantation Manager's Estate	1	2,400	2,400
Sewage treatment building	1	1,000	1,000
<i>Subtotal (Potable Water Demand)</i>			<i>52,000</i>
Irrigation Water			
Landscaping acreage	20	3,000	60,000 (seasonal)
TOTAL			112,000

Proposed Water System Alternatives. Waimea Water Services identified three alternatives for the potable water system (see Appendix G):

1. *Use the Existing Kukuihaele Water System.* The existing uncommitted capacity is 81,000 gpd (max. day). The potable water requirements of the project is 52,000 gpd (max. day). The existing system has adequate capacity to serve the project with a balance of 29,000 gpd that would remain to serve future undetermined needs or serve as a contingency for low flows. Fire flow requirements for the hotel could be met with irrigation water stored onsite as water features.
2. *Develop a Private Water System.* A well capable of producing from 100 to 200 gpm is geologically feasible. This well could be drilled at the mauka portion of the Project Site in the vicinity of the Plantation Manager's Estate at approximately elevation 800' to tap the basal groundwater ranging in quality from 50 to 100 mg/l chlorides. A 100,000 gallon storage reservoir would be constructed next to the well. This private system would serve the proposed hotel and makai one-acre lots. The Plantation Inn and mauka 1-acre lots would be served by the County system. This alternative would be prohibitively expensive.
3. *Joint Development with DWS.* The Applicant and DWS could jointly develop a well. The well could be located within the Project Site (elevation approximately 800') or at the DWS storage tank site (elevation approximately 940'). If the well has a capacity of 100 gpm, the project's potable water requirements would be 40% (40 gpm) of that capacity. The County will need to upgrade the existing

system, regardless whether the proposed project proceeds, in order to meet the federal Safe Drinking Water standards; therefore, both the County and the Applicant could mutually benefit by a joint development.

The alternatives for irrigation water include: a fresh or brackish water well drilled within the Project Site at approximately elevation 700'; conveying water from the Lower Hamakua Ditch system; using the Kukuihaele Spring source if that source is replaced with deepwells; and/or reusing treated wastewater effluent.

Impacts

Impact of Groundwater Development on Sustainable Yield. The Honokaa Aquifer System has a sustainable yield of about 31 mgd (see discussion on groundwater in §3.1.3.1 "Groundwater" on page 3-14). Based on the actual yields of the newly drilled State well at Honokaa, this sustainable yield estimate is reasonable. Any new well drilled for the project would withdraw about 0.1 to 0.2 mgd. Existing groundwater withdrawals from this aquifer total 0.7 mgd (max. day).⁵² The aggregated total of 1 mgd, including the project's well, would not approach the sustainable yield limit of 31 mgd.

Impact of Groundwater Development on the Kukuihaele Spring and Base Flows of Perennial Streams. The nearest perennial stream to the Project Site is Lalakea Stream. The perched groundwater source sustains the base flow of this stream.⁵³ The perched groundwater is also the source for the Kukuihaele Spring. Any wells drilled for the project would tap the basal groundwater source; the perched source would not be impacted (see Figure 35, "Hydrogeological Section," on page -84).

Impact of Well Location on Individual Wastewater Systems. The Department of Health wastewater rules prohibit any subsurface wastewater disposal within a 1000' radius of a drinking water well.⁵⁴ The closest existing well is greater than 7 miles away at Haina near Honokaa.⁵⁵ If a drinking water is drilled within the Project Site

52. Kon, M. *Hawaii County Water Use and Development Plan*. Prepared for the Department of Water Supply, County of Hawaii, February 1992 (revised draft), Appendix D (Inventory of Existing Water Uses and Development by Aquifer Sector & Systems).

53. Mink & Yuen, p.36.

in the vicinity of the Plantation Manager's Estate, most of the proposed one-acre lots mauka of the Old Route 240 would be within the 1000' radius. Wastewater disposal alternatives for the affected one-acre lots would need to be reexamined.

Mitigation

Design Phase:

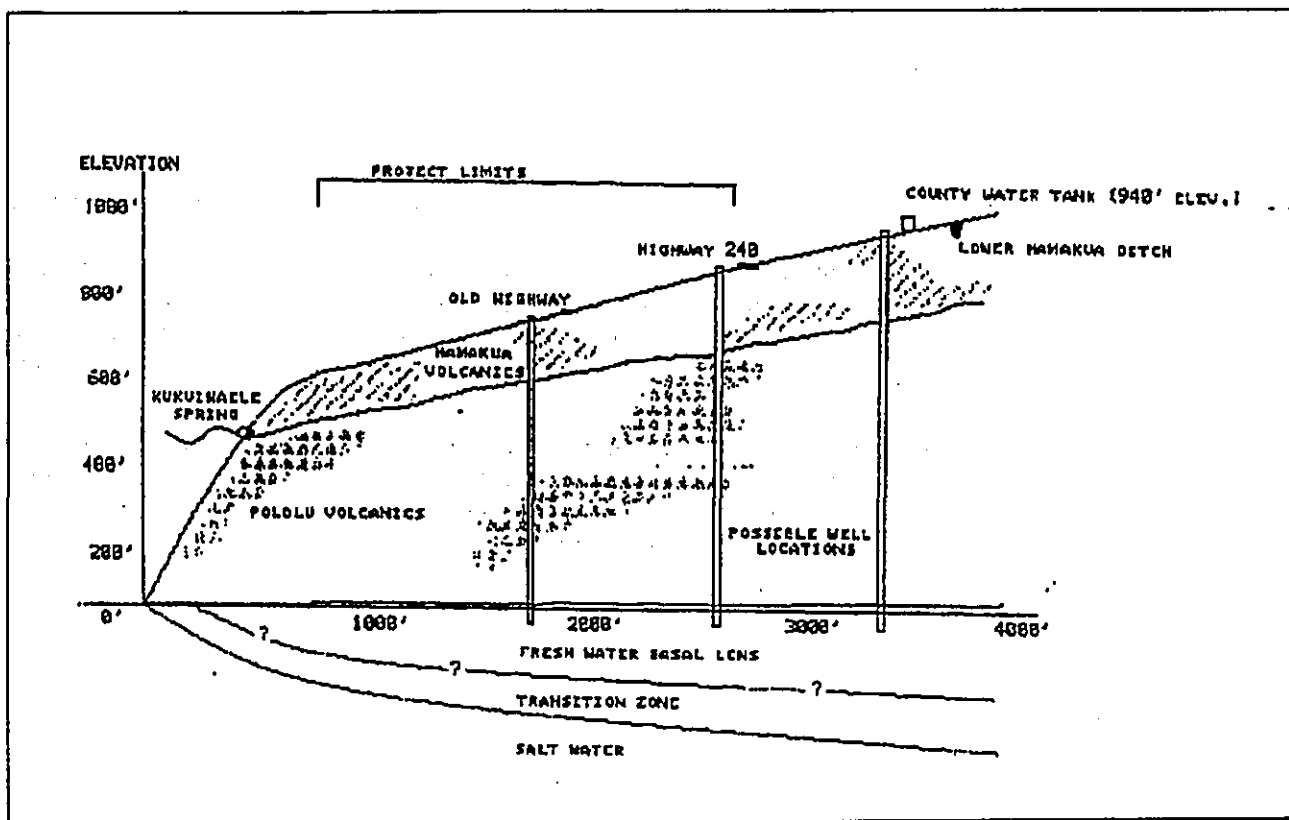
- *Well Drilling Permit and Safe Drinking Water Approval.* A new well for drinking purposes requires the Department of Land and Natural Resource's Well Drilling and Pump Installation permits and the Department of Health's Safe Drinking Water approval. These approvals regulate groundwater withdrawal to ensure that the new well does not interfere with existing groundwater wells or springs, does not exceed the sustainable yield of the aquifer, and meets water quality standards.⁵⁶
- *Water Conservation.* A permit condition could require the Applicant to consider water conservation measures in the design of the hotel, such as water-saving toilets and shower heads, as well as landscaping adaptable to the climate that would minimize seasonal irrigation.

54. *Hawaii Administrative Rules* §11-62-32, Department of Health, Wastewater Systems.

55. Department of Land and Natural Resources, Well Inventory Map (see Appendix G).

56. *Hawaii Administrative Rules*, Chapter 13-168, Department of Land and Natural Resources, Chapter 13-168, Water Use, Wells, and Stream Diversion Works; *Hawaii Administrative Rules*, Chapter 11-20, Department of Health, Potable Water Systems.

FIGURE 35. Hydrogeological Section



3.3.3 Wastewater

Setting

There is no County sewerage system in the region. The County plans to construct a sewage treatment plant and interceptor line in Honokaa within the next five years. Because of the cost for a collection system to convey sewage the seven miles from Kukuiaele to Honokaa, the County's plans do not include Kukuiaele within the service area of the proposed treatment plant.

3.3.3 Wastewater

Kukuihaele residents currently use and will continue to use cesspools. Generally, cesspools operate relatively trouble-free in the area based on complaint records maintained by the State Department of Health.⁵⁷ The Department of Health Rules permit cesspools in certain areas that would not jeopardize groundwater quality (refer to Figure 21, "Critical Wastewater Disposal Areas," on page 3-16), provided the development meets the minimum lot size shown on the map and consists of less than 50 units.⁵⁸ The minimum lot size for cesspools within the Project Site is 1 acre.

Impacts

Impact on County Wastewater Systems. Since there is no existing or planned County wastewater system in Kukuihaele, the project will provide private or individual systems and will therefore have no impact on County systems.

Impact of Subsurface Wastewater Effluent on Drinking Water Wells. Individual wastewater systems would be located a minimum of 1000' from any drinking water well to prevent potential contamination (see previous discussion in §"Impact of Well Location on Individual Wastewater Systems." on page -82).

Odor Impacts from Private Treatment Plant. The proposed hotel and one-acre lots would smell any malfunction of the treatment plant before the Kukuihaele residents. It would be imperative for the hotel operator for its own best interest to prevent odor problems. The Department of Health wastewater rules require licensed operators and monitoring to prevent such problems.

Mitigation

- **Wastewater System Approval.** Compliance with the Department of Health's rules for the design and operation of the wastewater treatment plant and individual septic systems should protect the groundwater quality.

57. Hamakua Steering Committee, *Hamakua Regional Plan: From Kaiakaa to Waipio*. Endorsed by the County Council, County of Hawaii, by Resolution No. 244-90, November 1990, p. 19.

58. *Hawaii Administrative Rules* §11-62-31.1.

- *Plan Approval for Private Treatment Plant Site.* A permit condition should authorize the Planning Department to verify at Plan Approval that the treatment plant is not sited in an area that would cause greater odor risks to the Kukuihaele residents than the hotel or one-acre lots.

3.3.4 Drainage

Setting

There is no existing County drainage system in Kukuihaele. Storm runoff currently sheet flows to natural drainageways.

Impacts

The new access road and internal roadways with shoulders and swales to direct the runoff to drywells will improve the drainage system. If a drinking water well is drilled within the Project Site, the Department of Health (DOH) rules prohibit any drywells that fall under the definition of an injection well to be located within 1/4 mile of the well.

Mitigation

Design Phase:

- *Compliance with DOH UIC Permit requirements.* Discussed previously under the mitigation measures relating to groundwater (see §3.1.3 "Hydrology" on page 3-14).
- *Review of Drainage Plans by the Corps of Engineers.* The Corps of Engineers have jurisdiction to any alterations of most streams. To ensure that the drainage plans do not impact any resources within the Corps' jurisdiction, the Applicant's engineer should submit a set to the Corps for their review.

3.3.5 Power and Communications

Setting

An existing 69 KV transmission line runs along Highway 19. HELCO's Honokaa substation connects to this main transmission line. From the Honokaa substation, existing overhead lines extend along Highway 240 to Kukuihaele, a distance of approximately 7 miles. At Kukuihaele, the lines follow the Old Route 240. The existing system is currently at near capacity. The GTE Hawaiian Telephone system is also at near capacity.

Impacts

The projected load for the project is 3.5 MW. Electrical service to the project would require either a new substation at or near the Project Site, or reconstructing the distribution lines from Honokaa to increase the current capacity. The new substation alternative is the less desirable alternative for two reasons: it would cost substantially more than upgrading the distribution lines from Honokaa; and it would provide excess capacity that could induce secondary growth impacts.

An alternative to HELCO's system is a renewable energy source such as photovoltaic systems. The Applicant is in the process of evaluating the alternatives.

Mitigation

None required. Provided that the Applicant does not select the new substation alternative, the only impact will be on the project budget.

3.3.6 Solid Waste

Setting

The solid waste system for the County of Hawaii consists of landfills located in Hilo and Puuanahulu, supported by transfer stations strategically located at various communities throughout the island. The Honokaa Transfer Station is the closest County solid waste disposal facility to the Project Site. The County appropriated money in its 1990 budget to construct a transfer station in Kukuihaele.⁵⁹

The Honokaa Transfer Station has a single loading chute. The chute empties into a compaction trailer with a volume capacity of 70 cubic yards (approximately 18 net

tons at full capacity). The trailers are hauled on a scheduled basis and are not necessarily full when hauled (approximately 10-12 tons).⁶⁰

Impact

The project will generate about 830 pounds of solid waste per day based on the County's standard of 4.9 pounds per capita per day for 85 units assuming 100% double occupancy. Assuming that Honokaa's trailer is hauled daily, the solid waste generated by the project would represent 2% of the total capacity (18 tons) of the transfer station, or up to 4% of the actual hauling volume (10 tons).

Mitigation

Construction Phase:

- *Use of recycled materials and locally-produced compost.* The Applicant should include a provision in the bidding documents and/or construction contract for the contractor to consider use of recycled materials such as crushed glass as an aggregate substitute in road paving, and the use of locally-produced greenwaste compost as a soil amendment in landscaping.

Operational Phase:

- *Integrated Waste Management Program.* The hotel operator should develop and implement a solid waste reduction program that should include recycling and diversion of greenwaste for composting. As a service to the Kukuihaele community, the hotel could allow the Kukuihaele residents to dispose and recycle waste at the hotel's facility since the nearest County transfer station is seven

59. Hamakua Steering Committee, *Hamakua Regional Plan: From Kaiakaa to Waipio*. Endorsed by the County Council, County of Hawaii, by Resolution No. 244-90, November 1990, p. 18.

60. Barrett Consulting Group. *Integrated Solid Waste Management Plan for the County of Hawaii*. Prepared for the Department of Public Works, County of Hawaii. February 1993 (Draft), pp. 7-13 thru 7-23.

miles away in Honokaa. The hotel's private contractor would haul the non-recyclable waste to the Honokaa transfer station and the recyclables to an appropriate facility.

3.3.7 Police and Fire Protection

Setting

Police. The Honokaa police station serves the entire Hamakua district. The police force consists of 17 personnel with officers on duty 24 hours a day. Based on modest population growth in the district, it is estimated that 3 to 6 additional police officers would be needed by 2000.⁶¹

Fire. The Honokaa fire station, located next to the police station, serves the entire Hamakua district. The 18-man crew provides 24-hour fire protection and emergency medical services. The existing fire station is too small since it was originally designed for a crew of 8.⁶² The fire department has plans to relocate the station to a more centralized site.⁶³

Impacts

In reviewing the project, the fire and police departments indicated that the project will not have significant impacts on their operations.⁶⁴

61. Personal communication with Captain James Correa, Honokaa Police Station, April 3, 1991 cited in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*, prepared for the Hamakua Sugar Company, April 1991, p. 4-38.

62. Personal communication with Captain John Souza, Honokaa Fire Station, April 2, 1990 cited in Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*, prepared for the Hamakua Sugar Company, April 1991, p. 4-38.

63. *Ibid.*

64. See letters in Appendix #.

Mitigation

None required.

3.3.8 Health Care Services

Setting

The State-operated Honokaa Hospital serves the Hamakua district with emergency care, ambulatory surgery, acute and long-term care. The existing 30-bed facility has a staff of 50. Occupancy averages about 65%.

The North Hawaii Community Hospital in Waimea recently received funds to start construction. This facility, scheduled to open in 1994 with 50 beds, will focus on acute care. When this hospital opens, the Honokaa Hospital will refer all acute care cases to this Waimea hospital and expand its long-term care facilities.

Impacts

The new additions to Honokaa Hospital and the new hospital in Waimea should adequately serve any increased health care demands generated by the proposed project.

Mitigation

None required.

3.3.9 Education Facilities

Setting

The public school serving Kukuihaele is Honokaa High & Elementary School (K-12). Enrollment is currently about 1,300, drawing students from the Hamakua district and North and South Kohala. To remedy the shortage of classrooms and accommodate the projected 18% growth in enrollment to 1,400 students in 1994, the Department of Education plans to add a new two-story building with four to six classrooms.⁶⁵

3.3.10 Recreation Facilities and Public Shoreline Access

Impacts

Due to the relatively few number of units, the project will have minimal impacts on the public schools in the area.⁶⁶

Mitigation

None required.

3.3.10 Recreation Facilities and Public Shoreline Access

Setting

The outdated County of Hawaii Recreation Plan identified five recreation resources in the vicinity of Kukuihaele:⁶⁷

- Kukuihaele Park (County);
- Kukuihaele Community Center (County-leased);
- Kukuihaele Church (potential historic value);
- Kukuihaele Landing (establish a reserve);
- Waipio Valley Scenic Lookout (County).

Na Ala Hele, the Statewide Trail and Access System established in 1988, maintains an inventory "of all trails and accesses in the State, whether wholly or partly on public or private lands and whether or not under the jurisdiction of the department."⁶⁸ The State Department of Land and Natural Resources Division of Forestry and Wildlife (DOFAW) administers the program. DOFAW's inventory maps

65. Belt, Collins & Associates, Ltd., *Kukuihaele Land Use Plan*. Prepared for the Hamakua Sugar Company, April 1991, p. 4-36.

66. Letter from Mr. Charles T. Toguchi, Superintendent, Department of Education, State of Hawaii, dated 27 August 1993 in response to the EIS Preparation Notice (see copy of letter in Appendix I).

67. County of Hawaii, Department of Parks and Recreation. *County of Hawaii: Recreation Plan*. 1973, pp. 87 -102.

showed the trail along the shoreline at the base of the cliff outside the Project Site, as well as a jeep road through the Project Site along the cliff edge.⁶⁹ The trail was identified as a historic resource and discussed in §3.1.6 "Archaeological/Historical Resources" on page 3-33. The County's inventory of public shoreline access confirmed that this was the only trail in the vicinity of the project.⁷⁰

A 1909 map identifies the road on the Honokaa side of the Project Site as a Government Road (see Figure 36 on page -93) extending from the mauka side of the Project Site past the Plantation Manager's House continuing through the makai side of the Project Site. Although the plantation blocked the makai side of this road - - years ago and is therefore not presently used to access Kukuiahae Landing, the Applicant will allow public access on the portion of this road within the Project Site. The only other Government Road in the vicinity of the Project Site (other than Old Route 240) is the mauka-makai road passing next to the County cemetery. According to the 1909 map, this Government Road terminates at the intersection with Old Route 240. A dirt road extends makai from this intersection leading to the County's chlorination station. The County Department of Water Supply has an easement to use this dirt road. Although the dirt road was never a Government Road, the applicant will allow public access to the chlorination station. However, there is no access to the shoreline from the chlorination station. The jeep trail shown on the USGS map that follows the cliff edge does not provide access to the shoreline-- there are no trails from the top of the cliff to the shoreline within the Project Site due to the steep terrain. For this reason, the Applicant does not intend to provide lateral public access along this jeep trail. This restriction is not contrary to the CZM policies since the project is providing access to the shoreline through the only known historical mauka-makai shoreline public access through the Project Site (i.e., the Government Road on the Honokaa side of the Project Site) and will not impair or interfere with lateral access along the only known lateral shoreline access provided by the historical trail at the base of the cliff. The jeep trail at the top of the cliff is a distance of approximately 300' (at the closest point) to 900' (at the

68. *Hawaii Revised Statutes*, §198D-3(a) (Supp. 1992).

69. See letter from Na Ala Hele (Appendix I).

70. Kasamoto, H., Inc. and P. Yoshimura, Inc. *Inventory of Public Shoreline Access: County of Hawaii*. Prepared for County of Hawaii, 1979, Map #66.

3.3.10 Recreation Facilities and Public Shoreline Access

farthest point) inland from the surveyed shoreline fronting the Project Site; it is not a lateral shoreline access.

FIGURE 36. 1909 Map Showing Government Roads



ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Impacts

The proposed project will have beneficial impacts on public recreational resources. The Applicant will provide funds to improve and maintain Kukuihaele Park and the Community Center for the residents.

The project will have no impact on the Kukuihaele Church. The project will not be visible from the Waipio Valley Lookout (see §3.1.7 "Scenic Resources" on page 3-39). The project will not interfere with access to the shoreline trail at the base of the cliff. The existing access to Kukuihaele Landing is via a road from Highway 240 at the Waipio end of Kona Camp. Since this road is outside the Project Site, the project will not impede access along this road. The Applicant will allow public access on the Government Road within the Project Site that provides an alternate route to Kukuihaele Landing.

Mitigation

None required. The Applicant has agreed (which decisionmakers can enforce as permit conditions at their discretion) to establish an Advisory Committee comprised of community representatives to design, operate, and maintain the Social Hall and Kukuihaele Park, as well as allow public access along the old Government Roads crossing the Honokaa side of the Project Site and the road passing the County cemetery including the portion continuing to the County chlorination station.

3.3.11 Civil Defense

Setting

Kukuihaele is not covered by any siren warning device for threats from storm waves, flooding, and destructive winds. The siren must be solar powered, have a minimum output of 115 dB, and be compatible with the existing civil defense siren warning system. The siren requires a 100-foot radius buffer zone in which there are no residential buildings.⁷¹

Impacts

The increased population and development will intensify the need for warning systems, public shelters, and evacuation routes.

71. Letter from State Department of Defense, dated 6 January 1994 (see Appendix J).

Mitigation

Design Phase:

- Siren. The County will determine the need for a civil defense siren and funding arrangements, if required. If the County requires a siren to be provided by the Applicant, the Applicant's consultants will coordinate the location and design of the siren with the County and State.
- Evacuation Route. The Applicant's consultants should design the access route to the project to accommodate emergency vehicles and to serve as an evacuation route.
- Public Shelter. The Kukuihaele Advisory Committee or other appropriate entity involved with the design of the Social and Recreation Center should consider the use of this facility as a public shelter.

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

This chapter identifies and evaluates State and County land use plans, policies, and controls applicable to the proposed project. The policies include those that support the project as well as those that require reconciliation. Generally, the policies support the retreat resort concept-- i.e., a small scale resort that is compatible with the physical and social environment. The only policies requiring reconciliation are agriculturally-related.

4.1 STATE PLAN

The purpose of the Hawaii State Plan, enacted into law and codified in *Hawaii Revised Statutes Chapter 226*, is to "serve as a guide for the future long-range development of the State; identify the goals, objectives, policies, and priorities for the State; provide a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; improve coordination of federal, state, and county plans, policies, programs, projects, and regulatory activities; and to establish a system for plan formulation and program coordination to provide for an integration of all major state, and county activities."¹ The Hawaii State Plan consists of goals, objectives, policies, and priority guidelines. County general plans must further define these goals, objectives, policies, and priority guidelines.² The Land Use Commission must con-

sider the extent to which any proposed reclassification conforms to the applicable goals, objectives, policies, and priority guidelines of the Hawaii State Plan.³ Since the proposed project involves a general plan amendment (see §4.4 "COUNTY GENERAL PLAN" on page 4-23) and state land use district boundary amendment (see §4.2 "STATE LAND USE DISTRICTS" on page 4-9), the project must conform with the State Plan. The State Plan defines "conform" as "the weighing of the overall theme, goals, objectives and policies of this chapter and a determination that an action, decision, rule or state program is consistent with the overall theme, and fulfills one or more of the goals, objectives, or policies of this chapter."⁴

The goals, objectives, policies, and priority directions pertinent to the proposed project are discussed below.

Goals:⁵

(1) A strong, viable economy, characterized by stability, diversity, and growth, that enables the fulfillment of the needs and expectations of Hawaii's present and future generations.

(2) A desired physical environment, characterized by beauty, cleanliness, quiet, stable natural systems, and uniqueness, that enhances the mental and physical well-being of the people.

(3) Physical, social, and economic well-being, for individuals and families in Hawaii, that nourishes a sense of community responsibility, of caring, and of participation in community life.

-
1. *Hawaii Revised Statutes §226-1 (Supp. 1992).*
 2. *Hawaii Revised Statutes §226-52(a)(4) (Supp. 1992).*
 3. *Hawaii Revised Statutes §205-17(1) (Supp. 1992).*
 4. *Hawaii Revised Statutes §226-2 (Supp. 1992).*
 5. *Hawaii Revised Statutes §226-4 (Supp. 1992).*

Discussion:

Large resorts usually meet one of the above goals, namely the economic goal, at the expense of the physical environment and social well-being goals. A small retreat resort, however, has the greater potential to satisfy all three goals if properly developed. Based on proven examples, Amanresort is a unique hotel operator that seems particularly focused to meet all of the above goals (e.g., Amandari in Bali). Amanresort hotels are characterized by highly trained local employees who take pride in their work, exquisite natural settings that enhance the mental and physical well-being of its guests and neighbors, and integration with the community with a sense of responsibility and caring. This retreat resort would rejuvenate Hamakua's sagging economy by providing 100 permanent jobs for former plantation workers as well as job opportunities for future generations, and will also stimulate additional multiplier economic opportunities for businesses that indirectly benefit from the resort.

Objectives and policies for the economy-- in general:⁶

Objectives:

- (1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people.
- (2) A steadily growing and diversified economic base that is not overly dependent on a few industries.

Policies:

- (2) Promote Hawaii as an attractive market for environmentally and socially sound investment activities that benefit Hawaii's people.
- (7) Encourage the formation of cooperatives and other favorable marketing arrangements at the local or regional level to assist Hawaii's small scale producers, manufacturers, and distributors.
- (9) Foster greater cooperation and coordination between the government and private sectors in developing Hawaii's employment and economic growth opportunities.
- (10) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.

6. *Hawaii Revised Statutes §226-6 (Supp. 1992).*

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

(13) Encourage businesses that have favorable financial multiplier effects within Hawaii's economy.

(14) Promote and protect intangible resources in Hawaii, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.

(16) Foster a business climate in Hawaii-- including attitudes, tax and regulatory policies, and financial and technical assistance programs-- that is conducive to the expansion of existing enterprises and the creation and attraction of new business and industry.

*Economic priority guidelines-- general:*⁷

(1) Seek a variety of means to increase the availability of investment capital for new and expanding enterprises.

(A) Encourage investments which:

(i) Reflect long term commitments to the State;

(ii) Rely on economic linkages within the local economy;

(iii) Diversify the economy;

(iv) Reinvest in the local economy;

(v) Are sensitive to community needs and priorities; and

(vi) Demonstrate a commitment to provide management opportunities to Hawaii residents;

(10) Enhance the quality of Hawaii's labor force and develop and maintain career opportunities for Hawaii's people through the following actions:

(D) Promote career opportunities in all industries for Hawaii's people by encouraging firms doing business in the State to hire residents.

(F) Provide retraining programs and other support services to assist entry of displaced workers into alternative employment.

Discussion:

Most resorts prefer sandy beaches and low rainfall, attributes not present on the Hamakua coast. In a region where agriculture has predominated, the proposed retreat resort would add an element of needed diversification. The proposed resort

7. *Hawaii Revised Statutes* §226-103 (Supp. 1992).

would provide employment choice for an area that will experience employment problems with the closing of Hamakua Sugar Company. The resort will provide a market for diversified agricultural products. Because of the substantial investments involved with resort development, even for a small-scale resort, the commitments must be long-term. Amanresort prefers and is committed to hiring local residents. Amanresort will work with the State to retrain the displaced plantation workers and give preference in hiring them (see §3.2.4 "Employment and Income" on page -60). Resorts have substantial multiplier effects that will stimulate the regional economy. Therefore, the proposed project fulfills the general economic objectives and policies of the State Plan in terms of its diversification of the regional economy, employment opportunities, multiplier effects, commitment to retrain and hire local residents, and marketing opportunity for agricultural products.

Objectives and policies for the economy-- agriculture:⁸

Objectives:

- (1) Continued viability in Hawaii's sugar and pineapple industries.
- (2) Continued growth and development of diversified agriculture throughout the State.

Policies:

- (3) Strengthen diversified agriculture by developing an effective promotion, marketing, and distribution system between Hawaii's producers and consumer markets locally, on the continental United States, and internationally.
- (5) Enhance agricultural growth by providing public incentives and encouraging private initiatives.
- (6) Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.
- (8) Expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.
- (10) Promote and assist in the establishment of sound financial programs for diversified agriculture.
- (11) Institute and support programs and activities to assist the entry of displaced agricultural workers into alternative agricultural or other employment.

8. *Hawaii Revised Statutes §226-7 (Supp. 1992).*

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

Economic priority guidelines-- diversified agriculture:⁹

(1) Identify, conserve, and protect agricultural and aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural and aquacultural uses of such lands.

Population growth and land resources priority guidelines:¹⁰

(2) Make available marginal or nonessential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.

Discussion:

The priority guidelines urge the protection of "important" agricultural lands. There are three classification systems that rate agricultural suitability: the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawaii (ALISH), the U.S. Soil Conservation Service's Land Capability ratings, and the Land Study Bureau's overall productivity rating. According to the Soil Conservation Service and Land Study Bureau classifications, the Project Site has marginal agricultural soils. The ALISH classification rates the soils as prime agricultural land; however, this classification is suspect since the soils do not meet the Department's criteria for prime agricultural land (see §3.1.2 "Soils and Topography" on page 3-4). The Land Use Commission uses the Land Study Bureau's system to determine prime agricultural land.¹¹ Therefore, depending on how "important" agricultural lands is defined, the proposed project may not be inconsistent with the above objectives and policies.

Displaced plantation workers would have an opportunity to be retrained into resort-related employment. The proposed project could also complement diversified agriculture by creating a market for agricultural products and innovatively "landscaping" with agricultural uses. Existing backyard gardening would be further encouraged by the Applicant's commitment to deed certain areas to the residents. The agricultural zoning of most of the 1-acre lots would permit agricultural activity.

9. *Hawaii Revised Statutes* §226-103(d) (Supp. 1992).

10. *Hawaii Revised Statutes* §226-104 (Supp. 1992).

11. See *Hawaii Revised Statutes* §§205-2(d), -4.5 (Supp. 1992).

4.1 STATE PLAN

Objective and policies for the economy-- visitor industry:¹²

Objective: Planning for the State's economy with regard to the visitor industry shall be directed towards the achievement of the objective of a visitor industry that constitutes a major component of steady growth for Hawaii's economy.

Policies:

- (2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.
- (4) Encourage cooperation and coordination between the government and private -- sectors in developing and maintaining well-designed, adequately serviced visitor industry and related developments which are sensitive to neighboring communities and activities.
- (5) Develop the industry in a manner that will continue to provide new job opportunities and steady employment for Hawaii's people.
- (6) Provide opportunities for Hawaii's people to obtain job training and education that will allow for upward mobility within the visitor industry.
- (7) Foster a recognition of the contribution of the visitor industry to Hawaii's economy and the need to perpetuate the aloha spirit.
- (8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawaii's cultures and values.

Economic priority guidelines-- visitor industry:¹³

- (2) Encourage the development and maintenance of well-designed, adequately serviced hotels and resort destination areas which are sensitive to neighboring communities and activities and which provide for adequate shoreline setbacks and beach access.
- (4) Encourage visitor industry practices and activities which respect, preserve, and enhance Hawaii's significant natural, scenic, historic, and cultural resources.
- (7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.

12. *Hawaii Revised Statutes* §226-8 (Supp. 1992).

13. *Hawaii Revised Statutes* §226-103(b) (Supp. 1992).

Discussion:

The policy to encourage a favorable investment climate is timely. The resort investment climate worldwide, and particularly Hawaii, is at an all-time low. Institutional lenders are wary during these recessionary conditions. The Applicant's willingness to immediately develop and operate a resort is somewhat of an anomaly that may not be replicated in the near term future to timely absorb former employees of the failed sugar industry. The proposed project includes several amenities for the community in an attempt to sensitively respond to community needs: improvements to Kukuihaele Park, improvements to the Social Hall, readjustment of boundaries for certain residents to give them areas they used but never owned, and others (see §2.5.3 "Community Benefits" on page 2-24). The one-story resort will be designed with earth-tone colors and indigenous materials to blend with the surroundings. The resort will work with the State in developing job training programs (see §3.2.4 "Employment and Income" on page -60). The Applicant has attempted to fulfill the objectives and policies above relating to the visitor industry by designing with sensitivity to the community and environment, and providing various community benefits.

Objective and policies for the physical environment-- scenic, natural beauty, and historic resources:¹⁴

Objective: Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.

Policies:

- (1) Promote the preservation and restoration of significant natural and historic resources.
- (2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.
- (3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean vistas, scenic landscapes, and other natural features.
- (4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.

14. *Hawaii Revised Statutes* §226-12 (1985 & Supp. 1992).

4.2 STATE LAND USE DISTRICTS

(5) Encourage the design of developments and activities that complement the natural beauty of the islands.

Discussion:

The proposed project will not impact upon significant archaeological features and will restore the historically significant Plantation Manager's Estate (see §3.1.6 "Archaeological/Historical Resources" on page 3-33). The proposed project will not impact the vistas from the scenic Waipio Valley (see §3.1.7 "Scenic Resources" on page 3-39). The design of the resort will complement the natural beauty of the Hamakua coast. Therefore, the proposed project fulfills the objectives and policies for scenic, natural beauty, and historic resources by minimizing impacts on historic and scenic resources, restoring a significant historic resource, and designing the project to complement the natural beauty of the area.

4.2 STATE LAND USE DISTRICTS

The agricultural lots are and will continue to be in the Agriculture district. The Plantation Inn is already in the Urban district. There are four separate boundary amendments that will require reclassification from Agriculture to Urban (see Figure 37, "State Land Use Districts-- Existing and Proposed," on page 4-10):

- Amanhideaway hotel (15 acres);
- residential-resort lots and employee housing (8.757 acres);
- boundary adjustment for mauka lot on the Waipio side of the Plantation Manager's House to be consolidated and resubdivided into the abutting residential lot (0.25 acre);
- boundary adjustment for makai residential lots to be consolidated and resubdivided into the abutting individual lots (0.837 acre).

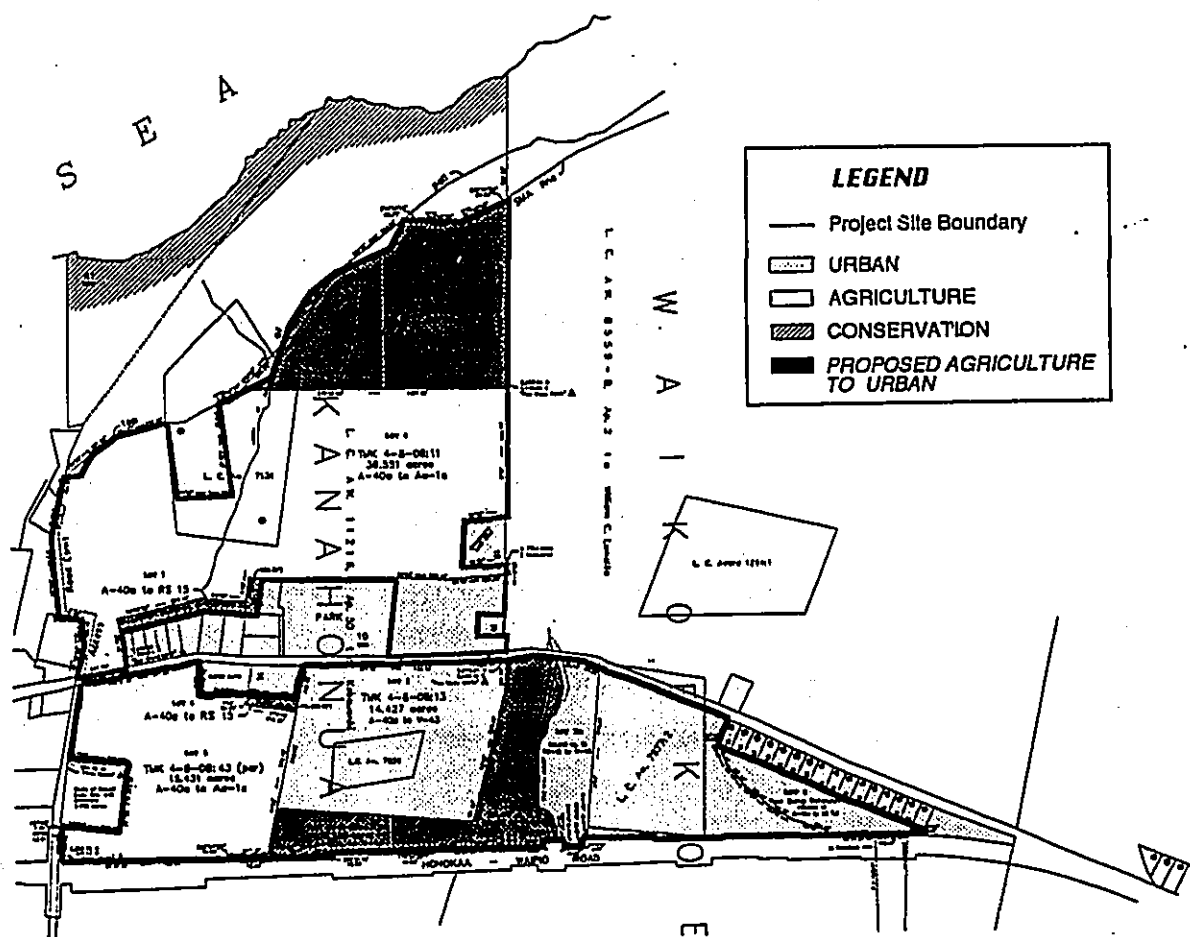
There are no areas within the project boundaries where the Office of State Planning has proposed redesignation under the 5-Year Boundary Review.¹⁵ The area in the

15. State of Hawaii, Office of State Planning, *State Land Use District Boundary Review: Hawaii (Draft)*, March 1992.

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

Conservation district along the shoreline will not be affected by the proposed project.

FIGURE 37. State Land Use Districts-- Existing and Proposed



The State Land Use Commission is the decisionmaker for petitions involving land areas greater than 15 acres; the county is the decisionmaker for land areas less than 15 acres (except in conservation districts where the Land Use Commission is the decisionmaker).¹⁶ In Hawaii County, the County Council is the decisionmaker with a recommendation provided by the Planning Commission.¹⁷ The county may consolidate proceedings to amend state land use district boundaries with county proceedings to amend the general plan and zoning.¹⁸ The Applicant intends to petition simultaneously for land use district boundary amendment, general plan amendment, and rezoning.

In reviewing the petition, the County Council must consider:

... the purpose of the existing and proposed districts as set forth in HRS 205-2 and the purpose of this chapter. No amendment shall be approved unless it conforms to the General Plan.¹⁹

Discussion:

The extent the proposed reclassification conforms with the General Plan is discussed below in §4.4 "COUNTY GENERAL PLAN" on page 4-23. The following discussion analyzes the extent to which the proposed reclassification conforms to the existing (Agriculture) and proposed (Urban) district standards.

Standards for determining "U" urban district boundaries.²⁰

16. *Hawaii Revised Statutes* §205-3.1(c) (1985).

17. *Hawaii County Code* Chapter 28, State Land Use District Boundary Amendment Procedures; County of Hawaii, Planning Commission, *Rules of Practice and Procedure*, Rule 13 (State Land Use District Boundary Amendment), November 1992.

18. *Hawaii Revised Statutes* §205-3.1(c) (1985); *Hawaii County Code* §28-8; County of Hawaii, Planning Commission, *Rules of Practice and Procedure*, §13-8.

19. *Hawaii County Code* §28-6.

20. *Hawaii Administrative Rules*, Department of Business and Economic Development, State Land Use Commission, Land Use Commission Rules §15-15-18.

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

(1)It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses;

Discussion:

The proposed resort use will contain low-density "city-like" concentrations of people and structures with the single-story hotel, single-family units on the 1-acre lots, and the associated paved streets and utilities.

(2)It shall take into consideration the following specific factors:

(A)Proximity to centers of trading and employment except where the development would generate new centers of trading and employment;

Discussion:

The proposed project would be in proximity to existing centers of employment, (Kukuihaele, Honokaa, and also Waimea which is in reasonable proximity) and would also create a new center of employment by creating over 100 permanent jobs.

(B)Substantiation of economic feasibility by the petitioner;

Discussion:

Provided construction costs stay within the \$15 million budget, the project's pro-forma would evidence the economic feasibility of the project. Likewise, the prior experience of Amanresort of successfully developing and operating ten other retreat resorts worldwide evidences the financial and technical capability of the Applicant for the proposed concept of a retreat resort. Economic feasibility from the standpoint of public fiscal impacts is demonstrated by the direct, indirect and induced employment opportunities to be created as a result of the resort development. With respect to direct employment, approximately 80 construction jobs and thereafter approximately 100 full-time permanent jobs will be created as a result of the resort project. Also, an additional 247 indirect and induced jobs will be generated during the construction and operational phases of the hotel. In addition, the net annual State excise and income tax revenues from the resort, after accounting for estimated government visitor expenditures, is estimated to be \$602,000. The net annual County revenues, primarily from property taxes, after deducting for County expenditures per visitor, are estimated to be \$171,000.

(C)Proximity to basic services such as sewers, transportation systems, water, sanitation, schools, parks, and police and fire protection; and

Discussion:

The basic services that serve Kukuihaele would serve the project. Moreover, certain basic services, such as water and parks, may be improved as a result of the improvements installed by the Applicant.

(D) Sufficient reserve areas for urban growth in appropriate locations based on a ten year projection;

Discussion:

The Project Site area would adequately serve the 10-year needs of the resort operator since there are no plans to expand. Increasing the number of units would destroy the personalized ambience characteristic of Amanresort.

(3) It shall include lands with satisfactory topography and drainage and reasonably free from the danger of floods, tsunami, unstable soil conditions, and other adverse environmental effects;

Discussion:

The Project Site's topography, soil conditions, and drainage are satisfactory (see §3.1.2 "Soils and Topography" on page 3-4), and reasonably free from danger of floods and tsunami (see §3.1.5 "Natural Hazards" on page 3-28). The property ranges in elevation from about 500 feet at the makai cliff top boundary, to about 850 feet above mean sea level at the highest point along the mauka boundary; thus, the property would be free from the threat of tsunami inundation. Except for the gullies, there are no steep slopes on the property. The two soil types on the property, Paauhau silty clay loam (PaC and PaD) and Kukaiau silty clay loam (KuD) provide moderately rapid permeability, with runoff slow to medium and the erosion hazard slight to moderate. Although there may be some question as to the stability of the soil immediately adjacent to the cliff edge, the buildings can either be setback or supported by foundations to avoid instability. The property is outside of the 500 year floodplain under the Flood Insurance Rate Map. The property is also in lava flow hazard zone 8, or a zone with minimal likelihood of lava inundation.

(4) In determining urban growth for the next ten years, or in amending the boundary, land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on state or county general plans;

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

Discussion:

The boundary amendment proposed for the 8.757-acre mauka area adjacent to the Plantation Manager's House is bounded on two sides by Urban districts-- the reclassification would result in a unified Urban area. Likewise, the minor boundary amendments proposed for the residential expansion areas are contiguous to Urban residential lots. These areas are designated for Low Density Urban use on the County LUPAG Map, and a General Plan amendment petition has been filed to redesignate the resort area for Resort use on the LUPAG Map. Although the 15-acre makai area is not contiguous with an existing urban area, the County General Plan favors the creation of retreat resorts in the Hamakua area. A retreat resort, by definition, would be removed from an urban area.

(5) It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the state and county general plans;

Discussion:

The General Plan currently designates the portion of the Project Site mauka of the Old Route 240 as Low Density Urban. Thus, the boundary amendments proposed for the residential expansion areas are consistent with the General Plan. The General Plan also supports the establishment of a retreat resort in Hamakua and contemplated a floating zone for retreat resort to determine the location of the retreat resort. Consistent with this floating zone concept, the Applicants have filed a general plan amendment petition to designate the resort areas for Resort use on the LUPAG Map.

(6) It may include lands which do not conform to the standards in paragraphs (1) to (5):

(A) When surrounded by or adjacent to existing urban development; and

(B) Only when those lands represent a minor portion of this district;

Discussion:

The hotel area does not strictly conform to the standards (1) to (5) above since the hotel area is not contiguous to the existing Urban areas of Kukuihaele. However, the hotel area is adjacent (less than a mile) to the Urban area and would represent a relatively minor portion (roughly one-fifth) of the Urban district of Kukuihaele.

(7)It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services;

Discussion:

The boundary amendments will not contribute toward spot urban development which requires an unreasonable investment in public infrastructure or support services. Each of the areas to be urbanized is either adjacent to an existing urban area, or within a reasonable proximity to the urban area. Also, the Applicant proposes to be responsible for the construction of all needed infrastructure. Therefore, there will not be an unreasonable investment in public infrastructure or support services required because of the proposed amendments.

(8)It may include lands with a general slope of twenty percent or more which do not provide open space amenities or scenic values if the commission finds that those lands are desirable and suitable for urban purposes and that official design and construction controls are adequate to protect the public health, welfare and safety, and the public's interests in the aesthetic quality of the landscape.

Discussion:

The average slope of the Project Site is 10% (see §3.1.2"Soils and Topography" on page 3-4). Most of the steeper areas greater than 20% slope are confined to the gulches, where no permanent structures are proposed.

Standards for determining "A" agricultural district boundaries.²¹

(1)It shall include lands with a high capacity for agricultural production except as otherwise provided in this chapter;

Discussion:

The soils within the Project Site do not have a high capacity for agriculture according to the productivity ratings by the Land Study Bureau (Class C) and Soil Conservation Service (Class III or IV) (see §3.1.2"Soils and Topography" on page 3-4).

(2)It may include lands with significant potential for grazing or for other agricultural uses except as otherwise provided in this chapter;

21. *Hawaii Administrative Rules*, Department of Business and Economic Development, State Land Use Commission, Land Use Commission Rules §15-15-19.

Discussion:

The land may be used for grazing; however, that use would not be the highest and best use of the site given the potential for alternative non-agricultural uses.

(3) It may include lands surrounded by or contiguous to agricultural lands and which are not suited to agricultural and ancillary activities by reason of topography, soils, and other related characteristics;

Discussion:

This standard is not applicable-- it applies to proposed reclassifications to Agriculture when the lands are not suited for agriculture.

(4) Lands in intensive agricultural use for two years prior to date of filing of a petition or lands with a high capacity for intensive agricultural use shall not be taken out of this district unless the commission finds either that the action:

(A) Will not substantially impair actual or potential agricultural production in the vicinity of the lands or in the county or state; or

(B) Is reasonably necessary for urban growth.

Discussion:

About 65 acres of the Project Site was used intensively for sugarcane cultivation, but abandoned nearly two years ago. This acreage comprised less than 1% of Hamakua Sugar Company which had over 35,000 acres in sugarcane. The withdrawal of these marginal agricultural lands would not impair potential agricultural uses in the vicinity or in the county. Hamakua Sugar Company had proposed to sell 9,500 acres of land it considered "surplus".²² Therefore, it could be extrapolated that up to 9,500 acres could be withdrawn from agriculture along the Hamakua Coast without affecting the continued viability of agriculture. Moreover, with the impending closure of Hamakua Sugar Company, the need for jobs and diversification of the economy provides reasonable justification for urban reclassification.

22. Hamakua Steering Committee, *Hamakua Regional Plan: From Kaiaka to Waipio*. Endorsed by the County Council, County of Hawaii, by Resolution No. 244-90, November 1990, p. 1.

4.3 COASTAL ZONE MANAGEMENT AND SPECIAL MANAGEMENT AREA

The "coastal zone management area," at one time defined as the Special Management Areas (SMA) delineated by the counties, now includes all land areas in the State.²³ Although the project lies entirely outside the SMA (refer to Figure 40 on page 4-33), and therefore does not require a SMA Permit, the objectives and policies discussed below are binding upon all actions within the coastal zone management area.²⁴

The objectives and policies are as follows:²⁵

Recreational resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

(A)[not applicable]

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

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

(ii)Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;

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

23. *Hawaii Revised Statutes* §205A-1 (Supp. 1992), as amended by Act 91/93. Act 356/89 expanded the definition to include all land areas in the State, excluding the forest reserves. Act 91/93 added the forest reserves.

24. *Hawaii Revised Statutes* §205A-4(b) (Supp. 1992).

25. *Hawaii Revised Statutes* §205A-2 (1985), as amended by Act 258/93.

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

(iv)[not applicable]

(v)[not applicable]

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

(vii)[not applicable]

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

Discussion:

The major coastal recreational resources in the vicinity include Waipio Valley and Kukuihaele Landing. Both resources are outside the project boundaries and will not be directly altered by the project. The project will improve public access to the coastal area. The public was not permitted in the area when it was used for sugarcane cultivation. The project will provide public access along the access road on the western or Waipio Valley boundary of the property leading to the County chlorination station. Public access is also being reopened on the government road extending along the eastern or Honokaa boundary of the property. This road continues on to Hamakua Sugar Company land extending to Kukuihaele Landing. With the project, the public will be able to enjoy the vistas from the site since the hotel will open to the public. The project will not affect the main access road to Kukuihaele Landing near Kona Camp since the road is outside the Project Site. The hotel operator will abide by the recommendations of the Waipio Task Force or other agency/organization to mitigate the impacts of visitor use. Nonpoint source pollution will be controlled during the construction period through compliance with the NPDES permit requirements (see See "Soils and Topography" on page 3-4.).

Historic resources

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

Policies:

(A)Identify and analyze significant archaeological resources;

(B)Maximize information retention through preservation of remains and artifacts or salvage operations; and

(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

Discussion:

An archaeological inventory survey identified four potential archaeological sites within the Project Site. The project will not adversely impact any of these sites (see §3.1.6 "Archaeological/Historical Resources" on page 3-33). The project will restore the Plantation Manager's Estate, a historic site on the State Register of Historic Places, in accordance with the requirements of the State Division of Historic Sites and interpreted for the public and guests to appreciate the plantation history of Kukuiahaele. Interim preservation plans will be implemented for the other three sites within the Project Site.

Scenic and open space resources

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

Policies:

- (A) Identify valued scenic resources in the coastal zone management area;
- (B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
- (C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and
- (D) Encourage those developments which are not coastal dependent to locate in inland areas.

Discussion:

The project is designed to minimize alteration of the natural landforms. The one-story, earth-tone colored buildings would be compatible with the environment. The project will not be visible from Waipio Valley (see the view analysis in §3.1.7 "Scenic Resources" on page 3-39). The project will enable the public to enjoy spectacular views of the coast that were previously not open to the public. Visitor facilities are coastal-related and depend on special locations on the coast. In comparison, agricultural uses are definitely not coastal-dependent nor coastal-related and may even produce better yields further inland away from the salt spray that may drift up the cliff during times of high waves.

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

Coastal ecosystems

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

Policies:

(A)[not applicable]

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

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

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

Discussion:

The project is located an average of about 450' inland from the shoreline and over 450' high above the shoreline on a cliff. Therefore, the project will not directly alter any coastal ecosystem. The nearshore ecosystem is an open coastal ecosystem subject to vigorous wave action; it is more tolerant to land runoff due to its mixing capacities compared to a confined bay or estuary. Despite erosion runoff from the cane roads and exposed harvested sugarcane fields, the nearshore coastal ecosystems showed little stress from sedimentation (see §3.1.3.3 "Coastal Waters" on page 3-19). The project will contain onsite storm runoff within the project boundaries. Subsurface disposal of storm runoff and wastewater leachate will not impact the coastal waters.

Economic uses

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

Policies:

(A) Concentrate coastal dependent development in appropriate areas;

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

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

- (i) Use of presently designated locations is not feasible;
- (ii) Adverse environmental effects are minimized; and
- (iii) The development is important to the State's economy.

Discussion:

The policies distinguish coastal-dependent uses from coastal-related uses. Visitor industry facilities are coastal-related facilities. The proposed project conforms with the policy for coastal-related facilities-- the project has been located, designed, and will be constructed to minimize adverse impacts on the social (see §3.2 "SOCIO-ECONOMIC CHARACTERISTICS" on page -47), visual (see §3.1.7 "Scenic Resources" on page 3-39), and physical environment (see §3.1 "PHYSICAL CHARACTERISTICS" on page 3-2), provided some of the proposed mitigation measures are implemented.

Coastal hazards

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

Policies:

- (A) [not applicable]
- (B) Control development in areas subject to storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;
- (C) Ensure that developments comply with requirements of the Federal Flood Insurance Program;
- (D) Prevent coastal flooding from inland projects; and
- (E) [not applicable]

Discussion:

The Project Site is not known to be subject to the threat of any flooding or tsunami inundation (see §3.1.5.1 "Flooding" on page 3-28). The drainage system will be designed to prevent flooding of downstream properties.

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

Managing development

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

Policies:

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

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

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

Discussion:

The County allows, and the Applicant will request, concurrent processing of the General Plan Amendment, rezoning, and State Land Use District Boundary Amendment petitions to facilitate timely processing (see §4.2 "STATE LAND USE DISTRICTS" on page 4-9). The EIS process is intended to facilitate public participation in the early conceptual plan phase of the project.

Public participation

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

Policies:

(A) [not applicable]

(B) [not applicable]

(C) [not applicable]

Discussion:

The policies are directed to the administrators of the Coastal Zone Management program; therefore, these policies are not applicable to the review of this project.

Beach protection

Objective: Protect beaches for public use and recreation.

Policies:

4.4 COUNTY GENERAL PLAN

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

(B) [not applicable]

(C) [not applicable]

Discussion:

At its closest point, the project is located approximately 300' from the shoreline, substantially beyond the maximum of 40' for the inland boundary of the shoreline setback line established for the purposes of protecting against beach erosion.²⁶

4.4 COUNTY GENERAL PLAN

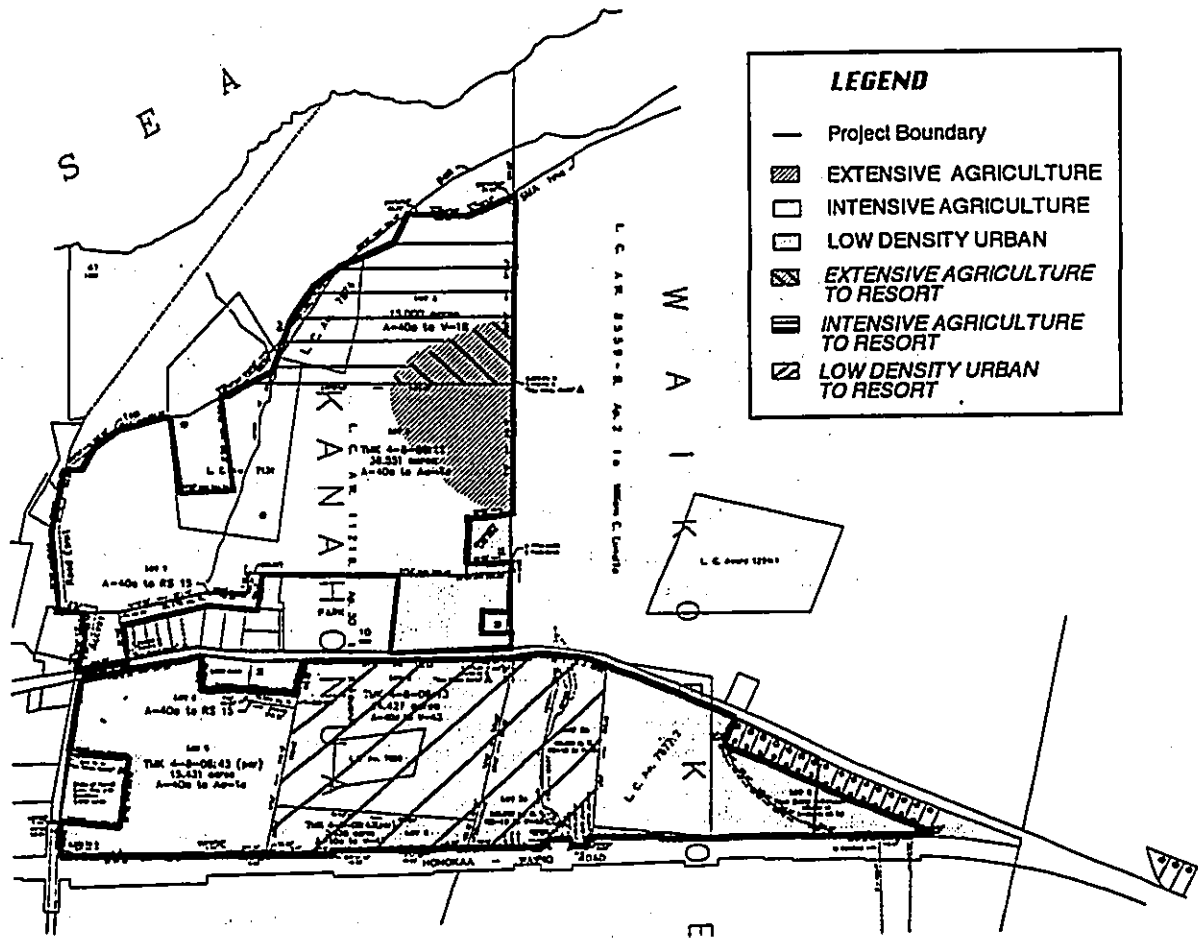
The General Plan Land Use Pattern Allocation Guide (LUPAG) Map designates the portion of the Project Site makai of the Old Route 240 as Intensive and Extensive Agriculture and the portion mauka of the road as Low Density Urban (see Figure 38 on page 4-24). Because the proposed resort uses are not permitted under the present LUPAG designations, the applicant has petitioned for the following General Plan amendments:²⁷

- hotel site (Extensive Agriculture to Resort, approximately 2 acres; Intensive Agriculture to Resort, approximately 13 acres);
- Plantation Inn, residential-resort lots and employee housing (Low Density Urban to Resort, approximately 27 acres).

26. *Hawaii Revised Statutes* §205A-43 (Supp. 1992).

27. Petition for General Plan Amendment, filed July 23, 1993, on behalf of Kukuihaele Development Company; this petition will be amended to reduce the area petitioned for Resort designation from 113 acres (the entire Project Site) to approximately 42 acres (hotel site, Plantation Inn, residential-resort lots and employee housing).

FIGURE 38. County General Plan Land Use Pattern Allocation Guide (LUPAG) Map-- Existing and Proposed



The petition for a General Plan amendment must analyze the consistency of the proposed amendment with the pertinent elements of the General Plan.²⁸ The General Plan sets forth goals, policies, standards, and courses of action for thirteen planning elements: Economic Activities, Energy, Environmental Quality, Flood Control and Drainage, Historic Sites, Natural Beauty, Natural Resources and Shoreline, Housing, Public Facilities, Public Utilities, Recreation, Transportation, and Land Use.

The project conforms with the Environmental Quality goals and policies by situating the project only in areas previously used for the cultivation of sugar cane; the environmentally sensitive cliff area and the gulches will be left in their natural state. Mitigation measures will also be implemented during construction in order to minimize the impact of the dust and noise normally associated with construction activities. The project conforms with the Historic Sites goals and policies by the restoration and enhanced public access to the Plantation Manager's House, and the preparation and implementation of Interim Preservation Plans for the other three sites identified in an archaeological inventory survey conducted for the project. The project conforms with the Natural Beauty goals and policies by the low-scale design of the project that minimizes views of the project from Waipio Valley and also by enhancing public access to enjoy the extraordinary vistas of the Hamakua Coast. The project conforms with the Housing goals and policies by the Applicant's willingness to make a financial contribution to the County for the development of affordable housing, and to construct a limited number of employee housing on the project site. The project conforms with the Public Facilities goals and policies by providing the necessary facilities to serve the project in order to not overburden existing facilities. The project conforms with the Public Utilities goals and policies by providing adequate, efficient, and dependable infrastructure. The project conforms with the Recreation goals and policies by the proposed improvements to Kukuihaele Park and the Social Hall which will increase recreational opportunities for the residents.

The Economic Activities and Land Use goals and policies are discussed in greater detail below.

Economic goals, policies, and standards²⁹

28. County of Hawaii, *General Plan*, Ordinance No. 89-142 (An Ordinance Adopting the County of Hawaii General Plan and Repealing Ordinance No. 439, as amended), §6.B(2)(a)(5) (relating to interim amendments of the General Plan).

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

Goals:

- °Provide residents with opportunities to improve their quality of life.
- °Economic development and improvement shall be in balance with the physical and social environments of the island of Hawaii.
- °The county of Hawaii shall strive for diversity and stability in its economic system.
- °The County shall provide an economic environment which allows new, expanded, or improved economic opportunities that are compatible with the County's natural and social environment.

Policies:

- °The County of Hawaii shall assist the expansion of the agricultural industry, especially diversified agriculture, through the protection of important agricultural lands, capital improvements and other programs, and continued cooperation with appropriate State and Federal agencies.
- °The County of Hawaii shall strive for an economic climate which provides its residents an opportunity for choice of occupation.
- °The County of Hawaii shall encourage the development of a visitor industry which is consistent with the social, physical, and economic goals of the residents of the County.
- °The County of Hawaii shall strive for diversification of its economy by strengthening existing industries and attracting new endeavors.
- °The County shall strive for full employment.

Standards:

- °The island of Hawaii should be developed into a unique scientific and cultural model. The island should become a model of living where economic gains are in balance with social and physical amenities. Development should be reviewed on the basis of total impact on the residents of the County, not only in terms of immediate short run economic benefits.

Economic courses of action for Hamakua³⁰

29. General Plan §4.A

30. General Plan §5.D(1).

*The County shall assist the further development of diversified agriculture in Hamakua and continue to cooperate with other appropriate agencies to provide the necessary services to assist agriculture. For example, the County can protect important agricultural land from urbanization through zoning. Capital improvement programs should be tied into enhancing agricultural areas.

*Although there is potential for limited visitor facilities in this area, the County shall allow development which will not detract from the natural beauty of the area.

Discussion:

The General Plan's economic goals and policies emphasize occupational opportunity and choice for the residents, economic diversification, and balanced development in harmony with the social and physical environment. The proposed project fulfills these economic goals and policies in the following manner: the resort provides a range of occupational opportunities from managerial to maintenance and a choice of non-agricultural jobs for those who desire not to work in the agricultural industry; it provides diversification in a region predominantly in agriculture; and the project design strives to harmonize with the physical and social environment. While encouraging agriculture in the Hamakua region, the General Plan explicitly supports limited visitor facilities in Hamakua.

Land use goals, policies, and standards³¹

Goals:

Agriculture

*Identify, protect and maintain important agriculture lands on the island of Hawaii.

Resort

*Maintain an orderly development of the visitor industry.

*Provide for resort development that maximizes conveniences to its users and optimizes the benefits derived by the residents of the County.

*Ensure that resort developments maintain the social, economic, and physical environments of Hawaii and its people.

Policies:

31. General Plan §4.M.

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

°Incorporate the concept of a "floating zone" for future industrial and retreat resort areas, to allow flexibility in locating future needed developments which cannot be pinpointed at this time, especially in the more rural and/or remote areas.

°The county shall encourage the development and maintenance of communities meeting the needs of its residents in balance with the physical and social environment.

Agriculture

°The compatibility of agricultural and non-agricultural uses should be carefully reviewed and where appropriate, buffers required.

°Rural-style residential-agricultural developments, such as new small-scale rural communities or extensions of existing rural communities, shall be encouraged in appropriate locations.

Resort

°The County shall designate and allocate future resort areas in appropriate proportions and in keeping with the social, economic, and physical environments of the County.

°The county shall encourage the visitor industry to provide resort facilities which offer an educational experience of Hawaii as well as recreational activities.

°The concept of a "floating zone" shall be used to allow for the future development of retreat resort areas.

Standards:

Resort

Major Resort Area (3,000 rooms)

Intermediate Resort Area (1,500 rooms)

Minor Resort (500 rooms)

Retreat Resort Area: A retreat area is generally an area which provides the user with rest, quiet, and isolation for an environmental experience. It shall have sewer, water, roads, employee housing, and recreational facilities, etc.

Maximum hotel and condominium-hotel units: up to 100 rooms to be determined in conjunction with retreat resort area's zoning.

Resort acreage: 15 acres minimum.

Provide active and passive recreation area commensurate with the scale of development.

4.5 HAMAKUA REGIONAL PLAN

The required employee housing ratio and method of provision shall be determined by an analysis of housing needs of each district or relative area and with the adoption of the resort zoning; provided that the ratio shall not exceed one employee unit for every two hotel units built.

Land Use (Resort) courses of action for Hamakua:³²

°Encourage the development of small family-operated hotels.

°Consider the small-scale retreat resort development.

°Encourage resort development which enhances the natural beauty of the area.

Discussion:

The Resort designation is consistent with the General Plan's policies and courses of action supporting a "retreat resort" for the Hamakua district. The General Plan defines a retreat resort as an "area which provides the user with rest, quiet, and isolation for an environmental experience."³³ The proposed project meets the General Plan's standards of less than 100 rooms and minimum of 15 acres for a retreat resort. Appropriate open space or landscape buffers should be provided along the project's boundaries bordering agricultural lands. The proposed agricultural lots will be "rural-style residential-agricultural" developments to the extent permitted under the zoning code. Although the project will remove about 65 acres of abandoned agricultural land from future production, the land is marginal agricultural land, the supply of available land in Hamakua for diversified agriculture substantially exceeds the supply, and the project will provide a market for agricultural products.

4.5 HAMAKUA REGIONAL PLAN

The purpose of the Hamakua Regional Plan-- prepared by the Hamakua Steering Committee consisting of representatives of the State, County, Hamakua Sugar Company, creditors, and labor-- was to provide a long-range planning guide for the

32. General Plan §5.D(8)(f).

33. General Plan §4.M(6).

lands scheduled to be sold by Hamakua Sugar Company and its creditors.³⁴ The lands were to be sold in order to raise sufficient capital to maintain the existence of Hamakua Sugar Company. Since the plan's completion, the Hamakua Sugar Company initiated bankruptcy proceedings. Because the basic premise of the plan was the survival of Hamakua Sugar Company, the bankruptcy action casts a veil of uncertainty on the continued viability of the plan's recommendations. Nevertheless, the plan represents an updated vision of the future development for this region.

The plan classified the Hamakua region into three zones. The Project Site is in Zone 3 stretching from Kukuihaele to Waipio. The plan recommended a retreat resort in the Waipio Mauka area, as well as an intermediate resort (about 500 units) in the Waipio Makai area.³⁵ The proposed project implements the less intensive retreat resort concept in the Waipio Makai area in lieu of the intermediate resort.

The plan recommended the establishment of a Waipio Preservation Buffer "to preserve the cultural and scenic integrity of the rim by preventing development and view plane encroachment from private structures."³⁶ The proposed buffer encompassed approximately 300 acres. The nearest point of the Project Site is approximately one-half mile from the buffer (see Figure 39, "Proposed Waipio Preservation Buffer," on page 4-31).

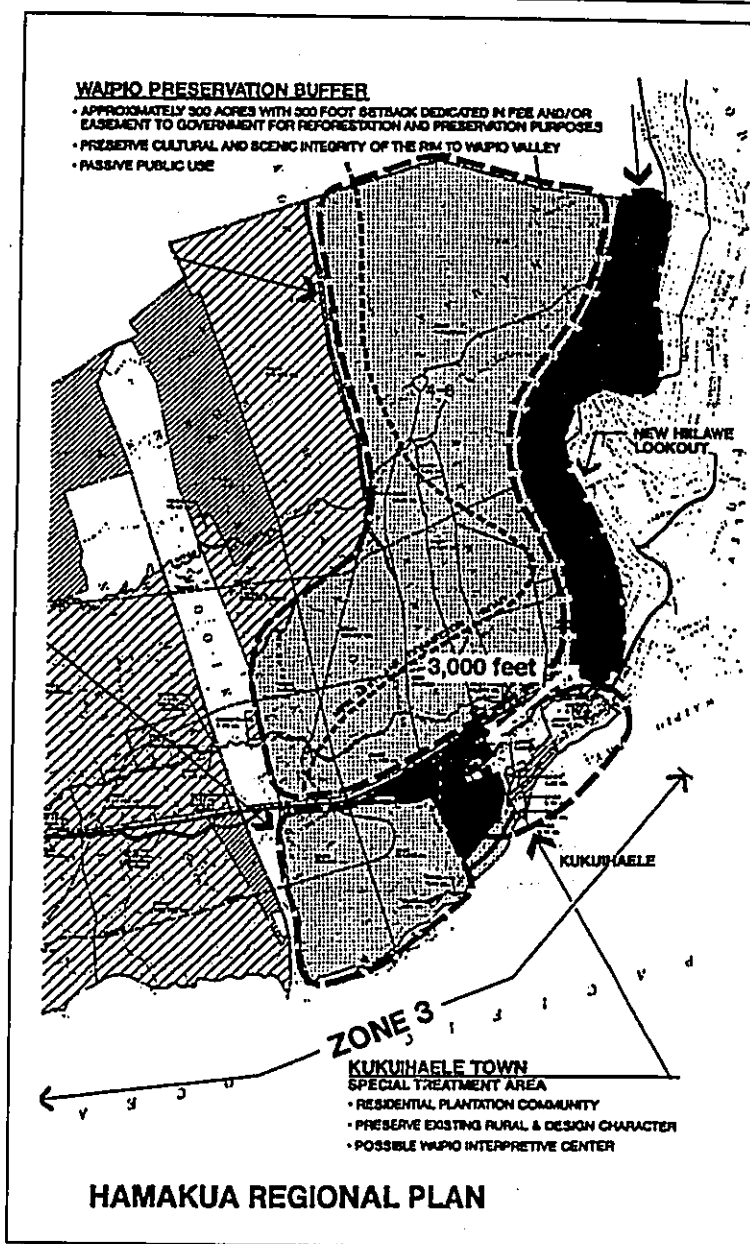
34. Hamakua Steering Committee, *Hamakua Regional Plan: From Kaitaakea to Waipio*. Endorsed by the County Council, County of Hawaii, by Resolution No. 244-90, November 1990.

35. *Ibid.*, pp. 33-35.

36. *Ibid.*, p. 35.

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

FIGURE 39. Proposed Waipio Preservation Buffer



4.6 *NORTHEAST HAWAII COMMUNITY DEVELOPMENT PLAN*

The proposal for a low-scale resort is consistent with a recommendation made fourteen years ago in the *Northeast Hawaii Community Development Plan*:

Hawaii County has a number of successful resort areas, but none are in the Northeast Hawaii Planning Area. The lack of swimming beaches and relatively high rainfall probably account for this. There is, however, no lack of scenic quality so it is possible that some resort development could take place in the area if people so wished and the proper site or sites and developers would be found who would embark on such a venture.³⁷

4.7 *COUNTY ZONING*

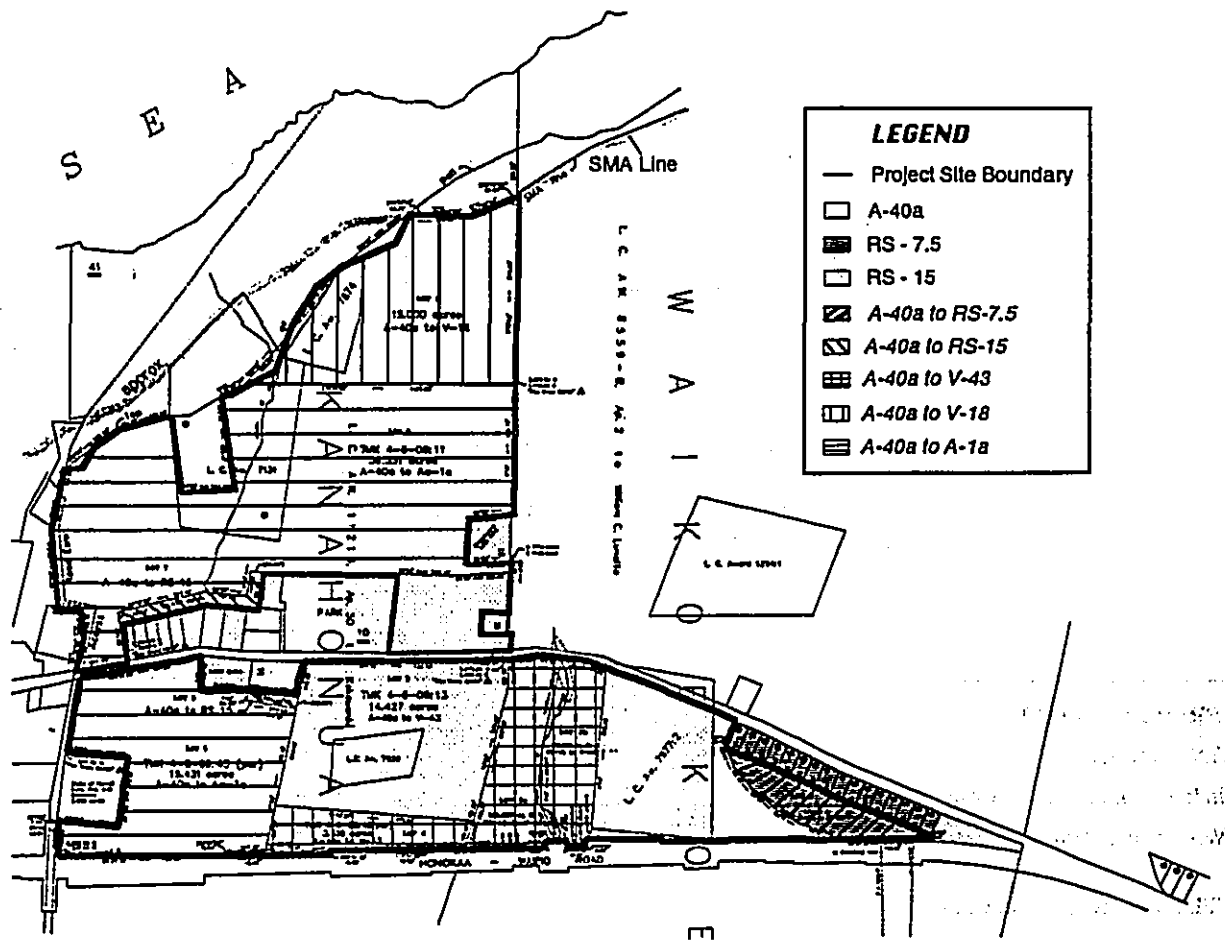
The existing zoning for the Project Site is A-40a, except for the Social Hall lot, the Plantation Manager's House lot, and a corner area on the Honokaa side of Kukuiahaele Park which are all zoned RS-15 (see Figure 40 on page 4-33). The project will require the following zoning amendments:

- hotel site (15.0 acres)-- A-40a to V-18;
- 1-acre agricultural lots (51.982 acres)-- A-40a to A-1a;
- Plantation Manager's House, 1-acre residential-resort lots, employee housing (26.923 acres)-- A-40a and RS-15 to V-43;
- boundary adjustments for Kukuiahaele residents (2.656 ac. + 0.837 ac. + 0.25 ac.)-- A-40a to RS-15 and RS-7.5.

37. EDAW, Inc. and JHK Tanaka, Inc., *Northeast Hawaii Community Development Plan*. Prepared for County of Hawaii, adopted by Ordinance No. 445, effective date June 26, 1979, p. 270.

4.7 COUNTY ZONING

FIGURE 40. County Zoning-- Existing and Proposed



The review criteria for zoning amendments are broad:

RELATIONSHIP TO PLANS, POLICIES, AND CONTROLS

In considering an amendment initiated by a property owner which proposes to change the district classification of any property, the director shall consider the *purposes of the existing and proposed district* and the *purposes of this chapter* and shall recommend a change in a district boundary only where it would *result in a more appropriate land use pattern that will further the public necessity and convenience and the general welfare* (emphasis added).³⁸

The proposed project would further the public necessity and welfare by providing needed jobs in an area with imminent employment problems with the closing of Hamakua Sugar Company.

4.8 OTHER PERMITS AND APPROVALS

Besides the State Land Use District Boundary Amendment, General Plan Amendment, and Rezoning, other applicable permits and approvals include Department of Health approval for the treatment plant and individual wastewater systems, possibly the Underground Injection Control permit for drywells, historic site review for the renovation of the Plantation Manager's Estate and interim preservation plans for the archaeological sites, permit for work within public highways, grading permit, plan approval, subdivision approval, and building permit. Either the applicant or the Department of Water Supply will apply for the well drilling permit and potable source approval should a decision be made to jointly develop a groundwater source to serve the project. Table 15, "List of Necessary Permits and Approvals," below summarizes the permits that may be applicable to the project.

TABLE 15. List of Necessary Permits and Approvals

PERMIT OR APPROVAL	AUTHORITY	APPROVING AGENCY
STATE OF HAWAII		
Underground Injection Control (UIC)	HAR Chap. 11-23	Department of Health
Well drilling Permit	HAR Chap. 13-168	Department of Land and Natural Resources
NPDES for construction activity	HAR Chap. 11-55	Department of Health

³⁸ Hawaii County Code §25-20(a).

4.8 OTHER PERMITS AND APPROVALS

TABLE 15. List of Necessary Permits and Approvals (Continued)

Wastewater systems approval	HAR Chap. 11-62	Department of Health
Potable water source development approval	HAR Chap. 11-20	Department of Health
Historic sites mitigation plan approval	HRS §6E-10	Division of Historic Sites
COUNTY OF HAWAII		
State Land Use District Boundary Amendment (<15 ac.)	HCC Chap. 28	County Council
General Plan Amendment	Ord. No. 89-142; PC Rule 5	County Council
Rezoning	HCC §25-20; PC Rule 11	County Council
Plan Approval	HCC Chap. 25, Article 20	Planning Department
Subdivision Approval	HCC Chap. 23	Planning Department
Grading Permit	HCC Chap. 10	Department of Public Works
Building Permit	HCC Chap. 5	Department of Public Works

HRS= Hawaii Revised Statutes

HAR= Hawaii Administrative Rules

HCC= Hawaii County Code (1987), as amended

PC= Rules of Practice and Procedure, Planning Commission, County of Hawaii

This chapter describes a range of reasonable alternatives to the proposed project. The evaluation of alternatives focuses on the capability of each alternative to reduce significant impacts and to meet the project's basic objectives. An alternative was considered reasonable if it was economically feasible, within the control of the Applicant or decisionmaker to implement, and could be accomplished within an expeditious period of time.

5.1 NO PROJECT

If the project is not approved, the *status quo* would continue for the immediate future. However, economic forces and development rights under existing zoning designations would inevitably engender changes.

Strong economic forces could cause Kukuihaele to grow. On the other hand, a continuation of the present recessionary trend coupled with the closing of Hamakua Sugar Company could cause a gradual attrition of Kukuihaele as current residents and future generations move in response to jobs, similar to what happened to Kukuihaele when the Pacific Sugar Mill closed in the early 1900s, and to Hawi when Kohala Sugar Company closed.

ALTERNATIVES

A potential economic development espoused to revitalize the area is diversified agriculture. The prospects of this alternative is discussed below in §5.3 "DIVERSIFIED AGRICULTURE" on page 5-5.

If Kukuihaele grows, the existing zoning designations would control the density of the ultimate build-out. The existing zoning within the Project Site currently allows a maximum of about 81 15,000 s.f residential and 4 agricultural lots (see Figure 41, "No Project" Alternative: Full Build-Out Under Existing Zoning," on page 5-3). This maximum would be modified by the topographic conditions and land area for infrastructure improvements. Nevertheless, the estimated numbers provide an order of magnitude vision of the worst case scenario under existing zoning. Since the current General Plan designation for the area between the old and the new Highway 240 is Low-Density Urban, conceivably the areas zoned Ag-40a could be approved for rezoning to RS-15. This rezoning would add about another 95 lots for a grand total of about 180 new lots within the Project Site.

The 85 prospective new lots under the existing zoning is comparable with the proposed 85 units, but the units under the existing zoning would be concentrated at higher density in a smaller area. Assuming a household size of 3.15 persons (see §3.2.1 "Population" on page -47), the projected additional population under existing zoning would be approximately 270 persons. For the proposed project, assuming 100% occupancy at 2.0 persons per unit for the 40 hotel units, and a household size of 3.15 persons for the 45 agricultural and residential-resort lots, the projected additional population is approximately 220. Therefore, the population could be greater under the "no project" alternative compared to the proposed project.

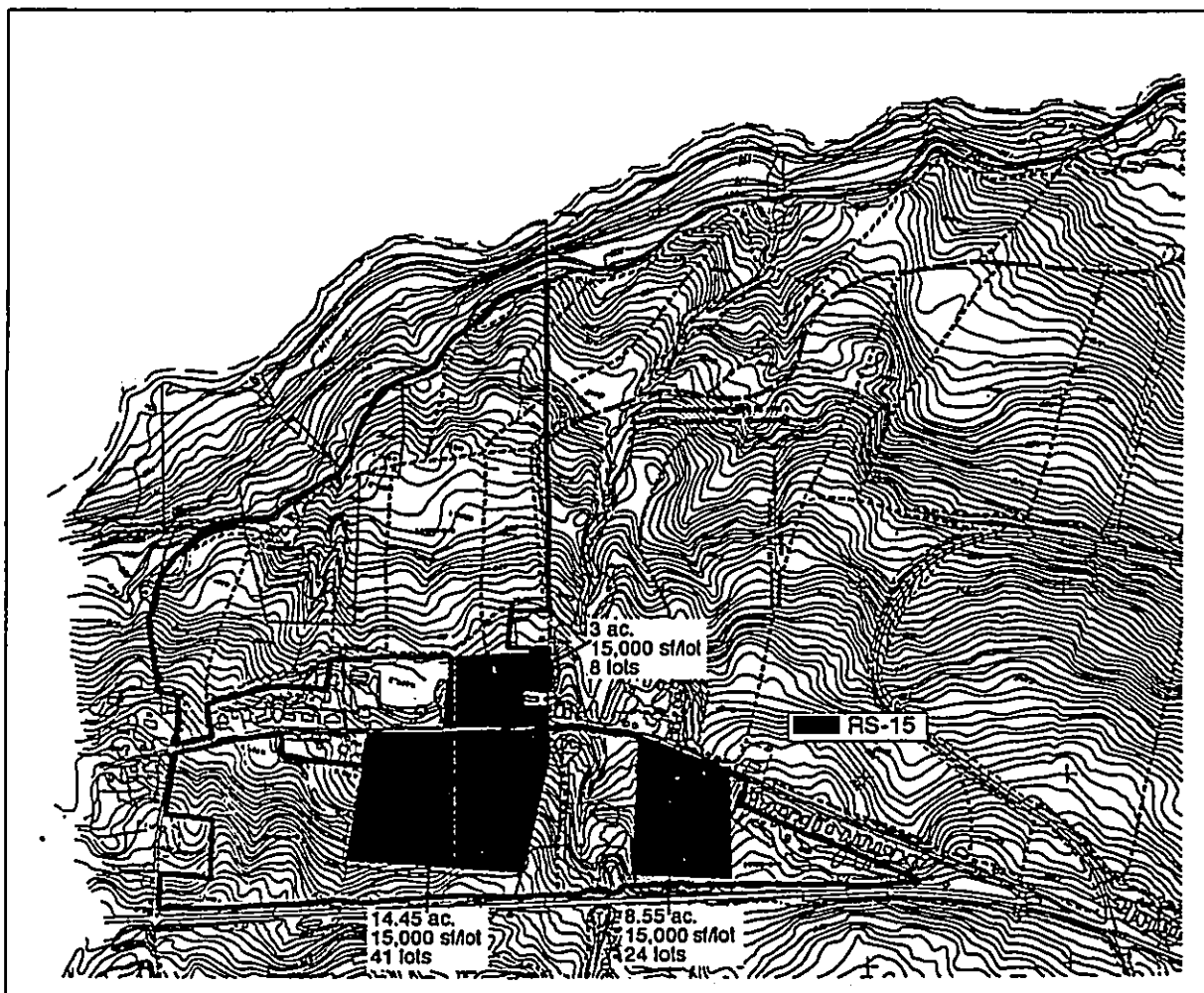
Advantages

The advantages of the "no project" alternative include:

- Continued availability of the existing agricultural lands at A-40a zoning.
- Preservation of the *status quo* at least for the immediate future. Should Kukuihaele shrink in response to economic forces, the quiet ruralness would be enhanced. Should Kukuihaele grow, the permitted zoning would allow a population greater than the proposed project. However, the population characteristics of these newcomers would probably be more similar to the existing population than the visitors that the proposed project would attract.
- No impact from traffic increase attributable to the proposed project; however, there would still be the increased traffic of the Waipio Valley Scenic Lookout visitors.

5.1 NO PROJECT

FIGURE 41. "No Project" Alternative: Full Build-Out Under Existing Zoning



- Assurance that property taxes would not increase as a result of a neighboring resort; however, property taxes could still increase due to inflation or other reasons.

ALTERNATIVES

- No increased numbers of visitors to Waipio Valley attributable to the project; however, the Valley would still be impacted by visitors unrelated to the proposed project.

Disadvantages

- Lost opportunity to create 100 permanent jobs, and additional indirect multiplier jobs.
- Lost opportunity to improve the Social Hall and Kukuihaele Park.
- Lost opportunity to residents benefiting from boundary adjustments (e.g., Tiger Camp) and the expansion of the Roman Catholic Church and County cemeteries.
- Lost opportunity for a subsidy to fund property tax increases by means of a property tax trust fund.
- Potential destruction of the Plantation Manager's Estate since a private owner of a registered historic property need only notify the Division of Historic Sites; if the State does not commence condemnation proceedings within 90 days of notification, the landowner may proceed with demolition.¹
- Lost opportunity for a potential market for diversified agricultural products.
- Lost opportunity for favorable cost/benefit net revenue flow to State and County from taxes paid by the hotel (property, excise, and transient taxes).
- Increased traffic and population from residential build-out under existing zoning.
- Higher density development with the same number of permitted units under the existing zoning compared with the proposed project, resulting in greater potential population increase than the proposed project.

5.2 ALTERNATIVE SITE LOCATIONS

Since the Applicant does not own other sites on the Hamakua Coast, or for that matter anywhere else in the State, this alternative would be feasible and reasonable only if the County or State could expeditiously negotiate a land exchange. Because

1. *Hawaii Revised Statutes* §6E-10(a) (Supp. 1992).

5.3 DIVERSIFIED AGRICULTURE

Western Farm Credit Bank currently owns large acreage in Hamakua and would like to sell, this alternative could become a reasonable alternative if negotiations could be expeditiously concluded (i.e., within 6 months). Based on current conditions, this alternative is rejected for two reasons: 1) the likelihood of finding a site that would be acceptable to the Applicant and the County is highly unlikely and may cause even greater impacts than the proposed location; and 2) even if an acceptable site could be found, the timing to consummate a deal would not be reasonable.

5.3 DIVERSIFIED AGRICULTURE

If the proposed project is not approved, the Applicant will not exercise its option to purchase the Roman Catholic Church's lands. The prospects of another private venture approaching the Roman Catholic Church for diversified agriculture depends on the availability of competing opportunities, the market potential, and the actual demand in terms of farmers interested in starting a diversified agricultural business.

Competing Opportunities. Under separate actions, the State Department of Agriculture (DOA) and the State Department of Land and Natural Resources (DLNR) have proposed to lease a total of 7,075 acres, more or less, to farmers interested in diversified agriculture in the Hamakua area. The DOA's proposal, called the Hamakua Agricultural Park, consists of about 509 acres near Paauilo and envisions ventures for grass-fed "organic" beef, tropical fruits and spices, nursery stock plants, and experimental industrial crops.² DLNR's proposal consists of 88 parcels (6,566.802 acres) along the Hamakua Coast between Kaiaka and Waipio Valley and envisions tree planting, nurseries, and agricultural crops.³ Both proposals have arisen from the bankruptcy of Hamakua Sugar Company-- DOA's land from a bankruptcy settlement agreement to repay outstanding loans, and DLNR's land as

2. State of Hawaii, Department of Agriculture. *Draft Environmental Assessment for Hamakua Agricultural Park, Phase II*, August 1993.

3. State of Hawaii, Department of Land and Natural Resources. *Environmental Assessment for Lease of State Lands for Diversified Agriculture: Hamakua, Island of Hawaii*. July 1993.

ALTERNATIVES

former leased land to Hamakua Sugar Company. The availability of these low-cost lands would undermine the marketability of the lands within the Project Site.

Market Potential. According to DOA's assessment, the amount of acreage required to meet the estimated market potential of diversified agricultural products does not come anywhere near the 43,500 acres along the Hamakua Coast becoming available from the closing of Hamakua Sugar Company and Hilo Coast Processing Company operations (see Table 16, "Market Potential for Diversified Agriculture, Hawaii County," on page 5-7). The existing acreage in diversified agriculture in 1991 for the entire island was 27,000 acres. The estimated additional acreage to meet market potential is 12,000 acres. Assuming the entire additional acreage is in Hamakua, the surplus acreage would be 31,500 acres (43,500 - 12,000 acres).

Demand Based on Expressed Interest to Start a Diversified Agricultural Business. Based on the number of persons who have expressed interest in diversified agricultural ventures, it is not likely that someone would pay the higher lease rent or purchase price to farm the Roman Catholic Church's lands within the Project Site compared to the affordable rents offered by the State in the immediate future. Of the approximately 900 sugar workers in Hawaii County, about one-third (300) expressed interest to continue employment in some form of agriculture in the Hamakua area; only about 20 would like to start their own agricultural business.⁴ An additional 10 to 50 non-plantation workers have expressed interest in forming an agricultural cooperative based in Honokaa to farm up to 200 acres in a variety of crops. This cooperative approached DOA to lease land in the Hamakua Agricultural Park. Given the existing A-40a zoning, the Roman Catholic Church's lots within the Project Site would have to be rezoned and subdivided if prospective farmers desire lots less than 40 acres.

In short, diversified agriculture does not seem to be a viable alternative for the Project Site in light of competing available land, the limited market demand, and the limited extent of interest expressed by the sugar workers to start diversified agricultural businesses.

4. DOA, *ibid.*

5.3 DIVERSIFIED AGRICULTURE

TABLE 16. Market Potential for Diversified Agriculture, Hawaii County

COMMODITY	EXISTING ACREAGE (Hawaii County 1991)	ESTIMATED MARKET POTENTIAL	ESTIMATED ADDITIONAL ACREAGE TO MEET MARKET POTENTIAL
Flowers/Foliage	1,361	3,009	1,648
Guava	515	858	343
Papaya	1,915	2,618	703
Banana	420	894	474
Macadamia Nuts	20,500	29,006	8,506
Tropical Specialty Fruits	210	no data	--
Cacao	no data	no data	0
Dryland Taro	170	530	360
Ginger	250	379	129
	27,332	37,294	12,163

Source: Department of Agriculture, State of Hawaii, Draft Environmental Assessment for Hamakua Agricultural Park, Phase II, August 1993.

*6.1 RELATIONSHIP BETWEEN SHORT-TERM
USES AND MAINTENANCE OF LONG-TERM
PRODUCTIVITY*

The tradeoff between the proposed resort use and the maintenance of long-term agricultural productivity was examined in the previous Chapter on Alternatives. The agricultural land within the Project Site (approximately 65 acres) was formerly used for sugarcane; it has been abandoned and remains fallow to this day. The prospects of diversified agricultural use of the Project Site seems improbable in light of the extensive low-rent State land soon to be offered for lease within the Hamakua district (see §5.3 "DIVERSIFIED AGRICULTURE" on page 5-5). The soils within the Project Site are rated as marginally suited for agriculture (Land Study Bureau Class C); better quality agricultural land exists in other areas along the Hamakua Coast. The proposed resort use may in fact enhance the long term agricultural productivity of the remaining agricultural lands by providing a market for diversified agricultural products. The economic benefits generated by the resort (e.g., jobs, market for agricultural products) offset the marginal agricultural productivity of the portion of the Project Site formerly used for agriculture (i.e., 58% of Project Site formerly used for agriculture).

**6.2 IRREVERSIBLE AND IRRETRIEVABLE
COMMITMENT OF RESOURCES**

The proposed project will irreversibly commit marginal agricultural resources to resort use. Other sensitive resources within the vicinity of the Project Site will not be impacted. There are no endangered species and no wetlands. There will be no degradation of stream, groundwater, or coastal water quality. A registered historic site will be preserved and rehabilitated; other archaeological sites located within the gulches will not be impacted. The viewplanes from Waipio Valley will be preserved; the one-story structures will not be visible from Waipio Valley or the Scenic Lookout.

6.3 UNAVOIDABLE ADVERSE IMPACTS

The only potential unavoidable adverse impact is the change in Kukuihaele's rural character. However, this change could happen even without the project since the existing zoning designations could result in a greater population impact than the proposed project (see §5.1 "NO PROJECT" on page 5-1). There would be significant unavoidable adverse impacts that could occur without the project, such as the demolition of the Social Hall and the Plantation Manager's House. The proposed project would minimize adverse impacts by preserving the Plantation Manager's Estate and Social Hall, reducing density to 1-acre agricultural lots, and confining the resort to the 15-acre portion for the hotel with a significant buffer between the resort and the town.

UNRESOLVED ISSUES

The Developer's Letter of Commitment (see Appendix H) resolved many issues. There are a few issues remaining:

- **Offsite infrastructure**

Road-- The Applicant, community, County, and State Department of Transportation need to agree on the access road and extent of improvements.

Water-- The Applicant and Department of Water Supply need to agree on a feasible water supply option.

Electrical/Telephone-- The Applicant needs to determine its power requirements in greater detail, negotiate with HELCO on the extent of improvements, and decide whether to use HELCO's system or investigate alternative energy sources.

Civil Defense-- The Applicant and County must determine the need and location of a civil defense warning siren.

The above infrastructure issues will need to be resolved prior to decisionmaking on the various permits.

- **Access easement.** Although the Applicant acknowledges the access easement rights of the landlocked 2.119-acre lot surrounded by the Project Site, the specific nature and location of the easement through the Project Site has not been determined. The land burdened by the easement is currently owned by the

Roman Catholic Church and leased to the Applicant. The Applicant will resolve this access issue with the owner of the 2.119-acre lot when the Applicant obtains legal title from the Roman Catholic Church. Any changes to the site plan, if necessary, to accommodate the easement will not be significant.

- **Soil stability.** The extent of setback from the cliff edge and/or appropriate structural mitigation measures need to be determined on the basis of a soils engineering study. The study would be conducted only upon securing the various land use approvals. The setback and/or structural mitigation measures would be checked at Plan Approval.
- **Affordable housing in-lieu fee.** The amount of the fee would need to be resolved during the rezoning process.

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PERSONS CONSULTED*

8.1 Preparers of the EIS Document

Roy R. Takemoto, M.A., J.D.	Land Use Planner & Attorney; overall coordination and production.
Imata & Associates, Inc. (Ray Nakamura, P.E.)	Preliminary Engineering Report
GeoMetrician Associates (Ron Terry, Ph.D.)	Socioeconomic analysis
Y.K. Hahn & Associates (Youngki Hahn, Ph.D.)	Fiscal impact analysis
Waimea Water Services (Stephen Bowles, John Stubbart)	Hydrogeologic analysis; water system alternatives
Julian Ng., Inc. (Julian Ng, P.E.)	Traffic impact analysis report
Rana Productions (Reginald David)	Avifauna analysis
Paul H. Rosendahl, Inc. (Leta Franklin, M.A., Kapa Maly, James Head, B.A.)	Archaeological inventory survey

8.2 Consulted Parties

8.2 Consulted Parties

The consulted parties are listed in Appendix I.

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APPENDIX A

PRELIMINARY ENGINEERING REPORT

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PRELIMINARY ENGINEERING REPORT

FOR

AMANRESORT

Kukuihaele, Hamakua District, Hawaii

Prepared for:

Kukuihaele Development Company

Prepared by:

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171 Kapiolani Street
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September 25, 1993

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- 4. Typical Roadway Section

1 INTRODUCTION

1.1 Purpose of the Report

The purpose of this Preliminary Engineering Report is to evaluate the sitework and infrastructure required to support the proposed project and is based on State and County standards and guidelines. A construction cost estimate provided for the elements of work included in this report is given in current 1993 dollars.

1.2 Project Description

The approximately 113-acre project site is comprised of six parcels as shown on Tax Map Keys: 3rd Division 4-8-6: 3, 13, 43, 44, por. 9 & 11 located in Kukuhaele, Hamakua, island and county of Hawaii (see Fig. 1). Three components comprise the project: 1) *Amanahideaway*, a 36-unit luxury resort located at the cliff edge with a view of the ocean coast and Waipio Valley; 2) *Plantation Inn*, a 4-suite inn in the existing 85-year old Plantation Manager's Estate; and 3) *1-acre lots*, 45 fee simple residential-agricultural (38) and residential-resort (7) lots in clusters at various locations (see Fig. 2).

1.3 Description of Project Site

The existing ground slopes at an average of 10% in the northeasterly direction with elevations ranging from 850 feet to 450 feet mean sea level.

Existing onsite soils are predominantly of the Paauhau series (PaC on slopes of 6 to 12%, PaE on slopes of 12 to 20%, and PaE on a small portion of steeper slope soils in the gullies) (see Fig. 3). A small portion in the mauka area of the site is of the Kukaiau series (KuD). Both series consist of well-drained silty clay loams formed in volcanic ash. In a representative profile, the surface layer of Paauhau soil is very dark grayish-brown silty clay loam about 10 inches thick and is strongly acid. The subsoil is dark-brown silty clay loam about 34 inches thick and is medium to slightly acid. The substratum is weathered basic igneous rock. The depth to bedrock ranges from 36 inches to 60 inches. The surface layer of Kukaiau soil is more acidic.

In their natural state, both soils are always moist. When dried, the surface layer has moderate shrinkage but low swelling potential. If allowed to dry, both soils dehydrate to fine sand-size aggregates. In the more level areas (6 to 12%), permeability is moderately rapid, runoff is medium, and the erosion hazard is moderate. In the steeper areas (12 to 20%), permeability is moderately rapid, runoff is medium, and erosion hazard is moderate. These soils are poorly suited for roadfill, and they have low bearing capacity for low buildings. The degree of limitation for septic tank filter fields is slight to severe, depending on the slope.

2 ROADWAY SYSTEM

2.1 Existing Conditions

Access to the site from the Hawaii Belt Road (State Highway 19) is along the Honokaa-Kukuhaele Road (County Highway 240), through Honokaa town toward the Waipio Valley lookout. The existing pavement width of Highway 240 is 20', with 2' in 4' shoulders.

2.2 Proposed Improvements

2.2.1 Onsite Improvements

A private internal roadway system will be developed to provide circulation within the project limits, with provisions made to accommodate pedestrian traffic, if required.

2.2.2 Offsite Improvements

The project will access from a new road connecting to Highway 240 and passing near the Plantation Inn. Based on the relatively low volumes projected for Highway 240 and the proposed project, intersection improvements could include a "T" intersection with short deceleration and acceleration lanes designed in accordance with the posted speed limit of that section of Highway 240.

2.3 Estimated Road Improvement Costs

The estimated cost for construction of 12,200 linear feet of private, non-dedicated internal roadways is approximately \$2,750,000 (\$225/ft assuming 20' pavement width with 4" aggregate base course and 12" subbase). Intersection improvements to the Highway 240 and to the intersection with the Old Route 240 is estimated to be \$450,000.

3 WASTEWATER SYSTEM

3.1 Existing Conditions

There is no county wastewater system in the region. Wastewater disposal is predominantly by cesspools.

3.2 Proposed Improvements

Under current Department of Health wastewater regulations, cesspools are permitted for developments of less than 50 units. Therefore, cesspools may be permitted for the 45 1-acre lots. If required by the Department of Health, individual wastewater systems will be provided.

The 4-suite Plantation Inn is currently served by a cesspool(s). Depending on final plans for this facility, the cesspool(s) may need to be upgraded to a septic system to accommodate the proposed improvements.

For the 36-unit Amanahideaway hotel, disposal would be through an individual wastewater system, depending on the availability and suitability of soils for a leaching field. An alternative would be a private wastewater treatment plant designed and operated in accordance with the rules of the Department of Health. Reclamation of wastewater for irrigation purposes may also be considered. The estimated wastewater flow at 600 gpd/unit is about 21,600 gpd.

3.3 Estimated Wastewater System Costs

The estimated cost for an individual septic system consisting of a septic tank and leaching field for each villa is about \$7,000. For Amanahideaway hotel, the estimated cost for an individual wastewater

system is \$75,000, and the estimated cost for a package treatment plant is \$100,000.

4 DRAINAGE SYSTEM

4.1 Existing Conditions

There is no existing drainage system in the area. Stormwater runoff is conveyed by overland sheet flow toward Waikoko Gulch and other unnamed gulches that traverse the area.

As shown on the current Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency, the project site is located in Zone X, areas outside the 500 year flood plain. The County Department of Public Works, however, has reported drainage problems at Waikoko Gulch bridge which was washed out by a major storm in 1992.

4.2 Proposed Improvements

The increase in runoff generated by this development will be directed by swales for collection in grated inlets and conveyance by reinforced concrete pipes (RCP) for disposal in drywells placed throughout the site. Existing offsite runoff will be intercepted by a cutoff ditch at the upper limits of the project and conveyed around the development to return to its natural course at the lower limits of the project. Velocity dissipators will be constructed as required.

In accordance with recent Department of Health requirements, a National Pollutant Discharge Elimination System (NPDES) permit will be required for construction of this project. Best management practices will be employed to control erosion and sedimentation during construction to prevent discharge of silt and sediment into downstream waterways.

4.3 Estimated Drainage Improvement Costs

Drainage improvements are estimated \$700,000.

5 ELECTRICAL/TELEPHONE

5.1 Existing Conditions

The existing electrical distribution system originates at HELCO's Honokaa Substation and extends approximately 7 miles along existing public thoroughfares to the proposed project site. However, the existing system does not have sufficient capacity to support the proposed load of 3.5 MW. In addition, the GTE Hawaiian Telephone system also does not have sufficient capacity to service the proposed project.

5.2 Proposed Improvements

5.2.1 Onsite Improvements

Use of an overhead or underground onsite electrical distribution system will be determined during the design development stage of the project. An overhead system will cost approximately \$15 to \$20 per linear foot. An underground system will cost approximately \$250 to \$450 per linear foot.

5.2.2 Offsite Improvements

In order to provide electrical service for the project, two alternatives may be considered:

- a. Extend a 69 KV transmission line from Hawaii Belt Highway and construct a distribution substation at or near the project site to serve the project's immediate needs as well as allow for future expansion.
- b. Reconstruct the existing distribution lines to increase the current carrying capacity from the existing Honokaa Substation to the project site.

5.3 Estimated Electrical/Telephone Costs

The offsite cost for construction of a new substation with 69 KV line is estimated to be \$2.15 million. The cost for reconstruction of existing distribution lines from Honokaa Substation is estimated at \$700,000. Proportionate allocation of these costs or rebate to the project's developer will be negotiated with HELCO.

6 SOLID WASTE

The solid waste system for the County of Hawaii consists of landfills located in Hilo and Puuanahulu, supported by transfer stations strategically located at various communities throughout the island. The Honokaa Transfer Station is the closest County solid waste disposal facility to the Project Site. The County appropriated money in its 1990 budget to construct a transfer station in Kukuihaele.

The Honokaa Transfer Station has a single loading chute. The chute empties into a compaction trailer with a volume capacity of 70 cubic yards (approximately 18 net tons at full capacity). The trailers are hauled on a scheduled basis and are not necessarily full when hauled (approximately 10-12 tons).

The project will generate about 830 pounds of solid waste per day based on the County's standard of 4.9 pounds per capita per day for 85 units assuming 100% double occupancy. Assuming that Honokaa's trailer is hauled daily, the solid waste generated by the project would represent 2% of the total capacity (18 tons) of the transfer station, or up to 4% of the actual hauling volume (10 tons).

7 SUMMARY OF SITEWORK COSTS

Private Non-Dedicable Roadway	\$2,750,000.00
Intersection Improvements	450,000.00
Septic System-- 1-acre lots	315,000.00
Septic System-- Hotel	75,000.00
Sewage Treatment Plant (Alternate)	100,000.00
Drainage Improvements (Private Roadways)	700,000.00
New Substation & Distribution Lines	2,150,000.00
New Distribution Lines Only (Alternate)	700,000.00
Sitework for hotel (15 acres)	2,250,000.00

REFERENCES

Soil Survey of the Island of Hawaii, State of Hawaii, U.S. Department of Agriculture, Soil Conservation Service, 1973.

Storm Drainage Standards, Department of Public Works, County of Hawaii, October 1970.

Flood Insurance Rate Map, Community Panel No. 155166 0200C and 0225 c (Inset B), Federal Emergency Management Agency, September 16, 1968.

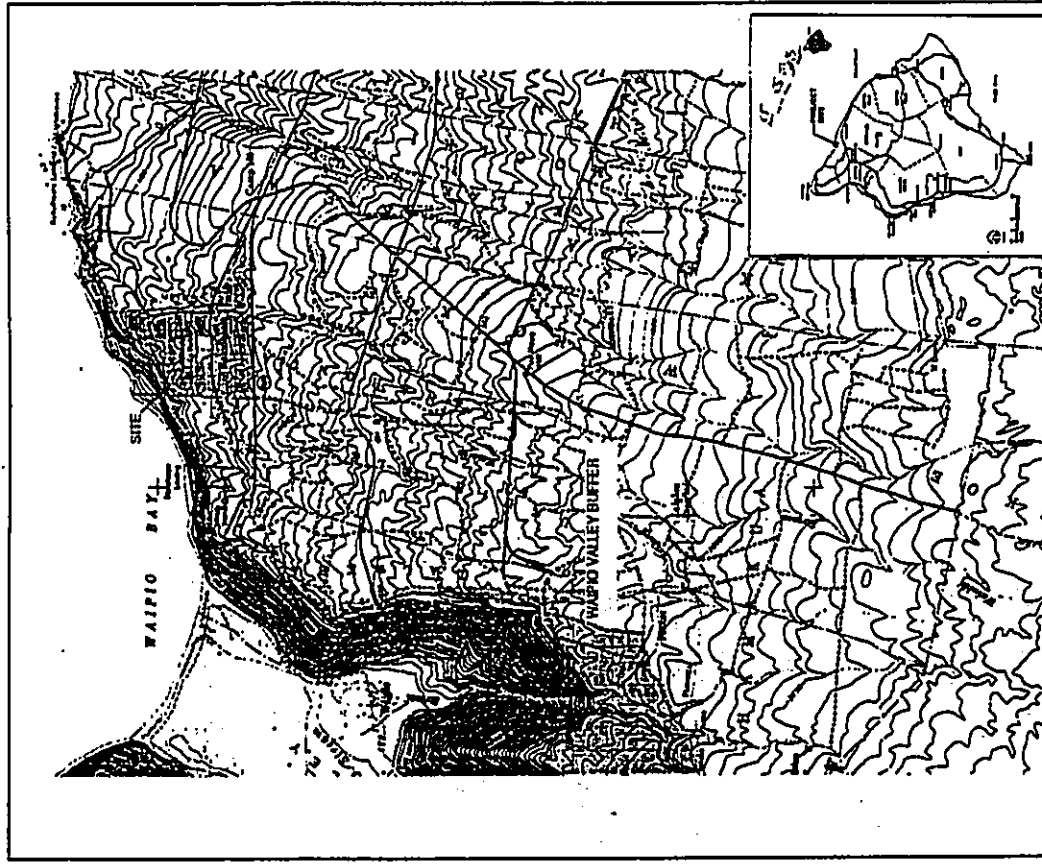
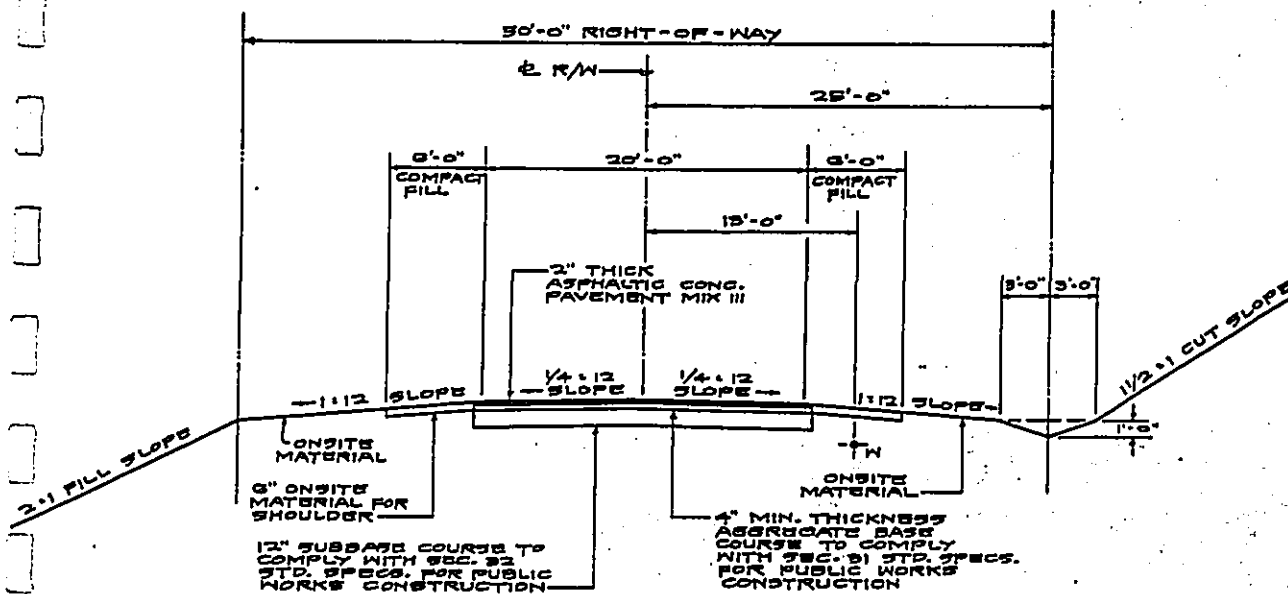


Figure 1. LOCATION MAP
Aman Resort
Kukuihaele, Hamakua District, Hawaii



TYPICAL 50'-0" ROADWAY SECTION

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

APPENDIX B

**ORNITHOLOGICAL AND MAMMALIAN SURVEY
OF THE PROPOSED AMANRESORT**

REPORT:

ORNITHOLOGICAL AND MAMMALIAN SURVEY OF THE
PROPOSED AMANRESORT DEVELOPMENT SITE AT
KUKUIHAELE, HAMAKUA DISTRICT, ISLAND OF
HAWAII.

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basis for the past ninety years.

INTRODUCTION

This report summarizes the findings of a two day ornithological and mammalian survey conducted on September 18, and September 23, 1993, on the Kukuihaele Development Company property located in Kukuihaele in the Hamakua District, on the Island of Hawaii, U.S.A. (see Fig. 1) The purpose of the survey was to: (1) document what bird and mammal species occur on the site, or are likely to occur given the type of habitat available; (2) provide some baseline data on the relative abundance of the species found; (3) determine the presence of any native species, particularly any that are listed as threatened or endangered by either the federal or state government and finally (4) address the importance of the habitat to the endangered Hawaiian Hawk or 'Io (*Buteo solitarius*).

GENERAL SITE DESCRIPTION

The project site encompasses approximately 113 acres in Kukuihaele, Hamakua District, Island and County of Hawaii. The center of the project site is approximately 20° 07' 29"N; 155° 34' 30" E (Fig. 1). The property runs north from highway 240 at an elevation of 600 feet down to the top of ocean cliffs at 600 feet elevation. The bulk of the site is made up of abandoned / fallow sugar cane fields interspersed with small ravines which are primarily vegetated with introduced trees and shrubs. The predominant plants in the fields are sugar cane (*Saccharum officinarum*) and various grasses such as California grass (*Brachiaria nutka*) and woods generally associated with agricultural lands. The ravines and field borders are dominated by introduced trees such as ironwood (*Casuarina glauca*) and Java plum (*Syzygium cumini*) and shrubs such as Christmas berry (*Schinus terebinthifolius*) and guava varieties (*Psidium sp.*). The only real changes to the vegetation since Char's 1991 survey is that most of the sugar cane fields are now either lying fallow or are in fact abandoned. For a detailed discussion of the vegetation found on the site, see (Char 1991).

Weather during the survey was predominately cloudy with intermittent light rain showers.

4

SUMMARY OF A BIRD AND MAMMAL SURVEY OF KUKUIHAELE, HAWAII

A bird and mammal survey of this property was conducted September 18 & September 23, 1993. The purpose of this survey was to: Document what bird and mammal species occur on the property, or might be expected to occur given the type of habitat available; provide some baseline data on the relative abundance of the species found and determine the presence of any native species, particularly any that are threatened or endangered.

Mammals were found either by sight or by looking for their tracks and other signs. No trapping study was done.

A total of sixteen bird species were found. Of these eleven are not native to Hawaii, having been introduced by man; one the Hawaiian Hawk is endemic (native and unique) to the island of Hawaii and two are indigenous seabirds (native) to the State of Hawaii, but also found elsewhere.

Although Hawaiian Hawk were detected flying over the site, there is nothing unique about the site, and it can not be considered critical to the survival of the Hawaiian Hawk. The birds and mammals found during this survey are the ones that one would expect to find in habitat of this nature in the Hamakua District of the island of Hawaii.

A total of four species of feral mammals were found during the course of the survey. All of these mammal species are not native to Hawaii and were introduced by man. An effort was made to find Hawaiian hoary bats and Hawaiian Owls, neither were found.

Development of this property should not greatly alter the bird populations of this area. Migrant usage will in all probability increase.

Recommendations

1. The most biologically interesting part of this property is the northern cliff face and the boulder beach and strand vegetation below them. Neither areas are slated for development in the plans that I have seen.

Recommendation:

A). The combination of native plant communities located on the cliff sides and the strand vegetation below them represent fragile native ecosystems. The cliff faces also afford indigenous seabirds such as the White-tailed Tropicbird with nest sites. The rich shoreline provides foraging areas for endangered Green Turtles. These areas should be preserved as they represent important native biological resources; furthermore, they have potential as an educational resource.

B). Due in part to the presence of endangered Green Turtles along the coastline immediately below the site it is imperative that an effort be made to control soil run-off during the course of construction. Realistically this threat may be less real than perceived. Sugar has been harvested from these same lands for most of this century, and it is hard to conceive that the development proposed will create more of a biological disturbance than has been perpetrated on an ongoing

3

PREVIOUS SURVEYS

The first systematic surveys of the avifauna of Hawaii were not undertaken until 1976. Starting in that year and continuing until 1983 the U. S. Fish and Wildlife Service (USFWS) conducted a state wide survey of the avifauna of Hawaii (Scott et al. 1986). During the course of the Hawaii Forest Bird Surveys (HFBS) a total of 27 transects were surveyed in the Hamakua and Kohala regions of the island of Hawaii (Fig. 2). Due to the fact that the bulk of the lands in the Kukuiahaele area had been under intensive sugar cane cultivation for more than 75 years with the attendant loss of native vegetation, no transect was placed even close to the subject property (Fig. 2). Bruner surveyed this site in the course of a larger less intensive survey in 1991 (Bruner 1991).

STUDY METHODS

Eight-minute unlimited distance circular plot counts (Reynolds et al. 1980) were made at each of 17 stations located throughout the site. Field observations were made with the aid of Leitz 10 X 40 binoculars and by listening for vocalizations. Counts were concentrated during the early morning hours (generally between 0700 hrs and 1100 hrs), the peak bird activity time. Two separate crepuscular counts were made in an attempt to locate Hawaiian Hoary Bats (*Lasiurus cinereus semotus*). These counts are the basis for the relative abundance estimates in this report (see Table 1 & 2). Time not spent counting was used to "prospect" for species not recorded during the counts. Forays were made into all pockets of vegetation within the site in an attempt to locate any missed species. In addition James Jacobi and Jack Jeffrey, both avian biologists with the U. S. Fish and Wildlife Service (USFWS), were contacted for additional information on the avifauna and mammalian species of the surrounding area. Also contacted was Grant Gerrish of the University of Hawaii - Hilo campus for information on the history of the sugar cane industry in this region. Observations of feral mammals were limited to visual and auditory detection, as well as observation of scat, tracks and road kills. No trapping study was conducted to obtain data on their relative abundance.

Avian phylogenetic order used in this report follows Checklist of the Birds of Hawaii - 1992 (Pyle, 1992); scientific nomenclature follows The AOU Checklist of North American Birds (AOU 1983) and the 35th through the 37th Supplements to The AOU Checklist (AOU 1985,

1987, 1989, 1991). Identification and range information references Hawaii's Birds (Hawaii Audubon Society 1993), as well as A Field Guide to the Birds of Hawaii and the Tropical Pacific (Pratt et al. 1987). Mammal scientific names follow Mammal Species of the World (Mittermeier et al. 1982), and plant names follow Manual of the Flowering Plants of Hawaii (Wagner et al. 1990).

RESULTS

A total of 16 bird species representing 13 separate families were detected during the course of this survey. All of these species were counted on station counts (see Table 1 & 2). No other avian species were detected on the site. Of the 16 species detected, 11 are introduced (alien), 1 is a domestic species, 2 are indigenous (native) seabirds, one is an indigenous (native) migratory species and one is endemic to the island of Hawaii (native and unique to the area). The one endemic species detected is currently listed as an endangered species by the USFWS (USFWS 1989).

SPECIES ACCOUNTS

In the following species accounts I briefly discuss the natural history and origin of each species. The federally listed species are addressed first, then the indigenous ones, and finally the remainder are addressed in taxonomic order.

FEDERALLY LISTED SPECIES

Hawaiian Hawk : *Buteo solitarius* '10

The Hawaiian Hawk is the only extant falconiform in Hawaii. It is currently endemic to the Island of Hawaii, sub-fossil remains indicate that it was also formerly found on Molokai (Olsen & James 1982). The Hawaiian Hawk was first listed as endangered in 1967 (USFWS 1992). This species has probably adapted better than any other endemic avian species to the alien dominated lowland areas of the island. Hawaiian Hawks occupy a wide variety of habitats, they are to be found in almost all habitats not lacking trees (Fig. 3). They are all but absent from treeless or close to treeless grasslands and lava fields. During the course of the HFBS no population estimate was made, due in part to the fact that as with most raptors Hawaiian Hawks do not meet the basic assumptions that are used in computing forest bird community densities

(Scott et al. 1986). In 1984 Griffin estimated a population of some where between 1400-2500 birds (Griffin 1984). At the recent Hawaiian Forest Birds Conservation Assessment and Management Plan Workshop the same figures were used in discussing the status of this species (Ellis-Joseph et al. 1993). It is generally thought that the population is healthy and maintaining itself, unlike many other endemic species. This species is currently under review by the USFWS for down listing from endangered to threatened status (USFWS 1993). A total of 2 detections of this federally listed endangered species were recorded. Traditionally the Hamakua area has had one of the denser populations of Hawaiian Hawks on the island (Berger 1981, Gillin pers. comm.).

INDIGENOUS SEABIRDS

Two species of indigenous (native) nesting seabirds were detected. Two White-tailed Tropicbirds (*Phaethon lepturus dorothaeae*) were seen flying along the shoreline on the north boundary of the site. This species nests along the Hamakua coast in the cliff faces. A lone Great Frigatebird (*Fregatta minor palmarstoni*) was seen soaring over the open fields to the east of the site. This pelagic species is not known to nest on the island of Hawaii, although it nests on many offshore islets, Oahu, Kauai and the leeward islands. They are not uncommon visitors to this island, most often seen immediately prior to or following high winds or low pressure systems.

INDIGENOUS MIGRATORY SPECIES

Migratory waterbirds and shorebirds make up a large part of the winter avian population of Hawaii. These annual visitors are found throughout the island from August through May. Currently 81 separate migratory and extralimital waterbird and shorebird species have been documented from the islands (Pyle 1992). It can be expected that during migration season, several of these species utilize the proposed site. Only one indigenous (native) migratory bird species was detected during this survey. It is to be expected that several other species utilize the site at times. The most likely species being Ruddy Turnstone (*Arenaria interpres*) and Wandering Tattler (*Heteroscelus incanus*).

Pacific Golden Plover: *Pluvialis fulva*

Kokoa

The most common of the migratory shorebirds that visit Hawaii each year. Pacific Golden Plover usually start arriving from their arctic breeding grounds in August. They spend the winter here and on other islands in the Pacific. Many defend wintering grounds and are site retentive, this meaning that they return to the same territory every year. They leave to head back to their arctic breeding grounds in late April and early May. Some individuals overwinter in Hawaii. A total of 7 detections of this species were recorded.

INTRODUCED BIRDS

During the last hundred years more than a 160 species of alien birds have been introduced to the Hawaiian Islands (Long 1981, HAS 1993). Many of these species were game birds introduced by private landowners, the Territorial Division of Fish and Game, and following statehood, by the State of Hawaii's Division of Land and Natural Resources. These birds were introduced in the hope that they would become established and provide a recreational hunting resource. Less than a quarter of these introductions have been successful. On the island of Hawaii more than 60 species of game birds have been introduced. Currently 14 of these alien introductions have survived and are considered to be established on the island (Pyle 1992, David in press).

Little is known of the effect that these species have on Hawaii's native bird populations. They are, by and large, aggressive birds that are native to areas that have many predators. Many of these alien birds probably out compete Hawaii's native species, for food, cover and nesting resources. They have been implicated in the spread of alien plant species, which all to often have proven to have a deleterious effect on our ecosystems. Some are thought to be reservoirs for diseases, some of which probably can and do negatively impact Hawaii's endemic avifauna. Systematic scientific studies of these problems have commenced, but are all nascent.

The bulk of the avian species detected on the site were all introduced to Hawaii by man, and have managed to sustain viable wild populations. A total of 10 species of introduced (Alien) bird species were detected on the site.

Ring-necked Pheasant: *Phasianus colchicus*

The Ring-necked Pheasant is native to Asia Minor from the Black Sea to Manchuria and Japan.

south to China and north to the Hindu Kush (Delacour 1965). At least five races of this widely introduced species have been released in the Hawaiian Islands starting with the Mongolian race *P. c. mongolicus* in 1865. The Chinese Pheasant *P. c. torquatus* in 1875 and the Green Pheasant *P. c. versicolor* sometime before 1900 (Caum 1933, Walker 1967). Both *P. c. colchicus* and *P. c. tenebrosus* and *P. c. versicolor* were introduced to Pu'u Wa'awa'a Ranch between 1957 and 1966 (Lewin 1971). Although in some areas on the island of Hawaii one can still find relatively pure *P. c. versicolor* and *P. c. colchicus* the majority of Ring-necked Pheasants found here are crosses of one combination or another.

Ring-necked Pheasant are commonly found on cultivated lands, pastureland and also in some of the uncultivated grasslands around the state. They feed on a combination of seeds, grasses, berries and insects. In Hawaii they breed from March through June. They are polygamous and lay clutches of between six and eleven eggs, somewhat lower than the norm elsewhere (Terres 1980, Long 1981).

A total of 2 individuals of this species were detected during the course of this survey.

Rock Doves: *Columba livia*

The Rock Dove was native to the coastlines of England, southern Europe the Mediterranean, and north Africa east to the Indian sub-continent (Sibley and Munroe Jr. 1990). Widely domesticated and even more widely introduced this species has interbred so extensively with domestic stock that it is difficult, if not impossible, to reconstruct its original range (Terres 1980). Rock Doves were one of the first avian introductions to the Islands they probably escaped from captivity in 1796 (Walker 1967). It's current population is much reduced from the immense flocks reported from the Island of Hawaii in 1891 (Munro 1960).

Rock Doves breed year round and may do so as many as five times a year. They feed on seeds, grasses, worms, insects and berries. They usually lay two eggs in a flimsily constructed nest made of small twigs that are usually placed on ledges and in caves as well as in buildings and under bridges. On Hawaii they breed in many of the valleys of the North Kona Coast and probably also in abandoned buildings etc.

Only two birds were detected during this survey, they were both walking down the road in the

town of Kukuihaele.

Spotted Dove: *Streptopelia chinensis*

This species is native to a large part of southeast Asia and the Malay Archipelago (Sibley & Munroe Jr. 1990). The race *Streptopelia chinensis chinensis* was introduced to the Hawaiian Islands prior to 1900 (Caum 1933). Spotted Doves were well established on Hawaii by 1940 (Munro 1960). For some unknown reason the owners of Pu'u Wa'awa'a released 8 birds on the ranch in 1961 (Lewin 1971). This species is found in residential as well as in most other habitats throughout the main Hawaiian Islands.

Spotted Doves eat seed, grain plant material and scraps. In Hawaii they breed from February to October. They usually lay two eggs in a messy platform nest made of small sticks which is usually placed from 8 to 40 feet in vegetation or on buildings (Terres 1980).

A total of 8 birds were recorded on station counts, during the course of this survey.

Zebra Dove: *Geopelia striata*

This species is native to southeast Asia and the Malaysian Peninsula was first introduced to Hawaii in 1922 (Munro 1960). There is real confusion as to which races were released when and where in the Islands. By 1950 The Schwartz's considered the species to be well established throughout the Hawaiian Islands (Schwartz & Swartz 1950).

In Hawaii this species is found in almost all habitats. They feed on seeds, grain, insects and orfs. They nest year round often as many as five times a year. They usually lay two eggs in a small flimsy nest made of little sticks that are precariously placed in vegetation, and sometimes on and in buildings (Terres 1980).

A total of 9 were detected during station counts.

Melodious Laughing-lark: *Garrulax canorus*

Melodious Laughing-lark, better known in Hawaii as Hwamei are native to southern Asia from China to northern Laos and Vietnam, they are also found in Taiwan (Sibley and Munroe Jr.

The Japanese White-eye is native to east Asia from southern China to Korea and Japan and in winter, Thailand, Burma and Laos (Sibley & Munroe Jr. 1990). Exactly when this species was first introduced to Hawaii is uncertain. In 1929 the Territorial Board of Agriculture released birds from Japan on Oahu (Caum 1933, Munro 1960), there were several more releases by both the Board of Agriculture and by the Hui O Manu. They were released on Hawaii in 1937 (Hawaii Audubon Society 1975). This species has been considered to be established on all main islands since at least the mid 1950's (Berger 1972, Hawaii Audubon Society 1975).

Locally called Ma'iho this ubiquitous species is probably the most common bird in the state. It feeds on a mixed diet of arthropods, nectar and berries. It has been recorded nesting from February through November; its nest is a small icy deeply cupped affair, well finished out of a blend of grasses, often lined with lichens and spider webs. In Hawaii, Japanese White-eyes lay three to four eggs, slightly more than in its native range.

A total of 13 were detected on station counts.

Northern Cardinal *Cardinalis cardinalis*

Northern Cardinals are native to the eastern part of the U.S.A. they range west to Colorado and southwest to southern Arizona. South to northern Guatemala and Belize (AOU 1983). It has also been successfully introduced to southern California. Northern Cardinals were first introduced to the Hawaiian Islands in 1929. Birds were released on all main islands. Several separate introductions of this species of several races were made in Hilo between 1929 and 1931. They were considered to be established on all main islands by the 1940's (Caum 1933, Berger 1972, Hawaii Audubon Society 1975). They are to be found in almost all habitats in the islands.

This species eats a mixed diet of seeds, berries, plant material and insects. In Hawaii Northern Cardinals breed in all months of the year. They construct a loosely built shallow nest made of small twigs, grasses and other plant material, it is lined with fine grasses. Clutches consist of two to six eggs (Terres 1980).

Six were recorded during this survey.

1990). It is thought that this species escaped from captivity during the 1900 Chinatown fire on Oahu. (Caum 1933). Following its unintentional release on the island of Oahu, this species was imported for release on Kauai, Maui and Hawaii. (Berger 1972). Melodious Laughing-thrush are now established on all the main islands with the exception of Lanai (Hawaii Audubon Society 1975). Its distribution is very patchy.

Melodious Laughing-thrush are omnivorous feeders, eating everything from insects to vegetable matter. In Hawaii they breed from May to July, laying between three and five eggs in a large bowl shaped nest often placed close to the ground in dense bushes such as Christmas berry (Long 1991, David pers. obs.).

A total of four birds were heard during this survey.

Common Myna: *Acridotheres tristis*

The Common Myna is native to southern and southeast Asia (Sibley & Munroe Jr. 1990). It was introduced to the Hawaiian Islands in 1865 by Dr. Hillebrandt, with the hope that they would prey on army worms and other insect pests (Caum 1933, Munro 1960). This very aggressive species rapidly became established and has become ubiquitous. It tends to be a commensal species and is found in extremely large numbers in cities and towns. Due to its gregarious nature and its proclivity to roost communally - up to 5000 birds in one tree, many late rising humans have been less than enchanted with this species.

Common Mynas are omnivorous feeders eating everything from nectar to orris. In Hawaii they breed from February to August often times having as many as three broods per season. They lay between two and five eggs in a messy nest made of twigs, trash, plant bits and often times paper or plastic (All & Ripley 1968-1974, David pers. obs.)

A total of 172 were detected on station counts; including one flock of 80 plus birds seen foraging on the freshly mown Kukuhaele Co. Park.

Japanese White-eye: *Zosterops japonica*

House Finch: *Carpodacus mexicanus*

House finches are native to western U.S.A. from west of Kansas, north to British Columbia and south to central Mexico (AOU 1983, Sibley & Munroe Jr. 1990). This species has been successfully introduced to the Eastern U.S.A. House Finches have been in the Hawaiian Islands since the 1870's; they were popular cage birds and probably escaped soon after their first arrival in Hawaii. The race *Carpodacus mexicanus frontalis* from California has been established on all main islands since the early 1920's (Caum 1933, Berger 1972, Hawaii Audubon Society 1975).

This species is considered an agricultural pest in its native range (Terres 1980). In Hawaii, this species feeds on fruit, berries and insects. Papaya farms consider this species a pest as they apparently do some damage to this commercially grown fruit crop. They nest year round, making a grass and twig built nest usually placed in a tree cavity, roof, tree crown. Clutch size ranges from two to six eggs (Long 1981).

Twelve individuals were recorded on station counts.

House Sparrow: *Passer domesticus*

House Sparrows are native to most of Eurasia, from the British Isles, east to the Pacific ocean and north to Siberia, south through the Indian sub-continent and North Africa (Sibley & Munroe Jr. 1990). House Sparrows have been introduced all over the world. This common species is now almost cosmopolitan in range. Little is known of this species introduction to the Hawaiian Islands. Caum reported that nine birds had been released on Oahu in 1871 (Caum 1933). It is not known if there were further introductions. They were numerous around Honolulu in 1902 (McGregor 1902). By the late 1960's House Sparrows of the nominate race *Passer domesticus domesticus* were common on all main islands (Peters 1962, Hawaii Audubon Society 1975). This species is common throughout the State but tends to be commensal and does not occur in large numbers far from mans settlements and developments.

House Sparrows breed year round in Hawaii, often raising as many as three broods a year. They build very messy nests of twigs, grasses and litter often just stuffed into a crack or opening.

When nesting in trees they build a domed nest with a side entrance. Clutch size ranges from four to six eggs. House Finch feed on a wide variety of foodstuffs from seed, grain and other plant materials to insects, worms and orts (Terres 1980, Long 1981).

A total of 10 were detected on station counts.

Nutmeg Mannikin: *Lonchura punctulata*

Nutmeg Mannikins are native to Southern and Southeast Asia from India east to Java and the Philippines (Sibley & Munroe 1992). The race *Lonchura punctulata topola* was introduced to Hawaii by Dr. Hillebrand around 1865 (Caum 1933, Berger 1977).

Little is known about this species life history in Hawaii. In Malaysia this species breed from February through August, Berger reports that he found nests in all months except August (Berger 1977). They build a large covered nest which has a side tunnel entrance. They lay between three and four eggs per clutch. They continue to use the nest as a dormitory following fledging. They feed on seeds, rice and insects.

A total of 22 were detected on station counts. many more were seen in the grasslands approaching the study site.

BATS AND OWLS

Three separate counts (see Fig 3), were taken during crepuscular hours in an attempt to locate Hawaiian hoary bats (*Lasiurus cinereus semotus*), Short-eared Owl or Puso (*Asio flammeus sandwichensis*) and Barn Owl (*Tyto alba*). Only one of these, the Hawaiian hoary bat is federally listed as an endangered species (USFWS 1989). No bats were detected during the course of this survey. However it is highly probable that this species utilizes the site upon occasion. Other observers have seen this species in the Hamakua area (G. Gerrish pers. com., David pers. obs.).

Neither species of owl resident in Hawaii was detected on station. It is to be expected that both species of owls forage at least occasionally on the site.

WILDLIFE RESOURCES

Avian species

The paucity of avian species, especially native ones is not surprising. These lands have been under intensive sugar cane cultivation for at least the past 80 years. The clearing of all native vegetation and the importation of numerous alien plant species, coupled with the attendant pesticides and fertilizer usage have irrevocably altered the flora and fauna of the region. The lack of native vegetation coupled with the decimation of native insects has predictably rendered the area hostile to native species.

Endangered Avian Species

The only endangered avian species detected was the Hawaiian Hawk or 'Io (*Buteo solitarius*). This species is listed as an endangered species by both the federal government (USFWS 1979) and by the state of Hawaii. This species is endemic to the Island of Hawaii. As stated in the species account, this species has traditionally had its highest population densities along the Hamakua coast. There is nothing unique about the site, and the lands are not critical for the survival of this species. Should any nests of this species be detected in future, the nest, nest tree and birds should be protected at all costs. The disturbance, killing, removing of the nest tree or nest would constitute a take under the Endangered Species Act.

Non-game Mammals Species:

All mammals detected during the course of this survey were alien species. All of them are deleterious to the avian species found on the site. Dogs disturb and kill ground nesting birds, cats and mongooses are known to prey on eggs and young of many avian species, as do rats.

Game Mammals:

No game mammals were detected during the course of this survey. With the harvesting of the last of the sugar cane in the area, it would stand to reason that feral pigs (*Sus scrofa*) will probably move into the area. It is hard to imagine that with lack of cover that the site could support a viable hunting resource.

MAMMALS

A total of 4 species of mammals were detected during this survey (see Table 3). Feral dogs (*Canis familiaris*) were seen on both days of the survey. One feral cat (*Felis catus*) was seen within the site, as was lots of cat sign. Three small Indian mongoose (*Herpestes auropunctatus*) were seen within the site. No rodents were seen during the survey; it is likely that roof rats (*Rattus rattus*), Norway rats (*Rattus norvegicus*) and house mice (*Mus musculus*), utilize the site. Without conducting a trapping program it is difficult to assess the population densities of these often hard to see mammals.

CONCLUSIONS

A short two day survey can not provide a total picture of the Wildlife utilizing any given area. Certain species will not be observed for one reason or another. Seasonal variations in populations coupled with seasonal usage and availability of resources will cause different usage patterns throughout a year or, in fact over a number of years. A one time survey can usually only provide baseline information. Coupling that baseline information with data gathered from similar habitat and from previous studies in the same general area can greatly enhance the value of the gathered baseline data; resulting in a much more complete assessment of the natural resources and their utilization at the given site.

The species list of both birds and mammals gathered during this survey is typical of what one would expect from habitat of this type located at that elevation on the Hamakua Coast of the Island of Hawaii. One avian species currently listed as being endangered species by the federal government was detected.

Development of this site will have little effect on the avian populations presently found on the site. Since the area has been under intensive sugar cane cultivation for the best part of this century; coupled with the fact that there is a small town at the edge of the development site, it is unlikely that the proposed development will change the avian makeup of the area in any meaningful way. If some of abandoned sugar cane fields are converted into grassed areas it is likely that these areas will attract more Pacific Golden Plover (*Pluvialis fulva*) to the site. The development of any standing water will also increase the avian diversity of the site.

RECOMMENDATIONS

1. The most biologically interesting part of this property is the northern cliff face and the boulder beach and strand vegetation below them. Neither areas are slated for development in the plans that I have seen.

Recommendation:

- A). The combination of native plant communities located on the cliff sides and the strand vegetation below them represent fragile native ecosystems. The cliff faces also afford indigenous seabirds such as the White-tailed Tropicbird with nest sites. The rich shoreline provides foraging areas for endangered Green Turtles. These areas should be preserved as they represent important native biological resources; furthermore, they have potential as an educational resource.
- B). Due in part to the presence of endangered Green Turtles along the coastline immediacy below the site it is imperative that an effort be made to control soil run-off during the course of construction. Realistically this threat may be less real than perceived. Sugar has been harvested from these same lands for most of this century, and it is hard to conceive that the development proposed will create more of a biological disturbance than has been perpetrated on an ongoing basis for the past ninety years.

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KEY TO TABLE 1

Status
 E = Endemic species
 IM = Indigenous migratory species
 IS = Indigenous Seabird species
 A = Alien/ Introduced species
 D = Domestic species / no self sustaining population

Relative abundance = the number of times recorded during the survey

A = Abundant (>50) individuals recorded
 C = Common (>15) individuals recorded
 U = Uncommon (>5) individuals recorded
 R = Rare (<5) individuals recorded

TABLE 1

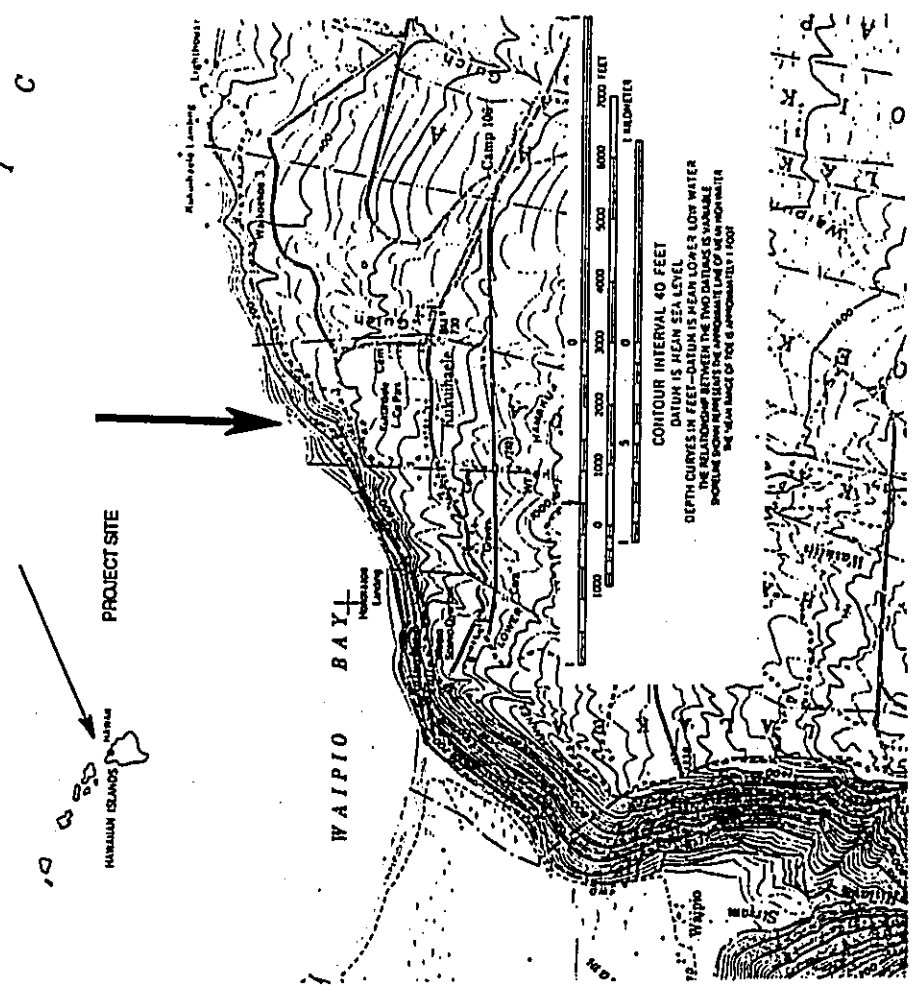
CHECKLIST OF THE BIRD SPECIES RECORDED ON THE AMANRESORT KUKUHALE SITE

COMMON NAME	SCIENTIFIC NAME	STATUS	RE-ABUNDANCE
TROPICBIRDS - Phaethonidae			
White-tailed Tropicbird	<i>Phaethon lepturus daroutheae</i>	IS	R - 2
FRIGATEBIRDS - Fregatidae			
Great Frigatebird	<i>Fregata minor palmerstoni</i>	IS	R - 1
HAWKS & EAGLES - Accipitridae			
Hawaiian Hawk	<i>Buteo solitarius</i>	E	R - 2
GROUSE & PTARMIGAN - Phasianidae			
Red Junglefowl	<i>Gallus gallus</i>	D	U - 11
Ring-necked Pheasant	<i>Phasianus colchicus</i>	A	R - 2
SANDPIPERS & ALLIES - Scolopacidae			
Pacific Golden Plover	<i>Pluvialis fulva</i>	IM	U - 7

FIGURE 1

AMANRESORT PROPOSED PROJECT SITE
KUKUIHAELE, HAMAOKUA DISTRICT
HAWAII

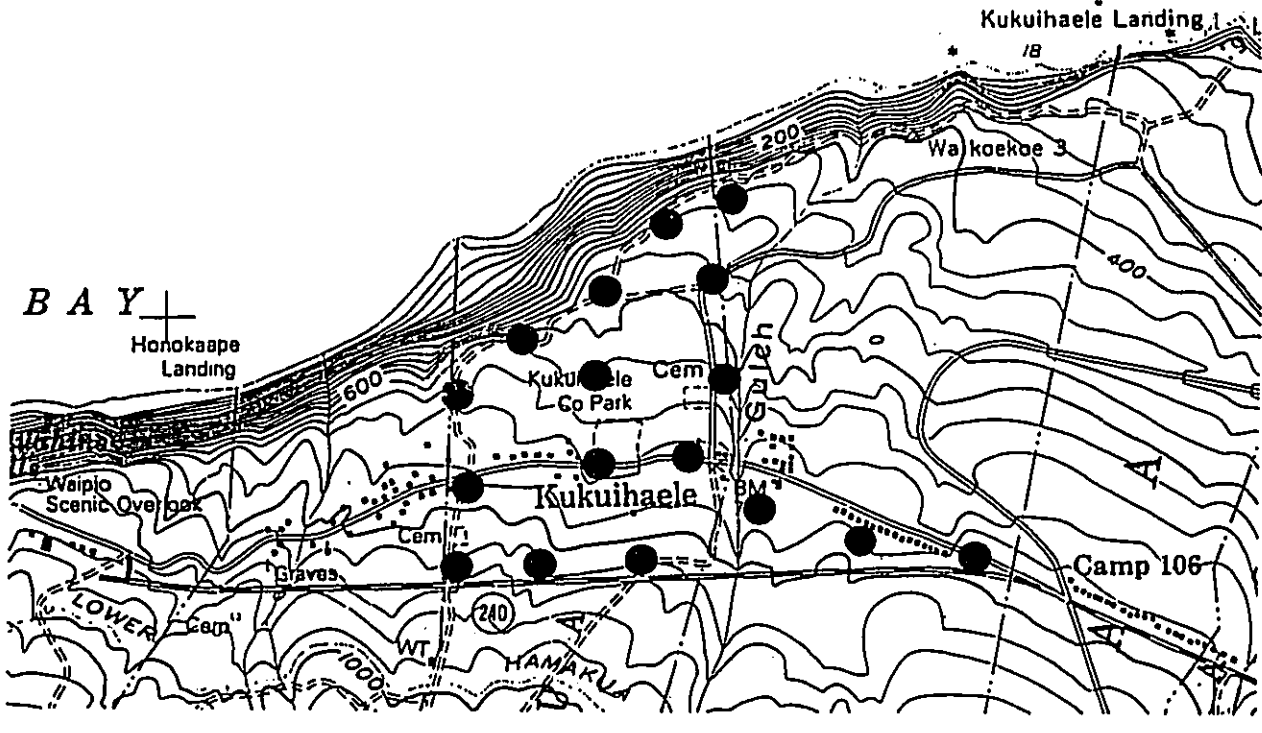
P
A
C
I
F
I
C



PIGEONS & DOVES - Columbidae			
Rock Dove	<i>Columba livia</i>	A	R - 2
Spotted Dove	<i>Streptopelia chinensis</i>	A	U - 8
Zebra Dove	<i>Geopelia striata</i>	A	U - 9
OLD WORLD FLYCATCHERS & ALLIES - Muscicapinae			
Melodious Laughing-thrush	<i>Geothlypis trichas</i>	A	R - 4
STARLINGS & ALLIES - Sturnidae			
Common Myna	<i>Acridotheres tristis</i>	A	A - 172
SILVEREYES - Zosteropidae			
Japanese White-eye	<i>Zosterops japonica</i>	A	U - 13
WARBLERS & SPARROWS - Emberizidae			
Northun Cardinal	<i>Cardinalis cardinalis</i>	A	U - 6
CANARIES, SISKINS & ALLIES - Fringillidae			
House Finch	<i>Carpodacus mexicanus</i>	A	U - 12
OLD WORLD WEAVERS - Passeridae			
House Sparrow	<i>Passer domesticus</i>	A	U - 10
WAXBILLS AND ALLIES - Estrinidae			
Nutmeg Mannin	<i>Lonchura punctulata</i>	A	C - 22

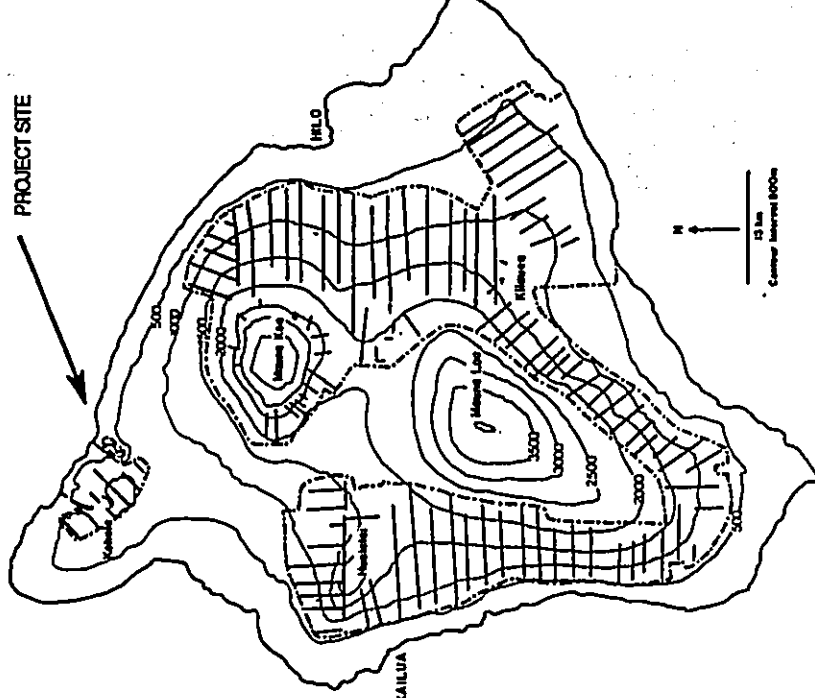
FIGURE 3

AMANRESORT PROPOSED PROJECT SITE
KUKUIHAELE, HAMAKUA DISTRICT, HAWAII - SURVEY STATIONS



28

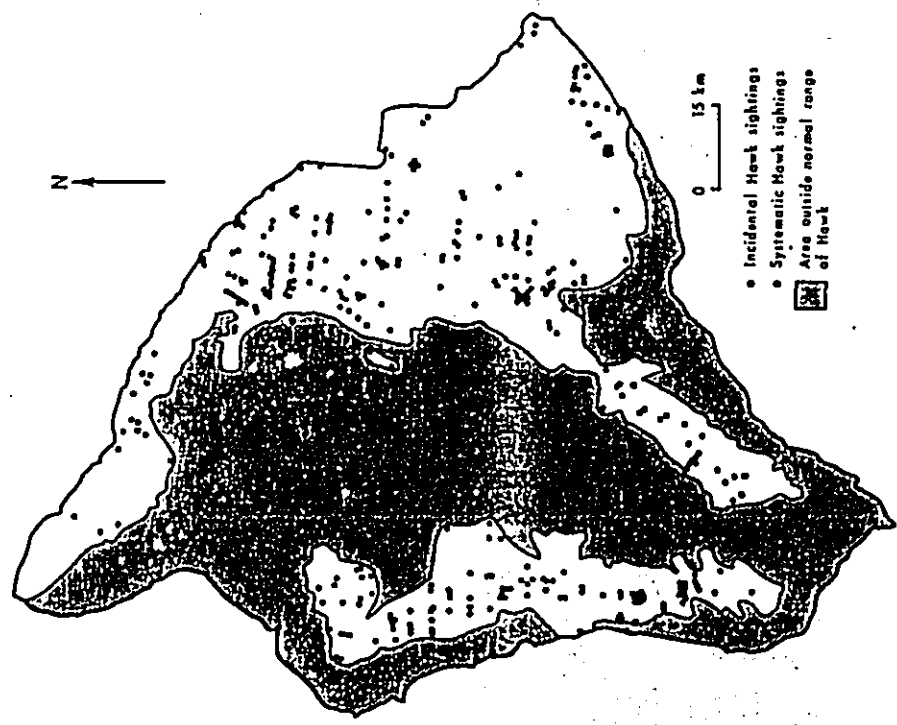
USFWS HAWAII FOREST BIRD TRANSECTS ISLAND OF HAWAII



Adapted from: Scott, J. M., S. Mountainspring, F. L. Ramsay and C. B. Kepler. 1986. Forest Bird
Communities of the Hawaiian Islands: Their Dynamics, Ecology, and Conservation. Studies in Avian
Biology No. 8. Lawrence, Kansas: Allen Press Inc.

25

FIGURE 4
DISTRIBUTION OF HAWAIIAN HAWKS BUTEO SOLITARIUS ON HAWAII



Adapted from: Scott, J. M., S. Mountainspring, F. L. Ramsey and C. B. Kepler, 1986. Forest Bird Communities of the Hawaiian Islands: Their Dynamics, Ecology, and Conservation. Studies in Avian Biology No. 8. Lawrence, Kansas: Allen Press Inc.

APPENDIX C

ARCHAEOLOGICAL INVENTORY SURVEY: KUKUIHAELE PROJECT

**Archaeological Inventory Survey
Kukuihaele Project
(Amanresort At Kukuihaele)**

Lands of Kanahonua and Waiko'eko'e
Hamakua District, Island of Hawaii'i

BY
Leta Franklin, M.A. • Projects Supervisor
AND
Kepi Maly • Cultural Resources Specialist
WITH
James A. Head, B.A. • Projects Supervisor

PREPARED FOR
Kukuihaele Development Company
c/o Roy R. Tolmelo
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OCTOBER 1993
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Paul H. Rosendahl, Ph.D., Inc.
Archaeological • Historical • Cultural Resource Management Studies & Services

**Archaeological Inventory Survey
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SUMMARY

At the request of Mr. Roy R. Takemoto, Attorney and Urban Planner, on behalf of his client, Kūkuiahele Development Company, Paul H. Rosendahl, Ph.D., Inc. (PHRI) provided archaeological consultant services in connection with the Kūkuiahele Project (Amanessort at Kūkuiahele) in the Lands of Kanahoua and Waiko'eko'e, Hamakua District, Island of Hawai'i (TMK:3-4-8-06:8,9,11,13,43,44). In 1991, PHRI conducted an archaeological inventory survey of the approximately 3,770 acre Hamakua Sugar Company Waipi'o Lands project area (PHRI Project 91-1019), within which the present Kūkuiahele Project area is included. Preliminary consultations with DLNR-SHPD staff have confirmed that they are willing to complete their review of the PHRI report previously prepared for the Hamakua Sugar Company Waipi'o Lands project (PHRI Report 1019-011991[1]) in connection with the proposed Kūkuiahele Project.

The field work for the original project was conducted March 4-30, 1991, and consisted of a variable-coverage aerial survey, an intensive pedestrian survey, and limited subsurface testing. Additional field work to check the current condition of sites and gather additional site data was completed on August 21, 1993. During the initial field survey, four sites consisting of 16 component features were identified in the current project area. The features comprised the following formal types: cupboard, historic residence, modified outcrop, and terrace. The features included the following functional types: agriculture, agriculture/habitation, habitation, possible habitation, possible temporary habitation/agriculture, and storage. Three sites consisting of four component features were located immediately adjacent to the project area. All three are historic to late historic sites. Two of these sites are surrounded on three sides by the current proposed development; the third, a trail, runs along the cliff below the current project boundary. The formal types of these three sites adjacent to the project area are: trail, burial, and structural remains. Functional interpretations of the features are: transportation, cemetery, and habitation/ceremonial.

Of the four sites identified within the project boundary, one (15004, habitation terrace) is assessed as significant solely for information content, and is recommended for further data collection. Of the remaining sites, two (Site 14986, habitation/agricultural terrace; and Site 15006, historic residence) are assessed as significant for information content, as excellent examples of site types, and for cultural significance. Further data collection followed by preservation with interpretive development is recommended for these sites. Site 14987 (habitation/agricultural complex) is assessed as significant for information content and for cultural significance, and it is provisionally assessed as an excellent example of a site type. Final assessments and treatment recommendations will depend on the results of the further data collection. It should be noted that, for two of these sites (14986 and 14987), this assessment is not made because the sites are exceptional examples considering the entire island, but rather, because they are exceptional examples in their particular region. If, in the future, better examples of such agricultural sites are identified in the Hamakua District (other than those at Waipi'o Valley), then perhaps the present assessments can be changed. Mitigation plans for rehabilitation of Site 15006, the Honoka'a Sugar Company Manager's Residence, should be developed with the State Historic Preservation Division.

Of the three sites adjacent to the project area, (and outside the area of impact), two (Sites 15008 and 15009, historic cemeteries) are assessed as significant for information value and for cultural value. Site 15012 (trail) is assessed as significant for information value, as an excellent example of a site type and for cultural significance. These sites, that are outside the project area have been considered in the current study to determine the potential for their extending into the project area. The data appear to support the assertion that these are discrete resources lying within their current TMK boundaries. No further work is required for these sites.

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INTRODUCTION

BACKGROUND

At the request of Mr. Roy R. Takemoto, Attorney and Urban Planner, on behalf of his client, Kukuihaele Development Company, Paul H. Kweidahl, Ph.D., Inc. (PHKI) provided archaeological consultant services in connection with the Kukuihaele Project (Amanresort at Kukuihaele) in the Lands of Kanahoua and Waiko'eko'e, Hamakua District, Island of Hawaii (TMK:3-4-8-06:8,9,11,13,43,44). The overall objective of this work was to provide inventory-level survey information appropriate to and sufficient for satisfaction of all current historic-preservation regulatory review requirements of the Department of Land and Natural Resources-State Historic Preservation Division (DLNR-SHPD) and the Hawaii County Planning Department.

In 1991, PHRI conducted an archaeological inventory survey of the approximately 3,770-acre Hamakua Sugar Company Waipi'o Lands project area, within which the present Kukuihaele Project area is located (Head, Franklin, and Goodfellow 1993). Because of the bankruptcy of Hamakua Sugar Company, the review of the Waipi'o Lands project final report was not finalized. Preliminary consultations with DLNR-SHPD staff have confirmed that in connection with the proposed Kukuihaele Project, they are willing to complete their review of the PHRI report 1019-011991(f), prepared earlier for the Hamakua Sugar Company Waipi'o Lands project. This report has recently been revised as Head, Franklin, and Goodfellow (1993).

Field work for the Hamakua Sugar Company Waipi'o Lands survey was conducted during the period of March 4-30, 1991, by a crew of five, under the supervision of Supervisory Archaeologist James Head, B.A., and Alan T. Walker, B.A., Principal Archaeologist. Dr. Paul H. Rosendahl provided overall guidance for the project. Crew members included Field Archaeologists Michelle Donahue, Randy Fink, Eric Johnson, Jeff Putzi, and Kent Smolik. The field survey required approximately 790 man-hours of labor to complete. Fieldwork for the current report required four man-hours for additional site recording. The report was prepared by Projects Supervisor Letz Franklin, M.A., with Projects Supervisor James Head, B.A., and Cultural Resources Specialist Kea Maly, Dr. Paul H. Rosendahl provided overall guidance for the project. The current report covers the six parcels (totaling approximately 113 acres) comprising the Amanresort Project.

SCOPE OF WORK

The basic purpose of an inventory survey is to identify all sites and features of potential archaeological significance present within a specified project area. An inventory survey is the initial level of archaeological investigation. It is conducted to determine the presence or absence of archaeological resources within a specified project area and indicates both the general nature and variety of archaeological remains present, and the general distribution and density of the remains. Finally, it permits a general significance assessment of the archaeological resources, and helps in the formulation of realistic recommendations and estimates for any further work that might be necessary or appropriate. Such work could include further data collection—additional data collection involving detailed recording of sites and features, and

selected limited excavations. It may also include 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 inventory survey were four-fold: (a) to identify archaeological features and remains present within the project area; (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 further data collection and/or other mitigation work that might be necessary or appropriate.

The following specific tasks were determined to constitute an adequate scope of work for the proposed inventory survey at the Kukuihaele project area:

1. Review archaeological and historical literature relevant to the project area;
2. Provide consultant services related to DLNR-SHPD review and approval of the Hamakua Sugar Company Waipi'o Lands project inventory survey report previously prepared and submitted by PHRI (Report 1019-011991(f));
3. Prepare a Summary Archaeological Inventory Survey Report, based on prior PHRI work, suitable for incorporation into Kukuihaele Project planning documents; and
4. Provide related consultant services as requested and/or appropriate.

These tasks were chosen based on a review of readily available background literature, on first-hand knowledge of, and experience in, the specific project area, and on basic familiarity with the general project area. They were also chosen based on extensive familiarity with the current requirements of pertinent review authorities, on information provided by Mr. Takemoto and Ms. Sandra Schutte, Attorney-at-Law; and on discussions with Dr. Ross Cordy, DLNR-SHPD chief archaeologist and with Mr. Kanalei Shun, DLNR-SHPD staff archaeologist for Hawaii County.

The inventory survey was carried out in accordance with the current standards for inventory-level survey required by DLNR-SHPD. The significance of all archaeological remains identified within the project area was assessed in terms of (a) the National Register criteria contained in the Code of Federal Regulations (36 CFR Part 60), and (b) the criteria for evaluation of traditional cultural values prepared by the National Advisory Council on Historic Preservation (ACHP, 1985). DLNR-SHPD and the Hawaii County Planning Department (HCPD) both use these criteria to evaluate eligibility for both the Hawaii State and National Register of Historic Places.

To assist the client with decisions regarding the subsequent treatment of resources, the general significance of all archaeological remains identified during the survey was also evaluated in terms of PHRI cultural resource management value modes, which relate to potential scientific research value, interpretive value, and cultural value. The value modes are explained in more detail later in the report.

PROJECT AREA DESCRIPTION

The northern, *mauka* (seaward), boundary of the project area follows the edge of the top of the cliff, excluding the cliff itself, to the shoreline. The southern, *makaha* (inland), limits of the project lie along the Honoka'a-Waipii'o Road (Highway 240). The western perimeter of the project area parallels the border of the Kamahoua and Kukuiwai'e Aliupua'a, within the lands of the former. The eastern boundary follows the west bank of Waiko'e'o Gulch from the cliff to its intersection with the county road (old Highway 240), then eastward along the road to its intersection with the Honoka'a-Waipii'o Road (Highway 240) (Figure 1). The project area ranges in elevation from 400 ft. (121.9 m) above mean sea level (AMSL), at the top of the cliff, to c. 880 ft. (268.2 m) AMSL at the southwest corner of the *mauka* boundary. Figure C-1 presents a photo overview of the project area.

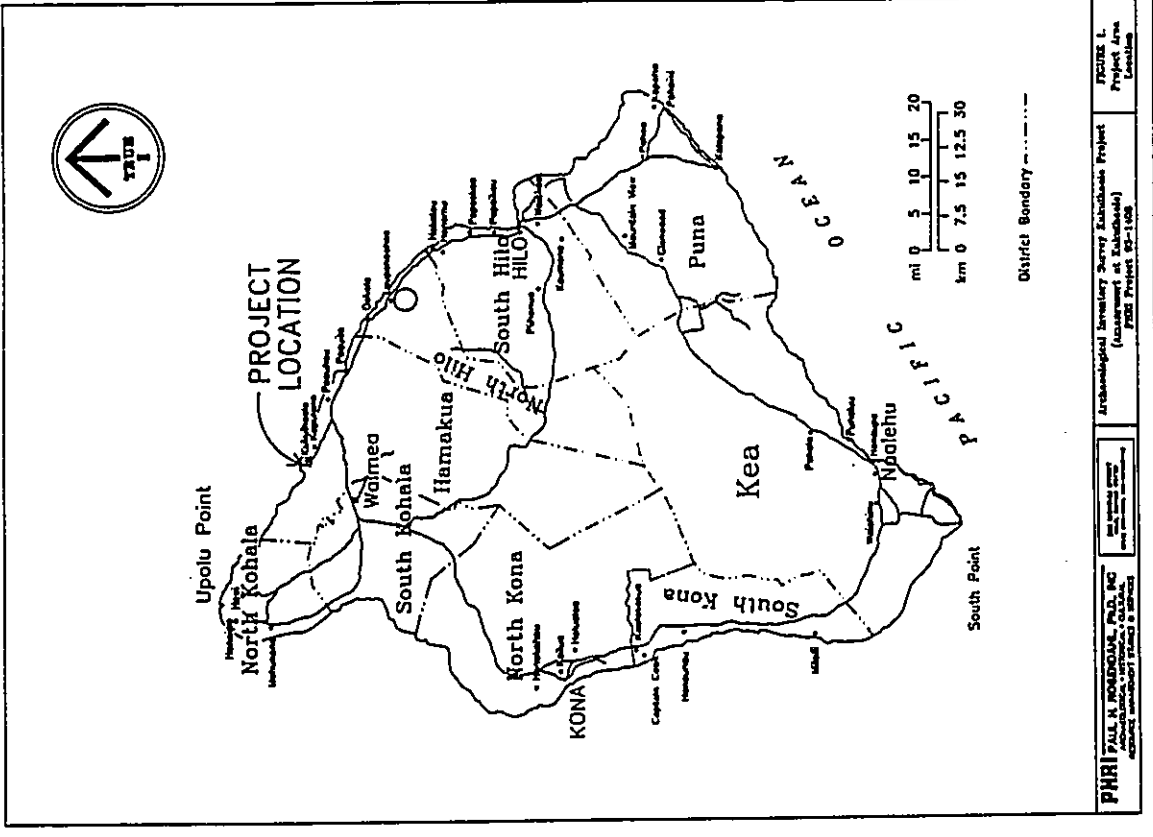
The project area terrain is characterized as Waimea Slightly Dissected Upland (def: Slopes cut by widely spaced erosional gullies; Armstrong 1983:31). The surface of the project area and vicinity was formed by Mauna Kea flows that were formed later than the Kohala Mountain flows to the west. Hamakua Volcanic Series flows comprise the basal basaltic deposition, which was followed by an ash flow from the same source (the Pahala Ash), which covered the area with four to thirteen feet of ash (1.2 to 4.0 m) (Stearns and MacDonald 1946:152-153). The soil consists of Pauhau silty clay, which is a well-drained silty clay loam formed in volcanic ash (Sato et al. 1973:44). This soil type is excellent for growing sugar cane (*Saccharum officinarum* L.), and indeed, most of the study area has been planted in sugar cane cultivation over the last 100 years.

The project area and vicinity is marked by a number of valleys and gulches oriented toward the ocean. Intermittent and permanent drainages lie within these valleys and gulches and empty into the Pacific Ocean. Because they are younger, the gullies in and around the project area are much smaller than those found in the Kohala Range, to the west (never over 40 to 80 ft. deep) (Stearns and MacDonald 1946:47). These gullies are generally steep-sided in the lower areas, which generally lack valley floors. In general, slopes in the project area are moderate (6% to 12%).

Annual rainfall in the vicinity of the study area averages 50-75 inches (Armstrong 1983:63), with the heaviest rains brought by winter storms in the October-April season. These storms deposit rainfall distribution closely matching topographic contours, with the maximum amounts being received at the 2,000-3,000 ft level (Armstrong 1983:55-57). However, this area of the Hamakua coast is relatively dry compared to parts of the Waipi'o Valley bottom, which may receive up to 175 inches of rain annually.

A botanical study encompassing the current project area (Char 1991) was prepared in association with the earlier PIFRI survey project. Char divided the original study area into five botanical zones, three of which occur in the current study area: Coastal Vegetation, Sugar Cane Fields, and Gulch Vegetation. The *Eucalyptus* and 'Ohi'a Forest zones identified in the original study lie inland and at higher elevations than the current study area. A synopsis of each botanical zone present in the current study area is given below.

1. Coastal Vegetation - High, steep sea cliffs make up the coastal portion of the project area. The western coastal portion contains a narrow cobble and boulder bench at the foot of the cliffs. Trees line the cliff tops, usually at the margins of the sugar cane. The dominant tree is ironwood (*Casuarina equisetifolia* L., *Casuarina glauca* Seib.), along the margins



of the ironwood are thick clumps of Christmas-berry (*Schinus terebinthifolius* Raddi) and *koa-kaole* (*Leucaena leucocephala* [Lam.] Stapf), and on the western portion of the cliffs, Java plum trees (*Syzygium cumini*), Christmas-berry, and California grass. The smaller, less steep cliffs support ironwood and beach naupaka (*Scaevola sericea* Vahl), along with some native species.

2. Sugar Cane Fields - As stated above, most of the project area is in sugar cane, which is not being replanted as the cane reaches maturity and is harvested. Observed botanical species include yellow-flowered wild radish (*Raphanus raphanistrum*), white clover (*Trifolium repens* L.), Indian paintbrush (*Cassipoupa arvensis*), marsh purslane (*Ludwigia palustris* [L.] Ell.) and others. Native species in this area include *papalo* (*Solanum americanum*) and *kuuli 'uwa* (*Ipomoea indica* [Burm.] Merr.).
3. Gulch Vegetation - Vegetation in the undisturbed gulches of the project area is dominated by introduced plants such as ironwood, Java plum, guava (*Psidium guajava* L.), and Christmas-berry shrubs. There are also scattered patches of banana (*Musa parviflora* L.).

Char (1991:14) indicates that none of the native species located during the survey are officially listed as threatened or endangered plants and none are proposed for listing. Most of the natives are ubiquitous in the native forests of Hamakua and Kohala.

PREVIOUS ARCHAEOLOGICAL WORK

The northern Hamakua coast has not been studied extensively. The most substantial archaeological work to date, the compilation and description of temple sites (*heiau*), was completed in the first third of this century. This work was begun by Thomas G. Thrum, who catalogued ancient *heiau* remains and collected traditional historical materials related to the construction and use of these sites throughout the Hawaiian islands. Between 1907 and 1938, Thrum published invaluable descriptions of *heiau* sites in his journal, *Hawaiian Almanac and Annual*.

John E.G. Stokes, in his 1919 *Survey of Heiaus of Hawaii*, for the B.P. Bishop Museum, carried Thrum's work further by his comprehensive re-evaluating, mapping, and descriptive recording of *heiau* sites. Stokes' later attempt at functional and historical interpretations of the various *heiau* forms, however, was not carried through to a satisfactory conclusion within his lifetime. In historical perspective, Stokes' work is extremely helpful, because his physical descriptions are generally reliable and full of valuable insights. Kirch (1983) credits Stokes as being the first Hawaiian archaeologist.

During 1930 to 1932, Alfred E. Hudson carried out field work on the eastern part of the Hawaii'i Island for the B.P. Bishop Museum (Hudson 1932). Hudson focused his survey on structural remains in the districts of Hamakua, North and South Hilo, Puna, and the northern coast of Kā'u. Hudson recorded not only *heiau* sites, but other types of sites, such as agricultural features and trails. Hudson used Thrum's and Stokes' descriptions of *heiau* and their locations, and attempted to relocate as many of these sites as possible. He also surveyed extensively in the Hamakua district, covering the bottoms of the valleys and gulches along the coast. Hudson

suggested that the relatively small number of archaeological sites found in this study region was a result of the destruction of remains during sugar cane cultivation.

Thrum's informants knew of only one *heiau* within the *ahupua'a* containing the current project area, and of three *heiau* in adjacent *ahupua'a*. One was a *heiau* named Punamoa, in the Waiko'eke'e region. He was not able to identify the site (Thrum 1908:41), nor were Hudson's (1932:188) informants aware of a *heiau* in that area. The two *heiau* in the lands of Kukuhaele (the *ahupua'a* directly west of the current project area) were called Kaletemauli and Pukiohuka (Thrum 1908:41). Thrum located the sites, but nothing remained of the structures. Later, Hudson (1932:188) was unable to determine the locations of these sites. Last, Thrum mentions a *heiau* named Kaipoohua, at a place called Kea, between Kukuhaele and Kapulena, although he was not able to locate the site. (Thrum was undoubtedly referring to Kea'a, the *ahupua'a* adjacent to the east side of Waiko'eke'e *ahupua'a*.)

The archaeological surveys since Hudson's time are summarized in Table 1. The Loo and Honk (1971) and Cleghorn (1983) surveys focus on the Waipi'o valley floor, and will not be discussed further here. Barrera's 1977 survey also emphasizes Waipi'o data; however, Barrera also evaluated historical properties in the Kukuhaele/Honoka'a area for their interpretive potential, including the Honoka'a Sugar Company Manager's House.

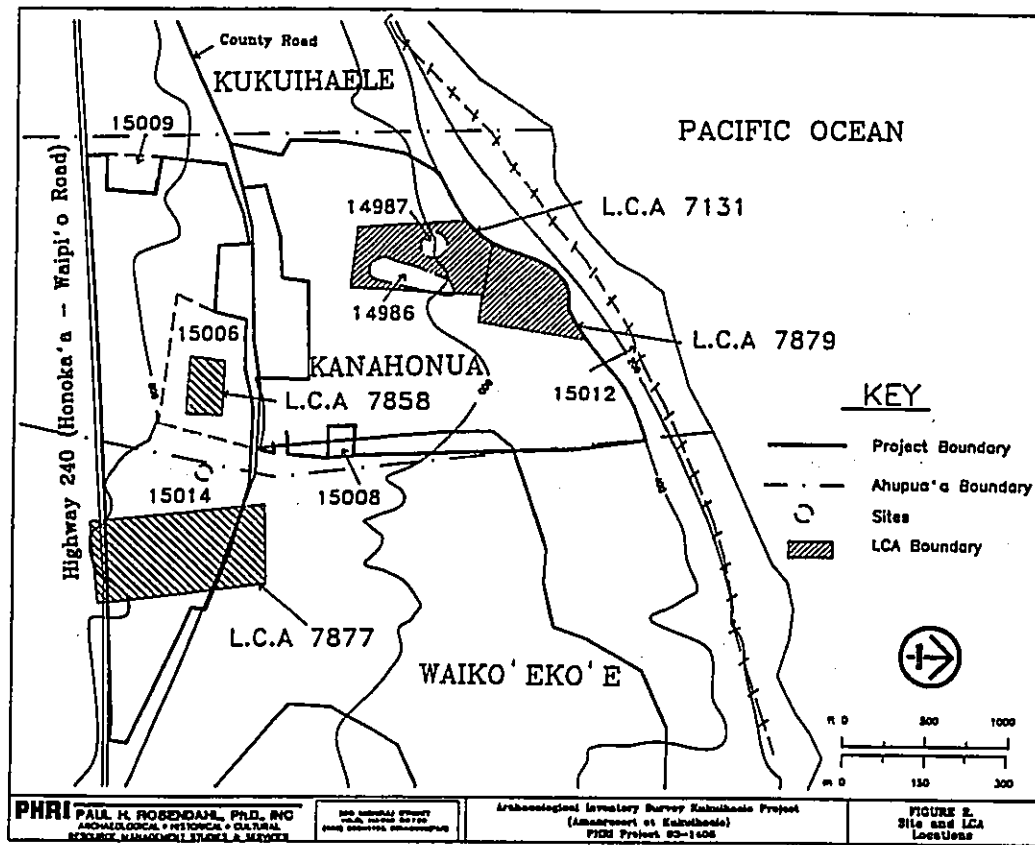
In 1974, Wright completed a historic site information and review form for the Honoka'a Sugar Company Manager's House (under SHIP Site Number 7176), and the site was accepted to the Hawaii Register of Historic Places. As of September 1993, it remains on the State Register of Historic Places. This site lies within the current project area, although it has a new SHIP number (19006).

Two archaeological inventory surveys have been completed in or near the current project area. Walker, Kai, and Rosenblith (1991) completed a 1,303 acre inventory survey in the upland forest zone of the *ahupua'a* of Lalakea and Waiko'eke'e, 4.8 km (3.2 mi) *mauiwa* of the current project area. This survey involved 100% aerial survey, intensive survey of unmodified gulch areas, sample survey of pasture land, and limited subsurface testing of the identified sites. The survey identified six sites (four agricultural, one transportation, and one indeterminate—a possible temporary shelter), none of which required further work.

Only one study has been conducted within the present project area, and that is the archaeological inventory survey from which this current work is derived (Head, Franklin, and Goodfellow 1993). This previous inventory survey examined c. 3,770 acres (1,526 ha) of the Hamakua Sugar Company Waipi'o lands in the *ahupua'a* of Lalakea, Kukuhaele, Kamahoua, Waiko'eke'e, Kea'a, and Kaikahaula. Field work consisted of a variable-coverage aerial survey, an intensive pedestrian survey, and limited subsurface testing. PHRI identified 45 sites within the project area, comprising 21 complexes (multiple-feature sites) and 24 single-feature sites. The total number of identified features was 126. The most common formal feature types in the project area were terraces (47; 37.3%) and modified outcrops (18; 14.3%). The most common functional type in the project area was agriculture (62; 49.2%). Figure 2 shows site and LCA locations within the current project area.

SUMMARY OF HISTORICAL DOCUMENTARY RESEARCH

The following is a summary of the historical documentary research for this project, which was carried out by PHRI Cultural Resources Specialist Kapa Maly. The complete text of this report is presented in Appendix B.



PHRI PAUL H. ROSENDAHL, PH.D., INC.
 ANTHROPOLOGICAL & HISTORICAL & CULTURAL
 RESOURCE MANAGEMENT STUDIES & SERVICES

NO ANNUAL REPORT
 FROM 1990 TO 1991

Archaeological Inventory Survey Kauhāhaua Project
 (Amendment to Kauhāhaua)
 PHRI Project 03-1408

FIGURE 2.
 Site and LCA
 Locations

Table 1.
 SUMMARY OF PREVIOUS ARCHAEOLOGICAL WORK

Year*	Researcher	Level of Study	Location	Comments
1932	Hulson	Field Check/Reconnaissance	East Hawaii	Attempted to locate Heiau recorded by Thurston
1971	Loo and Bank	Archival Research/Field Check	Districts of Hanalei, North and South Kohala, North and South Hilo, Puna	Inventoried heiau sites in Waipi'o valley
1974	Wright	State Register Recording	Kukuihāhau Town	Honoka'a Sugar Company Manager's House placed on Hawaii Register of Historic Places (Site 10-07-7176)
1977	Barnes	Archival Research/Field Check	Hanalei Coast, focusing on Waipi'o valley	Recorded both heiau and habitation sites (data previously underrepresented in site descriptions of Waipi'o valley)
1983	Ogden	Reconnaissance	Bishop Museum land holdings within Waipi'o valley	Recognized the need for studying Waipi'o valley as a complex of sites, and the study potential of the valley's agricultural systems
1985	Conry	Archival Research	Hanalei District in general; ahupua'a of Kukuihāhau; Hanalei, Ma'ohi'i, Hanalei	Suggested an interpretive model for regional land use during prehistory/history based on the distribution of recorded sites within different physiographic zones
1991	Walker, Kai, & Rosendahl	Inventory Survey	Ahupua'a of Lalaha and Waikō'eko'e	Sectionwork patterns and land use data within the ahupua'a of Waikō'eko'e
1991	Head and Goodfellow	Inventory Survey	Ahupua'a of Lalaha, Kukuihāhau, Kanahonua, Waikō'eko'e, Kae'a, and Kauhāhau	Sectionwork patterns and land use data within the ahupua'a of Kanahonua and Waikō'eko'e

*Year of Publication

The project area includes land within two traditional *ahupua'a* in the district of Hamakua: Kanahouua and Waiko'eko'e. Only a few legendary references are available for the immediate project area *ahupua'a*, but there are numerous legendary and historic references available for the larger Hamakua and Waipi'o communities.

This portion of Hamakua was an important agricultural region in which both wet- and dry-land crops were cultivated in formal fields. Handy and Handy note:

The wet-taro section of the Hamakua coast extended from Honoka'a to Kukuhaele, where there is a succession of small terraces with high retaining walls, watered by Waikolohe Stream. Several of the upper terraces have been converted into small reservoirs, while the lower ones were used for raising wet taro. (1972:533)

No long-term village habitations were identified in this area; however, this was not unexpected. As stated by Handy and Handy (1972:284) "The old Hawaiians... had no conception of village or town as a corporate social entity. The terrain and the subsistence economy naturally created the dispersed community of scattered households."

Waipi'o, however, would have been different from the drier, agriculturally poorer area around Kukuhaele. Handy and Handy (1972:285) write "Where there were continuous *lo'i* in a valley bottom, as in Waipi'o Valley on Hawaii, the *kaupale* [houses constituting a "home"] were scattered about in the midst of them, each family right beside its *lo'i*. In narrow valleys a number of houses were generally on the lower margin of the valley sides, slightly above the *lo'i*."

Because Waipi'o was an important royal and religious center for the island of Hawaii in ancient times, and it can be assumed that portions of the resources from Kanahouua and Waiko'eko'e went to support the Waipi'o community. Indeed, legendary accounts specifically address the fact that *ahupua'a* chiefs answered to the higher chiefs who lived at Waipi'o. Waipi'o also provided an important access to ocean and fishing resources for people living along the *tula* slopes, who had limited access to the ocean, because of the steep cliffs. Birds were hunted in this portion of Hamakua, as well; sea birds were hunted for food (some of them were considered delicacies) and for certain feathers, while forest birds provided feathers for royal uses. Some of the forest birds were eaten as well.

Early foreign visitors describe this region as rich and well populated, and in areas where missions became established, native communities began to take on characteristics of western villages, including churches and schools. The journals of Reverend Lorenzen Lyman describe the native communities of Hamakua and establishment of the 'Eke'io Church and School, at Kanahouua (West Hamakua Hawaiian Church). They also document the decline of the native population. By the mid 1800s, the number of Hawaiians had decreased significantly, and western business and land management practices began to predominate over traditional ways.

The Mabele (division of land) of 1848 made land available to native tenants, and at least eight LCAs were awarded to Hawaiian claimants within or adjoining the project area. Use of the land by native tenants at the time appears consisted of traditional wet- and dryland agriculture, alongside Western crops and livestock. In testifying for their land claims, Native tenants documented the locations of trails, wet- and dry-land agricultural parcels, house sites, and natural features etc., and provided descriptions of land use in the project area.

Because the Mabele had only limited success in getting the diminishing Hawaiian population onto land in fee simple, great tracts of land were left unused. In 1850, it became possible for foreigners to purchase Hawaiian land, and large parcels were planted in sugar cane or devoted to ranching. On September 19, 1852, Grant 14 ('Apana 5) officially set aside one acre of land for the school at Kanahouua, which is across the *ala nui aupuni* (government road) from the *haukoi* (church) of 'Eke'io. The church lot was also formally surveyed and granted at that time.

Much of the project area was once a part of the land swayed of High Chiefs Kaku'ooihi (LCA, 11216 'Apana 50). By c. 1868 portions of her land had been acquired by the Roman Catholic Church of Hawaii. By c. 1878, other portions of land had been acquired by the Pacific Sugar Mill (PSM), whose operations changed the natural and cultural landscape of the region. The evolution of plantation communities and further acquisition of native lands by PSM caused further changes. As the plantation grew, the Hawaiian population declined, and additional labor was needed. The arrival of foreign laborers brought about increased growth of the plantation community and town resources, but by 1913, PSM was closed. Following the closure of PSM, the project area lands became the Kukuhaele portion of the Honoka'a Sugar Plantation.

Change has continued into recent times, and some plantation workers and their descendants left the plantation in search of other work. Yet, sugar remained an important industry until approximately 15 years ago. Since then, sugar production and profitability has continued to decline, a partial result of which was the 1993 closure of Hamakua Sugar Company. Macadamia nuts are now planted between Kapulea and Kukuhaele. The proposed project is another alternative for a community whose longtime economic mainstay is gone.

SUMMARY OF POSTULATED SETTLEMENT PATTERNS

Settlement patterns within two *ahupua'a* are considered in the current study. The project area encompasses the greater part of the *ahupua'a* of Kanahouua, which extends only 2,790 ft. (850 m) inland of the highway. Only the section *mauka* of the Honoka'a-Waipi'o Road is excluded. Of Waiko'eko'e *Ahupua'a*, only a small portion is covered by the present project, a triangular section of land that crosses Waiko'eko'e Gulch 2790 ft. (850 m) inland of the coast.

The *ahupua'a* of Waiko'eko'e extends inland 6.4 miles (10.3 km), to the boundary of the Districts of Hamakua and South Kohala. The elevation at its inland terminus is 2,820 ft. (859.5 m) AMSL. Waiko'eko'e once possessed rich, forested upland areas, although much of this land has been destroyed by sugar cane cultivation. The coastal section spans 0.6 miles (almost one kilometer), with 420 ft. (128 m) on the west boundary, sloping down to 220 ft. (67.1 m) on the east boundary.

In contrast to Waiko'eko'e, Kanahouua *ahupua'a* is the poorer land. Along the coast, Kanahouua is 0.4 miles (0.64 km) wide, with cliffs 600 ft. (182.9 m) high at its boundary with Kukuhaele *ahupua'a* on the Waipi'o side, and 420 ft. (128 m) high where it joins Waiko'eko'e on the west. The east border of Kanahouua runs along the upslope portion of Waiko'eko'e Gulch, although the gulch lies mainly within the neighboring *ahupua'a*. Kanahouua has very little upland zone; it stretches only 2.4 miles (3.9 km) inland before being pinched off by Waiko'eko'e *ahupua'a*. (The Lands of Kukuhaele are also truncated by Waiko'eko'e.) Because the town of Kukuhaele is built around the government road and takes up much of the land of Kanahouua, most of the evidence of early land use has probably been destroyed by construction of modern buildings, as well as by the extensive sugar cane cultivation. As this is a small, relatively poorly endowed *ahupua'a*, population density was probably never very high.

Cordy's 1985 study for the Hawaii DLNR examined historic sites and land use patterns on the windward slopes of Mauna Kea. Cordy reviewed archival documents searching for patterns of historic land use, and his findings present a useful model for the settlement patterns in the current study. The findings of Cordy's research were broken down into four physiographic zones—Sea-shore, The Seaward Upland Slopes, 'Ohia'-a-Koa Forest Zone, and The Gulches. The current project area includes land in two zones: the Seaward Upland Slopes zone and The Gulches; although all four zones will be discussed here as they all occur within the *ahupua'a* considered in this study.

Although the Sea-shore zone is small in area relative to the entire *ahupua'a*, marine products were extremely important to native Hawaiians, providing the primary protein base for their diet (Tuggle 1977). The costs involved in marine procurement are higher on the windward coast of the island of Hawaii than they are in the leeward portions of the island, however, because the prevailing winds and large swells off of the windward coast limit access, and probably also affect the amount (biomass) of available marine resources (Newman 1970:15). Accessible beaches and coves suitable for shellfish collecting, canoe landing sites, and on-shore fishing would have been highly valued.

The typical *ahupua'a*, begins at the sea shore, but in the lands within the project area, the high cliffs would have hampered marine exploitation from within the resident's own lands. The inhabitants of *ahupua'a* without coastal access may have bartered with the owners of canoe landings for the use of the landing, and then would have been able to fish the waters off of their own lands as *ahupua'a* fishing rights extended to the offshore waters (Boundary Commission Books, Hawaii, n.d., in Cordy 1985:62). Coastal access from the *ahupua'a* in the current project area was available both through a trail down into Waipi'o and at Kukuhaele landing, within the *ahupua'a* of Kea'a, near the present-day lighthouse.

Due to the steep cliffs and narrowness of the marine bench, archaeological evidence of land use in this zone would be limited to marine resource procurement activities, trails, and the construction of *ahupua'a* shrines at the edge of the sea (Cordy 1985). Procurement activities would have included the hunting of sea birds for food and feathers, and the line-fishing, spearing, trapping, and hand-harvesting of fish; shellfish; and crustaceans.

Land use within this region, however, would have focused on Cordy's Seaward Upland Slopes zone. The relative density of LCAs occurring in this zone within this area of Hamakua attests to the desirability of this land. Native Hawaiian modifications to the land within this zone would have included agricultural terraces and mounds, houses, trails, and religious structures. House claims appear to have been scattered throughout the farms, but Cordy postulates that the houses were probably located near the main trail through the *ahupua'a*. This area of the Hamakua District was an important agricultural region; both wetland and dryland crops were cultivated in formal fields. Dryland taro was cultivated in *hala* (flat, open lands) in the decomposing mulch of *kukui* leaves and wood, *ti* leaves, grass, and other materials (Fornander 1919, Handy and Handy 1972).

As stated earlier, none of the early archaeological and historical surveys recorded *heiau* in the *ahupua'a* of Kanahoua; and only one *heiau* was known in Waiko'eke, although it could not be located. Since early surveys focused on recording *heiau* sites, it is unlikely that any large religious structures remain within the project area. Physical remains within this zone in the current project area will probably be limited to habitation, agriculture, transportation (trail), and boundary (wall) features.

Cordy's "The Gulches" zone would have been largely used for agriculture. As shown in testimonials for LCAs 10582 and 7872 (Head, Franklin, and Goodfellow 1993; Appendix B), taro, banana, and sweet potato were grown in the area of Wainuli Stream in Kukuhaele *ahupua'a* during the mid 1800s. Although no early references were found that indicated if farming features were present in the other large gulches of Hamakua, we may postulate that similar crops to Wainuli may have been planted in Waiko'eke's Gulch and the smaller, tributary drainages. Taro was probably grown in irrigated *lo'i* on the bottom of the gulches. Crops such as *ti*, banana, sweet potatoes, mounain apple, breadfruit, sugar cane, *manu'a* and *waike* may have been planted along the borders of *lo'i* and on raised drier portions of the gulches.

Permanent houses may have been present on drier portions of the gulch bottoms, as well as on slopes and along trails. However, this zone was probably never heavily used due to the narrowness of the gulch bottoms. We would expect to find a relatively low density of agriculture and habitation features in this zone.

The *manuka* portions of Waiko'eke's *ahupua'a* lie within Cordy's 'Ohia'-a-Koa Forest Zone. Land use in this zone during prehistoric to early historic times would have consisted of resource gathering trips lasting a day or longer (Cordy 1985:65). These trips would have focused on the collection of timber, bark, birds, and other forest products not available in the coastal slopes or in the gulches. Hawaiians expected *ahupua'a* boundaries, and did not encroach upon others' land when collecting forest resources. Collections would have camped overnight in temporary shelters, which in addition to trails, would be the only archaeological evidence of land use within this zone. It is unlikely that permanent habitation sites would have occurred in this area.

Cordy (1985:63-65) mentions trails that ran from the housing areas inland to the forest. These trails were often used to access upland resources, but apparently were also used for longer journeys. Historical research for the Waiko'eke's Lots Development (Walker et al. 1991) uncovered 1866 survey maps showing both *manuka*-*makai* trails and traditional *ala loa* (roads that crossed *ahupua'a*) within Waiko'eke's (Figure 3). Two trails labeled Alanui Waiamea (lit. large path to Waiamea) extend *manuka* through Waiko'eke and into South Kohala. The lesser trail passes through the middle of Waiko'eke; the improved trail skirts the border of Waiko'eke on the Waipi'o side. The latter road is probably what came to be called "Mud Lane" (see Figure B-1). Both trails may have continued on into South Kohala for the 5.6 miles (nine kilometers) to Waiamea, or the lesser trail may have connected with another trail to Waiamea at some place. The "Mud Lane" branches near the coast with one branch continuing *makai* into the present town of Kukuhaele (the *ahupua'a* of Kanahoua and Kukuhaele), and the other, Alanui Hamakua, joining the *ala loa*.

Because it was the main thoroughfare, many portions of the traditional *ala loa* were incorporated into what is now the Alanui Aupuni (government road). The government road follows much of the same land that was Mamalahou: the roadway named for Kamehameha's Law of the Splintered Paddle. This law gave people traveling along the highways and byways the right to travel freely without fear of being troubled or waylaid. The Alanui Aupuni is shown in the inset map of Figure 4 (the *makai* portion of Waiko'eke) crossing from the *ahupua'a* of Kea'a through Waiko'eke and on into Kanahoua.

Data collected in the current project is applicable to future settlement pattern studies in this area, especially those focusing Waipi'o Valley and its relationships with other lands. From ancient times, Waipi'o was an important royal and religious center for the island of Hawaii. Because of the project area's proximity to Waipi'o Valley, it is probable that the lands were controlled, or at least influenced, by the leadership centralized in Waipi'o. Resources from the lands of Kanahoua and Waiko'eke, such as forest products, undoubtedly contributed to the

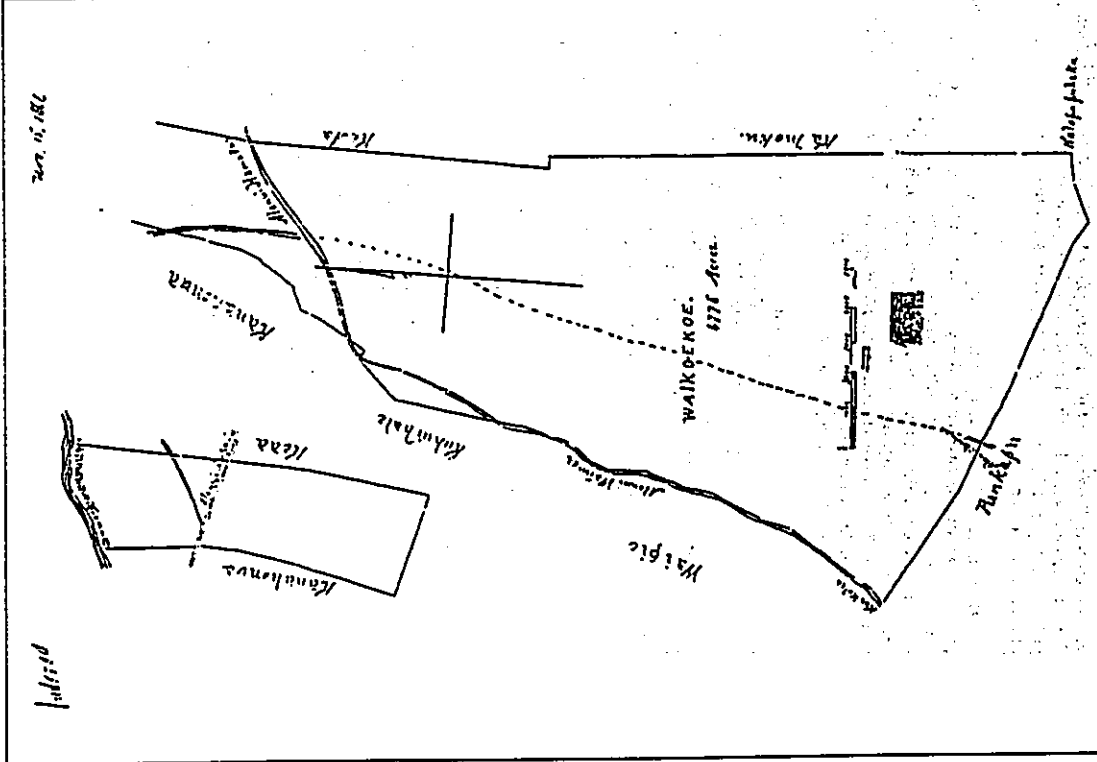


Figure 3. Map of Historic Trails

support of the Waipi'o community. The valley also provided important access to ocean and fishing resources for people living along the slopes, whose access to the ocean was restricted by the steep cliffs in the region.

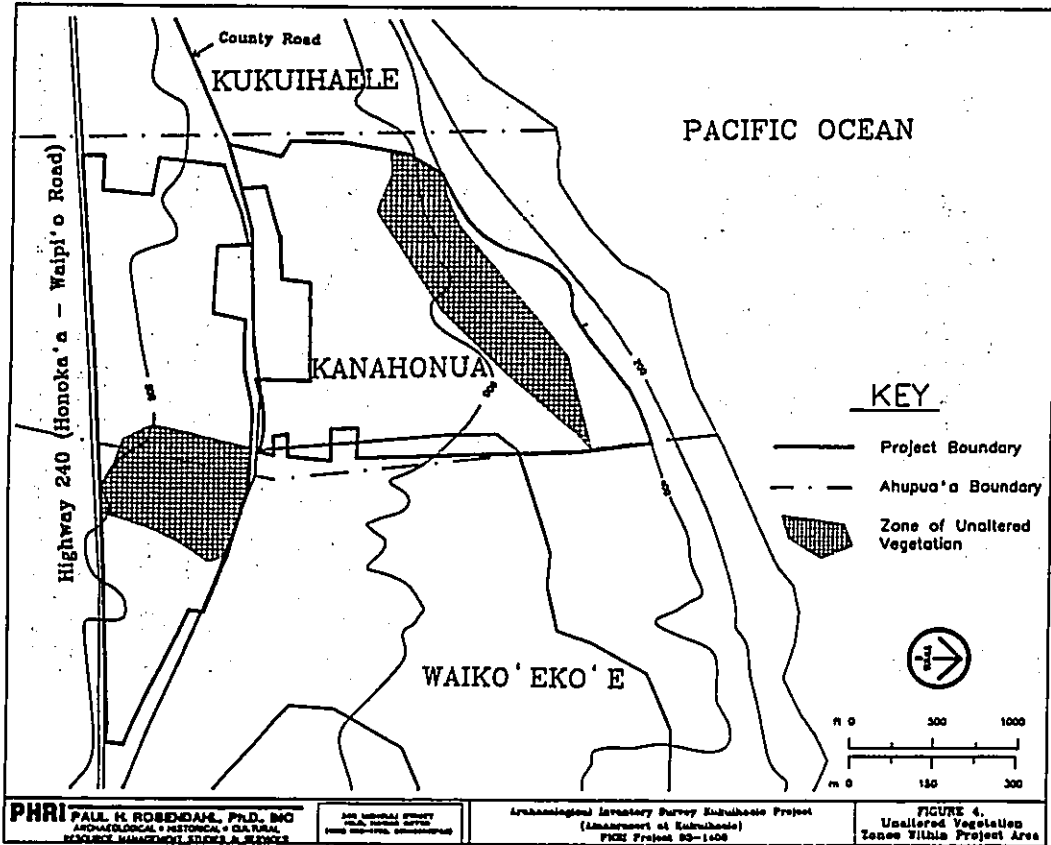
FIELD METHODS AND PROCEDURES

Inventory surveys are conducted as a series of tasks. The first task is the identification of potential site locations from historical and topographic maps. The second task, where appropriate, is an aerial survey of the project area, with several goals in mind: determining patterns in project vegetation; assessing ground access to various parts of the survey area; correlating the mapped locations of topographic features (i.e., gulches, lava flows) and potential historic sites (i.e., cemeteries, structures) with their observed positions from the air; and identifying new archaeological resources. The third task is a pedestrian survey of the project area. During the ground survey, archaeologists visit the locations of the sites and potential sites identified in the first two phases of survey they will also cover the entire project area in a series of variable-intensity ground transects, recording new sites that are found. Details of the current inventory survey are as follows:

On March 4, 1991, PHRI Supervisory Archaeologists James Head, B.A., and Alan T. Walker, B.A., accompanied at various times by Field Archaeologists Michelle Donahue and Kent Smolik, conducted an aerial survey of the project area using a helicopter piloted by Mr. Kaohu Sproat of Mauna Kea Helicopters, Inc. The archaeologists began the helicopter survey by tracing the perimeter of the project area. Then the major and minor drainages within the area were traced, usually by means of north-south transects. Aerial sweeps varied between 15 and 30 m above ground level. Overall visibility was poor, with the ground surface often obscured by heavy vegetation. Sugar cane fields were examined from the air to determine if any large historic sites or *kipuka* (holes) containing undisturbed natural vegetation existed within the fields.

The ground survey consisted of a 100% variable-intensity survey. Figure 4 indicates those areas identified on recent aerial photos that appear to be unmodified, and thus have the potential to contain prehistoric or early historic sites. Waiko'e Gulch was one of these areas. The entire Waiko'e Gulch was examined using pedestrian transects ranging from two to ten meters apart, depending on the terrain. The transects were oriented to maximize coverage of the varying terrain. The *Kuleana* areas were checked using the aerial photographs, and if they did not appear to be modified by sugar cane cultivation, they were covered using a standard pedestrian survey with intervals between crew members of 10 to 15 m. Those areas within the project area already planted in sugar cane were not examined on the ground because the destructive, deep-plowing process of sugar cane cultivation would have destroyed any sites in these areas. The only exceptions are small areas of apparently unmodified vegetation lying within the cane fields. These areas were covered using pedestrian survey transects at 10 to 15 m intervals. In addition to the survey of unaltered areas, the locations of potential features, such as trails and structures shown on early maps, were also examined on the ground.

All identified sites were described on standard PHRI site survey record forms and were photographed using 35 mm black-and-white film (PHRI Roll Nos. 1661, 1671, 1676, 4326, and 4338). Detailed recording of sites included written descriptions, measurements, and plan maps. Test units (shovel tests) were placed at two sites (14986 and 14987), and the profiles were examined for cultural levels.



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 ARCHAEOLOGICAL, HISTORICAL, & CULTURAL
 RESOURCE MANAGEMENT SERVICES

Archaeological Inventory Survey Kūkuīhāele Project
 (Management of Kūkuīhāele)
 PHRI Project 83-1008

FIGURE 4.
 Unaltered Vegetation
 Zones Within Project Area

Table 2.
 Correlation of Site Numbers

SIHP*	Other Number	PHRI
14986		1019-1
14987		1019-2
15006	7176 (SIHP)	1019-26
15008		1019-28
15009		1019-29
15012		1019-32
15014		1019-52

*State Inventory of Historic Places (SIHP) numbers. SIHP numbers are five-digit numbers prefixed by 50-1007 (50=State of Hawaii; 10=Island of Hawaii; 07=USGS 7.5' series quadrangle [Waipi'a, Hawaii])

Each site, or the primary feature within the site complex, was marked with pink-and-blue flagging tape. In addition, a wooden stake with an aluminum tag bearing the temporary site number, the date, the initials of the recorder, the letters "PHRI," and the PHRI project number (91-1019) was left at each location. All sites except one were newly identified historic resources, and each was assigned a one- or two-digit PHRI temporary field number prefixed with "1019-." The first site number was "1019-1." All sites were subsequently assigned permanent State Inventory of Historic Places (SIHP) site numbers. The temporary PHRI and permanent State Inventory numbers for the sites within the current boundary are presented in Table 2. Site 15006 was initially recorded in 1974, as SIHP Site 7176. After a recent consultation with Mr. Kaalei Shum—DLNR-SHPD staff archaeologist for Hawaii's County, it was decided that the Plantation Manager's House would now go by the 15006 number, cross-referenced with the earlier SIHP number.

Three of the sites recorded during the initial survey (15006, 15008, and 15009) were revisited by PHRI Supervisory Archaeologist Letia Franklin, M.A., on August 21, 1993 for additional site recording and a field inspection of their condition. Of these sites, only 15006 lies within the current project boundary. The remaining two sites, both cemeteries, were inspected to determine if their boundaries extended into the current project area. This work was supplemented by archival research.

FINDINGS

SURFACE FINDINGS

PHRI identified four sites (16 component features) in the current project area and three sites (four component features) immediately adjacent to the project area. To aid in determining archaeological settlement patterns, all cultural properties located during the inventory survey were examined to ascertain their approximate age. The sites were placed in one of three categories: (a) Prehistoric, which includes all periods to the end of Expansion Period in AD 1650 (Kirch 1985); (b) Late Prehistoric/Early Historic, which includes the Proto-Historic Period—AD 1650-1795 (ibid.) up to c. 1850; and (c) Late Historic/Early Historic to Late Historic/Historic. These age determinations are based on a number of factors, including formal site type, presence or absence of portable remains, condition of the site, early historic accounts of the region, and proximity to LCA properties. Information on site ages is summarized in Table J, along with information on site vegetation, elevation, functional interpretation, and presence within a LCA. Table 4 summarizes the sites in terms of component features, formal and functional types, PHRI Cultural Resource Management (CRM) value mode assessments, and recommended field work tasks.

Appendix A provides detailed descriptions of each site and component feature occurring within and adjacent to the project area. The sites within the project area comprise two complexes (multiple-feature sites) and two single-feature sites. The sites adjacent to the project area consist of one site complex and two single-feature sites. These seven sites comprise the following formal feature types: cupboard, historic residence, modified outcrop, and terrace (Table 5). The functional feature types are: agriculture, habitation, agriculture/habitation, possible habitation/possible temporary habitation/agriculture, and storage (Table 6). The most common formal feature type in the project area is terrace (13 examples) followed by historic cemetery (two examples). The most common functional feature type is agriculture (seven examples), followed by habitation (four examples).

The entire project area sites lies below 850 R AMSL (259 m) (Figure 2). The sites are located within a variety of vegetation zones, as defined by Char (1991). Two sites (14986 and 15014) are located in the gulch Vegetation Zone; two sites (14987 and 15012) lie within the Coastal Vegetation Zone; two sites (15006 and 15008) lie within an area of gulch vegetation that has been modified; and one site (15008) lies within modified sugar cane vegetation.

Site 14986 is a good example of a Late Prehistoric/Early Historic (LP/EH) agriculture/habitation complex. The site consists of 11 features (nine terraces, a cupboard, and a modified outcrop) lying on both sides of a wide, gently sloping drainage. Areas to the east, west, and south are planted in sugar cane; on-site vegetation includes *kubul*, banyan, castor bean, *fi*, arrowroot, and *gurma*. The site is in good condition, and the integrity is unaltered. The site plan is illustrated in Figure 5, and photographs of the features are presented in Figures C-2 to C-7.

The features at this site are mostly agricultural terraces. The terrace locations, on the sides of a gently sloping drainage, suggest that they may have been used for growing taro or sweet potato. One feature at this site (Feature J) is a storage cupboard formed by four large basalt pieces resting atop large cobbles. The presence of this cupboard may indicate a temporary or

Table 3.
Summary of Site Contexts

SIHP No.	Topography	Elev. (ft. AMSL)	Veg.	Function	Age	LCA
14986	Wide inter. drainage bottom oriented north	820	GV	H ₂ A	LP/EH	*
14987	Atop sea cliff north of sugar cane fields	805	CV	H ₂ A	LP/EH	*
15006	Flat area w/light slope to the north	780	GV(H) [†]	H ₂	LHM	*
15008	Flat area w/light slope to the north	870	GV(H) [†]	CH-B	LHM	-
15009	Flat area w/light slope to the east	820	SF(H) [†]	B	LHM	-
15012	Near vertical cliffs above ocean	100	CV	T	LHM	-
15014	Gentle slope in broad perm. drainage (Waiko'oko'e Gulch)	845	GV	H ₂	LP/EH	-

Site Vegetation Categories (from Char 1991):

CV Coastal Vegetation
GV Gulch Vegetation
SF Sugar Cane fields

Site Function Categories

A Agriculture
B Burial
C Ceremonial
H₂ Habitation
T Transportation

Site Age Categories:

LP Late Prehistoric (Proto-Historic)
EH Early Historic
LH Late Historic
H Historic

[†](H) Modified

* Adjacent to, but not within, current project area

Table 4.
Summary of Identified Sites and Features

SHIP* Site No.	Formal Site/Feature Type	Functional Interpretation	Cultural Resource Value			Fieldwork Type DR SC EX
			R	I	C	
14986	Complex (1)†	Habitat/agriculture	H	H	H	♦ ♦ ♦
A	Terrace	Agriculture				
B	Terrace	Habitat				
C	Terrace	Agriculture				
D	Terrace	Agriculture/Habitat				
E	Terrace	Agriculture				
F	Terrace	Possible temporary habitation/ag.				
G	Terrace	Possible habitation				
H	Terrace	Possible habitation				
I	Terrace	Agriculture				
J	Capboard	Storage				
K	Modified outcrop	Agriculture				
14987	Complex (1)	Habitat/agriculture	M	H	H	♦ ♦ ♦
A	Terrace	Habitat				
B	Terrace	Agriculture				
C	Terrace	Agriculture				
15006	Historic residence	Habitat				
15008	Complex (2)†	Burial - Ceremonial/Habitat	M/H	H	H	♦ ♦ ♦
A	Historic cemetery	Burial				
B	Structural remains	Ceremonial/Habitat				
15009	Historic cemetery†	Burial				
15012	Trail†	Transportation				
15014	Terrace	Habitat	L	L	L	♦ ♦ ♦

* State Inventory of Historic Places (SHIP) numbers. SHIP numbers are five-digit numbers prefixed by 50-10-07 (50-State of Hawaii; 10-Island of Hawaii; 07-USGS 7.5' series quad map ["Waipaho, Hawaii"])

Cultural Resource Management Value Merit Assessment — Degree: H = High, M = moderate, L = Low
 — Nature: R = scientific research, — Degree: H = High, M = moderate, L = Low
 — Nature: A = agriculture, C = cultural

Recommended Field Work Tests:
 DR = detailed recording
 SC = surface collection
 EX = test excavations

† Number of component features within complex.
 ‡ Site adjacent to, but not within, current project area

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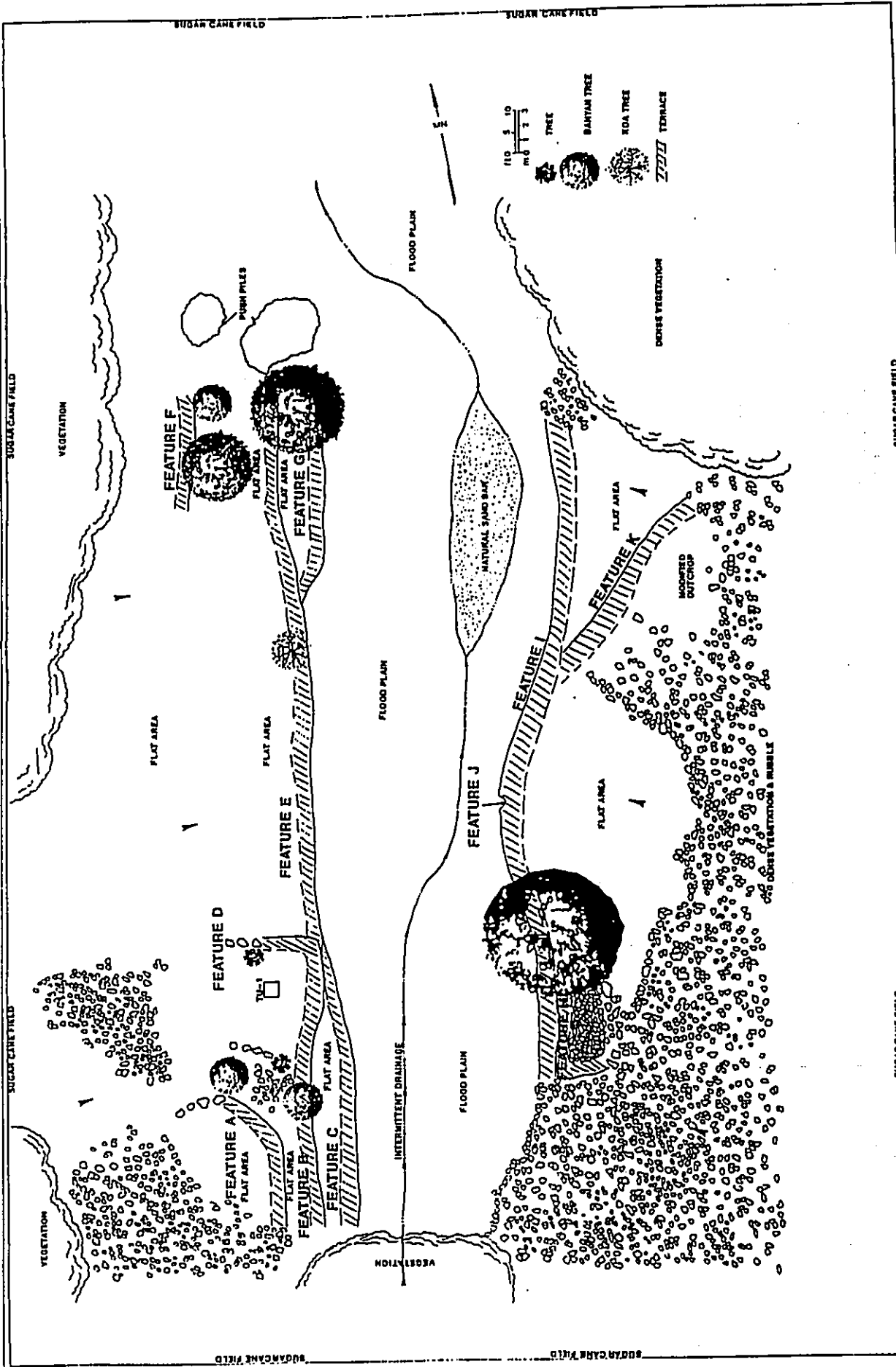


Figure 5. Site 14986, Habitation/Agriculture Complex

Permanent habitation component to the site; however, none of the terraces could definitely be assigned a habitation function during the survey.

Site 14986 lies within LCA 7131 and south (mauka) of LCA 7874. According to Native Testimony in 1837 (see Appendix B), the awarded of LCA 7131 stated that he had enclosed the land with a stone wall. None of the features observed in the field during the current survey appeared to be a boundary wall. The 1909 map (Figure B-1) shows a mauka-makai trail leading from the coast to Kukuhaele village. This trail closely follows the east (hilo) side of LCA 7131. Yet, the Pacific Sugar Mill field maps (1909-1911) (Figure B-3) indicate the trail running along the west (Waipi'o) side of the LCA. No evidence of this mauka-makai trail was found during the current survey of this area. The remains of the trail may have been destroyed by sugar cane cultivation, or it may have been overgrown by vegetation after it fell into disuse.

Site 14987 is a complex of three terraces (one habitation and two agriculture) in a wooded area on a north-south running slope between the uplands and the sheer cliff face of the coast. This site is located just mauka of Site 14986, and also lies within LCA 7131. The overall site dimensions are roughly 25 m (N-S) by ten meters (E-W). The site is in good condition, and has not been altered. The site's probable age is prehistoric to early historic. The site plan is presented in Figure 6.

Site 15014 is a late prehistoric to early historic, paved habitation terrace measuring 3.0 m by 2.0 m (Figures 7 and C-5). Vegetation at and around this site includes macadamia nut, banana, taro, avocado, and kauli. The site is in poor to fair condition, and is unaltered. It lies immediately downslope of three modern shacks and animal pens fabricated of wood and corrugated metal. The terrace is constructed with basalt cobbles and boulders (c. 0.05 to 0.50 m in diameter) stacked one course deep and set into the soil. There is no discernible as-built shape to the feature, because of tree root disturbance. This feature is located 100 m south of the county road, in Kukuhaele, within Waiko'e Gulch along the west bank of Waipomaha'e Stream. Site 15014 lies west of LCA 7877 and within Honoka'a Sugar Company Camp No. 5 (see Figure B-5). Two camp structures are mapped in the area of this site, although this feature predates the camp.

Table 5. Frequencies of Formal Feature Types*

Formal Type	Number	%
Terrace	13	65.0
Historic cemetery	2	10.0
Cupboard	1	5.0
Historic residence	1	5.0
Wooded outcrop	1	5.0
Structural remains	1	5.0
Trail	1	5.0
TOTAL	20	100.0

Table 6. Frequencies of Functional Feature Types*

Functional Type	Number	%
Agriculture	7	35.0
Habitation	4	20.0
Agriculture/habitation	2	10.0
Berth	2	10.0
Ceremonial/habitation	1	5.0
Possible habitation	1	5.0
Possible temporary habitation/ly	1	5.0
Storage	1	5.0
Transportation	1	5.0
TOTAL	20	100.0

* Includes the three sites adjacent to the project area

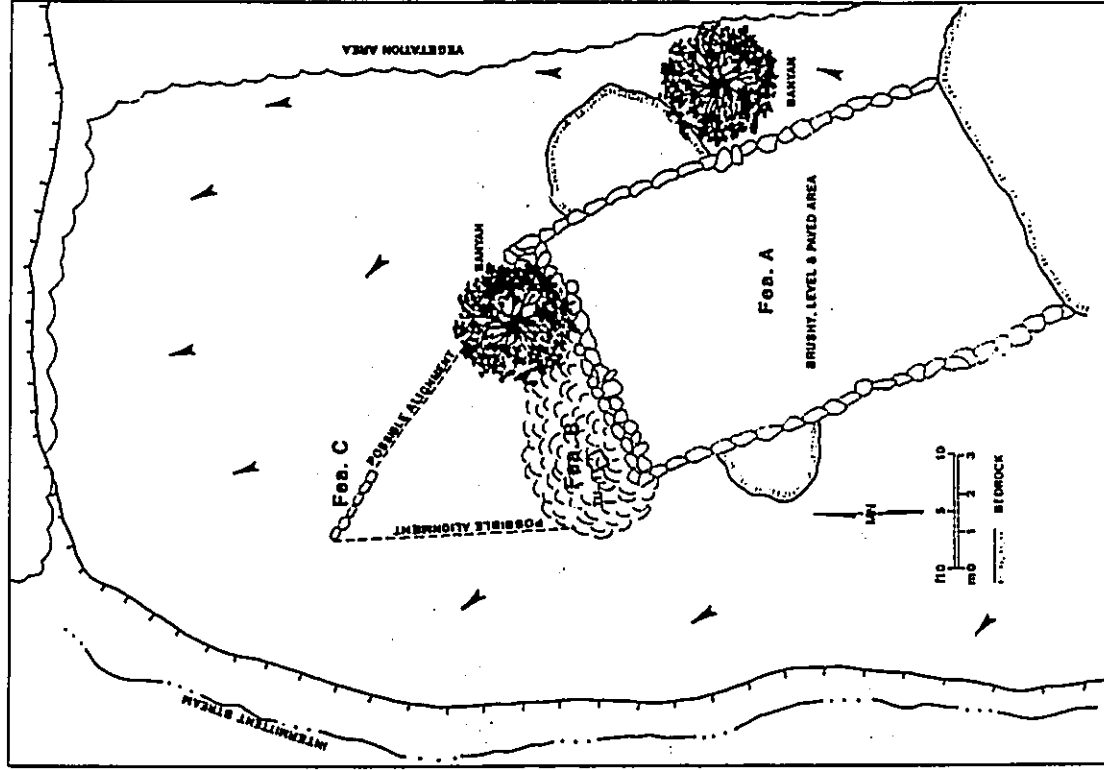


Figure 6. Site 14987, Agricultural/Habitation Complex

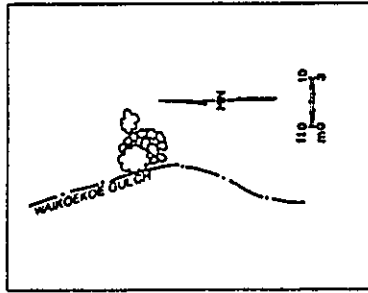


Figure 7.
Site 15014, Habitation Terrace

One historic site was identified during the inventory: Site 15006 (Wright 1974, Barrera 1977), the Honoka'a Sugar Company Manager's Residence. This site was placed on the Hawaii Register of Historic Places in March 1974, and is still listed on the state register under the SHPP number assigned at that time (7176). The estate lies on slightly sloping land between Kukuhaele town and the Honoka'a-Waipio Road (Highway 240), encompassing 8.5 acres. LCA 7859 lies within the estate (see Appendix B). The estate property encompasses TMK parcel 4-8-06:13, and measures c. 244 m (800 ft.) N-S by 412 m (1350 ft.) E-W.

This historic site is a large, well-tended estate composed of the following architectural features: main house, keeper's cottage, 3-car carport, small porte cochere, gardens, paved driveway and parking area, tennis court, and swimming pool. A 1974 architectural sketch map of the estate is presented in Figures 8 and 9. This site is in fair to good condition, although the integrity has been altered in several ways, including modification of the gardens; the addition of a tennis court and pool; the addition of modern fencing, driveway, and walkways; the addition of service rooms to main house; and enclosing the lanai.

An asphalt-covered driveway leads up from the county road to the estate parking area. The main house (Figure C-5) lies downslope of this parking area. The main house is a two-story clapboard (hip siding) structure with attic and a combination of hip and gable roof sections. An enclosed lanai runs along the north (makai) side of the house, overlooking a swimming pool. A tennis court adjoins a small patio on the west side of the main house. The house is painted a light gray, and is roofed with white corrugated iron and topped with two red brick chimneys.

There is a second, small house (the "Keeper's Cottage") and a carport on the south (mauike) side of the parking area. This second house appears to be built more recently than the main house, although the clapboard carport may be contemporary with the main house. Landscaping on the grounds is lush and well-tended, consisting of terraced lawns and exotic and Polynesian ornamentals, such as banyan, ginger, hibiscus, Cook Island pine, coconut palms, jacaranda, paper bark, tree fern, and plumeria.

Designed by architect Edgar A.P. Newcomb and built in 1920, the main house is typical of the "Shingle Style" design. The Hawaii Register of Historic Places Historic Sites Information and Review Form (Wright 1974) states "This house is one of the exemplars of the elaborate style of architecture that became popular through the support of wealthy clients. It is one of a few of its kind in the area, and is thought by many local inhabitants to be the best plantation manager's house on the island." Current plans call for the Honoka'a Sugar Company manager's residence to be renovated and converted into an inn, as part of the Kukuhaele Amusement Project.

Three historic sites lie adjacent to the project area: two cemeteries and a trail. These sites were included in the earlier project (Head, Franklin, and Goodfellow 1993). Updated site descriptions were prepared as part of the current report. Additional field inspection of the two

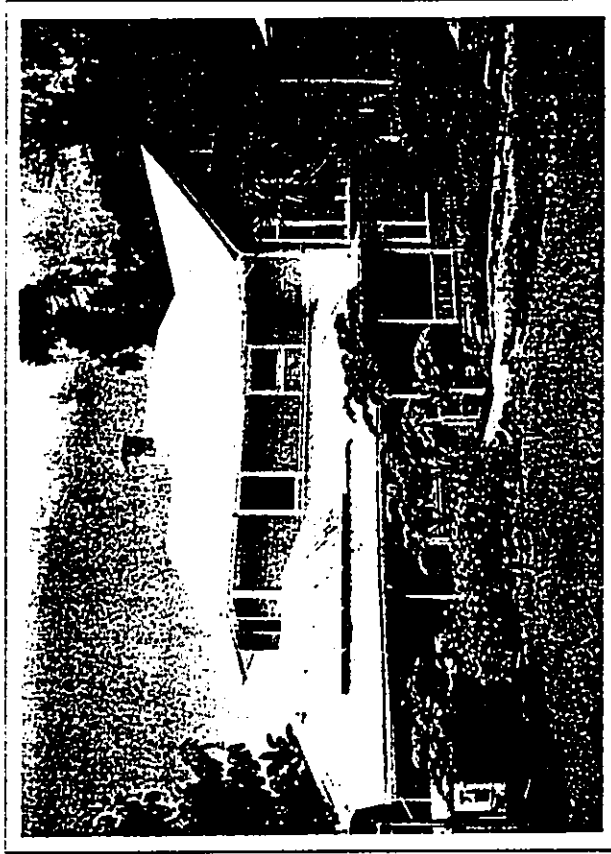


Figure 8. Site 15006, Honoka'a Sugar Company Manager's Residence (Neg. 4538-21a)

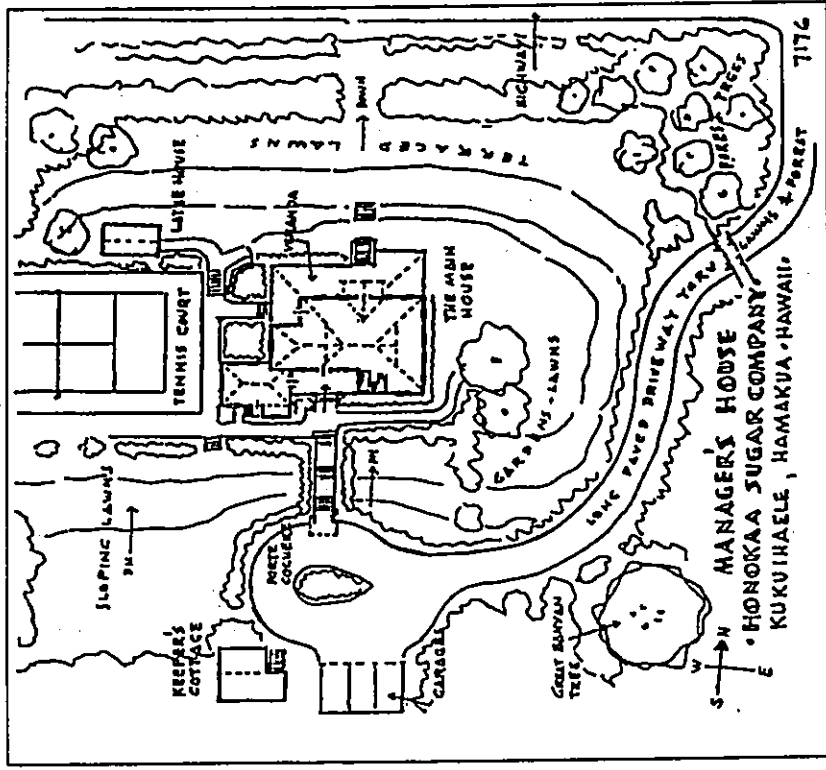


Figure 9. Site 15006, Hanaka's Sugar Company Manager's Residence (From Historical Sites Information and Review Form, Wright 1974)

cemeteries and supplementary archival research was undertaken to determine if the site boundaries may have extended into the current project area or if related features may have some bearing on the current study.

Site 15008 is the Saint Theresa Catholic Cemetery and the scattered remains of an earlier Catholic Church or house that once stood on this site. The cemetery lies on an area of modified gulch vegetation that slopes down to the coast (north). Waiho'eko'e Gulch lies to the east, with sugar cane fields situated to the west and south. The *waiho-makani* road that passes by the cemetery is the "Road to Mill and Landing" shown on the map of Pacific Sugar Mill Camps 4 and 5 (Figure B-5). This site falls outside of the current project area, and is surrounded on three sides by the project area.

There is no vegetation within the cemetery except for a few *ti* plants planted in the graves. The cemetery perimeter is marked by a strip of mostly banana and papaya plants. Site condition is fair, and the integrity of the cemetery is unaltered. The cemetery property measures c. 61 m (200 ft) square; the area in which the graves are located (Feature A) measures c. 55 m (N-S) by 40 m (E-W), consisting of c. 50 graves and a small wooden frame structure (not a historic feature). There is a discrete scatter of historic structural debris (Feature B) in the southwest corner of the cemetery property that measures c. 20 m (N-S) by 15 m (E-W). An overview photo of the cemetery is presented in Figure C-9.

Sumames on the grave markers (e.g., Benito, de Jesus, de Mello, Domingo, Edelio, Enaligo, Langog, Luro, Nemenio, Pagaduan, Quiap, Ramos, Rodriguez, Santos, and Villa), and the site's proximity to Saint Theresa Catholic Church, indicate that the cemetery was largely for Portuguese, Spanish, and Filipino Catholic burials. Headstones date from AD 1883-1991. Many graves are unmarked and in various states of disrepair, but the cemetery is still in use.

The small, wooden frame structure in the southeast corner of this property serves as an open rain shelter. This feature measures 14 ft. (N-S) by 16 ft. 4 in. (E-W), with a corrugated lean-to roof sloping from 9.5 ft to 7.0 ft high. The framework rests on a concrete and cinder block foundation, and is fabricated of wooden planking, painted gray. The structure opens to the west with large bays on the north and south sides. Construction appears to date to the 1950s or later. This structure probably functions as a shelter for people visiting the cemetery, or possibly, for funerals. Due to its age, this feature is not of archaeological or historical significance.

Early maps of the area indicate a church on this site in 1909 (Figure B-1), and a Catholic church and a house on this site (alongside "Field 1") in 1913 (Figure B-2). The southwest area of the cemetery lacks graves, and is covered with a scatter of historic and modern debris, consisting of both portable items and structural remains. This densest area of the debris match the mapped locations of earlier structures on this land. The portable items represent the remains of grave offerings associated with the cemetery (e.g., glass from broken bottles and jars), ecofactual remains (e.g., marine shell), remains of indeterminate origin (e.g., porcelain and earthenware pottery sherds, some burned), and structural debris (e.g., hundreds of cut nails of various sizes, wood-screw and spring washer sets, broken window pane glass). The last category of remains probably represent the remnants of a wooden structure that burned down, either inadvertently or intentionally. The burned pottery sherds may relate to grave offerings, or possibly to the remains of the structure.

Site 15009 is a historic Hawaiian cemetery lying on a gently sloping ridge between the Waipi'o-Honoka'a Road and the county road through Kukuhaele. This cemetery is still in use. While it is adjacent to but not within the project area, it is bounded by the project area on three sides. Site condition is fair, and integrity is unaltered. The cemetery covers two acres, measuring c. 99 m (325 ft.) N-S by 81.7 m (268 ft.) E-W; graves occur in an area c. 60 m (N-S) by 25 m (E-W) within the cemetery land. The cemetery is covered with mown grass, and is surrounded by a field of grasses and sugar cane. Figure B-2 presents the cemetery plan from the original 1943 survey.

Sixty-three marked graves occupy the cemetery, with observed dates ranging from AD 1879-1993. Graves are oriented east-west with the markers at the west end. The markers are mostly marble headstones or small metal markers with an informational placard under clear plastic (many of these are missing). Grave types are: simple lava rock outline or mound, upright marble headstones (mostly on older graves), rectangular concrete slab or strip outline, simple mounded earth, and graves marked with glazed ceramic-tile-lined slabs. Red ti, plumeria, and awapuhi, among others species, are planted within the grave plots. Surface offerings are typical of Hawaiian cemeteries, and include vases and jars of flowers (i.e., anthurium, ginger, bird of paradise, chrysanthemum); windmills; fruit; statues; beads; and cans of soft drink and beer. Some headstones bear photographs of the deceased.

Names on the grave markers indicate usage largely by Hawaiians; other surnames are of Chinese, Japanese, Portuguese, and English origin. Although the cemetery was established in 1943 (see Appendix B), 13 observed dates on the headstones predate this time, ranging back as early as 1879. These 13 graves are located in the southern (mauka) portion of the cemetery in an area c. 3.7 m (12 ft.) (N-S) by 10.5 m (30 ft.) (E-W). A photo of these older graves is presented in Figure C-10. The graves are situated in four rows of three graves abreast, plus one row with one grave (each plot c. 5.0 by 8.0 ft.). The regular spacing of the graves, the fact that they are the 13 oldest burials in the cemetery, and that as of June 28, 1943 "there have been no burials in the cemetery lot" (Murray 1943, letter cited in Appendix B) all suggest that these graves may have been moved here from another location. This cemetery was established on lands decided to the County of Hawai'i by the Roman Catholic Church, so it is unlikely that a family plot existed on these lands at the time the property changed hands.

Based on the present evidence, which is only indirect, the most likely scenario is that the pre-1943 graves at the County Cemetery were moved there from the Congregational Church shown on the 1909 map. This church was located on the old county road *waka'i* of the county cemetery (Figure B-1). Alternatively, the graves may have been moved to the County Cemetery from family plots. During the 1991 survey, PHRI archaeologists noted marked graves in backyards in and around the town of Kukuhaele. While the remains of the Congregational Church lie outside the current project boundary, PHRI utilized archival research and local informants to ascertain that the remains of this early church (and associated cemetery) did not extend into the current project area.

Site 15012 is a trail that passes along the near-vertical cliffs below the project area (Figure C-1). Site condition is poor to fair and is unaltered. Vegetation along the trail consists of native and exotic species. Probable age of the trail is late historic/prehistoric. The trail is roughly 2.0 meters wide and 2.8 km long (1.74 miles). The creation of this trail appears to have entailed both rock removal and the construction of retaining walls. The trail drops down *waka'i* of Pacific Sugar Mill, travelling along the side of the cliff before dropping down into the mouth of Waipi'o Valley. The trail's location can be seen in Figure B1.

SUBSURFACE FINDINGS

Two test units were excavated in the project area during the 1991 survey (Head, Franklin, and Goodfellow 1993), one at each of two sites (14986 and 14987). The purpose of the excavations was to attempt to recover datable samples and to test for the presence of subsurface cultural deposits. None of the units yielded datable radiocarbon samples or cultural midden. The following section presents detailed descriptions of the unit stratigraphies from Head and Goodfellow (1991:30).

Site 14986, Feature D, TU-1

Site 14986 is a late prehistoric/early historic habitation/agriculture complex of 11 features. The complex is at approximately 620 ft (189 m) AMSL and lies within a wide, north-trending intermittent drainage. Feature D is an agriculture or habitation terrace in the southwestern portion of the site. Large basalt boulders mark the southwest (upslope) side of this deformed terrace. The terrace extends north from Feature B and consists of a platform of earth and rubble contained within a right-angle wall of stacked basalt boulders and cobbles. The area may be disturbed by possible soil movement from above.

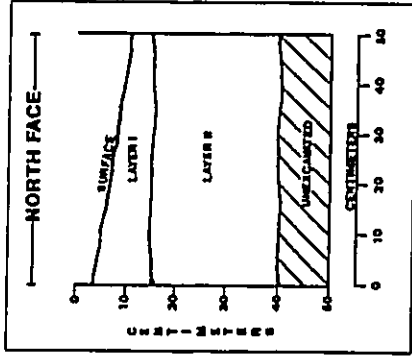


Figure 10.

Site 14986, Feature D; Profile, TU-1

A 50 by 50 cm test unit was excavated in this feature. The unit was excavated by natural stratigraphic layers. Two layers were discerned, and neither appears to be cultural. No midden was observed. Soil within this unit was not screened in the field, as trowel excavation with close visual inspection of the excavated material was judged to be the most appropriate strategy. A profile of the unit stratigraphy is presented in Figure 10.

Layer	Description
I	0-15 cmbs: black (SYR 2.5/1 moist); silt loam; dark reddish gray (10R 3/1 dry); moderate, fine, subangular blocky structure; soft, very friable, sticky, plastic
II	15-40 cmbs: dark reddish brown (SYR 2.5/2 moist); silty clay loam; dark reddish brown (SYR 3/2 dry); moderate, very fine to medium, subangular blocky structure; very hard, firm, sticky, plastic

Site 14987, Feature B, TU-1

This site is a habitation/agriculture complex of three features of probable late prehistoric/early historic age. The site is atop a sea cliff at an approximate elevation of 605 ft (185 m) AMSL. Feature B, a probable agriculture terrace with stacked and faced retaining walls, abuts Feature A, a large platform. Feature B is rectangular, with the long axis running east-west.

A 50 by 50 cm test unit was excavated in this feature. The unit was excavated by natural stratigraphic layers. Two layers were observed, and neither appears to be cultural. No midden was observed. Soil within this unit was not screened in the field, as trowel excavation with close, visual inspection of the excavated material was judged to be the most appropriate strategy. A profile of the unit stratigraphy is presented in Figure 11.

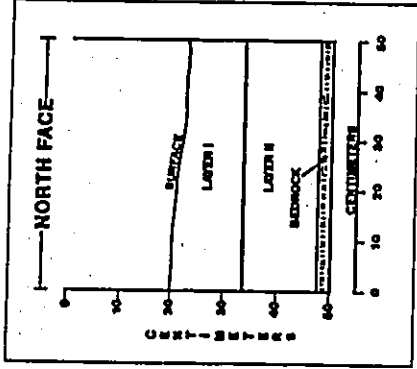


Figure 11.
Site 14987, Feature B; Profile, TU-1

Layer	Description
I	20-41 cmbd; black (5YR 2.5/1 moist); silt loam; black (7.5YR 2/0 dry); moderate, fine to medium, subangular blocky structure; slightly hard, friable, non-sticky, plastic; moderate to high amount of rocks and roots
II	34-50 cmbd; black (5YR 2.5/1 moist); silty clay loam; dark reddish brown (5YR 3/2 dry); strong, fine to medium, blocky structure; hard, firm, non-sticky, slightly plastic; moderate to high amount of rocks and roots

CONCLUSION

EVALUATION OF SURVEY METHODOLOGY

The aerial survey covered the entire project area with sweeps flown at an average height of c. 15-30 m. The sweeps worked well for determining which modified areas contained vegetation (e.g., gulches); however, in unmodified areas, dense vegetation often obscured the surface and these areas were covered using pedestrian surveys. The ground survey utilized closely spaced transects in the densest areas of vegetation, and this aided in the location of ground features. Areas planted in sugar cane were not surveyed on the ground, because the destructive, deep-plowing nature of sugar cane cultivation had almost certainly destroyed all sites in these areas. In general, the survey methodology was successful. The combination of pre-field research to delineate potential site locations, the aerial survey, and the pedestrian ground survey provided adequate coverage of the project area.

DISCUSSION

This study is among the first to be done in the Lands of Kanabonua and Waiko'eko'e. Because of this, it is not known whether the features identified in the project area are common to the general area, or whether they are unique. The features are, however, common to other areas of the island of Hawaii.

The survey included unaltered portions of the project area slated for development as well as examination of the historic resources within the project area. The unaltered areas constituted only a small portion of the project area, and are limited to remnant areas along roads, above the sea cliffs, and within those gulches that are too steep for planting sugar cane. Most of the project area has been deep plowed and bulldozed, and as a result, the sites that remain are only a limited, non-representative sample of the sites once present.

Excluding the historic sites, most (13; 86.7%) of the formal feature types in the project area (1-15) are terraces (agricultural and/or habitation). Seven of the features (46.7%) were agricultural terraces (lo'ia in Hawaiian); three of the features (20%) have a probable agricultural component. As most of the sites in the project area relate to agriculture, it may be that the area was utilized during prehistoric times much as it is today—primarily for agriculture.

Cordy (1985) proposed dividing the district into four topographic areas: (1) Sea-shore; (2) The Seaward Upland Slopes; (3) Ohi'a-Koa Forest Zone; and (4) The Gulches. The present survey examined portions of two of these zones: the Seaward Upland Slopes and the Gulches. Using Cordy's areal models, the findings in the project area as they relate to the ahupua'a of Waiko'eko'e and Kanabonua are summarized as follows:

Sea-Shore Zone - Land within this zone is not included in the current project. However, a trail (Site 15012) that begins in the Seaward Upland Slopes east of the project area and extends down to the Sea-Shore Zone below the project area, was recorded. This fits our expectations, as access to the sea was vital for native Hawaiian resource procurement.

of the town it used to be. When Honokaa Sugar Company took over cane production in the area, most Kukuhae businesses moved to Honoka'a, where the mill, and the landing from which most of the sugar was loaded onto ships, were located.

Suggested Future Research

The present project provided the opportunity to examine an area of Hawai'i Island that has not been studied before. Future work in the area, including that generated by this project, may be able to establish more baseline information on prehistoric and historic exploitation in this area. It is suggested that future research pursue the following questions, suggested by Head and Goodfellow (1991):

1. When did initial occupation occur within the project area; what was the nature of the occupation; were inhabitants part of an excess population of Waipi'o Valley?
2. What role (if any) did Lakaia and other *ohupua'a* near Waipi'o Valley play in the expansion of the Waipi'o Valley population; were these land units treated generally as extensions of the valley or were they autonomous units?
3. Are there remaining examples of prehistoric/early historic upland agricultural systems other than in the gulches, and if so, how can they best be studied?
4. Are the site types and demographic patterns found during this survey common in the uplands between Waipi'o and Hilo, or are they unique?
5. What was the nature of marine exploitation in the project area, and along the Hamakua Coast, and to what extent were marine resources relied on by inhabitants of the area?

Concerning Question 1, further excavations should attempt to locate diable deposits in secure contexts; these deposits may serve to demonstrate the probable earliest occupation period within the area.

Concerning Question 2, it is possible that in the past Waipi'o Valley reached its population limits. The population would have eventually outgrown the available cultivable land. A natural movement out of the valley may have taken place; logically, the movement would have been to the uplands on the three sides of Waipi'o Valley, where more land was available. If this was the case, the adjacent lands would likely have been under the supervision of a *konohiki* who had lineal ties back to the ali'i who also controlled the valley. It seems reasonable that a similar control was exercised over several of the *ohupua'a* close to the Waipi'o Valley.

Concerning Question 3, it is probable that prior to cane cultivation, many *lo'i* were present in the uplands, as there are permanent streams to provide the needed irrigation water. During clearing for cane cultivation, however, the *lo'i* were undoubtedly destroyed. Another possibility, albeit slight, is that terraces exist within the sugar cane fields themselves. There is a small possibility certain areas were covered by alluvial and colluvial processes during the past. If these buried areas are present they could contain features. Such areas may be able to be found using some type of remote sensing of electromagnetic radiant energy—such as in seismic refraction or soil resistivity surveys, or by backhoe trenching (Weymouth 1986:315-320).

Seward Upland Slopes - A fair number of *keia* were noted by Stokes (1919), Thurun (1908), and Hudson (1932), but most are probably no longer present, probably because of damage by cultivation. During the present inventory, two late prehistoric/early historic sites (14986 and 14987), both habitations/agriculture complexes, were found in this zone within the Kaahonua *ohupua'a*. Land Commission Awards indicate houses, associated fields, and a boundary wall were located in this area. No *manuka-makia* trails leading to the upland forest zones were found in the current project area, although they are indicated on historic maps. These trails have either been destroyed by sugar cane cultivation, or paved over when the modern roads were constructed. These data fit our expectations for the settlement pattern and site types within this zone.

'Ohi'a-Koa Forest Zone - None of the current project area lies within this zone, although trails would have run from the lower elevation zones to access the upland forest zone, as discussed in the previous paragraph.

The Gulches - During this inventory, one native Hawaiian site, a habitation terrace, was found in this zone. No *lo'i* were found, although macadamia nuts, banana, taro, avocado, and *kukui* were growing near the habitation terrace site. This finding was not surprising, although it is significant that no formal agricultural features were found within this zone. Historic and modern sugar cane cultivation activities have included the deep-plowing of many of the shallower gulch areas. Since the shallower gulches are the most likely gulch areas to contain cultural features such as agriculture terraces, the features may have been destroyed by sugar cane cultivation.

Post Contact and Recent Period

The land that had once supported a variety of crops, including taro, *kukui*, and sandalwood, became exclusively pasture and sugar land, and the village became the center of activity, because the mill and landing were located there. Foreign labor was brought in, creating an increasingly mixed population that included Puerto Ricans, Russians, Filipinos, Koreans, Portuguese, Japanese, and Chinese. As the population grew and agricultural diversity decreased, the subsistence economy collapsed. Residents became more dependent on manufactured goods, and a cash economy developed. The construction of Kukuhae Landing may have had a great impact on the settlement patterns for this area. Waipi'o had been the center of population in the area, but once sugar industry developed, population began to shift to Kukuhae. Many natives from the valley moved up to work on the sugar plantation, making Kukuhae the center of economic activity as well. Plantation maps presented in Appendix B indicate where various activities took place in Kukuhae. These maps indicated the locations of a Japanese vegetable garden, Chinese drug store, native houses, Silva's saloon, *poi* shops, paddocks, stores, stables, kitchens, blacksmith shops, and a hotel.

Although Pacific Sugar Mill itself was closed in the 1913, the surrounding land stayed planted in cane, and the landing was used off and on for the next 50 years. Sugar cane production eventually wound down, and with the advent of modern machinery and technology, sugar cane harvesting and processing became less labor intensive, and more and more people moved out of the camps and villages to seek their fortunes outside the plantation. Many others, having come from other towns, islands, or from foreign countries, had nowhere else to go. Still others lacked the skills for non-plantation work. Kukuhae town survived, but it was only a shadow

Concerning Question 4, as mentioned earlier, there have been only a few archaeological studies in the region. Based on available information, it seems likely that the observed patterns of archaeological sites would be consistent along the uplands, especially since there are no great changes in topography or climate in the area.

Question 5 concerns the role that marine resource exploitation played in the project area. As Tuggle (1977:174-175) observed:

The ocean was the primary source of protein for the Hawaiians. They obtained fish, shellfish, squid, crustaceans, and, on occasion, marine mammals. The most diversified tool assemblage of the Hawaiians was for ocean resource exploitation and included fishhooks, nets with sinkers, traps, and octopus lures, as well as manufacturing tools (such as abraders made of sea-urchin spines or coral) and canoes for transport. In general, conditions for marine exploitation are better in the leeward portions of the Hawaiian Islands. The prevailing winds and large swells on the Hamakua Coast make marine resources more difficult to obtain. Resources are available from the project area, however.

Condy's model (1985) may be tested by further archaeological inventories in the Hamakua District. In the Seaward Upland Slopes the unaltered portions—gulches, isolated plots, lawns, and the upland slopes—have the greatest potential for yielding additional data on land use; these portions should be carefully examined.

GENERAL SIGNIFICANCE ASSESSMENTS AND RECOMMENDED GENERAL TREATMENTS

To aid in outside review, general significance assessments and recommended general treatments for all identified sites are summarized in Table 7. Significance categories used in the site evaluation process are based on the National Register criteria for evaluation, as outlined in the Code of Federal Regulations (36 CFR Part 60). The Hawai'i State Historic Preservation Division uses these criteria for evaluating cultural resources. Sites determined to be potentially significant for information content (Category A, Table 7) fall under Criterion D, which defines significant resources as ones which "have yielded, or may be likely to yield, information important in prehistory or history" (36 CFR Sec. 60.4). Sites potentially significant as representative examples of site types (Category B) are evaluated under Criterion C, which defines significant resources as those which "embody the distinctive characteristics of a type, period, or method of construction...or that represent a significant and distinguishable entity whose components may lack individual distinction" (36 CFR Sec. 60.4).

Sites with potential cultural significance (Category C) are evaluated under guidelines prepared by the Advisory Council on Historic Preservation (ACHP) entitled "Guidelines for Consideration of Traditional Cultural Values in Historic Preservation Review" (ACHP 1985). The guidelines define cultural value as "...the contribution made by an historic property to an ongoing society or cultural system. A traditional cultural value is a cultural value that has historical depth" (1985:1). The guidelines further specify that "[a] property need not have been in consistent use since antiquity by a cultural system in order to have traditional cultural value (1985:7).

Table 7. Summary of General Significance Assessments and Recommended General Treatments

SIHP Site No.	Significance Category			Recommended Treatment		
	A	X	C	FDC	NFW	PAI
14986	+	-	+	+	-	+
15006	+	-	+	+	-	+
Subtotal	2	0	2	2	0	2
15012*	+	-	+	+	-	+
Subtotal	1	0	1	0	1	0
15008*	+	-	+	+	-	+
15009*	+	-	+	+	-	+
Subtotal	2	0	2	0	2	0
14987	+	-	+	+	-	+
Subtotal	1	0	1	1	0	1
15014	+	-	+	+	-	+
Subtotal	1	0	0	1	0	0
TOTAL	7	0	5	4	3	3

General Significance Categories:

A- Important for information content, further data collection necessary (PHI=research value);
 X- Important for information content, no further data collection necessary (PHI=research value, SHPO=not significant)
 B- Excellent example of site type at local, regional, island, state, or national level (PHI=interpretive value); and
 C- Culturally significant (PHI=cultural value).

Recommended General Treatments:

FDC- Further data collection necessary (detailed recording, surface collections, and limited excavations, and possibly subsequent data recovery/interpretation);
 NFW- No further work of any kind necessary, sufficient data collected; archaeological resources recommended, no preservation potential;
 PAI- Preservation with some level of interpretive development recommended (including appropriate related data recovery work);
 PDC- Preservation "as is", with no further work (and possible inclusion into land-use planning), or possibly minimal further data collection necessary

*Site inside the project area

To further facilitate client management decisions regarding the subsequent treatment of resources, the general significance of the archaeological sites identified during the current survey was also evaluated in terms of potential scientific research, interpretive, and/or cultural values (PHI CRM [Cultural Resource Management] value modes). Research value refers to the potential of archaeological resources for producing information useful in the understanding of cultural history, past lifeways, and cultural processes at the local, regional, and interregional levels of organization. Interpretive value refers to the potential of archaeological resources for public education and recreation. Cultural value refers to the potential of archaeological resources to preserve and promote cultural and ethnic identity and values. CRM assessments for individual sites are presented in Table 4.

Of the four sites identified within the project boundary, one (15014, habitation terrace) is assessed as significant solely for information content. This site is recommended for further data

collection only. Of the remaining sites, two (Site 14986, habitation/agricultural terrace; and Site 15006, historic residence) are assessed as significant for information content, as excellent examples of site types, and for cultural significance. Further data collection followed by preservation with interpretive development is recommended for these sites. Site 14987 (habitation/agricultural complex) is assessed as significant for information content and for cultural significance, and is provisionally assessed as an excellent example of a site type. Final assessments and treatment recommendations will depend on the results of the further data collection. It should be noted that, for two of these sites (14986 and 14987), the assessment of significance as site type examples is not made because the sites are exceptional examples considering what has been identified island-wide, but rather, because they are exceptional examples in their particular region. If, in the future, better examples of such agricultural sites are identified in the Hamakua District (other than those at Waipi'o Valley), then perhaps the present assessments can be changed. Mitigation plans for the rehabilitation of Site 15006, the Honoka'a Sugar Company Manager's Residence, should be developed with the State Historic Preservation Division.

Three of the sites designated for further data recovery (14986, 14987, and 15014) may be designated for "Interim Preservation Pending Further Data Recovery," as an alternative to the treatments recommended above. In this case, the sites, with adequate buffer zones, would be surrounded by orange fencing (i.e., using fences or natural vegetation) to deter public access. Stabilization of the sites may also be required if they are endangered by erosion. Details of this interim preservation plan option will be included in the Cultural Resources Mitigation Plan.

Of the three sites adjacent to the project area, (and outside the area of impact), two (Sites 15008 and 15009, historic cemeteries) are assessed as significant for information value and for cultural value. Site 15012 (trail) is assessed as significant for information value, as an excellent example of a site type and for cultural significance. These sites outside the project area have been considered in the current study to determine the potential for their extending into the project area. The data appear to support the assertion that these are discrete resources lying within their current TMK boundaries. No further work is required for these three sites.

Prior to further work in the project area, as an important initial step, it is recommended that all identified sites be accurately located and plotted, by professional surveyors, with the aid of an archaeologist, on an appropriately scaled, topographic map of the project area. This locational plotting will greatly aid development planning by allowing further archaeological work determinations (further data collection, data recovery and/or preservation) to be more accurately considered on a site-by-site basis.

The assessments and recommendations presented here have been based on the findings of an inventory survey of the project area. There is always the possibility, however remote, that potentially significant, unidentified surface and subsurface cultural remains could be encountered in the course of further archaeological investigations or subsequent development activities. In such situations, archaeological consultation should be sought immediately.

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APPENDIX A: SITE DESCRIPTIONS

SITE NO.: State: 14986 PIIRI: 1019-1
 SITE TYPE: Complex (11 Features)
 TOPOGRAPHY: Intermittent drainage flowing north. Wide drainage area with gently sloping sides. Areas further to the east and west planted in sugar cane.
 VEGETATION: *Kakai*, banyan, castor bean, ti, arrowroot, and guava.
 CONDITION: Good
 INTEGRITY: Unaltered
 PROBABLE AGE: LPI/EH*
 FUNCTIONAL INTERPRETATION: Habitation/agriculture
 DESCRIPTION: The complex consists of nine terraces (Feature A-I), a cupboard (Feature D), and a modified outcrop (Feature K). The overall dimensions of the site are 75.0 m (N-S) by 40.0 m (E-W).
 REFERENCE: Head, Franklin, and Goodfellow (1993). (The current site description updates and supersedes the site description presented in Head, Franklin, and Goodfellow 1993)

FEATURE A : Terrace
 FUNCTION: Agriculture
 DIMENSIONS: 8.50 m by 6.00 m by 1.50 m
 DESCRIPTION: Feature A is at the south end of a broad drainage. This is a paved terrace with retaining wall. It is roughly square in plan. The terrace is built into the slope on the west and south sides. The slope from the west is slumping into the feature. The wall is stacked two to five courses high. This terrace is located at the far southwest end of the site (1019-1), and immediately up slope, west of Feature B. There is a wall to the east and south of the terrace. The east part of the wall is mostly bedrock outcrops with stacking in front and between the outcrops.

FEATURE B : Terrace
 FUNCTION: Habitation
 DIMENSIONS: 10.00 m by 8.00 m by 1.50 m
 DESCRIPTION: This is a roughly rectangular terrace with a stacked retaining wall. The terrace platform consists of cobbles and boulders. The terrace is immediately above and south of Feature D, above and west of Feature C, and below and east of Feature A. The north and east walls are stacked up to six courses high and consist of large basalt cobbles. Feature B borders Feature A on its east-northeast border. The Feature B eastern wall has a possible cupboard at its south end. There is a giant banyan coming out of Feature B, along its east wall.

FEATURE C : Terrace
 FUNCTION: Agriculture
 DIMENSIONS: 16.00 m by 3.00 m by 1.00 m
 DESCRIPTION: This long and narrow rectangular terrace is bounded on the west by Features B and D. The terrace consists of basalt cobbles and boulders stacked four-six courses high. The northern half of the terrace seems to be more of a piled alignment. No portable remains were present; however, there is present a red brown loam of at least c. 0.10 m thick containing with stone and cobbles.

*PRE — Prehistoric; LPI/EH — Late Prehistoric/Early Historic; LH/II — Late Historic/Historic.

FEATURE D : Terrace
 FUNCTION: Agriculture/habitation
 DIMENSIONS: 9.00 m by 6.00 m by 1.00 m
 DESCRIPTION: This deflated agricultural terrace consists of a terrace wall of stacked subangular basalt boulders and cobbles and a platform of earth and rubble. This terrace extends from Feature B. Large basalt boulders mark the southwest border. This feature may represent a transition area between Features B and E, as it lacks rubble-fill typical of a habitation area, or it may be agriculture related due to soil-fill. Feature area is highly disturbed with fill or possible slump from up-slope disturbance.

FEATURE E : Terrace
 FUNCTION: Agriculture
 DIMENSIONS: 27.50 m by 3.00 m by 1.30 m
 DESCRIPTION: This terrace consists of a retaining wall running north to south along the west bank of the drainage which bisects the site. The feature is located on the west bank of the drainage. The terrace walls are stacked and faced with subangular basalt cobbles six-seven courses high (c. 1.30 m high and 27.50 m in length).

FEATURE F : Terrace
 FUNCTION: Possible temporary habitation/agriculture
 DIMENSIONS: 10.00 m by 10.00 m by 1.00 m
 DESCRIPTION: The terrace is deflated and consists of stacked subangular basalt boulders and cobbles. This feature contains two stacked walls, one an extension of Feature E, and one west (upslope) of some banyan trees. The southeast corner of the terrace connects with Features E and G. The western side of the terrace appears to have been disturbed. The western wall may have been part of another terrace before the disturbance.

FEATURE G : Terrace
 FUNCTION: Agriculture/habitation
 DIMENSIONS: 6.00 m by 3.00 m by 1.00 m
 DESCRIPTION: The terrace consists of stacked subangular basalt boulders and cobbles; it extends c. 2.5 m east from east wall of Feature F. This feature is bisected by a banyan tree and appears deflated throughout. The terrace is located c. 6.0 m west of the baseline/drainage and joins Feature E at c. 44.5 m on the baseline, which points north-south. The terrain consists of a drainage basin; vegetation includes banyan, *koa*, *kukui*, ti, and associated species. The southwest corner joins Features E and F. There are portable remains at this feature.

FEATURE H : Terrace
 FUNCTION: Possible habitation
 DIMENSIONS: 20.0 m by 3.0 m by 2.0 m
 DESCRIPTION: The terrace is constructed of stacked subangular basalt boulders and cobbles and has a cobble and rubble-filled platform. The wall on this feature is much higher than that of northern features but is similar to Feature B. The wall has more integrity towards the north end (Feature I). This terrace is in a drainage basin with banyan, *koa*, *hahaione*, ti.

FEATURE I : Terrace
 FUNCTION: Agriculture
 DIMENSIONS: 45.00 m by 6.00 m by 1.80 m
 DESCRIPTION: The terrace is located along the western edge of the site and consists of crudely stacked rocks. The interior surface is mostly soil with scattered rock and cobbles. The feature extends north c. 45.00 m, along the drainage basin.

FEATURE J : Cupboard

FUNCTION: Storage

DIMENSIONS: 0.80 m by 0.65 m by 0.43 m

DESCRIPTION: This small cupboard is formed by at least four large basalt pieces resting atop large cobbles. The cupboard opens to the west-northwest at 290 degrees. Rubble extends from the mouth of the cupboard and much of the interior is also filled with cobbles. The cupboard is located on the east side of the site, within Feature I, terrace. It is on a west sloping terrain. Two historic bottles were observed in the area but were not collected.

FEATURE K : Modified outcrop

FUNCTION: Agriculture

DIMENSIONS: 14.00 m by 1.75 m by 0.60 m

DESCRIPTION: This outcrop extends northeast from Feature I. It consists of medium to large rocks crudely stacked between large blocks and the natural outcrop. It is located along the eastern slope of the drainage.

SITE NO.: State: 14987

PHRU: 1019-2

SITE TYPE: Complex (3 Features)

TOPOGRAPHY: Wooded area on north-south slope between uplands and sheer cliff face of the coast.

VEGETATION: Banyan trees, typical coastal vegetation

CONDITION: Good

INTEGRITY: Unaltered

PROBABLE AGE: L/PEH

FUNCTIONAL INTERPRETATION: Habitation/agriculture

DESCRIPTION: The complex consists of three terraces (Feature A, B, and C). The overall dimensions are c. 10.0 m (E-W) by 25.00 m (N-S).

REFERENCE: Head, Franklin, and Goodfellow (1993).

FEATURE A : Terrace

FUNCTION: Habitation

DIMENSIONS: 12.00 m by 7.00 m by 2.60 m

DESCRIPTION: The retaining walls are stacked and faced on northwest and east sides. This terrace is constructed with small boulders stacked eight-ten courses high. Boulders range in size up to c. 0.75 m diameter. Three retaining walls are on the northwest and east borders. The south side is built into a slope. The platform is rectangular with the longer axis north-south. The platform is made up of large cobbles and small boulders. The only soil is at the southern end where the terrace is built atop bedrock.

FEATURE B : Terrace

FUNCTION: Agriculture

DIMENSIONS: 4.00 m by 3.00 m by 0.70 m

DESCRIPTION: The terrace has stacked and faced retaining walls and about the large platform, Feature A. Feature B is rectangular, longer east-west than north-south. It has basalt cobbles retaining walls stacked three to five courses high. Feature B is located c. 25.0 m south of a cliff edge on sloping terrain.

FEATURE C : Terrace

FUNCTION: Agriculture

DIMENSIONS: 7.00 m by 5.50 m by 0.75 m

DESCRIPTION: Feature C forms a triangle abutting the north side of Feature B. It consists of pahoehoe stones stacked two to three courses. The interior is filled with scattered cobbles. Feature C is located c. 9.0 m south of the cliff edge. Slope wash and a banyan tree growing in the feature have eroded the site.

SITE NO.: State: 15906 (also 7176)

PHRU: 1019-26

SITE TYPE: Historic residence

TOPOGRAPHY: Slightly sloping area between Kukuhaele town and Waipi'o-Honokaa's Road (Hwy 240).

VEGETATION: Terraced lawns and exotic and Polynesian ornamentals, such as banyan, ginger, hibiscus, Cook Island pine, coconut palm, jacaranda, tree fern, paper bark, and plumeria.

CONDITION: Fair-good

INTEGRITY: Altered

PROBABLE AGE: L/H/H

FUNCTIONAL INTERPRETATION: Habitation

DESCRIPTION: A large, well-tended estate consisting of: the main house; a smaller, probably more recent, second house; a 3-car carport; gardens; a driveway; a tennis court; and a swimming pool. The asphalt-covered driveway leads up from the county road to the estate parking area. The main house lies downslope (makai) of the parking area. The main house is a two-story clapboard structure with attic. An enclosed lanai runs along the north (makai) side of the house, looking down on a swimming pool. A tennis court adjoins a small patio on the west side of the main house. The house is painted a light gray, and is covered with a white galvanized roof topped with two red brick chimneys. The main house was built c. 1920, and was designed by A.P. Newcomb.

A second, small house and a carport sit on the south (makai) side of the parking area. This second house appears to be built more recently than the main house, although the carport may be contemporary with the main house.

REFERENCES: Wright 1973; Barrera 1977; Head, Franklin, and Goodfellow (1993). (The current site description updates and supersedes the site description presented in Head, Franklin, and Goodfellow 1993)

SITE NO.: State: 15008

PHRU: 1019-28

SITE TYPE: Historic cemetery/structural remains

TOPOGRAPHY: Slight north slope

VEGETATION: None within cemetery boundaries, except for ti plants growing in a few graves. The cemetery is bordered with a strip of banana plants and papaya trees.

CONDITION: Fair

INTEGRITY: Unaltered

PROBABLE AGE: L/H/H

FUNCTIONAL INTERPRETATION: Burial-ceremonial/habitation

DESCRIPTION: This historic complex consists of two features (A and B). Feature B (remains of an earlier structure) lies within the southwest corner of Feature A (a historic cemetery). The overall site dimensions are 61.0 m by 61.0 m.

REFERENCE: Head, Franklin, and Goodfellow (1993). (The current site description updates and supersedes the site description presented in Head, Franklin, and Goodfellow 1993)

FEATURE A: Historic cemetery
FUNCTION: Burial
DIMENSIONS: 55.00 m by 40.00 m
DESCRIPTION: There are c. 50 graves and a recent small wooden frame building. Surnames present and the feature's proximity to Saint Theresa Catholic Church indicate Portuguese, Filipino, or Spanish burials. Headstones date from A.D. 1883 to 1991.

FEATURE B: Structural remains
FUNCTION: Ceremonial/house
DIMENSIONS: 20.00 m by 15.00 m
DESCRIPTION: Remains of an earlier structure on this site consisting of hundreds of cut nails (various sizes), wood screws and spring washers, window pane glass, glass bottle and jar shards, and glazed earthenware and porcelain pottery sherds (some burned). Some of the glass and pottery artifacts are probably grave offerings from the cemetery component; others may have been associated with the structure. Early maps (Figures B-1 and B-5) indicate a house and Catholic church (pre-dating the current Saint Theresa Church) on this corner of the property.

SITE NO.: State: 15009 PHRI: 1019-29

SITE TYPE: Historic cemetery
TOPOGRAPHY: Slight slope to the east.
VEGETATION: Red ti, plumeria, and *awapuhi*.
CONDITION: Fair
INTEGRITY: Unaltered
PROBABLE AGE: L/H/H
FUNCTIONAL INTERPRETATION: Burial
DIMENSIONS: 99.00 m by 81.70 m (on TMK map); graves lie in an area c. 60.00 m by 25.00 m
DESCRIPTION: There are c. 63 graves in the cemetery. The majority of the headstones are marble, one grave has two waterworn basalt cobbles. Red ti, plumeria, and *awapuhi*, and other species are planted within the grave plots. Names on the headstones indicate usage mostly by Hawaiians. Other surnames are of Chinese, Japanese, Portuguese, and English origin. The cemetery is located just outside of the project area. Observed dates on the headstones range from A.D. 1879 to 1988.
REFERENCE: Head, Franklin, and Goodfellow (1993). (The current site description updates and supersedes the site description presented in Head, Franklin, and Goodfellow 1993)

SITE NO.: State: 15012 PHRI: 1019-32

SITE TYPE: Trail
TOPOGRAPHY: Passes along the near-vertical cliffs above the Pacific Ocean.
VEGETATION: Native and exotics.
CONDITION: Poor-fair
INTEGRITY: Altered
PROBABLE AGE: L/H/H
FUNCTIONAL INTERPRETATION: Transportation
DIMENSIONS: 280,000.00 m by 2.00 m
DESCRIPTION: The construction of this trail appears to have entailed both rock removal as well as building retaining walls. The trail appears to drop down *makai* of Pacific Sugar Mill and travel along the side of a cliff before descending further into the mouth of Waipio Valley.
REFERENCE: Head, Franklin, and Goodfellow (1993).

SITE NO.: State: 15014 PHRI: 1019-52

SITE TYPE: Terrace
TOPOGRAPHY: Gently sloping valley walls with some bedrock outcrops.
VEGETATION: Macadamia, banana, taro, avocado, and *hala*.
CONDITION: Poor-fair
INTEGRITY: Unaltered
PROBABLE AGE: L/P/EH
FUNCTIONAL INTERPRETATION: Habitation
DIMENSIONS: 3.00 m by 2.00 m
DESCRIPTION: This is a paved terrace. It is constructed with basalt cobbles and boulders (c. 0.05-0.50 m in diameter) stacked one course deep and set into the soil. The feature is irregularly shaped. It is located c. 100.0 m south of the paved road in Kukuhaele, along the west bank of Waipuhoo Stream. The valley walls are gently sloping and have some bedrock outcrops. Basalt cobbles and boulders are set into the soil, forming a pavement with some soil between the rocks.
REFERENCE: Head, Franklin, and Goodfellow (1993).

APPENDIX B: Historical Documentary Research

By Kepi Maly

BACKGROUND

This report includes selected references from an earlier historical documentary research paper for this region (Kalima 1991), which included the current Wai'ko'e - Kanabonus project area. The current report also provides additional historical documentation, including texts from Hawaiian language newspapers and government land records. The primary focus of this research is the nature of Hawaiian settlement within the project area and vicinity, and the report includes discussion of the environment at the time of early settlement, use of land and ocean resources, evolution of the Hawaiian community, and Western influence of land use practices. In 1985, Ross Condy (DLNR-HSS, now DLNR-SHPD) collected archival and historical references for portions of the Hamakua District, from which he proposed a land use pattern. His work, along with Kalima's overview of the sugar plantation history, including oral histories may be consulted for additional information.

The project area occupies portions of two *ahupua'a*'s in the district of Hamakua, on the windward coast of the island of Hawai'i. Situated on the northern (windward) slopes of Mauna Kea, this area is well watered by rainfall at elevations between sea level and 4,000 feet. Additionally, the *mauaka* (upland) region (c. 2,000 and 5,000 feet) is noted for its heavy mist drip. The availability of water through rainfall, streams, and mist drip made this region one of the richest on the island. Even the project area *ahupua'a*'s names appear to document the nature of this wet and mist covered region: "Wai-ko'e" might be translated as Chilly waters; and though no translation for the place name Kanabonus is documented in Pukui et al. (1974), or Alexander (1903), interpretive translations are possible. If written as "Kana-bonus" (earth support), the name is perhaps descriptive of a land that stretches out horizontally supporting cloud masses; an appropriate description of this area when seen from further south in Hamakua.

It should be noted here that portions of the Kukuhaele community, are actually situated within the *ahupua'a*'s of Kanabonus. Thus, many references like those associated with Reverend Lorenzo Lyons and Oliver Pūnū'ulani refer also to Kanabonus.

HAWAIIAN SETTLEMENT

Current theory places Polynesian settlement voyages between Hawai'i and the ancestral homelands of the Hawaiian gods and people (Kahiki) in two major periods, AD 300 to 600 and AD 1100 to 1250 (Emory in Tatar 1982:16-18). In *Native Planters in Old Hawai'i* (1972), Handy

Notes: Although the original *mauaka* and *mauaka* were not generally used at the time that most of the early references were originally written, they have been added here when the original meaning and/or pronunciation was discernable. For people and/or place names have several possible interpretations and in which the intended meaning is not clear, diacritical marks have not been added, although in some cases hyphens have been inserted to identify separate words within a particular name. Quoted references from books and/or articles have been written as they were originally printed (usually without diacritical marks). Brackets [] are used to identify author's associations and parentheses () generally indicate translations.

and Handy speculate that when the first settlers reached the Hawaiian Islands, they found a flora that was much like that of their ancestral homeland (Handy and Handy 1972:12); but he notes that the topography of the islands was notably different. The broad, watered flanks of Kona, O'ahu, and Maui, and the broad, cultivable mountain slopes of Kona and Ka'u on Hawai'i, permitted the development of a systematic and elaborate planting culture. These topographical features were not present on the ancestral islands, thus practices associated with agriculture evolved to a higher level in Hawai'i than in other Polynesian islands (ibid.:16).

It is believed that for generations following initial settlement, the Hawaiian population clustered along the better watered windward shores of the islands, where fresh water was available, agricultural production could become established, and fishing was good. These conditions characterized Hamakua, particularly in Waipi'o and nearby areas. Small bays generally had a cluster of houses where fishermen and their families lived (1972:287). Only after the best areas became populated and perhaps crowded (c. AD 800 to 1000), did the Hawaiians begin settling more remote and less desirable areas.

When the Hawaiian settlers came to Hawai'i from Kahiki, they brought with them many material things which were necessary for their survival. Among these "purposeful introductions" were the basic plants (wetland and dryland taros, sweet potatoes, yams, gourds, breadfruit, coconut, 'awa, sugar cane, and wauke etc.). In a discussion on early settlement, Mary Kawena Pukui expressed the thought that her ancestors also brought with them numerous non-material things which were of importance to ancient life:

It is impossible to enumerate the hundreds of gods and goddesses of old Hawai'i. Some of the gods were inherited from exceedingly ancient times, from our ancestors who came from southern islands and they can be said to have been 'brought' along by them, just as truly as were the material things in the canoes because they (the gods and goddesses) were in their minds and souls... (M.K. Pukui Ms. p. 2.)

In the Hamakua project area, potable water was readily available, being provided by rain fall and streams such as Wai'ko'e and Wai-tūlū (Water flowing along a steep area). This water was used for development and irrigation of *lo'i*'s (taro pond fields) and other crops, and to sustain human life. The rivers also provided various *limu wai* (fresh water "seaweeds" or mosses), shell fish, such as the *wi* or *hilihwi* (gray snail), *opae* (fresh water shrimp), and various species of fresh water fishes such as the *'o'opu* (Gobiidae). All of these were delicacies and often had medicinal and ritual uses, as well. Additionally, the ocean provided marine foods, which provided much of the protein in the Hawaiian diet.

While describing the ancient setting of Hamakua, Handy and Handy (1972) note that the project area and surrounding lands were important wet-taro growing locations on the island of Hawai'i:

The wet taro section of the Hamakua coast extended from Honoka'a to Kukuhaele, where there is a succession of small terraces with high retaining walls, watered by Waikōkōe Stream. Several of the upper terraces have been converted into small reservoirs, while the lower ones are still used for raising wet taro (c. 1930).

KA 'ĀINA: THE LAND AND LEGENDARY SETTING

Hawaiian legends document land use, cultural practices, and physical features of the land while they convey values and expressions of the relationship between ancient Hawaiians and their environment. The legend *Ka'ao'ao Ho'oniua Pu'uwai no Ka-Miki* (The Heart Stirring Story of Ka-Miki) is an account of two supernatural brothers; Ka-Miki (The quick, or adept one) and Maka-'iole (Rat [squinting] eyes), who traveled around the island of Hawai'i along the ancient *ala loa* and *ala haka* (trails and paths) that encircled the island. Their story provides a wealth of information pertaining to more than 700 place name origins. It also documents site and community histories, local and regional practices, and ceremonial and *māle* (chants) texts for the six districts of the island of Hawai'i, and other islands as well. This long and complex legend was printed over a period of four years (1914 to 1917) in the weekly Hawaiian-language newspaper *Ka Haku o Hawai'i*, which was published in Hilo from 1906 to 1948.

The legend appears to have been recorded for the paper primarily by Hawaiian historians John Wise, and J.W.H.I. Kibe. A PHRI Hawaiian language newspaper translation project has recently made the narratives available in English (Maly Ms. in prep 1992 - 1993). During translation of the text, numerous other Hawaiian legendary accounts were reviewed to identify place name locations and/or confirm textual content.

Ka-Miki and Maka-'iole were empowered by their ancestress Ka-uhane-nui-hihi:ko-lo-i-uka (The great entangled growth of *uhane* fern which spreads across the uplands), a reincarnate form of the goddess Haumea (the creative force of nature; also called Papa and/or Hina; also a goddess of priests and competitors), who lived at Kalama 'ūia in the uplands of Kohala-iki, Kona. During their journey, Ka-Miki and Maka-'iole competed alongside the trails they traveled, and in royal courts, against 'I'iohe (experts in fighting or in other competitions, such as running, fishing, debating, or solving riddles, that were practiced by the ancient Hawaiians). They also challenged priests whose dishonorable conduct offended the gods of ancient Hawai'i. The story is set in about the 1300s, at the time when Pili-a-Ka'āina (Pili) was sovereign chief of all Kona.

Though the texts cited below do not specifically mention Waiko'eko'e or Kaunohoua, there are references for Pōhōkamau (Waiko'eko'e), Kūkūhaele, Kapuleua, and other important *ahupua'a*'s and sites in this section of Hāmākua. The texts also convey a sense of the relationship of these communities to the royal community at Waipi'o, and present a picture of traditional life in Hāmākua, as seen through the eyes of native storytellers. The English translations are a synopsis of the Hawaiian texts, with emphasis upon the main events of the narratives.

Pōhōi-ŋ) ka-mamu (Hungry for the bird), also called Pōhōi-ke-akua (The ghosts are hungry) - When Ka-uhane prepared Ka-Miki and Maka-'iole for the 'āi'ālo (a ceremony commemorating completion of training in 'āi'ālo and other skills), she sent them to visit their ancestress at Lanuamānoa (a region within the Pu'ūkapu - Māhiki area of Kohala and Hāmākua). This ancestress Lanu-nui-ka'i-a-mamao-ŋoa would direct them in gathering several sacred items needed for the ceremony. Following the meeting with their ancestress, the brothers went to collect the required items. Ka-Miki went to fetch the sacred 'awa of the ghost god-king Luamu'u in Waipi'o. Having secured the 'awa container of Luamu'u, the god-king called out to his borders of ghost followers to catch the culprit.

The greatest wet-taro valley of Hawaii and one of the largest planting areas in the entire group of islands was Waipi'o. This vast, flat valley floor was completely developed in terraces for an area about three miles long and one to 0.75 mile wide....(Handy and Handy 1972:533).

HAWAIIAN LAND MANAGEMENT PRACTICES

As ancient Hawaiian land-use and resources management practices evolved, the *moku pu'u*, or islands, were subdivided into land units of varying size. The largest division was the *moku-o-loko* (a district, literally: interior island). It appears that during the expansion period of Hawaiian history (through about in-part by renewed contact with Kahiki), the island of Hawai'i was formally divided into six major districts, including "Hāmākua." The district of Hāmākua itself extends from sea level, and includes the entire mountain of Mauna Kea (elevation 13,796 feet). It shares common boundaries with four of the other districts of this island (Hilo, Ka'ū, Kona, and Kohala), and continues to the upper reaches of Mauna loa where it reaches an elevation of more than 13,670 feet.

The Hāmākua coastline consists of jagged "multi-combed cliffs" that extend from the north rim of Ka'ūia Gulch (next to Hilo) to the valley of Honokē'a (where one enters Kohala). The nature of Hāmākua's shoreline and boundaries is the source of one of the traditional proverbs that describes Hāmākua:

Hāmākua kahi'ioa - Hāmākua [o] long (excessive) corners (Describing the many pointed cliffs, and corners of this district (Maly in prep, Pukui 1983:441).

On each island, the large districts were further divided into *'ōkama* and/or *kaiama* (regions smaller than the *moku-o-loko*, yet composed of several other units of land). The next traditional unit of land was the *ahupua'a*. The *ahupua'a* were usually pie-shaped wedges of land stretching from the ocean to an island's interior. They were usually marked by an altar with a pig image placed upon it.

The *ahupua'a* were also divided into smaller, more manageable parcels. These small land units, such as the *'i'i'ele*, *kūhāni*, *māla*, and *kō'e* etc. (detached parcels with resources in various environmental zones; gardens, dry-land agricultural parcels, and agricultural parcels worked by commoners for the chiefs), were inhabited and managed by the *maka'āina* (people of the land) and their extended families. The common people who lived within individual *ahupua'a* generally had access to all of the necessary resources from mountain slopes to the ocean.

Entire *ahupua'a*'s, or portions of them, were generally under the jurisdiction of appointed *konohiki*, or lesser chief-landlords, who answered to an *ali'i-āi-ahupua'a*'s (chief who controlled the *ahupua'a*'s resources). The *ali'i-āi-ahupua'a*'s, in turn, answered to an *ali'i-āi moku* (chief who claimed the abundance of the entire district) thus *ahupua'a*'s resources also supported the royal community of regional and/or island kingdoms. This form of district subdividing was integral to Hawaiian life and was the product of strictly adhered to resources management planning, and it is in this setting that we find the project area *ahupua'a*'s.

While the commands were being given, Ka-Miki hid in the rafters of the *hāluu ali'i* (royal compound) of Luau'u, which was called Heakakua. When one of the ghosts looked inside, he saw Ka-Miki upon the ridge pole and prepared to call out on the *hōhō* (gourd nose flute) which would alert the ghosts that the upstart had been found. With great speed, Ka-Miki then leapt from Heakakua up to the ridge heights, and landed on a *ka'awa'u* (*Ilex anomala*) tree branch. Ka-Miki's ancestors then covered the region with her body form *ka'ohu-kolo-mat-iluna-o-ka-ii'au* (The mist which creeps across the forest), blocking everything from sight. The angry cries of the ghost hordes could be heard from uplands to shore, as they hungrily looked for Ka-Miki, trying to trap him in their nets like birds (as was practiced in this region); in the technique—"*upeua ku'ua ka lawai'a manu* (nets set out to catch birds). Having been thwarted in their attempts to ensnare Ka-Miki in their supernatural net, Nanana-nui-bo'omakua, the ghosts wandered ('*auana*') along the cliffs and forests of Ka'auana (Kohala side of Waipi'o) and Mahiki (Hāmākua side of Waipi'o), and they went hungry (*po'ohi*). Under the cover of his ancestors' mist body form, Ka-Miki then leapt from the *ka'awa'u* tree to Pu'u-o-Moe'awa, in the forest of Mahiki.

Because the ghosts wandered hungrily about, two place names commemorated their wandering and their hunger: Ka'auana (The wandering), and in Mahiki, Pōloli-ke-akua (The gods [ghosts] are hungry) which is also called Pōloli-ō-ka-manu (Hungry for the bird)... (2/26/1914).

In Land Commission Award 1294 to Keau (see LCA testimonies, below), Pōloli-kamanu is identified as the name of the Waiko'eko's stream, which has its origins in the upper region of Mahiki. In reference to the practice of "fishing" for birds, there are traditional sayings and chants from this region of Hāmākua that describe the thick upland mists and the practices associated with setting out nets in the forests to ensnare birds. One chant which employs the poetic symbolism of describing the fishing for birds was published in the Hawaiian newspaper *Ka Iōkū o Iiawai'i* (March 26, 1908):

Ua'ikeia Kūkūni, he lawai'a manu Kaukini is seen, a place where birds are caught
He'upeua ku'ua ka lawai'a manu A net is set down in the Pōloli mist
Ua'ho'opuna's'elika'ohu Kōkōlepu Surrounding the birds like the mist *Kālekepa*
Kena'i'ailuna o Ka'auana Which obtains (reaches) the heights of Ka'auana...

At the time Ka-Miki *mā** traveled through the district of Hāmākua, the *ahupua'a* chiefs and people answered to the sacred chiefs Pili-ka'aka'a, the *Ali'i nui* 'ai mokū (the chief who controlled the district resources) and Pili-kuamua, the *Ali'i kahuna ho'oulu ihai* (the chief priest who saw to the continuance of the race), who dwelt at Waipi'o (2/10/1916 - c3). Most of the points and precipices of Hāmākua were named for the 'ōlohe, and lesser chiefs who supported the sacred Pili chiefs (10/19/16).

While traveling along the *ala loa* Ka-Miki competed at Ka'ohē in Hāmākua, and won the right to compete at the great *kahua* (contest site) of Paka'alana, in Waipi'o. During the accounts, several references were made to the steep trails and difficulty of traveling through portions of Hāmākua. The 'ōlohe who had been defeated sometimes used riddles to imply that though they had been beaten, there were many more challenges to be met while traveling through Hāmākua. Because they are remnants of the ancient trails passing through the project

* *Ali'i nui* was used which means "and companion" or "associate"

area, documenting the occurrence of cross-*ahupua'a*'s and regional trails, descriptions of them are important:

Na kibi o Hāmākua i ke ala 'ūlūi ke ku'uku'u i ke kaula o Honokē'a pūle
Hāmākua - The corners [many points] of Hāmākua [land] of the steep trails, where a rope is set down for the path of Honokē'a which is the buffer (guardian) of Hāmākua [before entering Kohala] (3/30/1916).

Hāmākua i ke ala 'ūlūi, ke nūhi ala i nā kaula pūle mīhīnīhi o ke kōa'o - Hāmākua of the steep trails, where one carefully uses the rope trail along the steep cliffs where the kōa'o [tropic birds] perch (9/28/16).

Hāmākua i nā kibi māmāo lo māi ka hikina i ke kōmōhāna - Hāmākua with its far reaching corners [points] stretching from east to west

The narratives below, briefly describe the trial contests held at Ka'ohē, and the movement of the people from this region of Hāmākua to the royal court at Waipi'o:

Pūhūhūpaka, a priest of the *hūlūhūna* and *kīkōlo* classes (an interpreter of omens of the earth and heavens), led Ka-Miki *mā* to meet Ka-ho'āle-lā'au (The war club fighter) at the contest site of Ka'ohē. Ka-ho'āle-lā'au was the *hāmūku* (games official) and war club master instructor of the sacred chiefs Pili-ka'aka'a and Pili-kuamua. Trial contests were being held at Ka'ohē to determine who would qualify to compete on the *kahua* of Paka'alana before the Pili chiefs. At these trial contests, Ka-Miki met with Ka'ohē, Mānāie, Ka'ao and Kōapapa'a; all of whom were famous 'ōlohe of Hāmākua. (10/15/1916)

Having defeated his opponents, Ka-Miki won the opportunity to compete at Paka'alana. Ka-ho'āle-lā'au called for all who were gathered at Ka'ohē—from the foremost to the least (of all rank), the *kāhiff* bearers, the stewards and the *māke'āmanā*—to descend to Waipi'o for the next day's contests. Thus Waipi'o was filled with people, all anxious to see the events (10/12/1916).

The legend then provides the following description of the setting of Waipi'o and the events at the *kahua mokomoko o Paka'alana* (contest site of Paka'alana); portions of the names of Hāmākua's foremost competitors are in bold face, identifying portions which make up modern place names:

After speaking with the Pili chiefs about Ka-Miki, Ka-ho'āle-lā'au called out the names of the warriors who would compete on the *kahua* of Paka'alana, they were: Hono-a-ka'a, **Ahualoa-a-pi'ipi'i**, Kawela-a-pupūhi, Hono-ka-i'a-a-ku-let-ka-hono, Ka-tenatena-i-kapulena, the twins Waiomoa and Nānāie, Pōlani-iki-a-Lefe, Kūkū-a-haeleana, Pāwiliwili, Ka'auana, and Kapua'ūlāhi. The Pili chiefs then called to their 'ōlohe champions telling them that they must defeat Ka-Miki.

As the chiefs and their champions spoke, Ka-Miki overheard their discussion and chanted—

He iā manu ka kēia o Waipi'o
 Ke wii nei i ka lehua
 Ke pū nei ka 'ōpae kaka'ole
 Ka hūnana pūhūnana o Waioa
 E ho'okomo ana i ke so a ka ua
 He iā ua kēia kō'u'ulua nei
 Kū'u'ulua ka manu ua 'ōpili
 'Ōpili i ka ua ho'okina lēhēi pū
 He pū mauka, He pū makai
 Pū'ai a pū'ai a kōe kōe
 I ho'okoe 'ia na Ka-Miki
 No ka uhu hachae 'upeana o na pūi
 No ka i'a nahu kanuu o ka hūhū'ana
 Ka 'ala'ihī kua'ioa e pū'u 'ai
 Na lina i ka 'eke'eke

The 'ōpōhe Kapua'ikahi ridiculed Ka-Miki's implications, and asked, "O deceitful one - where indeed are the storm clouds? For one can see that the sky is clear." Ka-Miki responded, "Because you do not see the sign of the coming rains, you ask your childish questions..." Then, breaking the contest rules, Kapua'ikahi leapt to attack Ka-Miki, but was immediately killed. The 'ōpōhe cried out and would have broken the protocol of the kahuna and contest by rushing in to attack Ka-Miki, but Kabo'ālahi'au and the chief Pili-Ka'ala's commanded they stay in place. Hono-a-ka'a-ka-lani was called next to compete, and the two were beaten. Hono-a-ka'a-ka-lani was followed by Kawela, Hono'akai'a, Kapulema, Waiomoa, Manaele, Lela, Kukuhaele, Pāwiliwili, and Ka'auana. Ka-Miki defeated all of these 'ōpōhe.

Kukui-haele (Traveling torch) - The lands of Kukuhaele were named for the 'ōpōhe champion Kukui-a-haele-ana. Kukuhaele was the ninth champion of the Pili chiefs who attempted competing with Ka-Miki on the kahuna of Paka'alana. Like those who preceded him, he too was defeated.

When Ka-Miki had successfully competed against the famous champions of Hāmākua, Kabo'ālahi'au, the foremost war-club-fighting expert of all Hāmākua, and the contest over for the Pili chiefs, stood to challenge Ka-Miki. Kabo'ālahi'au and Ka-Miki competed in all manner of war club fighting, and though Kabo'ālahi'au was one of the foremost experts that Ka-Miki had ever met, he eventually tired and Ka-Miki won their contest as well.

Kabo'ālahi'au then surrendered asked Ka-Miki, "Let us end our contest and become friends" (11/26/1916).

Ka-Miki accepted the surrender; then Kabo'ālahi'au and the Pili chiefs hosted Ka-Miki to food and a pūpū'awa (awa drinking ceremony). And because Kabo'ālahi'au greatly admired the superior skills of Ka-Miki, he asked to take Ka-Miki as his foster son, and that they accept the guardianship of the Pili chiefs. Ka-Miki accepted, and after spending some time in Waipi'o, Ka-Miki, Māka-'iole and Kahaiaaka departed from the land of the beloved cliff of Hā'makolo and began their journey to the steep cliffs of Waimanu (12/7/1916).

Existence of an ancient *ala loa* as referenced above, is documented in LCA 1294.2 (see the section on Māhele swaths below). In the Native Testimony, the *ala loa* is situated near the coastal cliffs of Waiko'eko'e and is described as continuing to Kanabonua (portions of Site 15012).

ADDITIONAL PLACE NAMES WITHIN THE PROJECT AREA

Waiko'eko'e:

Hale-o-Kane - House (temple) of the god Kane; possibly an alternative name for Waiko'eko'e

Honohono-nui - (interpretive translations): large mint (*honohono*); a rare native mint, *Hypochaeris grayana*, or great stench; and 'i'i within Waiko'eko'e-Haleokāne

Ka-malai - (interpretive translation) The concealed or hidden one; a pit-crater in Waiko'eko'e (see LCA 1294)

Kāneha'ikana - A goddess who presided over childbirth, and who assumed an 'ulu (breadfruit tree) form

Ka-pū'o'a - The peak, as of a roof peak or mound; a place within Waiko'eko'e, near Kanabonua (see LCA 1294)

Kaupe'a - Crisscross or interwoven, as taboo sticks; a section of the Waiko'eko'e ocean cliff (see LCA 1294)

Lau'a - A fragrant native fern [*Polypodium phymatodes*] a site within Waiko'eko'e, near Kanabonua (see LCA 1294)

Mau-tu-belele'i - Scattered grass; a hill in coastal Waiko'eko'e

Māhi-'ole - Unrepentant; a portion of the ocean cliff of Waiko'eko'e (see LCA 1294)

Pōloli-ka-mānu - The birds are hungry; also called Pōloli-ka-mānu; the stream of Waiko'eko'e

Wai-kulukulu - Dripping water; the cliff face between Waiko'eko'e and Kanabonua

Kanahonua:

Hale-o-Lono (House of Lono) - There is reference to an 'i'i named Haleolono (LCA 7131 - Ka'ai); one class of temples associated with the rituals of the agricultural god Lono was called Hale-o-Lono (House of Lono). The services associated with temples or shrines of this nature were dedicated to Lono, who was called upon to bring rains and abundant growth of crops. This name is shared with many places in Hawaii, and it is possible that the lands that bear this name were associated with a *heiau* or dedicated planting fields, where the power of Lono was called upon to increase productivity.

Kau-makani - Placed in the Wind; the 'i'i upon which the plantation manager's house is situated. This place name is also shared with Kukuhaele *ahupua'a*.

Maka-kilo-i'a - Fish spotter's bluff in Kanahonua (see LCA 4111)

HAWAIIAN AGRICULTURAL PRACTICES

As mentioned earlier in this report, the environment of Hamakua was well suited to agriculture, and Waiko'e and surrounding lands were planted in both wetland and dryland fields. The rich *kula* (flat, open lands) for which Hamakua is known were extensively used in dryland cultivation. Handy and Handy (1972) comment that these *kula* were "covered with vast groves of kukui trees (*Aleurites moluccana*) until they were "razed to make way for sugar-cane fields" (1972:31). It was on these *kula* that taro and other crops flourished in *kukui* mulched mounds and clearings called *pa kukui* (*kukui* enclosures) (ibid.). Two descriptions of this dryland planting technique are cited below:

Mulched taro was planted on the open *kula* lands up to the border of the old forest zone and is said to have flourished under a mulch of grass, ti leaves, and other rubbish heaped around it in the red soil. Small patches so growing, which used to cover the slopes of much of the land that is now planted to sugar cane; for this planting the kukui trees were not felled. Presumably such planting was successful only in relatively open glades. Another method consisted of digging sizable holes in the ground, filling them with kukui leaves, and allowing these to decay completely, after which taros that had been started from cuttings planted in plain soil were introduced and grew to great size (Handy and Handy 1972:537).

In Hamakua, Hawaii the field was called *pakukui*, the kukui was the soil, thus: a kukui tree is cut down and the branches and leaves trimmed off; after a long while they decompose and become soil. The taro tops are then planted which produce fine full taro, and the poi good to eat. This was called *pakukui*, and thus it was in all places where the kukui grew (Fornander 1919:160-2). [An editorial note clarifies Fornander's first sentence: *Pakukui*, literally *kukui* fence. Decomposed *kukui* (*Aleurites moluccana*) wood or leaves were valued for fertilizing the soil, not that taro planting was done in the decaying trunk.]

Because of the importance of agriculture in this region, and the occurrence of regular showers brought by water laden clouds, it is not surprising that the Hawaiian god Lono was particularly important in the rituals and legends of Hamakua. Lono was one of the major Hawaiian gods; he was evoked by chiefs, commoners, and agriculturalists alike. Lono's attributes included abundant growth, and the billowing horizon clouds, and rain-laden clouds that are a manifestation of the seasonal *lono*, or southerly storms. During the Hawaiian winter season, called *ho'ouia* (literally, to sprout or germinate; the time of sprouting) all other gods stood behind Lono in importance, the *heiau* (temples) were cleansed, and the people celebrated Lono's (the earth's) fertility in ceremonies and festivals of the Makahiki (yearly celebration).

One of Lono's many body-forms was that of the demigod *Kama-pua'a* (Pig child). Handy and Handy (1972) describe the Lono - *Kama-pua'a*'s relationship in Hamakua at the time of the Makahiki:

Where the dark clouds at the beginning (November-December) and at the culmination (January-February) of the season of rains pile up against forelands and rocky summits, where thunder rumbles and echoes, there is *Kama-pua'a*. On Hawaii's island was the verdant rainy Hamakua coast, where when southerly winds sweep around the eastern flank of Mauna Kea, storm clouds pile up in rolling masses like giant swine in the uplands. After the thunder, the voice of Lono (= *Kama-pua'a*), the clouds let down their rain deluges. The verdant forest reaches to the very brink of the crater of Kilauca (Handy and Handy 1972:341).

In a further discussion of *Kama-pua'a*, Handy and Handy provide an account of the Hamakua portion of the pig-agricultural god's journey to Kilauca to meet with Pele, goddess of the volcano:

Kama-pua'a (= Lono) comes to Hawaii from Kahiki—that is from the south—as do the *kona* or southerly cyclonic storms which bring winter rains, on which planters in leeward areas depend for their sweet-potato planting... *Kama-pua'a* pushed aside the forelands (eroded the valleys between them), and then called upon his plant forms of the forest, the *kukui* trees (anciently, a vast *kukui* forest covered the Hamakua coast), the *'ama'ama*'u ferns (the forest of great fern trees comes to the very rim of Kilauca crater), and the *hala* (pandanus trees are all along the coast and guides), to grow onto "the forelands" (handlands)... (Handy and Handy 1972:619).

In another group of Hamakua legends, Lono came to Hamakua in human form and became associated with the practices of *kahuna ipu'u* / *ip'u* (medicinal healers). Lono and his companion, *Ka-maka-nui-ai-lono*, became known for their healing skills, and for a time Lono cared for people at Waimanu, while *Ka-maka-nui-ai-lono* cared for people around Kukuhaele (Beckwith 1976:117-119).

HAMAKUA IN HISTORICAL REFERENCES

Captain James Cook first contacted Hawaiian people on January 20, 1778, when he made landfall at Waimanu, Kaula I. Cook's visit pushed the people of Hawaii onto a path from which there was no return. As Hawaii's isolation ended, the gods, people, and values of Hawaii were

forever changed. Western-introduced weapons of the late 1700s, encouraged an escalation in wars between island chiefs, and thus impacted entire Hawaiian communities. Further decimation of the Hawaiian population was brought about in the 100 years from 1790 through 1890 by epidemics of foreign diseases which killed tens of thousands of Hawaiians.

Native Hawaiian settlement and subsistence patterns were radically altered by the growing western influences. The foreigners introduced numerous plants and animals that not only changed the Hawaiian life style but altered the native vegetation (Newman 1970). Newly introduced plants and animals, including squash, melons, pumpkins, cattle, sheep, and goats spread throughout all the islands. Newman reports that over grazing by livestock has affected to some degree all of the vegetation on the island of Hawaii.

The naturalist Archibald Menzies, was a member of George Vancouver's expedition in 1793; this is the same expedition which brought and released the first cattle on the island of Hawaii. Menzies traveled around the island of Hawaii and described Hamakua at that time:

The land we passed in the forenoon rose in a steep bank from the water side and from thence the country stretched back with an easy acclivity for about four or five miles, and was laid out into little fields, apparently well cultivated and interspersed with the habitations of the natives. Beyond this the country became steeply rugged and woody, forming mountains of great elevation

A little after noon, we passed a very romantic part of the shore formed into ridges not unlike the roofs of houses with their ends facing the sea in dark perpendicular cliffs of considerable height. These were intersected with deep gullies from which a number of beautiful cataracts emptied their foaming streams into the ocean (Menzies 1920:51-52).

Eighty years later (1873), Isabella Bird, a woman of the world with a keen eye and the ability to document her adventures, visited Hawaii and described Hamakua as well. Handy and Handy (1972) cites Bird's narrative and note that by her time, the number of native dwellings had decreased substantially (Bird 1964:37):

There was a magnificent coast-line of grey cliffs many hundred feet in height, usually draped with green, but often black, caverned, and fantastic at their bases. Into cracks and caverns the heavy waves surged with a sound like artillery, sending their broad white sheets of foam high up among the ferns and trailers, and drowning for a time the endless baritone of the surf, which is never silent through the summer years. Cascades in numbers took one impulsive leap from the cliffs into the sea, or came thundering down cliffs or "gulches," which, widening at their extremities, opened on smooth green lawns, each one of which had its grass house or houses, kalo patch, bananas, and coco palms, so close to the broad Pacific that its spray often rained itself away over their fan-like leaves. Above the cliffs there were grassy uplands with park-like clumps of the screw-pine, and crumpled nut, and glades and dells of dazzling green, bright with cataracts, opened up among the dark dense forests which for some thousands of feet girdle Mauna Kea and Mauna Loa, two vast volcanic mountains, whose snow-capped summits gleamed here and there above the clouds, at an altitude of nearly 14,000 feet (Bird 1964:37).

LAND TENURE - TRANSITIONS IN LAND USE

In the period between 1790 and the 1840s, *ali'i* (rulers) of Hawaii were increasingly influenced by western ideas, and land management and use changed radically. Within a year of the death of Kamehameha I (1819), American missionaries arrived, and by 1824, a "great denial" of Hawaiian cultural values, practices and history, was underway. Land use in Hawaii began quickly evolving towards Western practices, and in 1848, a Western-style system of land ownership was instituted. Preceding this event, called the Māhele (a division of land between the crown, government, lesser chiefs [konohiki], and native tenants of the land), all land and natural resources were held in trust by the high chiefs, and their use was given at the prerogative of the high chiefs (*ali'i* "ai ahupua'a" or *ali'i* "ai mokou) and their representatives or land agents (konohiki), who were generally lesser chiefs as well.

The Māhele defined the land interests of the King (Kamehameha III), the high-ranking chiefs, and the *konohiki*, who were originally those in charge of tracts of land on behalf of the king or a chief (Chinen 1958:vii and Chinen 1961:13). More than 250 of the highest-ranking chiefs and *konohiki* in the kingdom joined Kamehameha III in this division. The first Māhele was signed on Jan. 27, 1848 by Kamehameha III and Princess Victoria Kaiulani, and by her guardians Mataio Kekihana and Ione (John Papa) I'i. The last Māhele was signed by the King and E. Enoka on March 7, 1848 (Chinen 1958:16).

The Māhele did not convey title to any land. The chiefs and *konohiki* were required to present their claims to The Land Commission to receive awards for lands quitclaimed to them by Kamehameha III. They were also required to pay commutations to the government in order to receive royal patents on their awards. Until an award was issued, title remained with the government. The lands awarded to the lesser chiefs and *konohiki* became known as *Konohiki* Lands. Because there were few surveyors in Hawaii at the time of the Māhele, the lands were identified by name only, with the understanding that the ancient boundaries would prevail until the land could be surveyed. This expedited the work of the Land Commission and speeded the transfers (Chinen 1961:13).

During this process all land was placed in one of three categories: Crown Lands (for the occupant of the throne), Government Lands, and *Konohiki* Lands. These were all "subject to the rights of the native tenants" (Laws of Hawaii 1848:22). The *ho'o'āina* or native tenants were the common Hawaiian people who lived on the land and worked it for their subsistence and for the welfare of the chiefs. Questions concerning the nature of the rights of these native tenants began to arise when the King, the government, and *konohiki* began selling parcels of land to foreigners. On December 21, 1849 the Privy Council attempted to clarify the situation by adopting four resolutions intended to protect the rights of native tenants referred to in the 1848 Law (Chinen 1958:29).

These resolutions (Kingdom of Hawaii 1850:121-124) authorized the Land Commission to award fee-simple title to all native tenants who occupied and improved any portion of Crown, Government, or *Konohiki* lands. These awards were to be free of commutation except for bonus lots located in the districts of Honolulu, Lāhainā, and Hilo (Chinen 1958:29). Before receiving their awards from the Land Commission, the native tenants were required to prove that they cultivated the land for a living. They were not permitted to acquire wastelands or lands which they cultivated "with the seeming intention of enlarging their lots." Once a claim was confirmed, a survey was required before the Land Commission was authorized to issue any award. The lands of the native tenants became known as *Kuleana* Lands.

By the time of its dissolution on March 31, 1855, the Land Commission issued only 8,421 *kuleana* claims, equating only 28,658 acres of land to the native tenants (Kame'elehua 1992:295). Though the commoners were required to provide proof of land use and habitation, royal claims rarely included any documentation. This requirement of proof by the commoners produced a series of volumes of registry and testimony. Today, these volumes often help researchers understand land use practices, crop production, resource harvesting, and tell what structures were on the land at the time. Because the narratives help provide a view into communities at the time (mid 1800s), claim registers and testimonies from within the project area as well as a few from the immediate surrounding area are included below.

MĀHELE AWARDS IN/OR ADJACENT TO THE PROJECT AREA

The *ahupua'a* of Kamehameha was awarded to *alii'i nui* (high chiefess) Kekau'ōnohi (LCA 11216; Foreign Testimony Vol. 10:447), who was a granddaughter of Kamehameha I and a niece of Kahanimoku, who had been the *kāhuna* (land carver—land administrator) of Kamehameha I; Kekau'ōnohi's genealogy represented the lines of both the Hawai'i and Maui chiefs (Kame'elehua 1992:73). Following the Māhele, Kekau'ōnohi was second only to the *Mō'i* Kauhikaouli (Kamehameha III) in land holdings (ibid.:307). Because of her status, no documentation was required for her claim.

The *ahupua'a* of Waiko'eke'e was awarded to William Lumaililo (Kamehameha V) in LCA 8559-B, and like the lands of Kekau'ōnohi above, no documentation was required. The son of high chiefess Kekauluohi and Kana'ina, Lumaililo was the grandnephew of both Kamehameha I and Kamehameha II, and thus also represented the lines of high chiefs of Hawai'i and Maui (Kame'elehua 1992:230-231).

Some commoners and lesser chiefs were awarded *kuleana* parcels within or adjacent to the project area *ahupua'a*, and their register and testimony claims are presented below. In past reports, there has been some confusion regarding a few LCA numbers and their locations. On the copy of a map prepared by Williamson in 1909, reviewed for this report (Figure B-1), it appears that there are discrepancies in recordation on LCAs 7858 and 7977.

Identified as being in Kamehameha, LCA 7858 was actually registered in the *'āhi* of Lālika (Waipi'o mauka). Furthermore, the LCA was declined by claimant Halemanu, thus there should be no map record of its location. Instead, Halemanu and Kapaka joined together in claiming LCA 7857 in the lands of Ka'ō'ō and Pa'āko (Lālika).

During LCA research for this project, it was noted that the testimony and diagram that accompany LCA 7859, awarded to Ka'ihoholani, fit the location identified as LCA 7858 on the Williamson Map). Upon obtaining a copy of the project area TMK map it was found that LCA 7859 was indeed situated on what is now the plantation manager's house lot (Site 15006).

Another *kuleana* (LCA 7977) appears to be identified on the Williamson map, but the correct award number is LCA 7877: *Apana* 1, part of the lands awarded to Kame'elehua; portion 2 of this award is situated within the project area (near Site 15014). Additionally, in LCA 7877 Kame'elehua's Land Division Registry claim identified the *ahupua'a* as being Waiko'eke'e, but in the supporting testimony, the *ahupua'a* was named Halekūā; this is perhaps an alternative name for the *ahupua'a* of Waiko'eke'e. (The Hawaiian testimony providing this information is included below.)

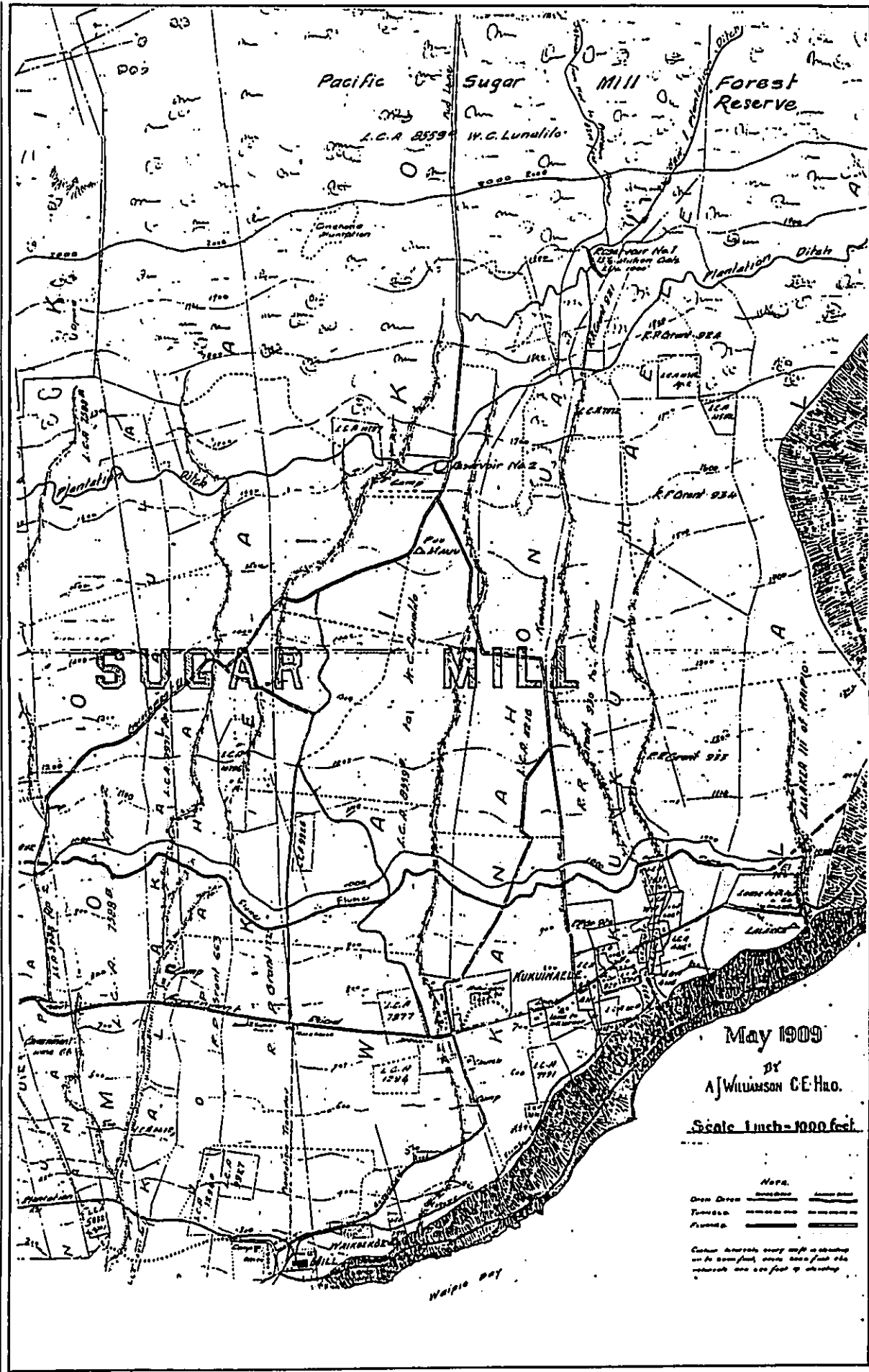


Figure B-1. 1909 Map of Honoka'a and Pacific Sugar Mill Plantations Showing Locations of Selected LCAs (State Survey Office, Reg. Map No. 2640)

One additional LCA (No. 4111), given to Keau, is registered as being in the land of Kukuhiāle. The 1909 Williamson map shows the award as being in two parcels: one parcel is in Kanahouua (immediately adjacent to, or partially within the project area), and the other parcel is in Kukuhiāle. Testimonies below confirm this configuration. Keau (a lesser chief) was also the recipient of lands covered under LCAs 1294 and 1294-B.

The texts for these awards were viewed at Mo'okini Library, at the University of Hawaii-Hilo. Some of the translations presented below are those completed by staff at the Hawaii State Archives (c. 1960s-1970s). A review of the translations revealed numerous discrepancies in the spelling of names and in the locations of land parcels, as well as questionable translations. Because of this, the author of this report reviewed the original Hawaiian texts and retranslated some sections of the LCA documentation, which are included below. Additional research of the Māhela records will undoubtedly contribute to future research efforts and site descriptions.

Land In Waiko'eko'a (Figure B-1):

LCA 1294 to Nehemia Keau (Waiko'eko'e) Native Register Vol. 3:60-63

[The Native Register claims of N. Keau cover five separate ahupua'a; these claims were later separated into three LCA numbers: 1294, 1294-B, and 4111. The selected narratives below address the Waiko'eko'e portion of Keau's claim.]

November 20, 1847

Hear ye O Land Commissioners: I hereby present my claim at Waiko'eko'e. This land was from Kamakini. In 1827 Kamakini gave it to Aki and I got it from Aki. The year Waiko'eko'e became mine, fault was found with Aki and the land became Kalaichu's and I was under him, the land and people were under me. At this time, this occupancy is ended and the neighboring place is mine, it is my claim. This is my claim and you will see by the diagram below the nature of the claim. The large diagram outside is Waiko'eko'e and within there my claim is shown. I have three claims in Waiko'eko'e; the portion from by the cliff to the shore is one, and the place of my dwelling houses is another, and in the uplands is the other.

Here is the testimony for the shoreward claim: The eastern boundary is the cliff of Miihi'ole, which runs eastward to Kaupē'a on the shoreward side; it then continues north along the shore to Waikulukulu in Kanahouua; on the west it continues to the cliff of Ka'ohi'a, and then continues southward to the cliff of Miihi'ole, these are the boundaries. This is the claim in the northern section of Waiko'eko'e, it's diagram is on the west.

The second claim is bounded on the east by Kameha'ikana, on the west - northern boundary is the ala loa (pathway) to Kanahouua, on the west is Kamakini, on the south is the hill Mau'uhalele'i, and then to the east is Kameha'ikana. These are the boundaries of this claim. This claim is between Waiko'eko'e on the west, and Kanahouua on the east. This is the land shown in the diagram.

This is the third claim: Kapu'o'a is the east - north boundary; on the south is the stream of Pōlōlikamānu, this is the east side; This boundary continues

to the lūa (pit or crater cone) of Kamahāi, which is the upland boundary; from there it goes to the west - south boundary at Kanahouua, this is the west - southern side; it then goes north - west and runs shoreward of Laua'e, this is the west - north boundary; then running north - east it is at Kapu'o'a. These are the boundaries of this claim. This is the west side of Waiko'eko'e which is next to Kanahouua. Look at the diagram in the claim document. [Diagrams not included with the Hawaiian texts that were the source of the above translations; see Figure B-2, TMK Map 4-8-06.]

LCA 1294 to N. Keau (Waiko'eko'e, nearby the project area) Native Testimony Vol. 4:152

Kapu swam and stated: I have known there in the 'ili lands within Waiko'eko'e, his 3 sections:

Section 1. (see Figure B-3., Combined Pacific Sugar Mill Field Maps)

Mauka: Konohiki land
Kohala: Konohiki land
Makai: idle land
Hilo: idle land

This is watered land, two taro pond fields are for the Konohiki, it is not cultivated and there is no house.

Section 2.

Mauka: idle land
Kohala: Kanahouua ahupua'a
Makai: Kahe'enalu's land
Hilo: idle land

It is a dry land (parcel), 1 house is for him

Section 3. At Pōlōlikamānu

Mauka: idle land
Kohala: Kanahouua ahupua'a
Makai: idle land
Hilo: idle land

It is a dry land (parcel) without a house. He is not on this place, having been evicted and thus departed though there was no known offense; removed in 1844, Kamakini gave it to Aki and Aki gave it to Keau in 1832 [not 1827]. The years mentioned in the original document [Native Register above] are erroneous. Objection has been urged since 1839, Kahe'enalu swam and stated "[have known exactly as Kapu has related here." Look to pages 159-160.

[Lands for awardee Keau are also continued in Native Testimony Volume 4:160 in two sections: (1) for a parcel in the ahupua'a of Kea'a (LCA 1294-B) on the Hilo side of Waiko'eko'e; and (2) another parcel in the ahupua'a of Pu'uopaha (LCA 1294) which is the next ahupua'a on the Hilo side of Kea'a. Keau's awards included land in five contiguous ahupua'a: Kukuhiāle, Kanahouua, Waiko'eko'e, Kea'a, and Pu'uopaha, north to south.]

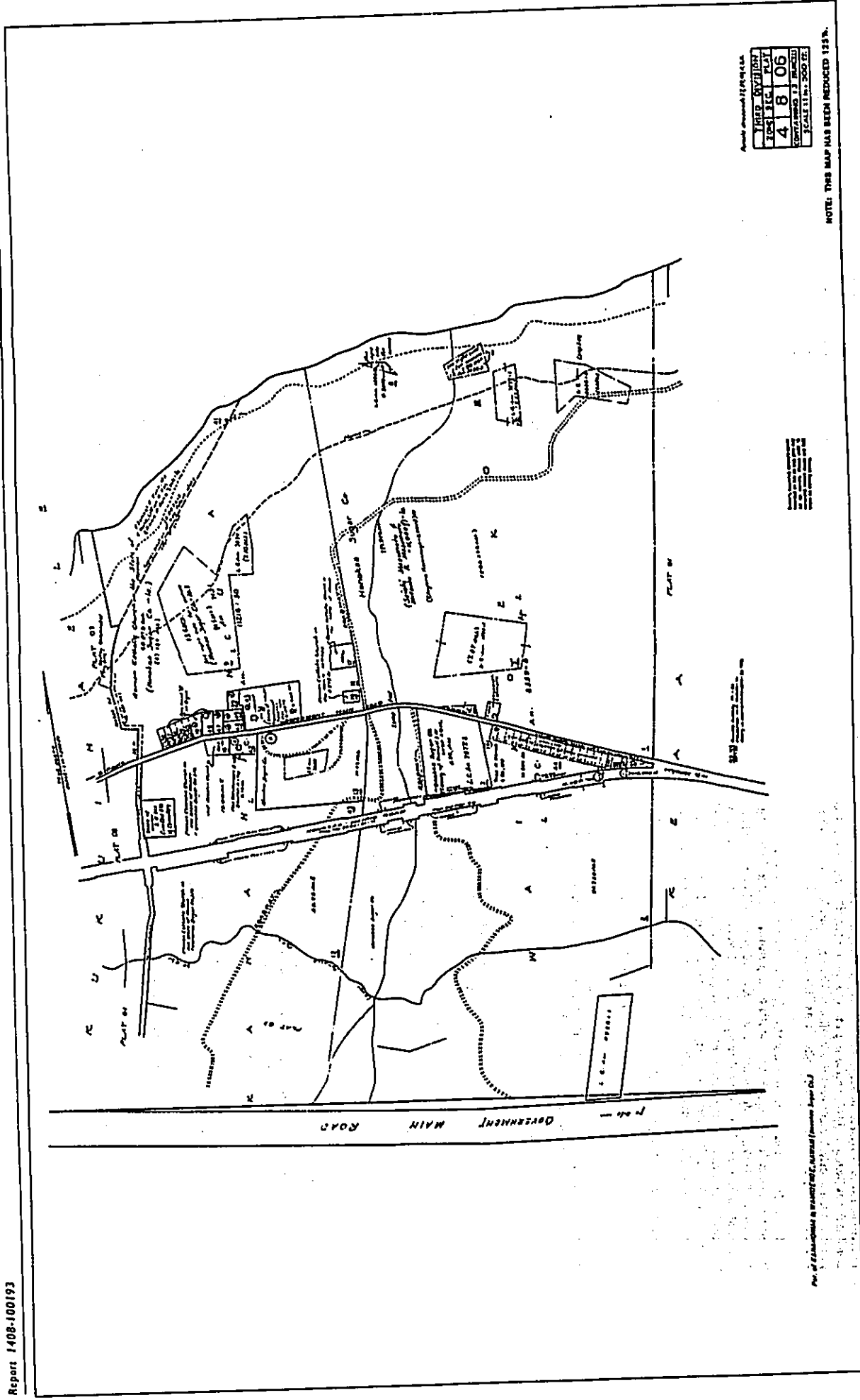


Figure B-2. Waiko'oko'e - Kanohoua TMK-4-8-06 (Real Property Tax Office, Honolulu)



LCA 7877 to Kahe'ema'u (Waiko'eko'e; west of Site 15014) Native Register Vol. 8:314

Heary, ye Land Commissioners: I hereby present my claim for land to you, the commissioners for this work. My claim is at Waiko'eko'e. This is the place where I was born, it has been held since ancient times. My claim is on the west side of Waiko'eko'e. One side goes all the way to the shore and the other side returns inland where the pahi is. The diagram explains it.

That is my message to you, the Commissioners to quiet land titles. PETERO KAHE'ENALU X

LCA 7877 to Kahe'ema'u (Waiko'eko'e - Haleokāne) Native Testimony Vol. 4:153 12, Okaoba 1848

Māhoe ho'ohiki'ia a 'ōlelo mai la: Ua 'ike au aia ika 'ili 'āina i Hono'ouou i ahupua'a Haleokāne, i 'āpana 'āina. Mauka o ko Keau 'āina; ma Kohala, 'āina waiho wale; ma Kū, 'āina waiho wale; ma Hilo o ko Lūhi 'āina. 'Āina malo'o, ua mahi'ia, i hale nona. He 'āina kahiko mai a K. I [Kamehameha I] mai, no kona mau mauka a hānau 'ōia malaila. A 'ōle meka ke'āke'a laia.

Moku Ho'ohiki'ia, a 'ōlelo mai la: Ua 'ike loa ko'u 'ike me ka Māhoe i ha'i a'e nei.

Māhoe sworn and stated: I have seen in the 'ili land of Hono'ouou in Haleokāne ahupua'a, in 1 land section. Towards the uplands is Keau's land; towards Kohala is idle land; towards the shore is idle land; towards Hilo is the land of Lūhi. It is a dryland cultivated area, with one house for him. This is old land [right] from Kamehameha I to his parents, and he was born there. No one has objected to him.

Moku sworn and stated: My understanding is exactly as Māhoe has just related here.

[Although the above statements identify one parcel, 11.15 acres were awarded in two parcels to Kahe'ema'u. The mauka portion (7877:2) is just west of Site 15014, and is identified as near the Japanese School (Figures B-1 and B-3).]

Land in Karahonua (Figure B-1):

LCA 4111 - Keau Kukuhaele (Kamabonua) December 28, 1847 Native Register Vol. 8:271

I Keau, have a claim for a house lot at Kukuhaele. There is also an 'ili (land parcel) at Kukuhaele which was received from Kapau. At Kamabonua is another 'ili which was received from Ka'ai. The kīhāpai (dry land cultivated plots) are in one parcel. My lot claim is at Hāroka, Hawaii. The diagram shows the size in fathoms. That is my work which I present to you, the Commissioners to Quiet Land Titles.

Keau

LCA 4111 - Keau Okatopa 12, 1848 Native Testimony Vol. 4:159-160 (Kamabonua - Kukuhaele)

Kapau ho'ohiki'ia, a 'ōlelo mai la: Ua 'ike au aia ika 'ili 'āina i Kamakani, ahupua'a o Kukuhaele me ka 'ili 'āina i Makali'o, ahupua'a Kamabonua. I 'āpana: Mauka o ko Ka'āina 'āina a me ke Kono'ihiki; ma Kohala o ko Kapau 'āina; nēka'i he pahi; ma Hilo o ko Ka'ai pā a me ka 'āina waiho wale. 'Āina malo'o, a 'ōle i mahi'ia, i hale nona, a 'ōle pa. No'u aku onā o ka 'āpana ma Kukuhaele, a 'ōle o'u ke'āke'a aku loa' a 1847. Ka'ai ho'ohiki'ia, a 'ōlelo mai la: Ua 'ike loa ko'u 'ike me ka Kapau i ha'i aku nei; a no'u aku ho'i kekahi 'āpana i Kamabonua, loa'a 1847

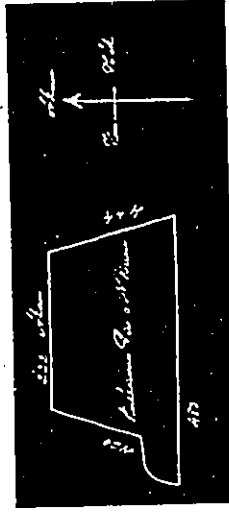
Kapau sworn and stated: I have seen [his land] there in the land parcel of Kamakani, in the land division of Kukuhaele, and in the land parcel of Makali'o in the land division of Kamabonua. The first section: upland is Ka'āina's land and the Kono'ihiki; towards Kohala is Kapau's land; towards the shore is a cliff; and towards Hilo is Ka'ai's lot and an idle land. It is a dry land parcel, not cultivated, he has one house and it is not fenced in. I gave him the section in Kukuhaele. I do not object to Keau who has had it since 1847. Ka'ai sworn and stated: My understanding is exactly the same as what Kapau has said; and I gave Keau the land section in Kamabonua in 1847.

LCA 7131 - N. Ka'ai (Kamabonua Sites 14986-14987) Native Register Vol. 8:278-279

Aloha 'oukou e nā Luma Ho'oua. Ke ha'i aku nei su iko'u kuleana i 'oukou ma ka Mokupuni o Hawai'i, 'āpana 'āina ma Hāmākua ma ka 'ili 'āina o Kamabonua ko'u kuleana 'āina. Ua pa'a no'u i ka pā 'a i ka pōhaku. O ke kuleana a'u, ma Kalei'ehu ke kuleana i noho aku a i i kēia wahi. Noho aku au i ka mākehihi 1837, ma kēia wahi, 'ōia no Kamehameha III e noho nei i kēia manawa.

Na N. Ka'ai

Greetings to you the Land Commissioners: I hereby state my claim on the Island of Hawai'i, a land parcel at Hāmākua. My claim is in the land of Kamabonua, it has been enclosed by me with a stone wall. My right of claim to this place was given by Kalei'ehu. I have so dwelt at this place since 1837, it was at the time when Kamehameha III came to reign.



LCA 7131 - Ka'ia'i (Kamabonus) Native Testimony Vol. 4:153

Kapau (Konoohiki) sworn and stated "I have seen in the 'ili land at Hialeoloo of Kamabonus ahupua'a in 2 sections:

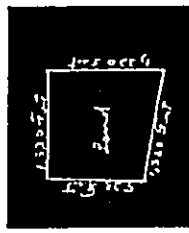
Section 1. A house lot towards the uplands is Keanu's land; towards Kohala is also Keanu's land; towards the shore is a cliff and an other person; towards Hilo is Puniaka's land. This is a cultivated kula (dryland) parcel.

Section 2. Towards the upland are lo'i (taro pond fields) for the Konoohiki; towards Kohala is also for the Konoohiki; towards the shore is also for the Konoohiki; and towards Hilo is Kamabonus ahupua'a. 21 lo'i are cultivated here and there is no house. His possession was from Kaleichu in 1838 no one has objected to him to this day.

Kahuli sworn and stated: My understanding is exactly as Kapau has just related here.

LCA 7874 - Waihuahi (Kamabonus) & LCA 7875 - Kapuahi Native Register Vol. 8:313

Greetings to the Land Commission: I hereby petition for my house lot claim at Kamabonus, District 4, Island of Hawaii. It is a square 774 feet on each side, as follows:



Kukuihaele, Hamakua Waihuahi X and Hawaii'i, Feb. 1, 1848 Kapuahi X

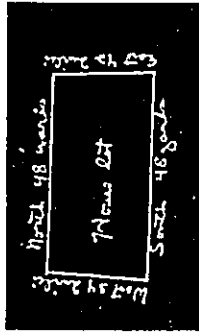
LCA 7874 - Waihuahi (Kamabonus) Native Testimony Vol. 4:296

Nakipi'eua sworn: I have seen the house lot in the land parcel of Kaumakani, in the land division of Kamabonus. The Konoohiki is on the upland, Kohala, and seaward sides, and Ka'iihoholani's lot is on the Hilo side.

No one has objected. Ka'ii'i sworn he has known exactly as Nakipi'eua had related there.

LCA 7859 - Ka'iihoholani (Kamabonus Site 15006) Native Register Vol. 8:306

Greetings to the Land Commission: I hereby state my house lot claim. It is at Kamabonus in Hamakua, Hawaii'i and I received it from Puniaka's.



Hamakua, Hawaii'i I am, KA'IIHOHOLANI Feb. 1, 1848 whose claim this is.

LCA 7859 - Ka'iihoholani (Kamabonus) Native Testimony Vol. 4:156-157

Kepio (the Konoohiki) sworn and stated: I have seen his house lot in the land parcel of Kaumakani in the land division of Kamabonus, all sides are surrounded by the chiefess (Kakau'ooohi). It has been enclosed and there is one house for him. I had given him this interest in 1838, he had it fenced in and is now living there. No one has ever objected to him to this day.

LAND USE FOLLOWING THE MAHELE

At the time of the Mahele, Hawaiians lived on and worked the land throughout the various environmental zones of the project area. Kuleana were situated above coastal cliffs, on the kula or level dry lands that were used for dryland cultivation and pasture, and along the watered stream margins, which were used for lo'i. A review of Mahele records shows that native tenants were cultivating several crops on their properties. It can be assumed that the products of the land were used by the tenants for family subsistence, and also as trade items, to pay konoohiki and the ali'i's ahupua'a, and ultimately the MHI (Crown); this was much as had been practiced in pre-contact times. Cultivated crops identified in the Mahele records include: taro; wauke and amamaki (pith used for kapa making); 'ulu (breadfruit); native sugar canes, bananas, and bamboo; and oranges and coffee, which were introduced crops.

The placement of LCAs in the region related to several factors. They were often located near water sources, for domestic and agricultural use. They were also located near a/a loe/a/a hefe, for access to property, natural resources, and transportation. For example, access to community, ocean, and agricultural resources in Waipi'o remained important to those in the project area vicinity even after western business interests came to dominate the local economy. Similarly, LCAs were located along the evolving a/a aia, or government roadways. As western influences reshaped the Hawaiian sense of community, Hawaiian settlements of the period reflected missionary concepts regarding acceptable communities; i.e., the "benefits" of living under the watchful eyes of church leaders, close to churches, and in "civilized" villages and towns. Churches were placed in populated areas around the islands, within easy access to native

communities. These churches and native settlements became gathering places—the village centers. As land became available to for businesses, the villages like those in the project area offered a labor force and access to land and transportation routes.

In 1850, two years after native Hawaiian commoners were granted the opportunity to acquire their own parcels of land through the Māhela, foreigners who swore an oath of loyalty to the Hawaiian Monarch were awarded the right to own land (Kame'elehua 1992:300). This opened the door to foreign business interests, primarily American, and the stage was set for the full scale development of Hawai'i's sugar industry.

The Hawaiian Church of West Hamakua, at Kanahoua, was originally named 'Eie'io' (pers. comm. Mr. James Richards, Hawai'i Conference Foundation [HCF] 8/26/1993). 'Eie'io was one of the churches ordered built (c. 1835) by *Apu'i* and Governor of Hawai'i Island, Kuakini; it was he who had also ordered construction of Moku'aikana Church in Kona, and Hāili Church in Hilo, among others (Kamakau 1961:275 and 390).

On July 16 1832, Lorenzo Lyons (Makua Liana), one of the most famed and beloved missionaries of all those who came to Hawai'i, replaced Reverend Dwight Baldwin as Minister at Waimea, Hawai'i. Lyons' "Church Field" was centered in Waimea, at what is now the historic church, 'Imiolo, and included Hamakua and Kohala (Doyle 1953:40 and 57). By 1833, Lyons noted that "deaths are more numerous than births. Hence the [native] population is decreasing" (ibid.:72). Lyons' journal entry in December of 1834 documents that he, his wife Betsy, and their son Curtis had left Waimea and settled in Hamakua, near the 'Eie'io Church. They settled in Kanahoua at what became the Kukuhale church and school lot, and were housed by an area chief named Kahiapu (also written as Kakeichu). Lyons wrote the following description to his brother:

We have no roads such as you have in America, but we got to Hamakua after a fashion. Mrs. L. was drawn part of the way in a rocking chair attached to the fore wheels of a wagon; a part of the way she was carried in the same chair by natives; and a part of the way she walked. The little one [their son Curtis] was carried by a native. You would have smiled to have seen how we lived! The doors were so low that we had to stoop in order to get in. The house had no window. Our bed was made of posts driven into the ground; and poles and leaves and mats. Our humble table was made by myself. We were all alone, with no society save that of the natives. To be without luxuries is no trial, but at first the thoughtfulness of the people was painful. But Mrs. L. worked with the women and children and I with the men. The schools flourished. Singing schools were large and made considerable progress. The people brought all kinds of products to exchange for books...

Betsy too loved Hamakua, and wrote: The climate is delightful. We live about a half mile from the ocean, and about two miles from the top of Waipio and Waianu Pass. From our door we have a view of the precipices beyond... (ibid.:74).

* 'Eie'io' was the name of a famous messenger-runner who was also called *Apua'i* (Doyle 1953:152). It is probable that the son of the same of this "messenger" was meant to imply that the church was a vessel-messenger of the word of God.

† Betsy wrote: "Kahiapu [Kakeichu] was a chief mentioned in LCA's 7/31, 1834, and 7/24 at Kanahoua [has given us a house to live in while we are here]. Of the road she said, 'A part of it had over with good to go' [probably new farm, as that was a practice in wet areas of the island]."

During their stay in Hamakua, Lyons traveled to the various churches within his "field," and at one point he lamented that the people in Waimea had begun "converting their bibles into playing cards" (ibid.:75). Mrs. Lyons taught at the school for children and women. In his February 11, 1835 journal entry, Lyons notes that he introduced the reading of the Hawaiian Newspaper into his class studies (ibid.:77).

On May 25, 1835 Lyons and his family left their home in Hamakua and returned to Waimea. "Before we left our house was filled with men, women, and children coming to pay their salutations and express their sorrow on account of our leaving" (ibid.:80). Lyons estimated that the population in Hamakua was approximately 4,015 in 1835 (ibid.:81).

In August of 1835, Lyons rode to Hamakua and noted that, "the new meeting house is going up and will be completed in two months perhaps. It is surrounded by a stone wall put up by convicts such as adulterers etc. This is not my fault if fault it is—I remonstrated against it" (ibid.:83). Another entry from Betsy Lyons' journal notes that when she and Lyons returned to Hamakua for a visit, they were warmly greeted by the natives and presented with "pigs, fowls, potatoes and bananas, all cooked in native style, and given in evidence of their love. Many came from great distance. Some whole schools of children have given up smoking tobacco" (ibid.:93). In April of 1837, Lyons returned to Hamakua and recorded that there were "fourteen schools—346 children—2300 adults" (ibid.:93). By August of 1837, Lyons noted that he held meetings at Kukuhale, and lodged on the floor of the school house (ibid.:97).

Between 1839 and 1846, Lyons went out into the field at least three times a year to visit his country parishes. Describing his path and stay in Hamakua he states:

On the way to Hamakua, there is in wet weather a march to pass thro', not much unlike Bunyan's Slough of Despond (Mahiki [Mud Lane]). It is perhaps four miles long—a most dismal place—yet the woods are sometimes vocal with the music of birds... On one route to Hamakua, part of the road is a mere footpath lying thro' a dense wood of Koa and Ohia. When we have reached the place of my active labor, my native cooks, usually out doors... Night comes on—a light is needed. Kukui nut, about the size of a walnut, are strung on splinters of bamboo, resembling when done, a string of dried apples. Fire is procured perhaps by rubbing two sticks together. Then the string of canule nuts is lighted at one end... (ibid.:109)

Because he received little help from the American Board of Commissioners for Foreign Missions (A.B.C.F.M.), Lyons selected "Hawaiian elders who superintended the different parishes—They labored without remuneration... They conduct schools and meetings on the Sabbath. On week days they visit from house to house, conduct funerals, direct all the simple affairs of the church" (ibid.:122). Throughout the years, he recorded occurrences in his journal, and in 1841, Lyons estimated the population of Hamakua to be 3,830 (ibid.). In 1845, Lyons lamented the condition of the Hawaiian people, "O my wretched, starving people!... Never before had so much doctoring to do" (ibid.:138). From Waimea, in November of 1848, Lyons documented the deaths of many Hawaiians of all ages from measles, dysentery, and whooping cough (ibid.:148). Lyons relates that there were so many dead, that there was almost no one to bury them, and even at Waipi'o (and presumably the Hamakua parishes) the mortality was high (ibid.:149).

In April of 1853, Curtis Lyons, who had become a surveyor for the kingdom, recorded the 'Eie'io Church lot, and the property was granted to the A.B.C.F.M. On September 19, 1853 (the

same date as the Kukuihaele School lot at Kanabonua). The church lot was recorded as being 795 square fathoms (pers. comm. Mr. James Richards, HCF 8/26/1993), approximately 0.68 acres.

Lyons' granddaughter notes that the stone structure for 'Ele'io church was completed March 28, 1859 (ibid.:167), and Lyons' journal entry of January 1860 recorded the labors of the native converts at procuring materials and building their formal churches.

We are told that the people of Hamakua had worked in the uplands gathering pulu (tree fern fiber) for export, in order to pay for lumber and other construction materials. Of this labor Lyons states:

This is very self denying and badly trying labor. It is tedious work to pick it from the ferns, dry it, pack it and take it to the sea side to be shipped. Sometimes they have to descend precipitous rocks and bluffs to get their pulu.

But when the vessel brings the lumber, then comes the trying time! There are no harbors on the Hamakua shore. Materials must be landed at the best places that can be found, and then only at certain times of the year. In rough weather no landing can be expected... The people have to struggle hard and work long in the water before the last board is safely on the rocks. Then they must have a hard and long pull to get the lumber in from the rocky shore up the steep precipitous paths and thence up to the site of the church... (ibid.:164-165)

Over the years, Lyons' strength began failing, and by 1864, three Hamakua Churches were under native pastors (ibid.:199). Following many hardships, Lyons happily wrote in his diary that the last of the fourteen churches in his parish had been finished. "It is the most Eastern and is called Hoku Ao (Morning Star) [in Hamakua], the Western most is Hoku Loa (Evening Star; at Puakō)" (ibid.:167).

It may be noted here that presently there is no documentation concerning a cemetery within or adjacent to 'Ele'io Church, although cemeteries were common at Hawaiian church sites. Mr. James Richards of the Hawai'i Conference of the United Church of Christ and Foundation graciously reviewed Hawai'i Conference files and could find no cemetery references in the church records. The church was abandoned c. 1950 (pers. comm. 8/26/1993). Additionally, the County of Hawai'i Public Works Division, which is responsible for the "Kukuihaele" cemetery in Kanabonua, has no records of cemetery interments. Although the cemetery was established in 1935, there are headstones dating to 1879. These issues pose some interesting questions for researchers, some of which are addressed later in this report.

On September 19, 1853 the Kukuihaele School Lot at Kanabonua (bordered by the project area), was formally established through School Grant 14 ('Apana [Section] 5). Property boundaries were submitted by Lorenzo Lyons' son, Curtis J. Lyons. Bureau of Conveyances records provide the following description:

Kahua o ka hale kula ma Kanabonua, Hamakua, Hawai'i, E ho'omaka ana ma ke kihi Kom. Hem. e pii ana ma ke alama, makai pono o ke kihi o ka pa o ka luakini, a e holo ana Ak. 3 3/4 Kom. 196 Kap. alaila 'Akau 86 1/2 HI. 222 Kap. alaila Hem. 3 3/4 HI 196 Kap. a bikii ke alanui, alaila ma ke alanui Hem 86 1/2 Kom. 222 Kap. a hiki i kahi e ho'omaka'i.

Maloko o keia i 'eka

Apr. 27, 1852 C.J. Lyons
Luna ana

'Apono'ia
Septembara 19th 1853

Keoni Ana
R. Armstrong
Minr Pub Instruction

School House Lot at Kanabonua, Hamakua, Hawai'i. Beginning at the Southwest corner next to the [Government] road, directly shoreward of the corner of the church lot, and continuing North 3 3/4 West 196 feet. Then North 86 1/2 East 222 feet; then South 3 3/4 East 196 feet, to the road South 86 1/2 West 222 feet and then back to the starting point.

Within this is 1 acre

April 27, 1852 C.J. Lyons
Surveyor

Approved Keoni Ana
September 19th, 1853 R. Armstrong
Minister of Public Instruction

In 1931, the Kukuihaele School Lot was enlarged, and recordation of that process includes the following documentation of a trail which connects the original school lot with LCA 7131: "The Honolulu Sugar Co.'s map shows a trail from the present school lot to L.C.A. 7131 to Kahi but evidently this trail has been abandoned as it is not in use at present" (Office of the Hawaii Territory Survey correspondence, August 25, 1931). Williamsons' map (Figure B-1, and Pacific Sugar Mill maps (Figure B-3) show this trail (though in different locations) running to the coastal cliffs and presumably connecting with the ancient *ala loa*, as well (portions of these trails are within the project area).

The Roman Catholic Church of Hawai'i received the deed to Chiefess Kekau'opohi's Kanabonua lands (LCA 11216:50) c. 1868. Kekau'opohi died in June of 1851 and her husband, Levi Ha'aleka was her beneficiary. Ha'aleka died in 1864, leaving a debt of more than \$40,000.00 owed to Bishop & Co. The subsequent auctions sold large portions of his lands at minimal prices, and most of it to foreigners (Kame'eleihewa (1992:307). Presumably, the project lands acquired by the Roman Catholic Church were a part of the auction sales of the Kekau'opohi-Ha'aleka estate.

The Catholic Church lot identified on Figures 1 and 3, identify the original location of St. Theresa's Church and Cemetery. Presently, the cemetery is located at the original church site, and the church is a short distance *makaia*, towards the County Road. The church's land holdings also include sugar fields surrounding the project area. On April 27, 1935 the Roman Catholic Church decided, for cemetery purposes (Figure B-4), two acres of land in Kanabonua to the Territory of Hawai'i, Executive Order No. 676 (December 17, 1935; Site 15009) placed this parcel under control of the County of Hawai'i (Territory of Hawai'i Office of the Commissioner of Public Lands, June 7, 1943).

The County Cemetery is adjacent to the project area on its southern, eastern, and northern boundaries. On the west side, it is bounded by a shoreward portion of the Mud Lane. Now paved, this was once the trail upon which natives traveled between Waimea and this section

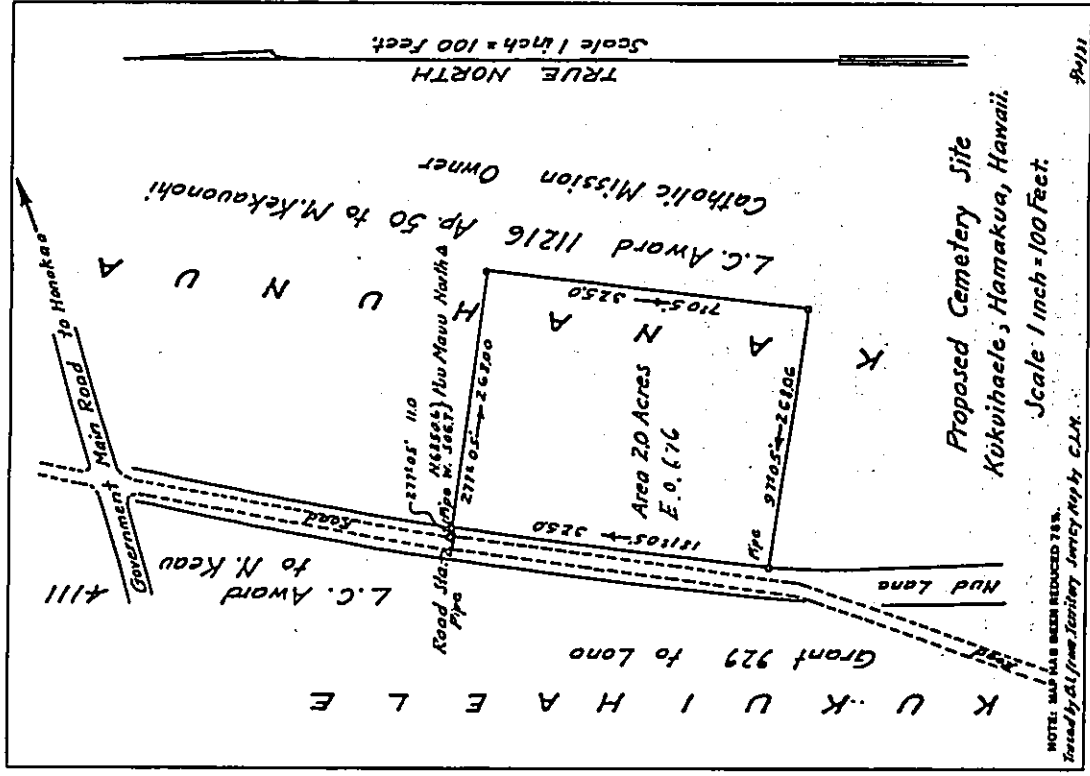


Figure B-4.
Map of the County Cemetery at Kanahoua (Kukuihaele), 1931.
Note misspelling of Kanahoua (State of Hawaii) Survey Branch)

of Hamakua. Reverend Lyons (cited above) also described travel upon this trail when he was coming and going from his Kanahoua - Waipi'o, Hamakua parishes.

In a June 28, 1943 letter to L.A. Marks, Commissioner of Public Lands, C.L. Murray, Cadastre Engineer, Murray reviewed the configuration of the County Cemetery, and temporary use of some of the land by the plantation. In the letter, Murray noted that "To date there have been no burials in the cemetery lot. The area set aside will be ample and will in part be idle for many years to come. There are four cemeteries between Honokaa and Kukuihaele used by different churches and nationalities at present but these are small and may in time be used up."

Documents recording establishment of the cemetery and Murray's comments regarding there being "no burials" within it in June of 1943 are of interest, and perhaps of importance to project area and community history. A visitor at the County Cemetery today will see headstones dating back to 1879. Among the questions which come to mind are: (a) Where did the graves that are older than 1943 come from?; (b) Where are the graves of the native residents and others who lived in this area prior to 1879?; and (c) Was the 'Ele to Church site also used for interments, and are there unmarked graves on the church lot, or on adjoining project area parcels?

During the current research, records of the County and State of Hawaii, were reviewed in Hilo. Additionally, Dr. Young, of 'Imiola Church, Mr. James Richards, of the Hawaii Conference of the United Church of Christ (the parent organization of the Hamakua - Kohala churches associated with Reverend Lorenzo Lyons), and the Catholic Diocese at Honokaa (Carol Ignasio) were contacted in an effort to answer some of the questions relating to the County Cemetery. These lines of inquiry were unable to further clarify questions regarding cemetery use.

SUGAR IN HAMAKUA

Throughout the Hawaiian islands plantation agriculture, ranching, and farming were undertaken, and in the project area, the Pacific Sugar Mill was established (c. 1878). Lands within the project area were directly associated with the growth and evolution of the sugar industry in Hamakua (Figure B-3). The "plantation camps," churches, stores, schools, cemeteries, and the diversification of the area's ethnic make-up were direct products of "plantation life" (Figures B-3 and B-5). Plantation communities usually developed around the earlier Hawaiian - church settlements, and many *kūkaena* were assimilated into plantation buildings for various reasons (see locations of LCAs 7874, 7131, 7877, and LCA 7859).

The following brief history of the Pacific Sugar Mill and Hamakua Sugar Plantation was compiled by Kalima (1991), following her review of materials at the Hawaiian Sugar Planters Association (H.S.P.A.) Archives.

The Pacific Sugar Mill was located on the northeast coast of the island of Hawaii between Honokaa and Waipi'o Valley. It extended along the coast for four miles and up the mountains from two to nine miles. The elevation ranged from 300 to 1,900 feet, giving a variety of growing conditions. Half of the land was arable; the remainder was pasture and forests.

The beginnings of Pacific Sugar Mill are not entirely clear. A Charter of Incorporation dated August 19, 1879 lists Samuel Parker and F.A. Schaefer

as the founders. Other published sources cite Dr. Mont-Smith, Dr. Troussseau and Mr. Herbert Purvis as founders/proprietors of the enterprise. Material in the collection does confirm that the plantation was started in 1878, and the first crop harvested in 1880 with F.A. Schaeffer and Co. as the agents.

Pacific Sugar Mill had the distinction of introducing the first mongoose into Hawaii. In 1883 W.H. Purvis imported them from India and Africa for rat control on the plantation. Pacific Sugar Mill also experimented with growing caneigre roots (tanners' dock) when Mr. J. Marsden, Commissioner of Agriculture, imported the seed of this plant in 1895. It was expected that the root would become a good source of tannin for use in the leather industry. This was an early attempt to diversify and utilize land that was unsuitable for cane production.

While most plantations had a small herd of cattle, Pacific Sugar Mill was unusual because it also had over 600 head of sheep. Free mutton was provided for employees along with free housing, fuel and medical care. As on most plantations, the early work force consisted of Chinese and native Hawaiians. Later on Japanese, Portuguese, Spaniards, Puerto Ricans, Koreans and Filipinos came to work on the plantation, both as day laborers and contract workers.

By 1908 Pacific Sugar Mill had a nine-roller mill and produced an average crop of three tons per acre. The cane was delivered by flumes to a railroad which stretched across the plantation from east to west. The railroad was about four miles long and extended from the mill at Kukuihaele to the plantation's Honokaa boundary. Pacific Sugar Mill also had a wire rope landing to transport sugar bags to steamers for shipment.

The water for the flumes was obtained by diverting the Hi'ilawe Stream, which had its source in the Kohala Mountains. Pacific Sugar Mill also had the water rights to Lahaika Stream and to Kukuihaele Valley Stream. The water was transported partly through a flume and partly by a ditch to a reservoir at the head of the plantation. Four more reservoirs with an estimated capacity of 50,000,000 gallons were also constructed. This supply of water not only enabled Pacific Sugar Mill to transport all of its cane to the mill but was sufficient enough to enable Honokaa Sugar Company to flume 50% of its crop (in Kallima 1991:B-10, B-11).

In the Hawaiian Almanac and Annual for 1911, Thomas G. Thurum described the opening of the Himakua Ditch, a portion of which winds through the *ahupua'a* of Kanabonua and Waikoo'eko'e, at c. 1,000 feet elevation (Figures B-1 and B-3). Portions of the article are presented here because they directly influenced the nature of work done in the plantation, and development of the communities.

Construction work on the lower ditch began in May 1909, and was brought to a close with June, 1910, so that its opening July 1, was made a memorable event.

The source of the supply is the Waipio Stream, in Hamakua, which has its origin in the Kohala mountains, and is the confluence of four streams known as Kawainui, Alakahi, Koiawe and Waima, which by a series of tunnels

(56,932 feet), flumes (6739 feet), and open ditches (57,934 feet), is brought out and conveyed to Paauhau Plantation, eastward, a distance of twenty-four and three-fourths miles, supplying en route by flumes and open ditches the needs of Kukuihaele and Honokaa plantations.

This ditch taps the (most distant) Kawaihii stream at an elevation of 1037 feet, then by a series of forty-five successive tunnels nine miles in length, including seven intake tunnels, and 612 feet of fluming connecting the deep ravines, in which course the above four named streams, the water is brought out at Kukuihaele, at an elevation of 985 feet, where is located the main measuring weir, which consists of six five-foot panels, capable of measuring up to one hundred million gallons, the capacity of the ditch daily....(T.G. Thurum 1910:139).

Further plans of the irrigation company contemplate the construction of upper reservoirs, damming up ravines and gorges, obtaining and generating power for additional water to the upper and lower ditches for the further development of a district which is just now being brought into closer relations with Hilo through the extension of its railroad, which is planned to come within fifteen miles of Kukuihaele, to give direct transportation for sugar and other products with shipping at Hilo (ibid:142).

Though the plantation had adequate water and land resources, Pacific Sugar Mill failed. Kallima (1991) summarizes the companies demise:

In 1907 a glanders epidemic broke out because of poor conditions in the stables and most of the livestock had to be destroyed. The mill and housing were in serious disrepair. In 1913 the mill closed and the cane was sent to Honokaa for grinding. At this time the administrations of both plantations were brought under one manager in order to cut costs. In 1916, Pacific Sugar Mill sold its mill equipment to Mitsui Company of Japan. The partial merger with Honokaa proved to be such a success that a proposal was made to join all the interests of Pacific Sugar Mill with Honokaa Sugar Company to bring about added savings and assist the economic management of the two plantations. Pacific Sugar Mill was formally dissolved on August 24, 1928 and became the Kukuihaele Division of Honokaa Sugar Company.

HEIAU IN THE PROJECT AREA VICINITY

Throughout the Hawaiian Islands, plantations and ranches radically changed the Hawaiian landscape; untold traditional lore, cultural sites, land-use customs, and homesteads were changing and/or disappearing. In Hamakua, these occurrences are directly responsible for the limited availability of documentary materials and physical remains of Hawaiian sites within the project area and vicinity. In the mid to late 1800s, and early 1900s several researchers began compiling oral histories and site documentation. In a listing of heiau (ceremonial sites) for the island of Hawaii, Thomas Thurum identified the presence of two heiau in the Waikoo'eko'e region. One was named Puhama-moa, which can be translated as Hen's Nest. Since the heiau was a body form of the goddess Hina, it is possible that a heiau so named was for women. The other heiau was named Hau-ola, or Dew of life, and it was possibly associated with the god Kane, of the waters of life and sanctuary. The locations of these heiau were not identified (Thurum

for this name. It seems that this camp was made up of many Spanish and Portuguese laborers and these men "fought like tigers" all the time. What is now known as the Last Chance Store was the Old Plantation Store; next to that there was a theater. Heading toward Waipi'o one came across a road which led to the sugar landing where ships would be loaded and unloaded. He explained that the Matson boats would anchor off shore, then the "donkey", a device that sent sugar by aerial cables in nets or baskets, would transport the sugar to the boat and it would go back and forth until it was loaded (Toko IN Kalima 1991:B-19).

Figures 3 and 4 are maps of various some of the fields and camps of Pacific Sugar Mill, also depicted is Kukuihaele village with its various structures and houses. Among the features are churches, cemeteries, laborers' homes, schools, stores, the plantation manager's and supervisors' homes, stables, pastures, and sugar cane fields.

Mr. Toko mentioned that the Plantation Manager's house (Site 15006) was very old and a community group was trying to preserve it as a cultural center. Near the existing ball field, or park, on the makai side is where the Kukuihaele Elementary School used to be and makai of that was the Congregational Church and a cemetery (Site 15009).

He said that the church had long since been destroyed but you could still see the foundation. Further along toward the village there used to be many stores, saloons, restaurants and a tailor shop. Mr. Toko lives just past the art gallery, up a hill which he called Toko Hill, after his family who have lived in the area for years. He said that many old timers know this area as Toko Hill (Adapted from Kalima 1991:B-19).

Though the Pacific Sugar Mill closed in 1913, and was formally dissolved on August 24, 1928, becoming the Kukuihaele Division of Honoka'a Sugar Company, sugar remained an important industry, providing jobs for residents of this area until recently. As plantations began modernizing operations, fewer jobs were available, and over the last 15 years sugar itself has been in decline. Macadamia orchards have been planted between Kapulea and Kukuihaele, and the closing of Hāmākua Sugar in 1993, will greatly affect the lives of area residents and be the source of numerous changes in the Hāmākua community.

IN SUMMARY

The project area includes land within two traditional *ahupua'a* in the district of Hāmākua, Kanabonua and Waiko'eko'e. Few legendary references are available for the immediate project area *ahupua'a*, but there are numerous legendary and historical references for the larger Hāmākua and Waipi'o communities. These accounts provide us with a clearer understanding of life in and around the project area.

This portion of Hāmākua was an important agricultural region where both wetland and dryland crops were cultivated in formal fields. From ancient times, Waipi'o was an important royal and religious center for the island of Hawai'i, and it can be assumed that portions of the resources from the project area *ahupua'a* went to supporting the Waipi'o community. Indeed, legendary accounts specifically address the fact that *ahupua'a*'s chiefs answered to the higher authority of chiefs who lived at Waipi'o. Waipi'o also provided an important access to the

ocean for people living along the *kula* slopes. The steep cliffs in these areas provided little access to the ocean. This part of Hāmākua was also known for its bird hunting.

Early foreign visitors described this region as rich and well populated. In areas where missions became established, native communities took on characteristics of western villages and included churches and schools. The Journals of Reverend Lorenzo Lyons describe the native communities of Hāmākua and the establishment of the 'Ele'io Church and school at Kanabonua (West Hāmākua Hawaiian Church). They also document the decline of the native population. By the mid 1800s, the Hawaiian population had declined significantly, and western business and land management practices were replacing traditional ways.

The Māhele of 1848 made land available to native tenants, and at least eight LCAs were awarded to Hawaiian claimants in, or adjoining, the project area. Native tenants on these parcels appear to have continued traditional agricultural practices, augmented by crops and livestock of western origin. Testimony by native tenants documents the locations of trails, wetland and dryland agricultural parcels, house sites, and natural features, and also provides descriptions of land use in the project area.

Because the Māhele had only limited success in getting the diminishing Hawaiian population onto land in fee simple, great tracts of land were left unattended. In 1850, it became possible for foreigners to purchase Hawaiian land, and large parcels went into the sugar cultivation and ranching. On September 19, 1852, Grant 14 ('Apana 5) officially set aside one acre of land for the school at Kanabonua, which is across the government road from the Church of 'Ele'io. The church lot was also formally surveyed and granted at that time as well.

Much of the project area was once a part of the land award of High Chiefess Kaka'u'ōnohi (LCA 11216 'Apana 50), and by c. 1868 portions of her land had been acquired by the Roman Catholic Church of Hawai'i. By c. 1878, other portions of land had been acquired by the Pacific Sugar Mill (PSM) and sugar operations began modifying the natural and cultural landscape of the region. Area communities underwent further change as plantation towns evolved and native lands came under the control and cultivation of PSM. As plantation operations increased, the Hawaiian population continued to decline, and additional labor was needed. The arrival of foreign laborers brought about increased growth of the plantation community and own resources, but by 1913 PSM was closed. Following the closure of PSM, the project area lands became the Kukuihaele portion of the Honoka'a Sugar Plantation.

There are some questions concerning the use and locations of cemeteries in the project area vicinity. Discovering the answers to these questions would add to the community information base. It is possible that at sometime in the future relatives of those people buried in the county cemetery, pre-dating 1943, might be contacted to record their understanding of burial occurrences in the project area, and possible 1800s use of the 'Ele'io Church lot for interment.

Recently the community has continued to change, as younger members leave to seek work outside the plantation. Yet sugar was an important industry until approximately 15 years ago. Since then, macadamia nuts have been planted between Kapulea and Kukuihaele, and sugar profits have continued to decline, which led to the 1993 closure of Hāmākua Sugar Company. The current proposed project is one alternative for community survival in the post-plantation era.

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APPENDIX C: SELECTED PHOTOGRAPHS



Figure C-1. Overview of Project Area, Looking South (Neg. 1661-26c)



Figure C-2. Site 14986, Feature B, North Wall (Neg. 1671-3a)

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Figure C-3. Site 14986, Feature B, West Wall and Feature C (Neg 1671-3a)



Figure C-4. Site 14986, Feature E, East Wall (Neg. 1671-11a)



Figure C-5. Site 14986, Feature F, East Wall and Feature G (Neg. 1671-14c)



Figure C-6. Site 14986, Feature H, West Wall (Neg. 1671-7a)

14986-100193-14c

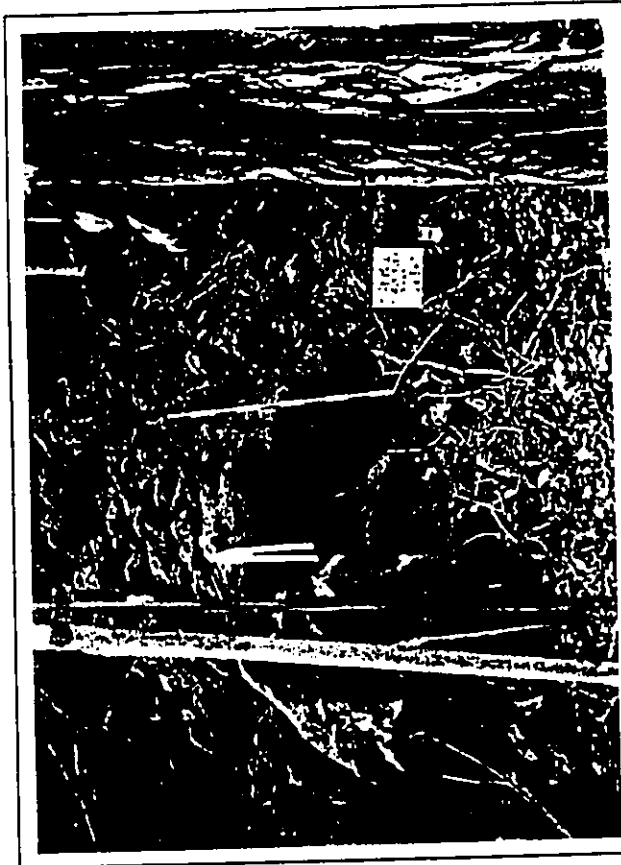


Figure C-7. Site 14986, Feature 1, West Wall and Feature J (Neg. 1671-9a)

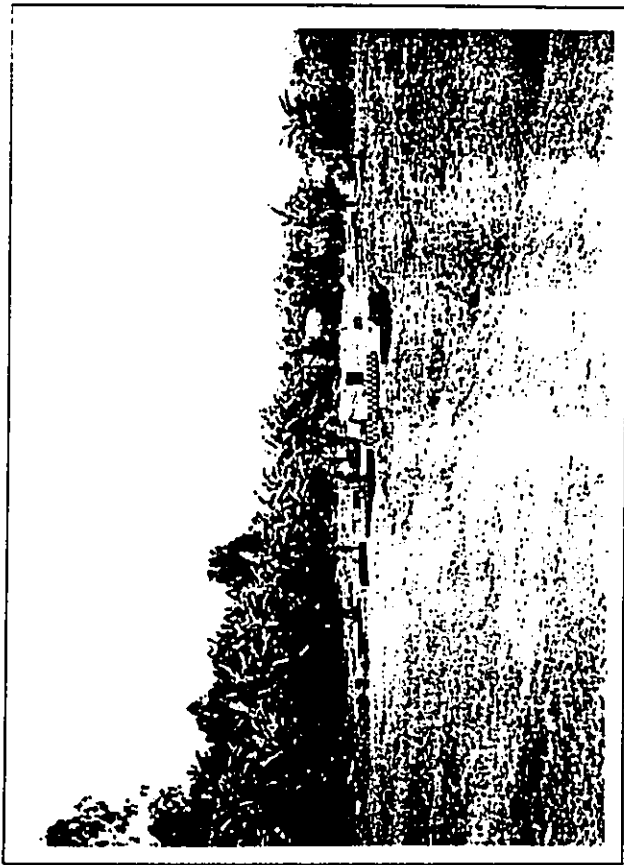


Figure C-9. Site 15008, Saint Theresia Catholic Cemetery (Neg. 4338-20a)

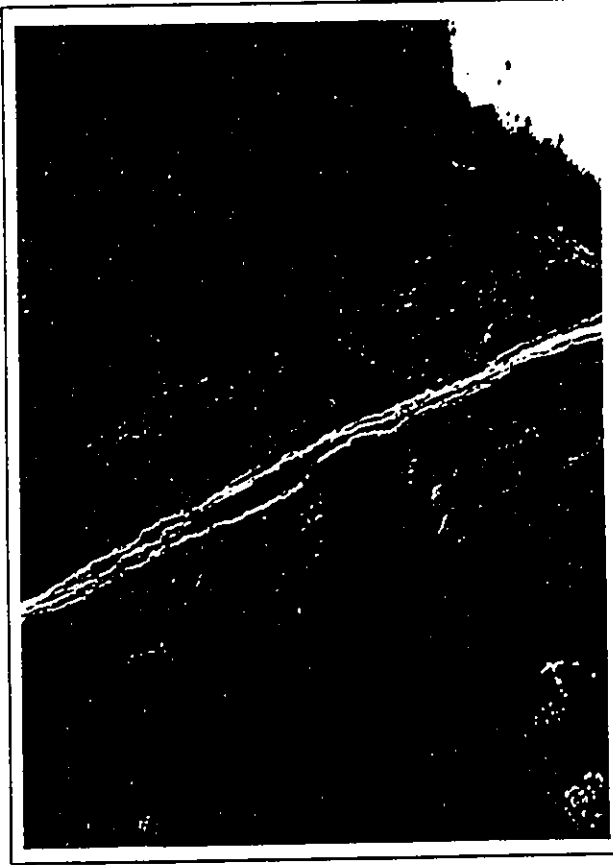


Figure C-11. Site 15012, Trail to Waipi'o Valley (Neg. 1661-32a)



Figure C-10. Site 15009, Kukuhaele County Cemetery (Neg. 4338-17a)

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Figure C-12. Site 15014 (Neg. 1671-36a)

APPENDIX D

VISUAL IMPACT ANALYSIS OF AMANRESORT

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VISUAL IMPACT ANALYSIS
OF
AMANRESORT
Kukuihaele, Hamakua District, Hawaii

METHODOLOGY

A survey crew (Inaiz & Associates) erected bamboo poles painted white with plastic fluorescent orange flags attached at 15' from ground level and at the top of the pole. The 15' height simulated the height of a one-story building. The top of the pole height varied:

Pole #	Height
1	29'
2	30'
3	25'
4	25'
5	25'
6	24'

The survey crew located the poles at the outermost edges of the Project Site makai boundary (Poles #1 & 5), at the edges of the hotel and 1-acre lots (Poles #2 & 4), and at the highest points of the hotel and 1-acre lots (Poles #3 & 6). The cluster of Poles #1/2/3 relate to the hotel, and the cluster of Poles #5/6/7 relate to the makai 1-acre lots.

On September 22, 1993, a photographer (Norbert Keolamui) took photos from vantage points within the Project Site (shown in the figure on the following page) to document the visual impact from the highways (Old Route 240 and Highway 240). The photographer used a normal lens (50mm), wide angle (17mm & 28mm), and telephoto (80mm & 180mm). The photographer also documented the views from the Waipio Valley Scenic Lookout and Waipio Valley beach.

FINDINGS

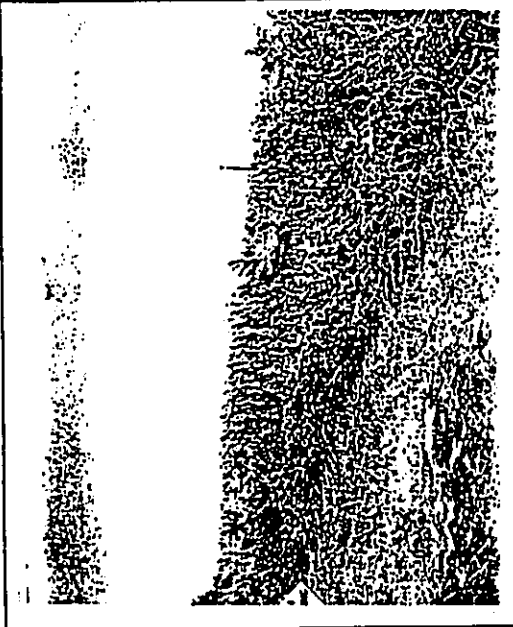
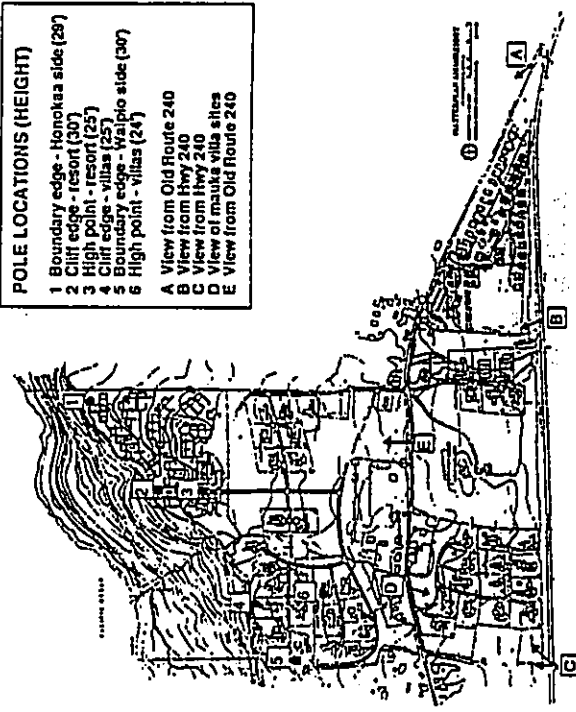
The Poles could be seen only from two vantage points:

September 29, 1993

- o From Highway 240 above Tiger Camp. Poles #1 and #3 were visible. Since the 15' flag of Pole #3 was visible, it is probable that the proposed hotel lobby would be visible from this vantage point unless screened by landscaping. Since only the top of Pole #1 was visible, it is unlikely that the one-story guest units would be visible.
- o From Old Route 240 fronting Kukuihaele Park. Pole #3 (proposed hotel lobby) was visible through a gap in the vegetation. Should the park landscaping fill the "gap", the hotel would not be visible from this vantage point.

The project would not be visible from the Waipio Valley Scenic Lookout nor from the Waipio Valley beach.

- POLE LOCATIONS (HEIGHT)**
- 1 Boundary edge - Henokaa side (287)
 - 2 Cliff edge - resort (307)
 - 3 High point - resort (307)
 - 4 Cliff edge - villas (257)
 - 5 Boundary edge - Waipio side (307)
 - 6 High point - villas (247)
- A View from Old Route 240**
B View from Hwy 240
C View of main villa sites
E View from Old Route 240



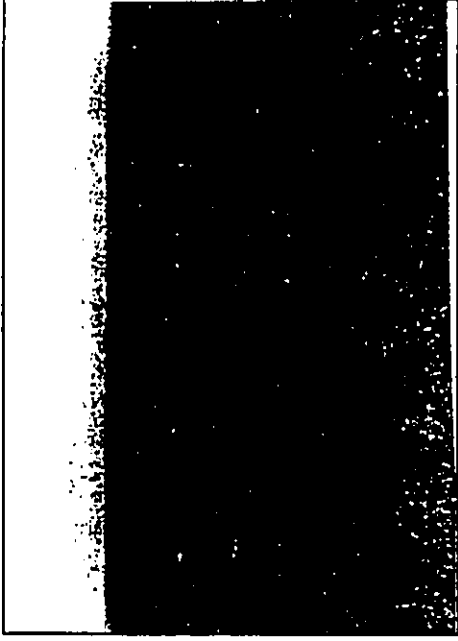
A. View from Old Route 240 in front of Tiger Camp looking toward Project Site. Poles not visible.



B. View from Highway 240 above Tiger Camp (180 mm telephoto). Pole #2 visible (15' and top of pole flags). Pole #1 barely visible (top of pole only).



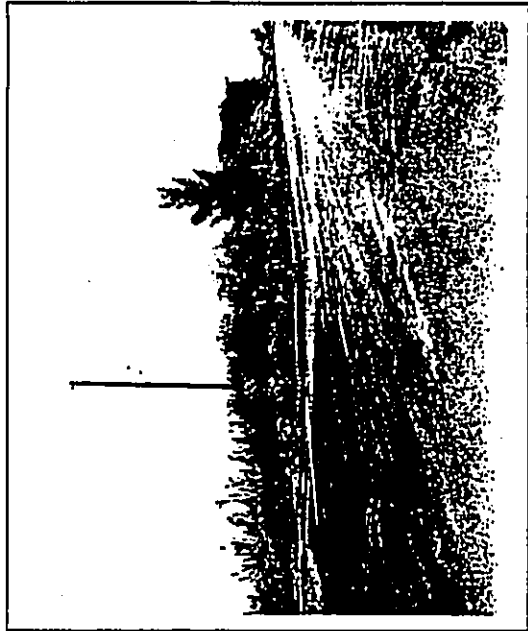
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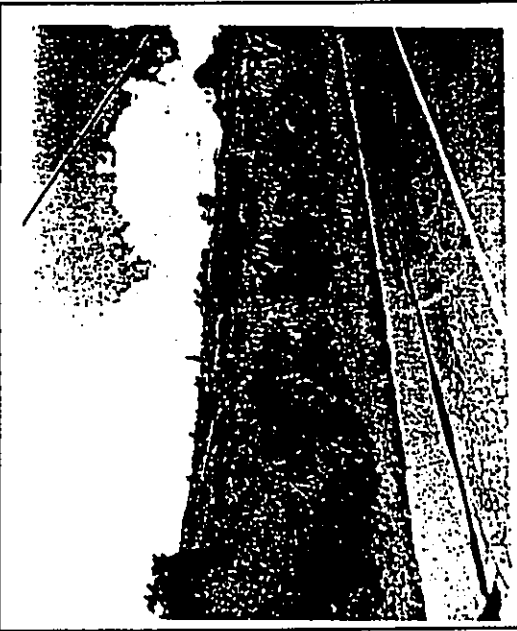
E. View from Old Route 240 fronting Kukuihaele Park. Pole #3 visible (15' and top of pole flags) through gap in vegetation.



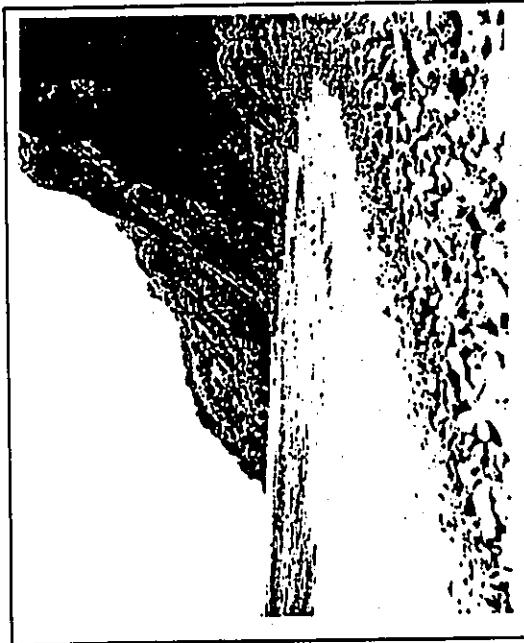
Waipio Lookout. View from parking lot of Waipio Valley Scenic Lookout. No poles visible.



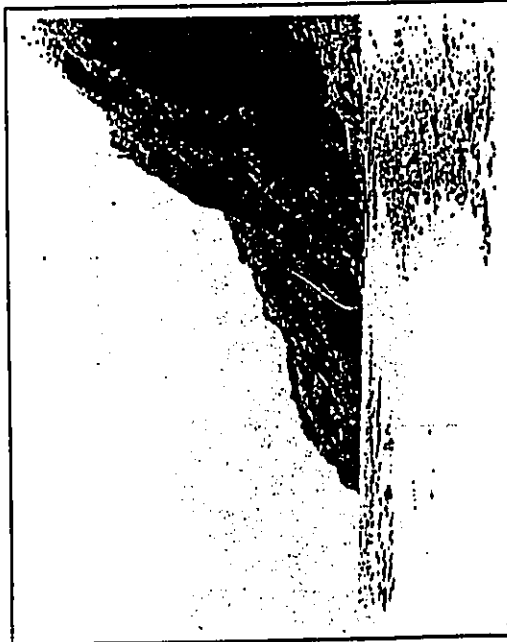
C. View from Highway 240 from mauka-Waipio corner of Project Site. Berm along highway blocks view.



D. View of mauka sites from Old Route 240.



Waipio Valley Beach. View from Waipio Valley beach (Honoaka side of the beach) (50 mm lens) looking towards Project Site. No poles visible.



Waipio Valley Beach. View from Waipio Valley beach (middle of beach before stream mouth) (50 mm lens). No poles visible.



APPENDIX E

AMANRESORT SOCIOECONOMIC IMPACT ASSESSMENT

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A SOCIOECONOMIC IMPACT ASSESSMENT
OF THE PROPOSED AHANIREPORT
KUKUIHAELE, HAWAII

October 15, 1993

by

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CHAPTER 1 INTRODUCTION

1.1 Project Description

Royal Coast Resorts Corporation and Silverlink Holdings Limited, dba Kukuihaele Development Company ("the developers"), propose to construct a resort in and near the town of Kukuihaele, Hamakua District, Island of Hawaii. Inasmuch as the project would require an Amendment to the Hawaii County General Plan and significant environmental effects may be expected as a result of the proposed action, an Environmental Impact Statement (EIS) pursuant to Chapter 343, HRS, is required. This report is the primary research document on socioeconomic impacts for incorporation in the EIS.

The proposed project is fully described in the EIS for which this report is an Appendix. The reader is referred to the descriptions, figures and tables in the main body of the EIS for clarification of what is presented in this section. For convenience, a summary of the main components of the project is presented below:

- o Construction of a 36-suite resort located makai of Kukuihaele Village, called the Amanhideaway;
- o Conversion of the existing plantation manager's home into a Luxury Guest House with 4 suites, called the Plantation Inn; and
- o Subdivision and improvement of 38 residential-agricultural lots and 7 residential-resort lots, which will be referred to jointly in this document as the Residential Lots.

For purposes of clarity, the project as a whole is referred to as the Aman Resort in this report. The term "hotel" as used here generally refers jointly to the Amanhideaway and the Plantation Inn, unless it is explicitly limited to the Amanhideaway component.

The project also involves extensive landscaping and some road construction on land that was formerly cultivated in sugar cane and is now abandoned. The properties to be occupied by the development total approximately 113 acres.

Significant improvements and/or additions to the water system, utilities, existing roads and intersections, and other features of Kukuihaele Village will likely be necessary and offered by the developers and/or requested by the County as a condition of rezoning and General Plan Amendments.

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Construction of the project is expected to begin in late 1994. If this target date is achieved, then the resort would open at the end of 1995.

1.2 Community Benefit Package

The developers have also proposed a package of community benefits that has been formulated in consultation with the Kukuihaele community and the County of Hawaii. The specific benefits have been formally agreed to in a Developer's Letter of Commitments (Appendix H to the EIS) and are discussed in Section 2.5.3 of the EIS.

The principal elements of the package include the following. Details of the benefits may be found in the above-referenced sections.

- o **Property Tax Trust Fund.** In order to offset increases in property taxes that may be caused by the resort, the Applicant will establish a trust fund to subsidize increased property tax payments incurred by existing owner-occupants residents within Kukuihaele.
- o **Boundary Adjustment for Local Homeowners.** The developers have agreed to deed former sugar land adjacent to houses that has been informally used by residents. In some cases, this will virtually double the size of the homeowner's lot.
- o **Community Recreational Facilities.** The developers will improve and maintain the Kukuihaele Park, restore the Social Hall, and upgrade the open field by the Social Hall to include a playground, luau area, swimming pool, and other facilities. The developers will work with an Advisory Committee structured by the community to ensure community input to the design, operation and maintenance of the facilities. The developer will commit a fund of \$175,000 for the initial capital improvements.
- o **Affordable Housing In-Lieu Fee.** Instead of building affordable housing, the developers will contribute in-lieu fees, determined at approximately \$200,000 based on the County's housing policy, which will be used to construct off-site affordable housing. This is in response to residents' requests that no affordable housing be constructed in Kukuihaele Village.

- o **Waipio Valley Controls.** The developers will abide by the recommendations of the government and local organizations involved with remedying the problems in Waipio Valley associated with growing tourism.
- o **Additional Cemetery Lands.** The developers will deed a strip of land fifty feet wide on two sides of both the Catholic cemetery and the County cemetery for the purpose of expanding these grounds, at the request of the community.
- o **Lifetime License to Kukuihaele Resident.** An elderly resident who lives in one of the structures owned by the developers will be granted a license to live out his life on the property.

It is important to note the iterative development of the package. The project was conceived in 1992, and discussions with the community were begun immediately. Individual elements of the package were suggested by the developers and/or the community, leading to informal understandings among various parties. No coherent agreements were formalized, and many individuals were unclear about the benefits. The EIS Notice of Preparation issued in July of 1993 included discussion of a range of benefits but offered no clear resolution. During a community meeting in August of 1993 undertaken for the research in this document, the many speakers expressed confusion about the precise nature of the benefit package. For these reasons, the developers, in consultation with community members, prepared the Developer's Letter of Commitment mentioned above.

Because the package had not been fully developed during the social research phase for this document, the remarks and concerns of many individuals may seem somewhat unjustified in light of the agreed-upon benefits. It should be recognized that the concern of these individuals is part of what encouraged a clear, written agreement to be developed.

1.3 Alternatives

The alternatives for this project have been defined in terms of three scenarios:

- o **Alternative 1: Full project as proposed.**
- o **Alternative 2: "No-project," and land remains vacant in the foreseeable future.**
- o **Alternative 3: "No-project," land is subdivided for agriculture and/or house lots in accordance with existing zoning (a mixture of RS-15, Ag-1, and Ag-20).**

1.4.1 History of the Region

The Hamakua District was well settled by ancient Hawaiians, who farmed wetland taro in valleys and stream gulches, and dryland taro, sweet potatoes and other crops in the ash-derived soils of the slopes (Mandy 1940). Although relatively little archaeological work has been done in East Hawaii (Kirch 1985:154), it is certain that the project area was at one time part of an agricultural complex (see Archaeology Report by Paul Rosendahl, Inc., attached as an appendix to this EIS).

A rich oral history exists concerning some features of Hamakua, especially nearby Waipio Valley. Little is known of the prehistory of Kukuhaele itself, although its name does figure in legends related to Waipio Valley, as discussed by Community Resources, Inc., [CRI] (1991:2-4).

Since the late 19th century, sugar cane cultivation has dominated land use and economics in Kukuhaele and the entire Hamakua Coast. Plantation cultivation of cane in the area began in 1879 with the chartering of the Pacific Sugar Mill. By 1900, cane was king in the region as plantations stretched from Waipio Valley to Hilo and beyond. The Lower Hamakua Ditch, which was completed in 1910, aided the plantations by providing irrigation water from Kukuhaele to Paauilo.

The period between 1900 and World War II was the heyday in Kukuhaele. Its population climbed from about 200 in 1900 to 590 by 1950. The 1916 Waipio U.S.G.S. topographical map shows several cane camps that are no longer in existence scattered near Kukuhaele. The plantation camps were originally segregated by ethnic group. Several Japanese camps, a Filipino camp, and a "Spanish" camp were included. The town supported a public primary school and a Japanese language school, which is now the Kukuhaele Social Hall.

Many businesses flourished in Kukuhaele before the war, including three grocery stores, a plantation store, a restaurant and bar, a meat market, a small gas pump, a boardinghouse, and other little shops near the very active cable landing. Not only sugar but also crops from Waipio kept Kukuhaele bustling, because the town was a marketing and staging place for rice and taro production (Jitsuo Nishida, pers. comm. September 1993).

1.4.2 Contemporary Setting

After World War II, mechanization in sugar cultivation changed the way labor was mobilized and made the scattered settlements of Hamakua obsolete. One by one the tiny camps disappeared, and a few major towns took their place. The district as a whole slowly but steadily lost population. Eventually, all of the separate sugar

In Alternative 2, it is assumed that although the land remains undeveloped, ongoing social trends continue to transform the demography and land use of the region. Major economic and social dislocations would occur as Hamakua sugar jobs are lost and no viable replacement appears. Local people, especially young adults, would continue to leave the area in search of jobs. They would be "replaced" by outsiders, most of whom would have independent and/or non-plantation related sources of income. Also, some of the abandoned sugar cane land surrounding Kukuhaele would be utilized to some degree for diversified agriculture or cattle grazing. Much would simply grow a thick cover of weedy grasses and ironwood trees. In sum, no likely alternative is envisioned in which the region does not undergo substantial change.

In Alternative 3, it is recognized that existing zoning within the project site currently permits a maximum of about 75 15,000-square foot residential lots, and about 81 1-acre agricultural lots, for a total of 156 lots. Because of topographic conditions, land requirements for infrastructure, and other controls, however, this maximum would likely not be achieved. The research presented here assumes that under Alternative 3, approximately 100 new home/lots might be constructed.

The developers have stated that alternative hotel site locations are not feasible and are not being considered. Thus, this report does not include a discussion of alternative site locations.

Each discussion of impacts in Chapter 3 (Socio-cultural impacts) considers impacts that would occur with the "project" alternatives and the two "no-project" alternatives. Chapter 5, which is concerned with economic impacts, considers only the full-project scenario.

1.4 Regional Introduction

The primary region of concern for this study has been defined as Kukuhaele Village. The secondary area of concern includes the rest of the Hamakua District, and especially the area between and including Honokaa and Waipio Valley. The limited size of the proposed project means that significant effects on an island-wide basis are not likely. However, issues relating to culture, recreational use of Waipio, and the proper role of tourist development in the economy and sociology of the region are framed from an island-wide perspective.

companies in Hamakua merged into the Theo Davies Hamakua Sugar Company, which was in turn bought by Francis Morgan in 1984. In 1991, CRI reported that 744 workers were employed by the company. As of September 1993, however, Hamakua Sugar had entered Chapter 11 bankruptcy, and a crew of approximately half of the original work force is salvaging a last harvest. By 1995, it appears certain that commercial sugar cane production will be a thing of the past in Hamakua.

The gradual decline in sugar cane cultivation has led to a reduction in the size and population of Kukuihaele. Nevertheless, the basic layout and landmarks of the town reveal its origins. The slow, easy pace of life is reflected in the traffic on the Old Road, which consists more of children and dogs than automobiles. Physical signs of the plantation era include an old cable landing on the sea cliff, which dates from the 19th century. It was used for decades to transport cargo to steamers anchored just offshore, but it now lies in ruins at the base of the cliff. The Last Chance Store occupies the original quarters of a venerable general store. Most striking is the gracious plantation manager's residence, now a private home.

1.4.3 Waipio Valley

Although the project is not located in Waipio, the valley requires attention in any discussion of land use changes in Kukuihaele. It is a valuable cultural, natural and scenic resource which many feel is threatened by over-visitation and conflicting land uses. Its proximity and history connect it closely to Kukuihaele.

Waipio is memorialized in many legends. In one, the god Lono descends to earth on a rainbow to find a wife in a breadfruit grove beside Hiihawe falls (Beckwith 1970: 36-37). Waipio is also associated with Umi, the famous king of Hawaii, who had many of his greatest adventures in Waipio and Hamakua. He is also said to have laid out the taro patches of Waipio (Ibid: 391).

Waipio has always been the finest location on the island of Hawaii for taro cultivation. Its rich agriculture supported perhaps as many as 10,000 inhabitants during prehistory. Early descriptions of Waipio by Western travellers are invariably rhapsodies upon its beauty (e.g., Ellis 1831). For all these reasons, the memory of Waipio's past is cherished in Hawaiian history.

Since Western contact in 1778, the population and area under cultivation has steadily declined, although taro farming has always persisted. The era of rice at the end of the 19th century saw the immigration of Chinese, Japanese and Filipinos, who broadened the ethnic makeup of the valley and forestalled the population decline caused by emigration and epidemics among the native Hawaiians of the valley. The terrible tsunami of 1946 in the Hawaiian Islands

was a disaster in Waipio and impelled many of the few remaining residents to relocate out of the valley.

Most taro farmers today live outside the valley and farm only part-time. Bishop Museum, which owns approximately 90 percent of the valley, has long leased taro patches to farmers on a month-to-month basis (CRI 1991:2-3). Reportedly, longer term leases have recently been negotiated. Most of the actual inhabitants of Waipio are now transplanted Mainlanders who enjoy the rural isolation of Waipio and do not rely on taro farming as their major source of income or sustenance. CRI (1991:2-4) reported that in 1991 there were sixty inhabitants of the valley.

Waipio Lookout, a scenic vantage and the beginning of the Waipio Access Road, is located about a mile from the center of Kukuihaele, and is considered by most to be part of the Kukuihaele area.

Automobile traffic into Waipio Valley is via a steep, dangerous four-wheel drive road that has been the scene of several major car accidents. Residents, visitors from other parts of the island, some individual tourists and tour operators all use this road. Waipio offers scenic views, historic sites and a picturesque beach and river for swimming and surfing.

Controversy currently envelops Waipio. A history of over-visitation is compounded by existing problems of conflicting land uses, unsatisfactory land tenure for farmers, inadequate infrastructure (particularly the Access Road) and stream flooding.

The Task Force to Preserve Waipio Valley [TF] was set up by a resolution of the State Legislature in 1990. It comprises representatives of State and County government, large landowners and community and farming associations. Its purpose is to discuss and develop long-term solutions to the conflicts of the valley.

The Task Force has published several reports (1991, 1993) that outline its findings and recommendations. According to the 1991 report:

"The influx of visitors negatively impacts the natural and cultural resources of the Valley. The lack of adequate restroom and camping facilities, potable water, and waste disposal services on the Valley floor has led to the deterioration of the stream beds, the roads and trails, and the beach front areas" (p. 8).

Because of this, the task force has concluded that "There is a need for enhanced regulatory controls on the commercial and public uses of the trails" (1991:7).

More specific conclusions and recommendations of the Task Force are discussed in the appropriate sections of this document.

1.5 Consultants, Data Sources and Methodology

The social and economic analyses were conducted separately and integrated for this report. Dr. Youngki Hahn of Y.K. Hahn and Associates in Hilo, Hawaii, performed the economic impact analysis. Dr. Ron Terry of Geometric Associates in Keauhou was responsible for the social impact analysis. Assisting him with community meetings were Dr. Alton Okinaka of the University of Hawaii at Hilo, Russell Rapoza, M.A., of R & R Consulting, and Jasmine Paresa, a UIHH student.

Many aspects of the project had both social and economic impacts. Therefore, such topics as employment and tax impacts received treatment in both discussions.

Data and description concerning the design and operation of the project were supplied by the developers.

Demographic, social and economic information of a quantitative nature was obtained from U.S. Census Data, the *Hawaii State Data Book* and the *Hawaii County Data Book* for various years, publications of the Hawaii State Department of Labor and Industrial Relations, and the Hawaii Tax Foundation, Hawaii Visitors Bureau, and economic publications of First Hawaiian Bank.

A number of other published studies including Environmental Assessments, Environmental Impact Statements, surveys and regional plans were consulted for data, ideas and opinions concerning the impact of tourism in rural areas of Hawaii. A rich source of information was a socioeconomic impact report prepared in 1991 by CRI as part of a proposed major rezoning request in Hamakua. These sources are cited individually in the text.

A community meeting was held at which local residents were encouraged to speak freely about their vision of the community and the effects, both negative and positive, that they felt the project would bring. Transcripts of public meetings are appended to this document as Attachment B.

Additionally, interviews were conducted with key informants who were consulted because of their knowledge of and/or stake in the community. A genuine attempt was made to solicit views of individuals who were for, against, and neutral about the project,

in order to gain a balanced view of the community. A list of informants is provided as Attachment A.

The analyses presented in this document may seem in places to extend beyond what might be required according to a strict interpretation of Hawaii EIS law, as contained in Chapter 343, HRS, and Title 11, Chapter 200 of the Hawaii Administrative Rules. It is the policy of this assessment team to disclose and discuss all relevant concerns in a report of this type. We believe that the "full-disclosure" approach is necessary for several reasons. First, it promotes a thorough general understanding of a project and its impact for the public and government officials, who ultimately must decide whether and how to grant requested approvals. Secondly, it provides the basis for evaluating such difficult concepts as secondary effects and cumulative impact.

Further discussion of methodology is contained within individual sections of this report.

1.6 Monitoring and Implementation of Mitigation Measures

Mitigation measures are suggested in various portions of this report, particularly in Chapter 3. These measures have been formulated by the authors, in consultation with the developers, the principal investigator for the EIS and government agencies.

A common belief among readers of an EIS is that suggested mitigation measures are essentially conditions that have been agreed to by developers and government agencies and are thus enforceable through legal or administrative means. We wish to clarify this misconception. The responsibility to modify, adopt, codify, monitor and enforce these mitigation measures is in the hands of County and State government. Those members of the public who wish to be involved in the mitigation "bargaining" process or want to ensure that certain provisions have adequate means of enforcement should address their concerns to County and State agencies, particularly during the county rezoning and state land use boundary amendment processes.

CHAPTER 2 EXISTING SOCIO-CULTURAL CONDITIONS

2.1 Demographic and Socio-Cultural Characteristics

2.1.1.1 Population, Settlement and Traffic

2.1.1.1.1 Population

The following table presents recent and historic population data for Kukuihaele and the Hamakua District.

Table 2.1
Population Trends

	1950	1960	1970	1980	1990
Hawaii County	68,350	61,332	63,468	92,053	120,317
Hamakua	6,056	5,221	4,648	5,146	5,545
Kukuihaele	590	424	310	331	316

Sources: U.S. Bureau of the Census: "1990 Census of Population, General Population Characteristics," 1990 CP-1-13; Hawaii County Data Book; Note: The boundaries of Kukuihaele were slightly changed for the 1990 census.

Population has increased in Hawaii County as the economic mainstay has shifted from plantation agriculture to tourism in the period since 1960. Most of this increase has occurred in North Kona and South Kohala, where hotels, condominiums and resort-retirement homes have mushroomed. Population on the island grew 45.0 percent between 1970 and 1980 and 30.7 percent between 1980 and 1990. The growth has continued during the 1990s. As of 1991, the estimated resident population stands at 130,500.

The Hamakua coast has not grown in proportion with the rest of Hawaii County. Gradual trimming of the plantation labor force brought about by increasing mechanization and reduced acreage has restricted growth. Kukuihaele itself has seen a steady and dramatic decline in its population over the last fifty years.

2.1.1.2 Settlement/Use Patterns

This section describes the existing geographic settlement pattern. Settlement in Kukuihaele consists of several distinct clusters of population (see Figures in EIS). Most of the pattern is attributable to what has survived of plantation housing, while some houses were built independently.

Fronting Highway 240 on the eastern margin of town is Kona camp, so named because many of its original residents were recruited by the plantation from the Kona district. Tiger Camp is located to the west, just after the split between the main highway and the Old Road. Next is a cluster of houses near the Last Chance Store, which is adjacent to Waikoekoe Stream, where the bridge over the Old Road was destroyed in 1993. Across the gulch is the Catholic Church, the plantation manager's home, a simple grassy park and a few homes. This area, which is actually the center of Kukuihaele, is very low-density. West of this central area houses are strung out along both sides of the Old Road. This pattern continues at lower and lower densities until the Old Road again intersects the main highway. Over half a dozen large, mostly newer homes are situated near the Waipio Lookout. Several large, new houses also front the new highway.

In summary, Kukuihaele is basically a mile-long line of houses that is generally less than a hundred yards in width. Foot and bicycle traffic by children and neighbors visiting one another relies almost exclusively on the Old Road. The low-density center of the village is also noteworthy.

2.1.1.3 Village Traffic

Traffic and road issues are addressed fully in the Traffic Impact Analysis Report by Julian Ng, which is attached as an Appendix to this EIS. Quantitative assessments and suggested mitigation measures are not developed or evaluated here. The purpose of reviewing traffic data in this section is simply to better describe the perceived environment of Kukuihaele village.

Currently, roads are uncrowded in and around Kukuihaele and traffic problems are non-existent. Mr. Ng reported that traffic volumes on all roadways except Highway 240 (Honokaa to Waipio Lookout Road) are less than one hundred vehicles per hour. Delays at all driveways and roads are minimal. Pedestrians, bicycles and animals use these roads with little fear or danger.

Although traffic on Highway 240 is higher volume (up to 138 vehicles per hour at peak times, on average), traffic still flows freely with minimal delays. Because of the broken bridge on the Old Road, automobile traffic between the eastern and western sections of Kukuihaele must detour mauka and use the Highway. Trails exist to allow pedestrian traffic to cross the stream near the broken bridge except in times of high stream flow.

2.1.2 Social Characteristics

2.1.2.1 Socioeconomic and Ethnic

Tables 2.2 and 2.3 provide the basis for the discussion of socioeconomic characteristics of the population.

Table 2.2
Selected Socioeconomic Characteristics of Study Area

CHARACTERISTIC	AREAS		
	Hawaii Island	Honokaa/Kukuihaele Division	Kukuihaele CDP
Total Population	120,317	3681	316
Percent White	39.9	34.9	17.0
Percent Asian/Pacific Islander	57.1	62.7	81.0
Percent Under 18 Years	28.7	28.5	30.7
Percent Over 65 Years	12.6	16.0	20.2
Percent Over 16 Years with Work Disability	5.1	3.6	8.8
Percent Over 16 Years in Labor Force	64.2	63.0	69.8
Median Family Income	\$13,169	\$11,586	\$8,463
Percent Whose Home Was Built After 1980	35.1	25.5	0
Percent Whose Home Was Built Before 1939	10.8	17.0	81.0

Source: U.S. Bureau of the Census: "1990 Census of Population, General Population Characteristics," 1990 CP-1-13 and "1990 Census of Population, Housing, Summary Population and Housing Characteristics," 1990 PH-1-13.

Residents of the Big Island have generally lower incomes, live in more rural settings, and relocate less frequently than Oahu residents. Like all of the state, the island is known for its multi-ethnic composition. Kukuihaele displays all these traits strongly.

A full 81 percent of the population in Kukuihaele is non-Caucasian (this contrasts greatly, however, with nearby Waipio, which is over 50 percent Caucasian). The major component clearly reflects the

plantation labor force. Another component is the original Hawaiian population, many of whom moved to Kukuihaele after life in Waipio became more difficult.

The "plantation community" is a distinct type familiar to residents of most of the Hawaiian islands. Academic sociologists (e.g., Lind 1959) long ago identified these towns unique community types. They have evolved from their beginnings as separate clusters of ethnically segregated "camps" through a process of consolidation and relocation into what is quite often a very mixed community, a microcosm of Hawaii.

Several characteristics mark Kukuihaele as a somewhat disadvantaged community. Its percentages of elderly and adults with work disabilities are considerably higher than the norm. The median family income is also low--less than 65 percent of the County average.

Nevertheless, it would be inaccurate to characterize the residents as mostly elderly and/or unemployed. The census figures for 1990 reveal a high proportion of the adult population in the workforce--almost ten percent higher than the island average. Also, large families help account for the fact that there are actually more children under 18 for the population than the island as a whole.

Most people in Kukuihaele are either retired pensioners or working "middle-class," although some are wealthy and some live below the poverty line. From discussions with many residents, it appears that class conflicts are relatively few in this well-integrated village.

A breakdown of Kukuihaele population by ethnicity is not yet available from the U.S. Census Bureau, but the proportions are somewhat similar to those of Western Hamakua in general, which are shown in Table 2.3.

Table 2.3
Ethnic Composition of Population

	Jpnse	Hawn	Filip	White	Other
Hawaii Island	20.8	19.2	12.9	39.7	7.4
Honokaa CDP	20.5	13.4	27.9	33.6	4.6

Source: U.S. Census Data: Table 6, "1990 Census of Population, General Population Characteristics," 1990 CP-1-13.

Again, this ethnic breakdown strongly reflects the plantation heritage of the community.

2.1.2.2 Labor Force Characteristics

The Honokaa-Paauilo-Kukuihaele area has been the primary source of labor for the Hamakua Sugar Plantation. As of March of 1993, union members, their families and retirees of the plantation made up 52 percent of the total population (Source: Voice of the ILWU, March 31, 1993, p. 7).

This area is also where the resort is expected to obtain some 90 percent of their employees. The closing of the plantation, which will be complete after early 1995, has begun to release hundreds of workers from their jobs. By that time, approximately 447 field operations, 519 factory/garage, 17 medical and 39 feedlot/slaughterhouse jobs are projected to be terminated (Source: Hawaii Island Economic Development Board).

Table 2.4 below summarizes the characteristics of the plantation workers as analyzed by a union survey in early 1993.

The closing of Hamakua Sugar Plantation will not only eliminate jobs but will also lead to social problems (e.g., family stress, alcohol abuse and mental illness), business failures and emigration. The event is generally seen as a tragedy in Hamakua.

In response to the impending closure, state and county agencies, business groups and private social service agencies have begun developing plans for an alternative social and economic base for Hamakua. Most notable have been the efforts of the Hamakua Assistance Steering Committee, a multi-group task force. It has engaged in labor surveys and employment training activities, including an event designed to orient plantation workers to opportunities in the hotel industry. A strategic plan to diversify the economic base of Hamakua is being developed under the auspices of the Hawaii State Department of Business and Economic Development. Other efforts are underway to foster small businesses and farms, including a proposal by the State Board of Land and Natural Resources to lease more than 6500 acres for diversified agriculture. Despite the best efforts of hundreds of agencies, groups and individuals, all agree that Hamakua has difficult times ahead.

Plantation workers are not the only Hamakua residents who will be flooding the labor market in the next few years. Hundreds of their family members, who up till now have worked part-time or not at all, are beginning now to seek jobs in order to supplement family income. Another source of potential workers are the graduates of Honokaa High School. A total of 1456 students were enrolled in Honokaa School (K-12) at the beginning of the 1993-1994 school year (Source: Hawaii Department of Education). In 1993, 134 students graduated with high school degrees. Under

Table 2.4
Plantation Labor Force Characteristics

CHARACTERISTIC	DESCRIPTION
Careers	Two-thirds worked for company for 10 years or more. Almost 27 percent worked between 11 and 20 years for the company. Another 24 percent have between 21 and 30 years with company.
Ethnic	American citizens are 92 percent. Largest ethnic group is Filipino, with 36 percent. Japanese and Chinese make up 30 percent, Part-Hawaiians are 18 percent, and Portuguese, other Caucasian and Puerto Rican are also represented.
Retirees	There are 863 pensioners and their spouses enrolled in the retiree medical plan - 178 of whom are less than 65 years of age.
Families	There are 661 workers and 1381 dependents. Hamakua's workforce is mostly stable families. Over 71 percent are married, with another 7 percent divorced or widowed. Only 22 percent are single. Over 60 percent have dependent children.
Homeowners	Almost 37 percent own their homes, with another 47 percent renting company housing and 17 percent renting outside housing.
Education	Over 83 percent are high school graduates. Of these, about 13 percent went to trade school or higher education. The remaining 17 percent have completed various levels of grade school.
Age	Over 43 percent are 45 years and older. Some 30 percent are between 35 and 44 years old. Only 26 percent are under age 35. Only 5 percent indicated they were ready to retire.
Veterans	Almost 22 percent are veterans.
Community Attachment	Only 14 percent indicated that they would move from the Big Island to find another job. Only 29 percent indicated they would move to another area of the Big Island to find work.

Source: "Voice of the ILWU," March 31, 1993, p. 7

present conditions, many students who do not enroll immediately in college are compelled to leave the area because no jobs are available. Hamakua Sugar Company's closing will lower job opportunities further and induce higher rates of out-migration among high school graduates.

2.1.3 Length of Residence

Table 2.5
Length of Residence

CHARACTERISTIC	AREAS		
	Hawaii Island	Honokaa/Kukuihaele Division	Kukuihaele CDP
Percent Foreign Born	8.5	14.0	8.6
Percent of U.S Natives Born in State of Hawaii	71.9	90.3	96.9
Percent Who Lived in Same House in 1985	53.1	63.4	69.6

Source: U.S. Bureau of the Census: "1990 Census of Population, General Population Characteristics," 1990 CP-1-13 and "1990 Census of Population, Housing, Summary Population and Housing Characteristics," 1990 CP-1-13.

Kukuihaele's population is distinguished by its greater than usual proportion of State of Hawaii natives. This contrasts with the typical plantation town, which frequently has many first-generation immigrant laborers and their families. Also notable is the fact that Kukuihaele residents do not relocate as often as is normal for the island. Indeed, the author interviewed several middle-aged and elderly residents who still live in the same house in which they were born.

2.1.4 Recreational Opportunities

Recreation facilities in Kukuihaele are few, as might be expected with its small size. One County park with minimal playground equipment is present. The Kukuihaele Social Hall, operated by the County, provides a site for community activities, parties and meetings. Many Kukuihaele residents avail themselves of the small golf course, a gymnasium, basketball and tennis courts, and other facilities located in nearby Honokaa.

Most residents' main recreation activities take place outside of designated public or commercial facilities. As in other locations in Hamakua, hunting and fishing are very popular, and many families and individuals visit the uplands, cliffs, gulches and valleys for outdoor recreation. Although ocean recreation apart from cliff fishing is dangerous along most of the Hamakua coastline, Waipio Valley offers swimming, hiking, camping and picnicking opportunities. Many residents garden, and some engage in part-time farming, an activity which combines recreation with income and/or food-producing work. Several residents own or lease land in Waipio Valley for this purpose.

2.1.5 Current Visitor Count

Currently, most tourists come to Kukuihaele only because it is the gateway to Waipio Valley. CRI reported that over 60,000 visitors per year currently enter Waipio Valley on shuttle tours (1991:2-4). This figure was derived from a 1988 survey, and is said to be considerably lower today (Glady's Ablao, pers. comm, 1993). The actual number of shuttle companies that may enter the valley is controlled by a Public Utility Commission moratorium on Waipio license tours. An unknown but much smaller number of tourists rent four-wheel drives and tour the valley on their own, and some also walk or hitchhike into the valley. Many local people also visit the valley, particularly on the weekend.

Although reliable use figures are not available, residents of Waipio clearly perceive a problem.

Waipio Valley has proven such a prominent draw that traffic was raised to undesirable levels in Kukuihaele Village by the 1970s. In order to mitigate traffic concerns and provide a safer and faster route to Waipio Valley, the State in 1980 constructed a bypass around Kukuihaele, which is an extension of the main road from Honokaa.

Even after the construction of this road, however, many tourists continue to detour into Kukuihaele to enjoy the picturesque village. Much of the commerce in the Last Chance Store and nearby all of the business at Waipio Artworks was derived from this tourist traffic. After the bridge on the Old Road washed out in early 1993, some of this trade was lost, but some tourists still find their way into the village.

2.2 Community Attitudes and Values

2.2.1 Existing Attitude Surveys/Assessments

Several studies of community values and attitudes regarding development have been conducted in Hamakua during the last five years. A review of these studies was useful in establishing a context for community attitudes regarding the current project.

Three sources were reviewed: the 1988 Statewide Tourism Impact Core Survey (1989); a social impact assessment by CRI for an "Environmental Assessment" submitted for the Kukuiaolo Land Use Plan (1991); and testimony before the Hawaii County Planning Commission concerning the rezoning plan mentioned above (1991).

2.2.1.1 Statewide Tourism Impact Core Survey

This survey was undertaken by CRI on behalf of the State Department of Business, Economic Development and Tourism to provide baseline data for planners, visitor industry specialists, and social researchers. It is based on one of the largest phone surveys ever taken in Hawaii (almost 4000 people). Because of the sample size, the value of the numerical results, plus or minus no more than 8 percent, may be considered accurate with a 95 percent level of confidence. As with any social research, the degree of validity is more difficult to determine.

Geographically, the smallest sample unit was a county subdivision. One such unit was the Hilo-Hamakua area. Table 2.6 presents selected questions and compares statewide versus Hilo-Hamakua responses.

On both statewide and Hilo-Hamakua levels, several aspects of tourism are believed by most people in Hawaii to enrich their lives. The availability of jobs is clearly seen as the principal benefit of tourism. Other aspects of tourism with a positive perception are the new opportunities for shopping, dining and entertainment, improvements in general area beauty and beach parks, and the preservation of Native Hawaiian culture. Surprisingly, at least in view of certain beliefs about the effects of tourism (see Smith 1972 for discussion), most respondents believe that the overall standard of living and the quality of family life generally improve as a result of tourism.

On the other hand, Hawaii residents generally believe that crime, traffic and higher prices for housing, food and clothing accompany tourism.

Table 2.6
1988 Statewide Tourism Impact Core Study Responses

Has tourism made — better or worse for your island?	Better (\$)		Worse (\$)		No Effect (\$)	
	State	Hi/Ha	State	Hi/Ha	State	Hi/Ha
Job Availability	82	85	12	10	4	5
Shopping, Restaur., Entertain. for Residents	60	70	18	11	18	19
Overall Standard of Living	63	69	20	16	11	15
Quality of Family Life	41	44	20	16	29	40
Beauty of Your Area	33	47	22	12	41	41
Preserv. of Native Hawaiian Culture	47	55	36	29	8	16
Relations Between Long-Time Residents and Newer People	33	45	31	24	21	32
Quality of Beach Parks	44	60	40	23	10	16
Number of People Living in Your Area	27	43	30	18	35	39
Preserv. of Ocean and Natural Areas	33	48	45	29	14	23
Speed or Pace of Life	32	46	42	29	17	25
Cost of Food and Clothing	20	26	56	46	16	29
Cost of Housing	8	12	67	59	17	30
Crime Situation	6	10	70	60	11	30
Traffic Situation	4	10	83	67	11	23

Notes: Data from CRI 1989. "Hi/Ha" means Hilo and Hamakua combined. Margin of error is +/- 7.6 percent with a 95 percent level of confidence.

Hilo-Hamakua residents tend to view tourism in a somewhat more positive light than the state as a whole. One interpretation of this phenomenon is that Hilo-Hamakua residents have little experience with tourism and tourists. Another is that tourism in this area has not yet approached a level that has produced noticeably negative effects.

2.2.1.2 Kukuiahaele Land Use Plan, 1991

In 1990, Hamakua Sugar was facing impending foreclosure of a \$95 million loan, threatening not only the sugar company but also the plantation lifestyle of the Hamakua Coast. In response, Governor John Waihee convened a blue-ribbon steering committee to guide the sale and development of a portion of Hamakua Sugar's land in order to repay the loan and preserve the plantation. Various studies of the environmental impact of the plan were conducted under the auspices of the Hamakua Steering Committee, including a Socioeconomic Study by CRI (1991). Although the plan never came to fruition, the socioeconomic study contains much of value in terms of identifying community attitudes and values.

The project proposed by the Hamakua Steering Committee was vastly larger than the proposed Aman project. Over 3,800 acres of land were proposed for the development, which comprised three golf courses and a 50-unit clubhouse/lodge, a 200-room hotel, a 50-unit retreat resort, 175 condominium units, and over 1000 agricultural lots. Furthermore, the ostensible purpose of the rezoning was to "save" the sugar plantation. Comparisons with the current project, therefore, must be made with caution.

According to the report by CRI (1991:1), the survey revealed that a majority of Hamakua residents were opposed to large scale development but a small majority "would accept a 'small scale luxury resort', golf courses along the Hamakua Coast, and development (with a buffer) near the Waipio rim." It is important to note that their approval was granted with the understanding that such development was vital to save the plantation.

The following attitudes and concerns about development were expressed by Hamakua residents in interviews, meetings and surveys:

- o A desire to continue the plantation lifestyle, as it represents the "roots" of the community.
- o Mixed feelings about resort employment in Hamakua: on one hand, it would allow shorter commutes and provide employment; on the other, there were concerns about the quality of resort work and the "fit" of people with rural backgrounds.

- o Concern about population growth and Hamakua becoming "urban."
- o Concern about crime and mental health impacts.
- o Concern about the "chaos" created by construction.
- o Worries about rising property values and taxes.
- o Feelings that newcomers might not integrate well with community and/or would take it over.

Some social impacts were seen to be unique to the Kukuiahaele/Waipio area. Some residents resented the fact that the brunt of the impacts would be borne in their area.

2.2.1.3 Planning Commission Testimony, 1991

Hamakua residents, business people and community leaders, including many from Kukuiahaele, Honokaa and Waipio Valley, testified at a public hearing held on October 17, 1991, concerning the Kukuiahaele Land Use Plan (Hawaii County Planning Commission 1991). The testimony adds depth to the social impact analysis performed by CRI (1991).

Widespread support was shown for the rezoning plan, with few expressing complete opposition, despite the significant impacts upon the community that were acknowledged by all. The rationale cited by nearly every testifier was that the great change was necessary to save the Hamakua Sugar plantation, and that no means was too extreme. Don Cataluna, chief of Hilo Coast Processing, noted that the failure of Hamakua Sugar would not only eliminate company jobs but would lead to the failure of the other plantations, who shared port costs with Hamakua Sugar (p. 118). A retired worker noted that housing and medical care for pensioners would also be threatened (p. 122). These warnings have proven prophetic.

Many speakers, although they voiced approval for the plan, had serious concerns and requests about various issues in Kukuiahaele and Waipio. These included limiting traffic on the Kukuiahaele Old Road; protecting Waipio Valley from tourists, traffic and floods; widening the buffer zone on the Waipio Rim; mitigating the expected rise in homeowner's taxes; gaining community improvements to parks and roads; and creating a museum and cultural center in the former plantation manager's residence.

The one person who expressed complete opposition to the plan was concerned about preserving the tourist-free atmosphere of Hamakua, to which he had just moved a few months before.

2.2.1.4 Conclusions

These data from a survey, a social impact assessment and public testimony reveal that the Hamakua community is ambivalent about the effects of tourism. On the one hand, it is seen as a benefit in that it provides jobs, economic diversity and spin-off benefits. On the other hand, there are serious concerns regarding its effects on community life, cultural resources and natural features.

There is also a socio-geographic differentiation of support for/opposition to tourism, although only one of the sources discussed above provides much insight. Support for tourism in Hamakua is strongest among business and labor leaders, and also among current and former plantation workers and long-time residents of the region. The strongest opposition is centered (although by no means restricted to) Waipio Valley. This is understandable in that adverse tourism impacts in the region are only apparent in Waipio. In general, those who voice the most concerns and/or opposition to tourism in Hamakua include many newcomers to the region. However, many local residents may share some of these feelings but may be reluctant to express them in a public forum.

2.2.2 Public Meetings on Aman

It is incumbent upon social researchers to transcend the analysis of an "outsider", however professional, and present community members' thoughts and feelings about the projects that affect them. Furthermore, the development of mitigation measures should originate to some degree from the community itself. In keeping with this goal, a public meeting to collect input about the proposed project was held on August 26, 1993, at the Kukuhaele Social Hall. Notification for the meeting consisted of an insertion in the "Datebook" section of the *Hawaii Tribune Herald*, notices posted in Kukuhaele and Honokaa, and door-to-door distribution of the notices within Kukuhaele itself. A transcript of this meeting is Attachment B to this report.

Approximately 75 people attended the meeting. The developers were not present, and the EIS coordinator presented a brief description of the project. Residents were encouraged to speak freely about their vision of the community and the positive and negative effects that they felt the project would bring.

Those who either opposed the project or planned to withhold approval pending resolution of significant questions clearly outnumbered supporters. This is particularly true for those who testified.

Many in the audience expressed a deep appreciation of the rural atmosphere and easy pace of life in Kukuhaele. They also stressed the area's cultural significance, which was enhanced by the proximity to and intimate connections with Waipio Valley. Concerns over preserving Waipio itself were frequently mentioned. Speakers often emphasized their related desires to preserve agriculture and preserve Hamakua from major resort tourism. Most acknowledged the need for jobs in the area, however, and very few declared that resort development should be prohibited in Hamakua altogether. Several speakers said that they worked in the visitor industry themselves and valued their jobs.

Section 3.1 continues the discussion of this public meeting with a detailed outline and discussion of the impacts and desirable mitigation measures from the point of view of those who testified at the meeting.

2.2.3 Interviews with Key Informants

The public meeting did not include the entire affected population. Also, some individuals at the public meeting confided during private conversations that they were uncomfortable testifying in public. In order to gain a wider cross-section of opinion, telephone and personal interviews were conducted with Kukuhaele residents as well as Hamakua community and business leaders who were familiar with Kukuhaele and had a "stake" in its future.

At the public meeting, participants were invited during the presentation and later, in individual conversations, to identify to the Social Impact Assessment Team others who were not able or willing to attend the meeting but wished to give input on the project. This invitation was repeated to many individuals, including government officials and the developers, during the course of this research.

Each individual identified was contacted for an interview and interviewed if willing. The list of informants contacted is provided as Attachment A to this report.

CHAPTER 3 SOCIO-CULTURAL IMPACTS AND MITIGATION MEASURES

3.1 Public Meeting and Informant Interviews

The discussion of social impacts and mitigation measures in Sections 3.2 and 3.3 follows a format similar to the preceding treatment of the existing environment. However, particular areas of impacts have been added or separated in order to address these impacts in accordance with the public perceptions revealed during meetings and interviews. Therefore, the first topic is an outline of the impacts, both positive and negative, as perceived by the community, along with the mitigation measures they proposed.

3.1.1 Summary of Impacts and Mitigation Measures Mentioned by Community

The following table summarizes the main concerns raised by the public in the August 23, 1993, public meeting and in subsequent interviews with the authors.

Table 3.1
Impacts and Mitigation Measures Identified by the Community and Informants

GENERAL ISSUE Sub-Issues	PROPOSED MITIGATION MEASURE
ISSUES MENTIONED VERY FREQUENTLY AND/OR VERY INTENSELY	
HOMEOWNER TAX RATES WILL RISE	
Resort will drive rates up.	County legislation freezing rates for duration of owner's habitation and/or developers could create a trust fund. [None suggested]
Speculation may raise land values	
PROJECT MAY RUIN RURAL LIFE-STYLE	
Traffic will increase, making road unsafe and/or less slow-paced.	Traffic should be routed differently so that few tourists or new residents drive along Old Road. [None suggested]
Tourists and new residents won't share values and life-styles will conflict.	

Table 3.1, continued

New residents and/or hotel guests will complain about chickens, dogs, and pigs.	Obtain a guarantee that pre-existing rural lifestyle can never be outlawed. [None suggested]
Resorts are fine; keep them in Kohala and let us live away from the tourists.	
Resort may make village less authentically rural.	Resort should incorporate authentic Hawaiian themes, features and values as much as possible.
Resort will bring higher density of population.	Obtain a guarantee of no more resorts in the area from County and/or State.
Concerns about Social Hall and other town features.	Ensure that local community has full say in any renovations or reconstruction of Social Hall. Donate more land to Catholic Church and County cemetery and improve access road. [None needed: positive impact]
JOBS ARE NECESSARY FOR THE COMMUNITY	
COMMUNITY BENEFITS WOULD BE APPRECIATED	
Social Hall renovation.	[None needed: positive impact]
Donated land behind houses at Tiger Camp.	
New recreation facilities: Swimming pool, ballfield.	
LOSS OF AGRICULTURAL LAND	
	A guarantee [from whom?] that the remainder of the land zoned for ag. in the region remains in that category.
ISSUES RAISED WITH MODERATE FREQUENCY AND/OR INTENSITY	
JOBS DO NOT MATCH NEEDS OF COMMUNITY	
Since most Kukuiahaele people are retired or have jobs, community does not need it.	This might be acceptable if unemployed plantation workers and high school grads got jobs.

Table 3.1, continued

Outsiders may get most jobs.	Guarantee that those Kukui-haele people who want jobs will get first preference.
Hotel work is very unsteady and unreliable.	Aman should be "aloha-style" tourism: respond to local needs. [None needed: positive impact]
RESORT WOULD RESTORE TOWN TO ITS FORMER SIZE AND DIVERSITY	[None suggested]
WAIPIO VALLEY IS THREATENED	[None suggested]
Hidden, main draw is Waipio	Guarantee that hotel management will be sensitive to this issue in advice to tourists.
Hotel guests will add to excessive numbers in Waipio.	[None suggested]
MORE RESORTS WILL EMERGE ALONG THE HAMAKUA COAST	[None suggested]
Once tourists get a chance to stay in Hamakua, there will be a demand for more resorts.	A guarantee by County and/or State that no further resorts will be permitted in Kukuihaele area, and that few will be permitted on entire Hamakua coast. [None needed: positive impact]
The rezoning will set a precedent for future actions.	Developers should pay for improvement and maintenance
SOME RESORT ASPECTS MAY BEAUTIFY TOWN	
ROADS WILL BE RUINED BY RESORT	

Table 3.1, continued

ISSUES MENTIONED INFREQUENTLY	
HELICOPTER NOISE MAY INCREASE	Guarantee of no helicopter use by guests or management at or near hotel.
SEWAGE TREATMENT PLANT FOR HOTEL MAY BE IN UNDESIRABLE LOCATION.	Consult with community on STP location.
THE VILLAGE IS SPIRITUALLY SACRED; RESORT IS SACRILEGE	[None suggested]
CRIME MAY INCREASE	Keep scale very small so that few strangers are about.

It should be emphasized that this summary simply echoes various speaker's statements about impacts and mitigation measures. This presentation is done in the interest of full disclosure of community opinion. No evaluation of the validity or applicability of such statements occurs until later sections.

3.1.2 Discussion of Impacts and Mitigation Measures Proposed by Community

As the table above indicates, the public has many significant concerns about possible negative impacts associated with the resort. At the same time, the resort was given by most speakers at the public meeting and interviewees to have one basic, but very significant benefit: jobs. Nearly all were in agreement that accepting the resort involved a trade-off between the benefit of jobs and the negative impacts, no matter how small, associated with any resort development. The points of disagreement lay in whether and how the negative impacts could be mitigated.

Many residents, especially ex-plantation workers and their families, expressed the common feeling of nostalgia for the plantation days. The prospect of Hamakua Sugar closing clearly distressed most people, who associated sugar with security, permanence and the identity of Hamakua.

The prospect of a resort brought out mixed feelings that were tempered by their particular experience and vision of life in Kukuihaele.

Some residents especially valued the rural atmosphere of the village which sugar cane had helped to maintain but did not necessarily cause. It was vital to them to preserve the rural atmosphere in its current state. For example, as one said at the public meeting:

"I'm a resident and landowner of Kukuiahaele. My family lived here for three generations. In fact, I lived on the same property with my grandpa and grandpa and with my mom and me and my husband. My family and I are not for the development because, first, we would like to remain in ag. My family now consists of ten goats, three dogs, two chickens and everything else that comes in our yard... After a while, you cannot even own a chicken, after a while not even a dog... My husband works for a hotel away from here and he drives to work like 50 miles each way every day... but they don't mind driving cause when they come home you're at home. You're in the country; it's peaceful. Someone said it's better to work 40-50 miles away and come home and you're at peace instead of walking down the hill when you come home - you're still looking at your job."

This was seconded by many lifelong local residents as well as transplanted mainlanders. Some had no ties to the sugar cane past of the region, but instead valued its rural atmosphere. For example, a Honokaa resident of three years expressed it this way when he testified in 1991 about the Hamakua Strategic Plan rezoning request:

"I moved to Hamakua [three months ago] because there was no resort development here. Needless to say, I was not happy when I discovered what was coming."

To these individuals, the demise of sugar cane was perhaps not as great a tragedy as it was for actual plantation workers. Instead, it was a problem that was compensated for by the qualities of the region and the potential for diversified agriculture. As a 20-year resident of the region wrote in a leaflet expressing concern about the project:

"It is a joy and privilege to live here, we feel, and the saying comes to mind, 'If it's not broken, don't fix it! (certainly not for 'us residents')."

A resident of Kapulena stated at the public meeting:

"One hundred jobs, you know, two farms can do that. One hundred jobs is nothing... There's a much better way to go."

Not everyone shared this view. Some were deeply concerned about the economic and social future of Hamakua, and worried that residents were not taking the situation seriously. In the words of a Kukuiahaele resident and store owner:

"Hamakua has a problem. And it's going to get worse. We need jobs. Many people find it hard to believe that what happened in Kohala could ever happen here -- the boarded-up town of Hawi, people leaving, children growing up with no opportunity of staying close to home."

To this latter group, it appeared that many in Hamakua had failed to wake up to reality. As a Paauilo resident and local business owner said in an interview, accepting the resort is a necessary response to reality:

"The cold fact is sugar is out, and this project could provide up to 80 jobs for local people. The sad thing is, everybody says they don't want a change of life. No one put up a resort, but it did change. The stores are not what it used to be. There is no poi factory anymore. It's not what it used to be twenty years ago."

A long-time resident and community action agency official said:

"It is a very good project. All the negatives could be corrected by a few good answers. We can't lose something like this in Kukuiahaele."

Some of the resort's supporters expressed resentment about the attitude that would dismiss new economic ventures for relatively trivial, mitigable concerns. In the words of a supporter in a leaflet giving his views about the resort:

"Those who feel that they for sure will not be affected by the [Hamakua Sugar Company] shutdown cannot be too selfish about their good fortune."

The prospect of change, although it created anxiety, was also a sign of hope to many. A local woman who owns property in Waipio and is married to a native of Kukuiahaele said in an interview:

"It's a little bit exciting, something new is going to happen. If it would create jobs for the local people, I would say that is great."

It appeared from testimony at the public meeting that quite a number of individuals simply could not accept the idea of a resort, no matter what mitigating conditions were placed upon it, no matter how small it might be in comparison with the conventional idea of a resort hotel. Several speakers said essentially the same thing as this Waipio taro farmer:

"I'm totally against this project."

Other interviewees and speakers at the public meeting stated their general opposition but implied that if certain issues were resolved, they would be less opposed, or perhaps in favor.

In the words of a supporter:

"Much of the impact can be controlled, and significant benefits can be received in mitigation."

The most commonly expressed concern that was captured in mitigation was the issue of taxes. One resident said in an interview that while she basically supported the project:

"My one concern has been what about land tax....The same thing happened in Puako, when the rich people moved in, the poor people had to sell their land."

A Kukuihaele native who is now a bank officer and a prominent community leader expressed enthusiasm for the project if it could be guaranteed that property tax concerns would be satisfied. He was hopeful that with government help, this could occur:

"One of the concerns....is the question of property taxes. I think the County Government can take care of it, if we push legislators to enact something that will take care of people living in the area."

Another issue raised was cultural integrity. In the Kapulema resident's words:

"The culture gets trivialized. It gets turned into a show. I don't think you want that to happen here....tourism as an industry has a dehumanizing effect. Diversified agriculture is an empowering thing, okay. It reinforces culture."

A local policeman, also an officer with a Hawaiian social club, indicated in an interview that the cultural authenticity of the project would be the litmus test for his support:

"[The resort must be] really sensitive to the community; it's never had a hotel there. [The idea] is relatively new. You have to make it totally Hawaiian. It cannot be foreign. There are too many foreign resorts. Going back to what is Hawaiian. Naming things after the chiefs, connecting it to the area."

The bank officer felt that:

"Given the Bali situation and the way they treat local people with respect and provide sensitive info to guests concerning local customs, it could work."

Tourism can itself be a fulfilling expression of culture, if practiced with the right spirit on a proper scale, according to public testimony by a lifelong resident of Kukuihaele:

"I am in favor of the resort because I worked at the resort area for seventeen years, and believe you me, the people that come to the hotels, they like to see how the local people live. I invited many of them on trips into Waipio, I invited many of the guests that were in the hotel to different luaus, and it's a different feeling for them altogether."

Residents of Waipio were especially critical of the potential cultural impact of increased tourism on the valley. An officer with a local agricultural organization testified thus:

"We can talk about low-key, blend with nature, maintain ruralness, integrate with community. We feel the effects of not a big scale development like this, and we are already having a lot of negative impacts in Waipio. It's very difficult for the farmers to operate continuing what we do as we perceive as being cultural..."

While jobs were seen as the main benefit, some were doubtful whether the employment could realistically aid the region. A Kukuihaele resident asked at the public meeting:

"On the paper it says 100 jobs. How if 400 people are going to be laid off on the plantation, where will the other 300 go and how are we guaranteed that our families will be, or the residents will be employees of the resort?"

Another local resident noted that hotel work can be unstable and not the best base for the local economy:

"We have resorts down in the Kohala Coast and I'm working for one of them....[There will be jobs] but right now the hotels and the resorts are so slow that a lot of people are getting laid off or on call and we don't need that over here."

In his leaflet opposing the resort, a local teacher wrote that in a private survey conducted by a community association:

"...we found that only three people "might be interested" in working at such a resort, with the vast majority saying that...if the jobs are going to go the people from outside communities, let them put the resort there and not burden us and our children with it for nothing!"

Others were more hopeful about the jobs and the prospect of new money circulating in and reviving the stagnant economy. As the owner of a local trucking and construction firm said:

"The positive side - it's going to take vacant cane land that would be doing nothing - they are going to bring the land to doing something - they are going to have technical jobs - they are going to have training - it will be good for businesses in town, for services."

Regardless of the issue of how well-suited the plantation work force was for Aaan Resort employment, the ability to retain jobs for young people was important to some. One resident said in an interview:

"Some people want their kids to go the Mainland - they think it's better there. I do want my kids to stay around here and get good jobs."

Even supporters, however, acknowledged that the prospect of a resort hotel in Hamakua was a little unsettling. Tourism was seen by everyone as "dual-edged sword," with the ability to destroy what it seeks to market if it is not done with sensitivity. Therefore, the strongest advocates in the community would not have disagreed with the local business owner who summed the situation up this way:

"Maybe it's not the very best answer [to the problems in Hamakua] but it's better than doing nothing."

3.2 Socio-cultural Impacts

3.2.1 Population Impacts

Increase in population in itself may sometimes be relatively minor but carry with it significant impacts to lifestyle and public services. The discussion in this section focuses on direct population impacts, while later sections take up the far-reaching indirect impacts of population increase.

Population in Kukuiahaele would increase with the construction of the resort. The calculations presented are of course simply approximations.

3.2.1.1 Temporary (Construction)

The construction of the Hotel and Residential Lots is expected to occupy a relatively short time span. Because of this fact and the existence of a sufficiently large construction labor force within commuting distance of Kukuiahaele, increases in population during the construction period would probably be negligible if they occurred at all.

3.2.1.2 Operational

The total increase in resident population would be the sum of three components: new residents in the Residential Lots; employees of the resort who choose to move to Kukuiahaele as a direct result of job availability at the Hotel and/or Residential Lots; and those who choose to relocate to Kukuiahaele as an indirect result of the resort. This last category could include, for example, relatives of Residential Lot inhabitants, retired people who were drawn to settle in the area because of the ambience and amenities of the resort, and those whose jobs are indirectly dependent upon income generated by the resort.

If homes were built on all of the 45 Residential Lots, and County average of 3.15 residents per household obtained (calculation based on data from U.S. Bureau of the Census 1990b), approximately 140 new residents could be added to Kukuiahaele. This figure assumes full build-out and 100 percent occupancy of the units, and may be considered an "extreme-case" scenario. In reality, since the developers project that approximately 80 percent of the homes would be second or vacation homes, the occupancy rate may be considerably less, yielding a lower total population. Conversely, if the conditions of rezoning do not prohibit "ohana" (two homes per lot) development, the population addition due to the Residential Lots could potentially double.

The resort would offer employment to roughly 100 people. The vast majority of the employees are expected to come from the Kukuiahaele-Monokaa area and would live near enough the resort to commute. Even workers who live as far away as Paaulo and Waimea would not experience excessive commutes. Given the low stock of housing in Kukuiahaele, it is unlikely that more than 10 employees of the resort would relocate to Kukuiahaele. Assuming that some of these workers would either relocate without other family members and/or would be residing with other resort workers, the extreme-case figure of new residents attributable to resort employment would be 20.

The number of new residents drawn to the area for indirect reasons is expected to be negligible, since the resort would offer few general-public attractions and is of sufficiently small scale to exercise only a modest influence on the local business climate.

For the purposes of calculating an extreme-case scenario, a figure of 5 new residents attributable to indirect reasons is used.

Summing these three components yields a figure of 170 new residents. This represents a 50 percent addition to the present population of Kukuiahaele for a total of approximately 490. This figure is still below the population of Kukuiahaele in the year 1950, which was 590.

De facto population would include the 490 projected residents plus the occupants of the hotel rooms. The buildout scenario for 2004 projects 40 rooms, with an occupancy rate averaging 80 percent and an average guest per room ratio of 2.0. Thus, at any given time there is likely to be less than 64 guests present. Therefore, the total de facto population of Kukuiahaele would probably not exceed 554 people.

3.2.1.3 Impacts of Alternative Scenarios

Alternative 2, in which the land would be vacant or at least unused for residential purposes, no additional population would be expected, and the population would remain at approximately 315.

Under Alternative 3, it is assumed that the proposed project does not occur, and that in accordance with existing zoning a landowner would subdivide a minimum of approximately 100 residential and/or agricultural lots. Discounting any indirect effects of this development, a population increase of approximately 315 might occur, given the 3.15 residents-per-household ratio that prevails in Hawaii County (see section 3.2.1.2 above). The total population might then double to 630.

Table 3.2 below summarizes the potential population increases.

Table 3.2
Resident Population Projections for Kukuiahaele
Under Alternative Scenarios

Alternative	Population
1. Full Project as Proposed	550
2. No Project, Land Remains Vacant of Residences	315
3. No Project, Residential Development in Accordance with Existing Zoning	630

3.2.1.4 Potential Mitigation Measures

Potential mitigation measures for population increase could take several forms. First, the resources which are threatened by increasing population, such as peace and quiet or access to public facilities and services, could be protected and/or improved. As discussed in Section 3.2.1.1, impacts and mitigation for increased pressure on common resources are covered in subsequent sections. Alternatively, the actual number of inhabitants could be decreased. The following mitigation measures would accomplish the latter:

- o Reduce the number of Residential Lots during the rezoning and subdivision procedures. However, reducing the number of units below some critical level would likely decrease the economic viability of the project.
- o Prohibit "ohana" development on Residential Lots.

3.2.2 Rural Lifestyle Impacts

The rural lifestyle cherished by Kukuiahaele residents is as much a concept as a physical reality. Nevertheless, it is valid to discuss impacts to this subjective phenomenon because of its vital importance in the community identity of the town. Therefore, the discussion of impacts to this rural lifestyle is based upon the characteristics of Kukuiahaele perceived as valuable by its inhabitants. The reader is referred back to Table 3.1 for a summary of these aspects.

The most frequently mentioned positive rural features of Kukuiahaele were peace and quiet, little traffic, greenery, low population densities, community identity, acquaintance with neighbors, wide open spaces and agriculture.

It should also be noted, however, that while most speakers at the public meeting and most informants felt that the rural nature of Kukuiahaele was a very positive feature, some felt that the town lacked certain desirable features. Most frequently mentioned was the absence of jobs. Some of the older residents spoke of the good old days when the town was larger and more lively. In some ways they looked forward to the resort because it might once again restore a measure of diversity to the town.

3.2.2.1 Temporary (Construction)

Construction would disrupt traffic, produce dust and noise, and create a general sense of change that may appear negative and disturbing. Although the residents of the region are accustomed to heavy machinery, noise, dust and smoke associated with sugar cane

cultivation and harvesting, the impacts of construction may still be disturbing. It is at this time that the reality of the project may first come home to some residents, and they may feel anxious.

3.2.2.2 Operational

The question of whether the rural lifestyle valued by the inhabitants can persist in the presence of the resort is problematic and not really capable of resolution within the scope of an EIS. This is because different people have quite distinct conceptions of what is essential and what is not for keeping an area rural.

For example, some community members seemed to regard agriculture as the key element, and while they despair at the demise of Hamakua Sugar, they are hopeful that diversified agriculture can substitute. Some of these people regard the use of a hundred acres of Hamakua's agricultural land for the proposed project as a minimal impact, at least if they are assured that resort development in the area is "one-time only." Some residents spoke of the positive aspect of gaining an additional market for local crops.

Others, however, seemed to consider any resort, no matter how small or inconspicuous, an unpardonable blight upon the rural and cultural purity of the area. Indeed, one speaker at the public meeting referred to the idea of a resort in Kukuiahaele as "sacrilege."

It is thus likely that any analysis of the "rural lifestyle" issue will fall short of addressing, much less analyzing, the depth and breadth of each community member's concern. Therefore, this discussion of impacts deals only with the most commonly mentioned aspects of rural lifestyle and apologizes for the necessary omissions. The breakdown of sub-issues that follows is based upon the community input summarized in Table 3.1, from Section 3.1.1.

Value Conflicts Between Locals and Hotel Guests/Newcomers

There is the potential for conflict among current residents and future residents/hotel guests in the realm of values, particularly cultural values. This is especially true because not only would the new residents and guests be "newcomers," unfamiliar with local history and personalities, they would also come from a more privileged socioeconomic group.

One area of conflict cited by area residents in interviews was the issue of privacy. Local residents may sometimes feel that newcomers curious about their new surroundings may intrude or bother. The privacy requirements of newcomers may also cause problems, particularly if they construct imposing fences or begin

to complain about noise, odors or eyesores emanating from residents' home businesses, parties, animals or other habits.

A second area of conflict may arise as a result of misunderstandings concerning ethnic, cultural or religious practices. Examples include possible opposition to cockfighting and insensitivity regarding Hawaiian cultural practices.

Another general area of conflict is over the issue of strictly "rural" values. For example, some new residents may see Kukuiahaele as "substandard" and begin to demand infrastructure changes or new services not in keeping with local desires. More personal conflicts involve resentment over judgments by newcomers that locals are "country bumpkins," or perceptions by locals that the newcomers are "rich snobs."

However, not all interaction between newcomers/guests and locals is likely to be negative. Interaction between members of different socioeconomic groups can be healthy, enlightening and fruitful to all parties, leading to new understandings and sympathies.

Farm Animals

Of particular concern to several Kukuiahaele residents was the issue of whether their current practices of raising farm animals such as chickens, pigs, cows, hunting dogs, etc., would be endangered by the proposed project. Animals are an integral and accepted part of Kukuiahaele rural life, despite any theoretical and unenforced zoning restrictions.

The developers have responded that their particular style of resort flourishes because of its connection with and celebration of rural life. They have cited their Aman Dari project in Bali, where pig raising occurs immediately adjacent to the hotel, as an example of harmony with traditional village life.

Resorts as Inappropriate and/or Unauthentic

Many residents expressed a strong belief that the very presence of a "resort" on the periphery of Kukuiahaele would by definition rob the village of its rural character. Although few residents were specific about this process, some cited increasing traffic, the presence of strangers, and incongruous buildings.

The developers have responded to this concern by promising that the resort will blend in with the village.

A related concern was that the resort imbue the entire village with an unauthentic character.

Cultural Landmarks and Facilities

Several local landmarks are significant symbols of the local history and rural character of Kukuiahaele. The Social Hall, the Plantation Manager's House, the two cemeteries and the old Kukuiahaele Landing are prominent.

Despite the fact that plantation work in the early 20th century was often backbreaking and poorly compensated, this time is increasingly seen as the golden era of Hamakua. The 85-year-old Plantation Manager's Home and its 14-acre grounds are a subtle but key connection with a time when sugar was king. Although the home has never been generally open to the public, including the Kukuiahaele community, some residents are hopeful that this private home can be transformed into a museum or cultural center. There is currently no source of funding for such a project, but many residents voiced a hope that the State might purchase, restore and operate the home as a true museum.

As described in the introduction, current project plans call for the house to be integrated with the resort hotel as the Plantation Inn. To achieve this, the house requires some interior alterations to create four separate guest quarters. The funds to maintain the elegant grounds would be generated by the hotel revenues.

The Social Hall, once the Japanese language school, is a valuable and cherished gathering place, even in its antiquated and somewhat dilapidated condition. There appears to be a division among the community about how to best upgrade the Social Hall. Some want it left intact and unchanged, even if such a policy means that it would inevitably crumble. Others want it restored and modernized somewhat. Still others favor a new Social Hall, on the same or a different location. Because the hall is currently owned by the developers (although maintained by the County), there is considerable worry about what might happen to the structure.

The two cemeteries in Kukuiahaele would not be directly affected by any aspect of the proposed project. The current configuration of Residential Lots would present the county cemetery with three adjacent lots and the Catholic cemetery with one. If no landscaping or other physical barrier were present between the cemeteries and the lots, the isolated character of the cemeteries might potentially be affected.

Kukuiahaele Landing would not be affected by the proposed project. Because it is located at the bottom of a steep cliff, about 2000 feet laterally from the edge of the resort, it would not be visible from the project. No impact to access to the landing would result from the proposed project.

Land Use Impacts

A change of state land use classification from Agriculture to Urban would approximately double the area of Urban-zoned land in and near Kukuiahaele. Over 36,000 acres in Hamakua still retain agricultural zoning, and the scale of urbanization represented by the project thus appears minuscule.

Nevertheless, many residents feel that the rezoning may set a precedent for future requests. Given the rainy climate and cliffed shoreline in Hamakua and the conventional tastes of the resort visitor, such speculation is probably groundless, at least for the foreseeable future. Still, the perception that Hamakua may be on the road to massive urbanization is a common community fear. A program to release some of this enormous stockpile of agricultural land is currently being developed by the State Board of Land and Natural Resources, which plans to lease over 6500 acres of former sugar cane land for diversified agriculture.

Residents of many sugar cane camps throughout Hamakua have commonly cultivated gardens on Hamakua Sugar Company lands adjacent to their homes. Some have expressed anxiety that development in their area would put a stop to their unofficial but traditional use of such lands.

Higher Population Density and Traffic

These issues are covered in Sections 3.2.1 and 3.2.3.

3.2.2.3 Impacts of Alternative Scenarios

Alternative 2, the no-project/vacant land scenario, would avoid impacts to rural lifestyle from the project. Changes in surrounding land use and social structure might affect the lifestyle of Kukuiahaele nevertheless. For example, a resident of Kona Camp mentioned his concern during an interview that the seemingly inevitable growth of ironwood in the cane fields would interfere with the scenic character of the area.

Alternative 3, the no-project but residential/ag lot development scenario, would entail many of the same rural lifestyle impacts because of the simple fact of population growth, some of it composed of newcomers. The current practice of using vacant land adjacent to existing residential lots for gardens might have to cease as a result of the subdivision of such land for lots.

3.2.2.4 Potential Mitigation Measures

The following mitigation measures would reduce impacts to rural lifestyle:

- o Increase awareness and sensitivity of guests by orientation to local customs and tips on behavior.
- o Resort management could maintain formal and informal lines of communication with community, such as periodic picnics, sporting events and meetings.
- o Develop a clear written agreement concerning the status of farm animals in the village.
- o Design landscaping to minimize the visibility of the resort hotel and Residential Lots from the village. The existing theme and design of the resort appear to satisfy this measure.
- o Deed to homeowners in Tiger Camp portions of the former Hamakua Sugar lands that they have been using for many years. This mitigation measure has been formalized in the Developer's Letter of Commitment. In many cases, the addition would increase the size of the homeowner's lots by as much as 100 percent.
- o Set up a community committee to decide upon and oversee any modifications or replacement of the Social Hall. This mitigation measure has been formalized in the Developer's Letter of Commitment.
- o Deed a strip of land around the cemeteries to the cemeteries to ensure room for expansion and privacy. This mitigation measure has been formalized in the Developer's Letter of Commitment.
- o Sponsor periodic events at the Plantation Manager's Home such as open grounds and/or house to public, specifically the Kukuhaele community. The developers have offered this measure.
- o Work with the community, the county and the state to address fears about uncontrolled resort/urban development in Hamakua.

3.2.3 Local Traffic Impacts

Traffic impacts are covered in the Traffic Impact Analysis Report by Julian Ng, which is attached as an Appendix to this EIS. Objective measures of traffic flow and remedial recommendations are discussed in his report. The purpose of reviewing traffic impacts in this section is simply to better describe the environment of Kukuhaele Village as it would be experienced by residents.

3.2.3.1 Temporary (Construction)

Traffic would increase temporarily during construction as a result of commuting laborers (although some construction workers may come from Kukuhaele) and the transport of building materials. Some of this traffic would involve heavy machinery and would be disruptive in terms of noise, dust, traffic congestion and unsightliness. However, because of the relatively short time-span of construction of the hotel, and the fact that individual Residential Lots would be built upon by their owners, significant impacts would not last long.

3.2.3.2 Operational

The report calculated that a daily in-plus-out traffic volume of approximately 1570 vehicles per day would be generated by the proposed project. Peak hours would add as many as 70 vehicles per hour to the traffic flow. Depending on the final selection of an entrance route to the hotel and Residential Lots, some small roads might experience a doubling of traffic as visitors and new residents enter and leave the area in the direction of Honokaa and Waipio Valley; traffic volumes on many roads and road sections would be changed very little, especially during non-peak hours.

3.2.3.3 Impacts of Alternative Scenarios

Traffic impacts would be avoided under Alternative 2. Alternative 3 traffic impacts might be just as large as those under the full project.

3.2.3.4 Potential Mitigation Measures

Road and circulation improvements are discussed in the Traffic Report Appendix and in the main body of the EIS and are not addressed here. It is recommended that all traffic improvement projects give issues of community cohesiveness, the pedestrian use of roads, and the convenience of local residents priority consideration. A panel of community members to advise the developers and the county on road improvements is recommended.

3.2.4 Impacts to the Socioeconomic and Ethnic Structure of Community

The class/ethnic structure of the community would change under the proposed project. The current middle-class, mixed ethnic, longtime Hawaii resident profile would be altered by the addition of a distinctly different group.

The juxtaposition of cosmopolitan, wealthy newcomers with rural, middle-class local residents has potentials for both conflict and harmony. Despite the plans to integrate the hotel to some extent with the community, the short stay of most hotel guests would probably make their impact on the community structure negligible.

3.2.4.1 Temporary (Construction)

Because construction crews for relatively small projects in Hawaii tend to be local, they are usually representative of the community as a whole. In terms of class and ethnic affiliations, such workers would blend in with the community. Indeed, some local residents may be part of the construction force.

3.2.4.2 Operational

Class Differences

Given the expected high-market orientation of the Residential Lots, the new residents would almost certainly be high-income individuals and families. The influx of this group would create a bi-modal income distribution; i.e., one group would be wealthy, and the other mostly middle-class.

Local residents expressed anxiety about this issue only vaguely during interviews and public meetings. They may have been reluctant to speak about the issue in such settings.

Research by CRI (1991) for the Manele Golf Course on Lanai revealed some community attitudes relevant to the Kukuiahae project. One concern expressed by residents was that

"...affluent Koele or Manele resort residents could treat longtime Lanai residents in a superior or disrespectful way. Some community informants linked this concern to memories of earlier plantation days, where Caucasians dominated an ethnically-stratified society" (p. IV-109).

CRI went on to note that relationships between locals and affluent new residents at older, similar projects had generally mellowed into mutual respect, if not complete acceptance. They cited the

importance of respectful behavior among new residents as a key to this mutual respect.

Ethnic Differences

The study of the impacts of changing the ethnic structure of a community requires a great deal of caution. As Furgut and Var's review of tourism impact studies pointed out, reports of impacts of "racial" or "ethnic" tensions often confound economic or class categories with ethnic ones (1984:7). Also, planning to minimize ethnic conflicts (especially through avoidance of contact) is not necessarily harmonious with the "melting pot" ideology shared by most Americans, particularly Hawaii residents.

Nevertheless, the issue of ethnic identification of communities requires consideration, because Hawaii residents do tend to categorize certain communities as "more Hawaiian" or "more haole," etc. Our perception of these communities is often based, for good or for ill, on their ethnic makeup.

A profile of resort guests and Villa buyers as projected by the developers is presented in Table 3.3.

Table 3.3 Projected Origin Profile of Guests and New Residents

Component	Place of Origin			
	Hawaii	U.S./Canada	Europe	Asia'
Hotel	-	40%	20%	30%
Res. Lots	17%	33%	17%	33%

Note: ' includes Australia. Remaining 10 percent of hotel guests were projected by developers to originate from Latin America, Africa, and the Pacific.

If this projection is approximated in reality, the ethnic mix in Kukuiahae would be broadened by the presence of Japanese, Chinese and Australian nationals. Mainland-born Caucasians (and others), who are already prominent in the population, would become proportionally as well as absolutely more numerous.

It is only a myth that ethnic or racial conflicts are absent in Hawaii. Nevertheless, communities with every conceivable mixture of groups exist. Inter-marriage among ethnic groups is now the rule rather than the exception in Hawaii. Most relations in Hawaii are marked by harmony rather than conflict. The history of repeated and diverse immigrations, the tendency of many Hawaii residents to relocate, and the rapid growth of new communities throughout the state also has helped develop an extremely adaptable population.

In all likelihood, some conflict between new and existing residents may arise because of ethnic or cultural differences. In some cases this conflict would be compounded by resentment against the class status of the new residents, especially towards rich Japanese or Mainland haoles.

3.2.4.3 Impacts of Alternative Scenarios

Even if the land remained vacant, as under Alternative 2, it is likely that social change in Hamakua would continue, although the nature of such change is difficult to speculate on. Mainlanders with independent incomes would probably continue to grow in proportion in the population, especially as some local people might be expected to migrate from Hamakua in search of jobs. Under Alternative 3, such processes might accelerate, although if a viable small-farm alternative were discovered, the purchasers of residential and/or ag lots might be more heavily local than otherwise.

3.2.4.4 Potential Mitigation Measures

Socioeconomic changes of the type anticipated as a result of the Aman Resort project may be viewed as negative, positive or neutral, depending on the individual. Therefore, proposing mitigation measures is inappropriate.

3.2.5 Social Impacts of Property Tax/Property Value Increases

Experience with other resort developments that have occurred in an area of existing rural homes and farms indicates that property values would probably rise as a result of the proposed development.

Several impacts can proceed from such a rise. First, in the absence of measures that freeze tax levels or exempt property owners in the affected areas, property taxes would also rise. Although from the standpoint of greater county revenues such increases produce significant benefits, they are usually viewed rather differently by individual homeowners.

Second, the resale value of the property also rises. Resale value increase (as separate from the property tax issue) can have positive or negative effects, depending on the individual and community.

Many elderly residents welcome the growth in the size of their estate, which would allow their children to inherit more wealth. Residents who plan to leave the area may also benefit from a windfall if they sell their home and are fortunate enough to

relocate to an area where property values are lower, and they are thus able to "trade up" to a better home.

However, the continuing rise of property values usually brings about higher taxes that may force fixed-income residents to relocate. Also, the socioeconomic character of the community may change because the higher value of its property sales during home turnover may exclude low-income residents, who may have social or cultural ties to the area.

Another negative impact is that higher values coupled with speculation tend to drive up the prices of nearby agricultural land. Existing farmers may find the taxes burdensome, and new farming ventures are discouraged by the land costs and the taxes. Some farmers may happily sell to achieve a profit, but the community as a whole may suffer because of the gradual loss of agricultural land.

3.2.5.1 Temporary (Construction)

Negligible effects on property values and taxes may be expected as a result of construction.

3.2.5.2 Operational

Property tax increases are a common complaint throughout the state of Hawaii and indeed, the entire United States. In the case of the proposed project, this seems to be the one aspect of the project with which everyone, supporter and opponent alike, is concerned. It is problematic to predict with any precision the magnitude of the likely increase in property value and taxes -- which is one reason property owners are uncomfortable with change of this type.

3.2.5.3 Impacts of Alternative Scenarios

Under Alternative 2, property values might rise, fall, or stay level, following the general trend of Hawaii County and the Hamakua District. Alternative 3 might involve some increase in property values and taxes, but not to as great an extent as in Alternative 1.

3.2.5.4 Potential Mitigation Measures

Several mitigation measures could reduce or eliminate the negative effects of property tax/property value increases:

- o Creation of a fund by the developers to help offset the difference between current property taxes and future property taxes that can be attributed to the resort. This mitigation measure has been formalized in the Developer's Letter of Commitment. The developers have already committed to creating an initial fund to be supplemented by \$5,000 from the sale proceeds of each of the 45 lots when they are sold.
- o Legislation currently before the County Council would freeze tax levels for all County residents at their current values for all homes occupied by their owners. This would be superior to the current "10-year exemption" in that no penalties would accrue to the seller, but several questions still trouble many local residents and county officials. For example, would the exemption be inheritable? Would the measure discourage home sales? Would new homeowners be taxed at unfair levels to support such an exemption?

3.2.6 Social Impacts of Employment

Certain employment impacts are covered in the Economic Impact Analysis presented in Chapter 5. Jobs generated by any economic enterprise fall into three categories: direct, indirect and induced. Section 5.1.2 discusses these concepts in detail. This section deals only with the social impact created by direct jobs, i.e., the temporary jobs created by construction and the permanent resort jobs such as kitchen staff, housekeeping, maintenance crew and wait help. Approximately 100 construction jobs, and later, 100 resort operation jobs are called for.

This section addresses the following social aspects of the new employment opportunities. Would jobs go to local residents? Where would the other workers come from? To what extent would the jobs created by the resort match the skills and desires of the existing labor market, especially workers displaced from the Hamakua Sugar Company's closure? If the match is not close, how would workers be trained? Finally, would workers experience satisfaction with the jobs being offered?

3.2.6.1 Temporary (Construction)

Construction work would be contracted to local firms, which employ mostly full-time crews. Hamakua residents who work for these firms would benefit from this employment. A few local residents may also

gain temporary or permanent full- or part-time work during the construction phase. No job training for construction work is anticipated.

3.2.6.2 Operational

Origin of Workers

The developers have stated that they would seek to hire from the residents of Kukuiahaele and Hamakua to the greatest extent possible. They expect that over 80 percent of jobs can be filled locally. The remaining workers would mostly be commuters from other parts of the Big Island. A small number of employees may move to the region from other islands, the U.S. Mainland or foreign countries.

Labor Fit and Training

The breakdown of Hamakua Sugar employees as of January 1993 is given in Table 3.4.

Table 3.4
Existing Employee Classifications at Hamakua Sugar Company

FACTORY/GARAGE	FIELD OPERATIONS
Machinist	Equipment Operators
Electrician	Heavy Equipment
Welder	Field Workers
Mechanic	Pest Control
Utility Workers	Lead Personnel/APT
Equipment Operators	Administrative/Clerical
Repair/Maintenance	
Administrative/Clerical	
Lead Personnel/APT	
Plumber	
Carpenter	
FEEDLOT/SLAUGHTERHOUSE	MEDICAL
Equipment Operators	Admin/Prof/Technical
Livestock Handlers	Nurses
Factory Workers	Clerical
Drivers	
Mechanic	

Source: Hawaii Island Economic Development Board.

The job requirements as projected by the developers of the Aman Resort are listed in Table 3.5 below.

Table 3.5
Planned Employment at Amanresort

Operation	Number of Jobs
ROOMS	12
Housekeeping and Room Attendants	8
Other Attendants	3
Others	1
FOOD AND BEVERAGE	27
Kitchen	12
Restaurant/Bar	15
MINOR OPERATIONS/GENERAL ADMIN/MARKETING	27
Shops/Services	7
Financial/Accounting	10
Clerical	2
Security	4
Other	4
FACILITY MAINTENANCE	14
Plumber, Electrician, Engineer	3
Carpenter, Painter, Mechanic	4
Nursery and Grounds	2
Truck Drivers	2
Laundry	3
MANAGEMENT AND SUPERVISORY	21
TOTAL	101

The area of greatest fit between the soon-to-be-unemployed Hamakua Sugar Company workforce and the needs of the Aman Resort is found in the maintenance area. These fourteen jobs could potentially be filled many times over by the Hamakua workforce. There would probably be competition among ex-plantation workers for these jobs, since hotel jobs usually pay as high or higher than plantation work (projected wages at the Aman Resort have not been determined and/or disclosed by the developers).

The other sectors of resort employment, although not related as directly to plantation work as the maintenance sector, offer promising opportunities for Hamakua Sugar workers. Employees who were involved in office work may find that their skills are desired and readily transferable. Certain supervisors and managers may also make a smooth transition. Housekeeping and food and beverage jobs, however, might require considerable re-training and adaptability on the part of ex-plantation workers.

Working on a resort is quite different from working on a plantation. However, many Hamakua residents already work in South Kohala hotels, including many family members of displaced Hamakua Sugar workers. This existing corps of hotel workers in Hamakua has familiarized much of the population with the realities, both beneficial and adverse, of resort employment.

Training programs currently in development under the coordination of the Hamakua Assistance Steering Committee may help identify interested workers, connect them with Aman Resort (among other hotels) and sponsor training. Such agency actions will considerably ease the transition from the plantation to resort and other employment activities.

The developers report that all employees at Aman Resorts worldwide undergo extensive, paid training as part of their employment. Because of the unique and specialized market of Aman Resorts, such training is vital.

The developers also expect that many food and beverage positions at the resort would be filled by the Honokaa High School graduates who wish to enter the hotel business but not leave their home towns. It is the experience of many hotel managers that young residents from the local area make excellent and enthusiastic employees. Many of them work for several years before going away to college, joining the military, or relocating for other reasons (allowing other young people to cycle in). Some decide to make a career in the visitor industry based on favorable early experiences.

Job Satisfaction

When the Lanai Company sought approvals from the State Land Use Commission to construct an 18-hole golf course and luxury residential units to add to an existing hotel-golf course development, an EIS was conducted. The social impact assessment performed by CRI (1991a) sampled the opinions of current plantation workers as well as former plantation workers who had made the transition to resort work. Some of their findings shed light on the impacts that may occur at Aman Resort.

Some hotel workers mentioned that they were uncomfortable with the formal atmosphere, uniforms, and hours. This opinion was not shared by the majority, apparently. For potential employees currently working in pineapple, the single most preferred type of future job was landscaping. Few reported wanting jobs with significant amounts of public contact (particularly food and beverage jobs). Instead, "back of the house" resort jobs (e.g., housekeeping) were preferred. CRI reasoned that some of this reluctance arose from deficiencies and discomfort with oral and written communication skills, particularly among Filipino immigrants.

In the case of Aman Resort, which would be the first of its kind in Hawaii (not to mention Hamakua), one may only speculate about potential job satisfaction. Worker satisfaction is reported to be high and job turnover low at other Aman Resorts throughout the world. Most of these resorts, however, are located in Third World countries and their experiences may not transfer to Hawaii. It is important to note, however, that job satisfaction of any kind is possible only when one has a job. As few employment opportunities are unfolding in Hamakua, a job at the Aman Resort is likely to be prized.

3.2.6.3 Impacts of Alternative Scenarios

Under Alternative 2, no new employment would be generated by activities in the area that would have been occupied by the resort. Thus, the potential of the proposed project to alleviate the unemployment of the area would not be realized. Alternative 3 would generate short-term jobs during the construction of homes and/or agricultural infrastructure. Agricultural jobs might also arise, although the experience with most 1-acre or smaller agricultural lots is that actual farm production is modest. Some of these lots, however, might employ some members of the resident family full- or part-time in some agricultural pursuit (e.g., fruit orchards or pig raising).

3.2.6.4 Potential Mitigation Measures

The following mitigation measures would maximize the benefit of the added employment to the community:

- o The developers should make a concerted effort to recruit locally for all positions.
- o The developers should coordinate recruiting efforts with the Hamakua Assistance Steering Committee and/or similar groups whose broad base and mission give them the most familiarity with the special needs of Hamakua.
- o The developers should coordinate training efforts with the appropriate State, County or private agencies.

The issue of indirect and induced jobs has not been discussed in this analysis because the location and nature of such jobs are simply too unclear to analyze. However, as the economic analysis in Section 5.1 reveals, the impact of these jobs are considerable. Not only would they provide a further source of employment and income to the region, they would add a measure diversity to the tourism-related direct jobs. In this sense, direct and induced jobs act as a mitigating measure for the specialization of the jobs brought in by the resort.

3.2.7 Recreational Impacts

This section addresses the additional pressure on existing recreational facilities and areas, both formal and informal, imposed by the proposed development. Of major concern to local residents are impacts to Waipio Valley.

3.2.7.1 Temporary (Construction)

Construction of the resort and infrastructure for the Residential Lots is expected to have little effect on recreation. Renovations and improvement to the Social Hall and the existing park might temporarily remove these features from use, but this loss would be more than compensated by their added usefulness once work was complete.

3.2.7.2 Operational

Among the community benefits associated with the resort are recreational facilities. Although the exact nature of these benefits are to be determined in consultation with the community, the developers have offered the following:

- o New and/or improved Social Hall
- o Improvements to and maintenance of the existing parks
- o Construction and maintenance of a new park with a swimming pool, playground, tennis courts and exercise facilities

Since very few organized recreational opportunities exist within Kukulhaele today, the addition of these facilities, even accounting for the population increase, must be seen as a net beneficial impact.

As discussed in Section 2.1.4, the main recreation activities for most residents consist of hunting, fishing, gathering, and farming activities. These take place outside of designated public or commercial facilities at locations throughout Hamakua. The physical location of the proposed resort would not substantially interfere with such activities. To the extent that greater population puts increased pressure on such resources, there could be a small negative impact on recreation.

The principal area of conflict, at least as perceived by many residents of the area, is Waipio Valley. As discussed in Sections 1.3.3 and 2.1.5, increased visitation of Waipio Valley, at least under present conditions, is viewed as undesirable by

the major landowner, many Waipio residents, and the State Department of Land and Natural Resources. Recent years have seen as many as 60,000 shuttle and/or horse tour visitors alone in Waipio (TF 1991).

A calculation can be made to assess the potential number of additional Waipio visitors generated by the hotel component of the resort. Assuming 40 rooms (the Plantation Inn plus the Amahideaway), an occupancy rate of 80 percent, an average stay of 3 nights and an average of 2 guests per room, as many as 7,700 individual resort visitors can be expected annually.

It can be assumed that many visitors to the resort would desire some activity related to Waipio. Some may be content with a view of the valley from the lookout on the rim. Others would participate in an organized "shuttle tour" or a horseback ride, and others may opt for a self-guided trip into the valley to hike and swim. Because the resort is expected to generate considerable repeat business (as Aman resorts do elsewhere in the world), many visitors would have already experienced Waipio and may not be drawn to do so on each visit. As a rough estimate, between 10 and 50 percent, i.e., between 770 and 3850 visitors per year, may descend into Waipio from the hotel resort. An unknown proportion of this figure may be redundant, in the sense that if the resort were not constructed, they may have visited another resort on the island and visited Waipio anyway.

The occupants or residents of the Residential Lots would also visit Waipio Valley. There are several unknowns that make it difficult to assign an annual number to these visits. First, it remains to be seen what proportion of the Residential Lots would be occupied full-time and what proportion would essentially be vacation homes. Second, data on the frequency of Hamakua residents' trips to Waipio are lacking. It is reasonable to assume, however, that significantly fewer visits per year would be generated from this component of the resort.

In any case, the total number of visits generated by the resort may add approximately 5 percent to the number of visitors to Waipio.

This magnitude of increase, though in itself not greatly significant, is of concern because it comes at a time when increased tourism is seen as extremely stressful. The outcome of current negotiations being undertaken by the Task Force to Preserve Waipio Valley would be of critical importance in determining how future pressure on Waipio's resources are handled and, therefore, what impact any given project would have. Some possible mitigation measures are discussed in Section 3.2.7.4.

3.2.7.3 Impacts of Alternative Scenarios

Under Alternative 2, the recreation facilities associated with the resort would not be constructed and residents would continue to lack such amenities. Community efforts and/or funding by the County and State could eventually redress such deficiencies. Although no new visitors to Waipio would be generated from the Kukuiahaele area, existing trends would continue.

Alternative 3 presents probably the most adverse impact in terms of recreation. Subdivision in accordance with existing zoning might result in population without producing as many recreation benefits as have been offered by the Aman Resort developers. Waipio visitation of an informal nature would probably rise considerably, since a much larger population would have immediate access, than is currently true, and impacts to Waipio might actually be worse than in the full project scenario.

3.2.7.4 Potential Mitigation Measures

The recreational facilities proposed by the developers constitute a significant benefit to the social well-being of the community. Steps already taken by the developers indicate that the community would have considerable control over the precise nature of the improvements, which would maximize the beneficial effect.

As discussed in Section 3.2.7.2, impacts concerning tourism in Waipio Valley cannot be fully assessed nor mitigation measures developed until the work of the Waipio Task Force has been completed and an official policy on Waipio developed and adopted by the State and county. In the absence of such a policy, the following measures can be tentatively suggested:

- o The developers should cooperate and meet with the Waipio Task Force in their efforts to minimize adverse effects of tourism. This mitigation measure has been formalized in the Developer's Letter of Commitment.
- o The developers should prepare materials that advise guests concerning sensitive and responsible use of Waipio Valley, per upcoming rules and recommendations from the Waipio Task Force and/or responsible government agencies.
- o The developers should not contract for group or individual tours of the valley without consultation with the Waipio Task Force and/or responsible government agencies. This mitigation measure has been formalized in the Developer's Letter of Commitment. The developers have committed informally to adding no more than one van per day to Waipio traffic.

CHAPTER 4 EXISTING ECONOMIC CONDITIONS

4.1 Regional Economic Setting, 1970-1990

The economy of the state of Hawaii grew rapidly during the 1970s and the 1980s. In current dollars, the Gross State Product grew at an average annual rate of 10.8 percent during the 1970s and at 8.6 percent during the 1980s. Hawaii County's economy grew faster than that of Oahu over the same period. Using Personal Income as an indicator, Table 4.1 shows that the Hawaii County economy grew at an average rate of 4.6 percent. Jobs and employment also grew faster in Hawaii County than they did on Oahu. Table 4.2 shows that jobs grew at a rate of 3.4 percent and employment grew at a rate of 4.0 percent per annum. It was during this period that rapid resort development took place in the South Kohala and North Kona districts, boosting the construction industry to its peak.

The sugar industry has been the economic mainstay of the Hamakua region since the late 1800's. Today, sugar cane production and raw sugar processing accounts for a large share of direct employment and personal income earned from all sources in the region. In 1991, 1,250 sugar-related jobs accounted for an estimated 30 percent of all employed persons. (Hawaii State Department of Labor and Industrial Relations tabulation for County of Hawaii; Hamakua Sugar Company, Mauna Kea Agribusiness employment estimates).

Two major sugar companies, Hamakua Sugar Company and Mauna Kea Agribusiness, and a number of small independent cane growers cultivated a combined 45,000 acres of land along the Hamakua coast. This acreage amounts to 79 percent of the 57,000 acres that was devoted to sugar production on the island, and 27 percent of sugar acreage in the state in 1990. The combined output of these companies and independent growers amounted to 819,631 short tons of 96° raw sugar, or 19.8 percent of total state output in 1990.

Unlike other districts in the County, there has been minimal shift to the production of tourism services in the Hamakua region, a result of climate and historical land use patterns. Major agricultural products include sugar and macadamia. The region also supports ranching and small truck farming activities (ginger, taro, and tropical flowers and ornamental).

Table 4-1
Personal Income, By County

	State	Honolulu	Hawaii	Kauai	Maui
Total Personal Income (\$ million) '89	20,477	16,251	1,800	790	1,638
Per capita Personal Income (\$)'89	18,379	19,171	14,969	15,585	17,121
Real Growth Rates (Average Annual)					
1970-1980	3.2%	3.3%	6.0%	5.3%	6.9%
1980-1989	2.8%	2.4%	3.9%	4.0%	4.8%
1970-1989	3.0%	3.0%	4.6%	4.5%	5.8%

Source: First Hawaiian Bank, "Economic Indicator", July-August 1990; Hawaii Data Book 1991.

Table 4-2
Average Percent Change For Job Counts and Civilian Employment, For State and Counties: 1970-1980, 1980-1990, and 1970-1990

Item and Period	State of Hawaii	City and County of Honolulu	County of Hawaii	County of Kauai	County of Maui
TOTAL JOBS					
1970 - 1980	2.88%	2.71%	2.64%	2.88%	4.89%
1980 - 1990	2.62%	2.09%	4.16%	5.05%	4.98%
1970 - 1990	2.75%	2.40%	3.40%	3.97%	4.94%
CIVILIAN EMPLOYMENT					
1970 - 1980	3.20%	2.73%	4.51%	3.70%	6.18%
1980 - 1990	2.06%	1.47%	3.54%	3.83%	4.41%
1970 - 1990	2.63%	2.10%	4.03%	3.76%	5.29%

Source: Hawaii State Department of Labor and Industrial Relations, Labor Force Data Book, updated annually.

Table 4.2
Regional Economic Conditions Since 1990

The balance of employment reflects the spillover impact of hotel development in the neighboring South Kohala region. It has been estimated that 35 percent of Hamakua's 1990 labor force, approximately 900 to 1,000 Hamakua residents, are employed by South Kohala hotels. To a lesser extent, tourism-related employment represents services sold locally to nonresidents who pass through the region or who use Honokaa's 14-room hotel or bed and breakfast accommodations.

4.2 Regional Economic Conditions Since 1990

4.2.1 State Economy

A combination of events including the Gulf War of 1991, recession on the mainland, and changing economic conditions in Japan have contributed to an economic slowdown since 1991. Visitor arrivals, the primary barometer of the health of the tourism industry, declined during 1991 and the first six months of 1992. Statewide, visitor arrivals were off by 2.8 percent when compared to the same time period in 1991. Visitor arrivals to the County of Hawaii were off by 7.1 percent. Hotel occupancy rates held relatively steady statewide, at 70.1 percent, but occupancy rates for the neighbor island counties were down. For the County of Hawaii, occupancy rates stood at 51.7 percent, down 5.0 percent from the first six months of 1991. (Source: Hawaii Visitors Bureau: 1990, 1991, 1992)

Statewide civilian unemployment rates have also risen from an average of 2.8 percent to 4.8 percent for the first six months of 1992. The County of Hawaii, which typically has the highest unemployment rates of all the counties, logged an increase in unemployment from 4.0 percent to 7.1 percent in the six-month period. Job counts statewide have fallen slightly, with much

larger decreases registered in the sugar industry. Sugar production is off both statewide and for the County of Hawaii, falling by 2.7 percent and 12.3 percent, respectively. Construction permit value, a measure of construction activity, has decreased statewide but shows a gain for the County of Hawaii, primarily the result of a single, large hotel construction project. (Source: First Hawaiian Bank "Economic Indicator, May-June 1993").

4.2.2 Hawaii County Economy

Beginning in 1990, the Hawaii County economy has taken a downturn as have all other island economies. In addition to the drastically declining tourist trade, the island economy is undergoing a further economic ill with the impending closure of a number of sugar operations.

Sugar industry in decline

It is generally agreed that the sugar industry is irreversibly declining in Hawaii. Statewide, lands under sugar cane production fell from 224,617 acres in 1960 to 161,991 acres in 1990, a contraction of 38 percent. Two-thirds of this contraction occurred in the decade from 1980-1990 alone. During this decade, lands under sugar production in Hawaii County shrank from 91.2 to 57.9 thousand acres, a decrease of 37 percent. In the Hamakua region, sugar cane lands shrank from 59.5 to 45.1 thousand acres, a decrease of 24 percent. (Hawaiian Sugar Planters Association, various years)

In the Hamakua producing region, both Hamakua Sugar Company and Mauna Kea Agribusiness have suffered financial setbacks resulting from low yields. In 1988 Hamakua Sugar Company received a \$10 million low-interest loan from the Hawaii Department of Agriculture to offset cash flow shortfalls. By 1990, despite a downsizing in operations based on reductions in acreage and employment, cash flow did not improve sufficiently for the company to redeem its accumulated debt of \$90 million. The company at that time identified approximately 5,000 acres that it would sell in order to meet its financial obligations. In August 1992, Hamakua Sugar Company filed for Chapter 11 bankruptcy.

First Hawaiian Bank's loan to Hamakua Sugar Company's trustee has extended its life for another year, but the sugar company has practically ended its long-standing operation. Together with the expected closing of Hilo Coast Processing at the end of 1994, the Hamakua closing will cause 1,100 immediate unemployment and will have as yet undetermined but significant impact on the economy.

The longer term economic outlook for the nation and the state does not appear to be bright. The decade of the 90s is pictured to be very different than the 80s and is likely to be a "slow growth"

period, basically reflecting slow recovery of the global economy with which U.S. and Hawaii economies are largely connected.

Transition to Service Producing Economy

For both the State of Hawaii and the County of Hawaii, the structure of the economy has changed from that of a commodities producer to that of a services producer.

Table 4.4 shows the shift toward service production during the period from 1980 to 1991, using the distribution of civilian jobs by industry as an indicator.

For Hawaii County, the share of jobs representing contract construction and manufacturing fell from 12.6 percent in 1980 to 9.9 percent in 1991; agricultural job share fell from 16.1 percent in 1980 to 10.2 percent in 1991. Despite an increase in job counts in diversified agriculture, the service sectors of the County's economy grew significantly more over the decade.

The overall picture is similar for the State of Hawaii, with agriculture playing an even smaller role. Contract construction and manufacturing job share fell from 10.5 percent to 9.2 percent over the corresponding time period; agricultural share fell from 3.4 percent to 2.3 percent.

Need for Economic Adjustments

Agriculture, and especially sugar, has been the economic backbone of the Hamakua region in the County of Hawaii, molding a way of life for the rural families who live and work in the area. However, the sugar industry in Hawaii is rapidly disappearing. Elsewhere in the State, this contraction has been accompanied by the conversion of former sugar lands to alternative agricultural uses, and in some instances, to urban residential use, with differential economic effects. Hawaii County, particularly East Hawaii, will have to make long-term adjustments to the ever-changing and evolving economy. Although there is a wide range of possible agricultural products that can be grown in this region, the list is very short for those that can be produced at profit within a relatively short term horizon.

CHAPTER 5 ECONOMIC AND FISCAL IMPACTS

5.1 Economic Impacts

5.1.1 General Methodology

The economic impacts of the proposed resort development project utilizes the methodology of input-output analysis. Input-output models measure the cumulative effect of changes in final demand for goods and services on economic output, employment and household income, by quantitatively measuring the inter-relationships between various sectors in the economy. An increase in final demand for construction services, for example, would generate demand for the output of other sectors, such as the mining of aggregate material, the milling of lumber and wood products, the refining of diesel and gasoline, trucking and warehousing services, and intermediate output of the construction industry itself. An increase in demand for the output of these sectors, in turn, generates a round of new demand for the output of other sectors.

Multiplier values are typically used to estimate the total impact of a change in final demand. An output multiplier measures the effect of a \$1 change in final demand on total economic output; an income multiplier measures the effect of a \$1 change in final demand on total household income; an employment multiplier measures the effect of a newly-created job on total employment.

This study uses multipliers from the State of Hawaii Department of Business and Economic Development and Tourism's most current Input-Output model (1988) to estimate the impacts of the project. Direct impacts represent the initial expenditure or job creation; indirect impacts represent inter-industry purchasing effects; induced impacts represent household spending effects.

For the purposes of these analyses, it is assumed that construction of the project would begin in the latter part of 1994, with an opening of the resort targeted in the latter part of 1995. The current development plan envisions a total of 84 dwellings built. The Amanresort would have 36 bungalow units spread over 15 acres, and it would also include the Plantation Inn. Initial development of the 45 Residential Lots for would take place at the same time that Amanhideaway is built.

5.1.2 Employment Impacts

The Proposed Amanresort project generates three types of employment opportunities:

- o Direct Employment: jobs that are created by the project, such as permanent resort staff, resort workers such as maintenance crew, cooks, and the like.

Table 4.4
Jobs by Industry: Annual Averages For 1980 and 1991
Percent Distributions, and Average Percent Change

	1980		1991		Ave % Change
	Jobs	\$	Jobs	\$	
Hawaii County					
TOTAL JOBS	38,200	100.0	60,050	100.0	4.2
CONTRACT CONSTRUCTION	1,950	5.1	3,700	6.2	7.7
MANUFACTURING	2,850	7.5	2,250	3.7	-2.1
TRANS., COMM., UTILITIES	1,900	5.0	2,550	4.2	2.8
TRADE	7,000	18.3	13,050	21.7	5.9
FINANCE, INSURANCE & REAL ESTATE	1,200	3.1	2,400	4.0	6.6
SERVICES & MISCELLANEOUS	6,950	18.2	14,800	24.6	7.2
FEDERAL	600	1.6	800	1.3	2.8
STATE	4,100	10.7	6,250	10.4	3.9
LOCAL	1,800	4.7	2,050	3.4	1.2
AGRICULTURE	3,300	8.6	3,600	6.0	1.0
NON-AGR. SELF-EMPLOYED	3,550	9.3	6,050	10.1	5.2
AGRICULTURE SELF-EMPLOYED	2,850	7.5	2,550	4.2	-0.7
State of Hawaii					
TOTAL JOBS	448,300	100.0	591,250	100.0	2.6
CONTRACT CONSTRUCTION	23,950	5.3	33,500	5.7	3.8
MANUFACTURING	23,350	5.2	20,400	3.5	-1.2
TRANS., COMM., UTILITIES	31,200	7.0	43,350	7.3	3.1
TRADE	105,250	23.5	136,350	23.1	2.4
FINANCE, INSURANCE, & REAL ESTATE	32,850	7.3	37,550	6.4	1.2
SERVICES & MISCELLANEOUS	98,450	22.0	158,300	26.8	4.4
FEDERAL	30,000	6.7	34,000	5.8	1.2
STATE	45,150	10.1	60,250	10.2	2.7
LOCAL	13,900	3.1	14,750	2.5	0.6
AGRICULTURE	10,800	2.4	9,550	1.6	-1.1
NON-AGR. SELF-EMPLOYED	28,300	6.3	39,000	6.6	3.2
AGRICULTURE SELF-EMPLOYED	4,600	1.0	4,250	0.7	-0.4

Source: Hawaii State Department of Labor and Industrial Relations, Salary Force Data Book, as updated annually.

5.1.2.2 Employment During Operation

Direct Employment

The proposed operational employment is summarized in Table 5.1 and Table 5.2 below. The total of 101 full-time jobs would be generated from the operation of the Amanresort project.

It is estimated that 32 percent of these jobs are classified as management/salary class. The salary profile ranges from minimum wage to \$50,000 p.a. with average income of \$20,000 p.a.

Indirect and Induced Employment

Direct operational employment would generate additional employment both in the county and also elsewhere in the state. The indirect and induced employment multiplier for resort operation (basically dining, drinking and amusements sector) is estimated to be 0.9. This means that an additional 0.9 of full-time equivalent indirect and induced jobs is generated for each full-time employment in resort operations. Thus, indirect and induced operational employment can be expected to be 90 full-time equivalent positions during the operational period.

5.1.2.3 Employment During Construction Of Residential Lots

Construction of the Residential Lots also creates both direct and indirect/induced employment over the construction period. Table 5.2 shows that 75 direct jobs would occur when the homes are being built. In addition 156 jobs can occur as indirect/induced employment for the same period.

5.1.3 Income Impacts

Amanresort development at Kukuiahaele could be expected to have a positive impact on personal and household income for residents of the island and state. It is quite possible that business establishments both in Honokaa town or Waimea may realize benefits from visitor spending. How much business the new resort visitors in Kukuiahaele. Development would generate depends on a number of factors such as occupancy rate of the resort, spending pattern of the visitors and so on. Nevertheless, business would capture a share of both direct and indirect and induced income generated by the development.

- o Indirect Employment: jobs that are created as the development project begins to buy goods and services from local business entities.
- o Induced Employment: jobs created as the project-related employees begin to spend their money.

The project also creates employment in two phases: Short term employment during construction of the resort and long-term employment during operation of the resort.

5.1.2.1 Employment During Construction

Direct Employment

As noted above, the construction of Amanresort, required infrastructure, and on-site development for 45 residential lots would occur in the latter part of 1994 and continue into 1995. Direct employment is estimated based on the experience of comparable resort-related facility construction projects in the state. During the one-year construction phase, the project is expected to generate jobs for 81 persons, with an estimated construction payroll of \$3.83 million.

Indirect and Induced Employment

The direct employment of construction workers at the resort development would bring about the purchase of goods and services on the island and elsewhere in the state. The latest (1988) State DBEDT's input-output model calculates that 2.18 additional full-time jobs are generated for every full time job in the building industry and 1.77 additional jobs for every full-time job created in the infrastructure sector of the construction industry. As indicated in Table 5.1 the additional 157 jobs would be created as a result of these indirect and induced employment multipliers.

The proposed Aman Resort entails a relatively small-scale construction project and it is expected that the construction job generated by the project would be fully absorbed by the Hawaii County construction industry. However, the bulk of an additional 157 jobs created by indirect and induced employment may be captured by other islands, particularly by Oahu.

Total Employment

The total employment generated by the project during the construction period is estimated to be 238 person-years. As noted above, the county is expected to capture at least 81 direct employment and some fraction of the remaining 157 jobs created by indirect and induced employment.

Table 5.1
Projected Direct Employment for Facility Construction
(Person-Years)

Facility Type	Construction Cost (\$000)	Direct Employment
Bungalow and Other Hotel ¹	4,250	33
Infrastructure ²	6,529	33
Land Development ³	3,100	15
Residential Lots ⁴	11,250	75
Total Direct Employment		156
Indirect/Induced Multiplier⁵		
Hotel Construction	2.18	72
Infrastructure	1.77	85
Residential Lots	2.18	164
Total Indirect/Induced Employment		321
Total Payroll⁶	3,835	

Notes:
¹Direct construction job for hotel units is based on the average of one full time construction job generated for every \$150,000 spent to build at the site.

²Job generation for infrastructure construction is based on 0.7 jobs per \$150,000 spent.

³Based on construction of 45 units at \$250,000 per unit.

⁴Indirect and induced impact multiplier is based on 1988 State DBEDT's most recent input output model. It should also be noted that these multipliers reflect state-level impacts. County-level impacts are likely to be restricted primarily to direct impacts.

⁵The 1990 average weekly earnings of \$779/week, 50 weeks/year, extrapolated at 5 percent. (State of Hawaii 1991 Data Book, Table 357)

Table 5.2
Planned Employment at Amanresort

Operation	Number of Employment
Rooms	16
Food and Beverage	35
Minor Operations Department	10
General Administrative	22
Marketing	1
PO/EC (facility R&M)	17
Subtotal	101
Indirect and Induced Employment	90
Total	191

5.1.3.1 Direct, Indirect/Induced Income During Construction

Personal income is defined as wages and salaries paid to direct construction and operational employees at Amanresort. Household income is that which is generated as indirect/induced income.

Estimated construction expenditures for Amanresort is \$13.9 million. Upon completion, an output of \$13.9 million would be created and at the same time direct personal income of \$4.56 million would also be generated. This direct personal income would generate an additional \$4.57 million household income as the indirect/induced income. Thus, the combined total personal and household income (direct, indirect/induced) during the construction period can reach \$9.14 million, as shown in Table 5.3 below.

5.1.3.2 Direct, Indirect/Induced Income During Operation

Once Amanresort opens up it would continue to generate direct personal income for each year of operation. Table 5.3 summarizes direct, indirect/induced output and income by activities. For example, direct income from the first year of operation is estimated to be \$1.026 million. An additional \$1.1 million is expected to be generated as indirect/induced income. Thus for the first year the project could generate a total income of \$2.1 million. By year 2000, the total income from operation of Amanresort can reach \$5.9 million and \$7.6 million by year 2004 as shown in Table 5.3.

Table 5.3
Output and Income Impacts During Construction and Operation
(1993 Dollars)

Activities	Output Multiplier	(\$'000)			
		'94-'95	'95-'96	2000	2004
Amanresort Construction					
Direct		4,250	0		
Indirect & Induced	0.995	4,229	0		
Infr. Construction					
Direct		6,529	0		
Indirect & Induced	1.009	6,558	0		
Land Development					
Direct		3,100	0		
Indirect & Induced	1.009	3,128	0		
Resort Operation					
Direct		0	3,123	8,643	11,205
Indirect & Induced	1.073	0	3,351	9,274	12,023
Total Direct Expenditure		13,879	3,123	8,643	11,205
Total Direct Income		4,562	1,026	2,841	3,683
Total Indirect/Induced Expense		13,915	3,351	9,274	12,023
Total Indirect/Induced Income		4,573	1,101	3,048	3,952
Total Output Impact'		27,794	6,474	17,917	23,228
Total Income Impact'		9,136	2,287	5,889	7,635
Residential Lots					
Direct Output			3,750	3,750	3,750
Indirect/Induced	0.995		3,731	3,731	3,731
Total Output			7,481	7,481	7,481
Total Income			2,459	2,459	2,459

Uses income/output ratios from State of Hawaii Input-Output Model (1988).

It is assumed that 15 units of the Residential Lots would come on line every 5 years. This activity is expected to generate combined direct, indirect/induced output of \$7.48 million for each five-year period and result in income of \$2.46 million in each five-year span.

5.1.4 Summary of Economic Impacts

The economy of the County of Hawaii, and in particular that of the Hamakua region, would benefit from the development of the proposed Amanresort project at Kukuihaele. During construction approximately 81 direct jobs at site would be created, with an additional 157 indirect/induced jobs to support the construction activities.

During the construction period, approximately \$4.5 million in direct income would be generated, with an additional \$4.5 million in indirect and induced income that can also be generated within the State of Hawaii.

Once the resort is in operation it would create 101 permanent jobs, with an additional 90 direct/indirect jobs. Total new jobs for the State economy is estimated to be 190; total increased output for the State economy is estimated to be \$27.8 million. During the years of resort operation it is expected to generate a total annual income of \$2.1 million in 1995 to \$7.6 million in year 2004. The direct effects are expected to have primary impact on the economy of the County of Hawaii; the indirect and induced effects are expected to have broad impact on the state-wide economy.

The Aman Villa development is expected to contribute in creating 75 direct and 164 indirect/induced employment. This development would also generate \$7.3 million in direct and indirect/induced income over the construction period.

5.2 Fiscal Impacts

This section describes the expected fiscal impacts of the proposed development in terms of additional revenues and expenditures for the County of Hawaii and the State of Hawaii.

5.2.1 Methodology

The analysis separates the effects of construction from the effects of operation for the purpose of estimating revenues. State revenues, accruing from the construction phase, use estimated tax burdens and are based on the estimated value of construction. These revenue impacts are sensitive to the assumptions underlying construction value estimates. Likewise, county revenues accruing from property taxes on improvements to property are based on the estimated value of construction and are sensitive to the underlying assumptions.

State revenues from resort operation are conservative. These revenues are limited to the general excise tax receipts resulting from retail operations of the resort.

Table 5.4
Projected Revenue to the State from Construction
(1993 Dollars; \$000)

Tax Type	Rate (%)	Amount
Construction of Amanresort Hotel		
General Excise Tax	4.17	\$578.8
Excise Tax on Building		
Materials ¹	0.13	\$ 18.0
Conveyance Tax ²	0.05	\$ 6.9
Income Tax ³	3.40	\$110.0
Construction of Residential Lots		
General Excise Tax ¹	4.17	\$598.4
Excise Tax on Building		
Materials ¹	0.13	\$ 18.7
Conveyance Tax ²	0.05	\$ 7.2
Income Tax ³	3.40	\$312.3
Total Taxes/Construction		\$1,850.3

Notes:
¹John Zapotocky, Fiscal Impact Assessment, Manini'owali Residential Community EIS 1991.
²Income tax revenue based on direct, indirect/induced income with tax burden of 3.4 percent.
³Income tax revenue based on 45 units of Residential Lots at \$250,000 per unit.
⁴Income tax revenue based on direct, indirect/induced income from Residential Lots land improvements and construction with tax burden of 3.4 percent.

As indicated in Table 5.5 below, the annual excise tax revenues from the resort operation is estimated to be \$124,900. Annual tax revenues from primary residents is estimated to be \$598,400. Annual state excise tax revenue from visitors, who are assumed to pay income and other taxes elsewhere, is estimated to be \$265,500. The total state tax revenue from operation is \$931,900.

In addition, during the operational phase of the development, part-time and full-time employees would pay income taxes, excise taxes, inheritance tax and other taxes. The visitors would be paying excise tax on their expenditure.

Increased resident and visitor populations resulting from the project would create fiscal impacts at both the State and County levels. It is assumed that net increase of resort population is the result of expected permanent residents who would occupy the 45 home-site development. It is assumed that of the 45 home sites, 10 would be permanent residences and the balance would be second or vacation homes.

It is further assumed that no net population in-migration to the study area nor to other areas of the County and to the State would occur directly as a result of the Amanresort project.

For residents, the analysis uses an average revenue and cost approach to estimate fiscal impacts. For visitors the analysis uses a modified average revenue and cost approach with visitor expenditure data from the Hawaii Visitors Bureau and visitor-sensitive components of State and County operating budgets.

Per capita estimates of revenue contain all sources of revenue, including taxes, user fees and other sources. These revenues are roughly proportional to population and income, and the average revenue approach produces results which are neither aggressive nor conservative. At the State level, revenues are mitigated to the extent that new residents of the project are already residents of the State. At the County level, revenues are mitigated to the extent that new residents of the project are already residents of the County. The analysis uses these average estimates for full-time residents of the project, assumed to be 25 percent of the project population.

Per capita estimates of expenditure estimates contain all expenditures including operations, maintenance, debt service, and cash capital expenditures. These estimates are likely to be conservative because the average cost approach does not account for economies of scale in the production of government services.

5.2.2 State Fiscal Impacts

Tax revenue during the construction phase of the project is expected to result from general excise tax on direct cost of construction, excise tax on building material, conveyance tax, and income tax. The total tax revenue to the state from construction of Amanhideaway hotel is estimated to be \$913,700. As Aman Villa homes are being constructed this, too, would generate similar tax revenues to the state amounting to additional \$936,600 as indicated in Table 5.4. The total construction related tax revenue is \$1,850,300.

Table 5.5
Projected Annual Revenues to the State
From Operation of Amanresort

Source	Amount
Operation/Excise Tax ¹	\$124.9
On Resort Residents	
General Excise Tax ²	\$120.2
Income Tax ³	\$330.6
Other Tax ⁴	\$147.6
Visitors	
General Excise Tax ¹	\$265.5
Income Tax	0
Other Tax	0
Total State Revenue/Operation	\$988.8

Notes:
¹Based on Amanresort total revenue at 4 percent tax rate.
²Based on average annual income generation of \$5.21 million from resort employment and \$0.8 million from 10 permanent residents from residential lots with estimated tax burden of 2 percent.
³Based on average annual income generation of \$5.21 million from resort employment and \$0.8 million from residential lots development with estimated tax burden of 5.5 percent. It is expected that there would be 27.5 permanent residence equivalent development at the 45-home development site. Ultimate increase in population of 86 persons and 10 income-earning permanent residents are assumed.
⁴Based on 2.25 percent on average annual income tax generation (Tax Foundation of Hawaii, Government in Hawaii 1991).
⁵Based on 19,787 visitor days with average daily expenditure of \$500 at 4 percent tax burden less item (1) above (Visitor Expenditure Survey 1991).

As is shown in Table 5.6 below, annual state expenditures for primary residents in Hawaii is \$340,044 or \$3,954 per person and for visitors is \$46,440 or \$860 per visitor. The total annual expenditure attributable to the proposed Amanresort project is \$386,484 as shown in Table 5.7.

Table 5.6
State of Hawaii Operating Expenditures¹

	Total	Per Resident	Per Visitor
General Government	\$ 331,005,886	\$ 299	0
Public Safety	\$ 131,689,766	\$ 119	\$119
Highways	\$ 79,841,432	\$ 72	\$ 72
Natural Resources	\$ 45,750,104	\$ 41	\$ 41
Health & Sanitation	\$ 186,316,810	\$ 168	\$168
Hospitals & Institutions	\$ 167,947,449	\$ 152	0
Public Welfare	\$ 474,658,760	\$ 428	0
Education	\$1,122,513,037	\$1,013	0
Recreation	\$ 43,950,676	\$ 40	\$ 40
Utilities & Other			
Enterprises	\$ 212,061,969	\$ 191	0
Debt Service	\$ 272,820,336	\$ 246	0
Retirement & Pension	\$ 71,299,611	\$ 64	0
Employee's Health & Hospital Insurance	\$ 1,013,474	\$ 1	0
Unemployment Compensation	\$ 47,845,711	\$ 43	0
Grants in aid to Counties	\$ 73,471,454	\$ 66	\$ 66
Urban Redevelopment & Housing	\$ 321,005,449	\$ 290	0
Miscellaneous	\$ 87,479,422	\$ 79	0
Cash Capital Improvements	\$ 303,833,695	\$ 274	\$274
Total	\$3,974,505,041	\$3,586	\$780
Adjusted Total (1992\$)	1,108,229	\$3,954	\$860
1990 Resident Population	1,108,229		

Source: Tax Foundation of Hawaii, 1991 Government in Hawaii, Table 35.

Table 5.7
Projected Annual State Expenditure
Due to Amanresort
(1993 Dollars)

Population	Number
On Resort Visitor ¹	54
Residents, Net Change	86
Expenditure	
On Resort Visitor ²	\$ 46,440
Residents	\$340,044
Total Expenditure	\$386,484

Source: Tax Foundation of Hawaii 1991.

Notes:
¹Average occupancy rate of 69.5 percent, average two persons per room, 39 rooms.
²\$860 per person state expenditure.

The net fiscal revenue and expenditure for the state due to the development of Amanresort is summarized in Table 5.8 below. The estimated annual revenues are \$988,800 and the annual expenditures are \$386,484, resulting in a net increase of revenue of \$602,316. Revenue/expenditure ratio is 2.6. In addition, the state realizes a one-time construction-related revenue of \$914,000.

Table 5.8
State Government Annual Revenue and Expenditure
Due to Amanresort
(1993 Dollars)

New Annual Revenue	\$988,800
New Annual Expenditure	\$386,484
Net Additional Annual Revenues	\$602,316
Revenue/Expenditure Ratio	2.6
One-Time Additional Revenue from Construction	\$914,000

5.2.3 County Fiscal Impacts

The expected county revenue is generated primarily from the property tax levied on the new Amanresort facilities, including 45 home development lots. The real property tax schedule indicates that all lands except unimproved residential lots are taxed at \$10 per \$1,000 of assessed value, whereas \$8.50 per \$1,000 of assessed

value is taxed for buildings and improvements. The unimproved residential lots are taxed at \$8.50 per \$1,000 of assessed value.

Table 5.9 summarizes the projected annual County tax revenue from the Amanresort development. The hotel facilities would generate \$38,250 annually. Other improvements such as lodge, swimming pool, tennis court, community improvements, water and sewage improvements would generate an additional \$65,290. Improved residential lots are expected to result in a revenue of \$128,775, including buildings that are expected to come on line over the project life. Other county tax revenues from such sources as liquid fuel tax, motor vehicle weight tax, utility franchise tax, and other fees that result from new residents to the county are estimated to be \$36,034. The total annual revenue from real property tax is estimated to be \$268,349.

Table 5.9
Projected County Tax Revenue From Amanresort Development
(1993 Dollars)

Source of Tax Revenue	Amount
Hotel ¹	\$ 38,250
Other Facilities ²	\$ 65,290
Improved Residential Lots ³	\$128,775
Other Taxes ⁴	\$ 36,034
Total	\$268,349

Notes:
¹Based on estimated value of \$108,974 per room for 39 rooms, including Plantation Inn and a combined land and building tax rate of \$9 per \$1,000 of assessed value.
²Other improvements valued at \$6.529 million taxed at \$10 per \$1,000 of assessed value.

³45 units of homes with land value of \$100,000 and improvements of \$250,000 each. Total of \$15.75 million less \$0.6 million residential exemption (assuming 10 such exemptions) at \$8.50 per \$1000 of assessed value.

⁴Assumes \$419 per resident based on county revenues, excluding real property.

The annual county expenditure for residents is \$69,746, or \$811 per resident (see Table 5.10). The county also spends \$27,594 or an average of \$511 per visitor per year. Total annual expenditures that would be incurred by the County government attributable to Amanresort development is summarized in Table 5.10. As a result, the total annual County government expenditure on account of Amanresort is \$97,340.

Table 5.10
Projected Annual County Expenditure
Due to Amanresort Development

Population	Number
On Resort Visitor ¹	54
Residents, Net Change	86
Expenditure	
On Resort Visitor ¹	\$27,594
Residents	\$69,746
Total Expenditure	\$97,340

Notes:
¹Average occupancy rate of 69.5 percent, average two persons per room, 39 rooms.
²\$811 per resident and \$511 per visitor expenditures by county.

Comparison of County revenue and expenditure is recapitulated in Table 5.12. The County's annual revenue is \$268,349 and its expenditure is \$97,340. The net fiscal benefit to the County in the form of additional revenue is \$171,009. The ratio of revenue and expenditure is 2.76.

Table 5.11
County of Hawaii Operating Expenditures, 1990¹

	Total	Per Resident	Per Visitor
General Government	\$12,648,854	\$105	0
Public Safety	\$36,100,476	\$300	\$300
Highways	\$6,009,315	\$50	\$50
Health & Sanitation	\$4,851,235	\$40	\$40
Public Welfare	\$3,304,777	\$27	0
Public Schools	\$250,229	\$2	0
Recreation	\$7,219,110	\$60	\$60
Interest	\$5,083,110	\$42	0
Bond Redemption	\$3,022,000	\$25	0
Pension & Retirement	\$5,969,467	\$50	0
Mass Transit	\$489,617	\$4	\$4
Miscellaneous	\$2,457,295	\$20	0
Cash Capital Improvements	\$1,067,000	\$9	\$9
Total	\$88,472,485	\$735	\$463
Adjusted Total (1992\$)	120,317	\$811	\$511
1990 Resident Population			

Source: Tax Foundation of Hawaii, 1991 Government in Hawaii, Table JB.

Table 5.12
County Government Annual Revenue and Expenditure
(1993 Dollars)

New Revenues	\$268,349
New Expenditures	\$97,340
Net Additional Revenue	\$171,009
Ratio of Revenue/Expenditure	2.76

5.2.4 Summary of Fiscal Impacts

The development of the Amanresort project at Kukuihaele would be fiscally beneficial for both the State of Hawaii and the County of Hawaii, providing additional annual revenues of \$1.25 million. Using a conservative method of estimating cost per visitor, net income to the State and County amounts to \$0.77 million per year.

The State would also realize tax revenue from construction activities in the amount of \$1,850,900.

CHAPTER 6 SUMMARY EVALUATION OF IMPACTS AND MITIGATION

The purpose of this brief chapter is to summarize concisely the socioeconomic impacts and associated mitigation measures discussed in previous chapters. Each impact that was judged a genuine concern during the analysis in this report is considered here. The reader is referred to previous chapters for in-depth discussion of these impacts.

6.1 Significant Impacts

Several impacts associated with the proposed project may be reasonable judged to meet the definitions of "significant" in the sense of Chapter 343, HRS, and Title 11, Chapter 200 of the Hawaii Administrative Rules.

Title 11, Chapter 200, Section 12 includes among other criteria of significance the following:

- (4) Substantially affects the economic or social welfare of the community or State;
- (6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

The proposed project has the potential to increase the population of Kukuhaele 75%, from 315 to approximately 550 residents. Whether this impact should be judged as adverse or beneficial, however, is a matter of opinion in a community of diverse opinions. This impact is not mitigable because it is an essential component of the proposed project. Secondary impacts involving public facilities would be mitigated by a combination of the community benefit package (e.g., recreational facilities) and county and state requirements (e.g., roads and water system upgrades).

It should also be noted that a population increase of at least this magnitude could also be achieved through simple subdivision of the land in accordance with existing zoning.

A second significant impact is the potential contribution to the economy of Kukuhaele, Hamakua, and the County of Hawaii. Once the resort is in operation it would create 101 permanent jobs and an additional 90 direct/indirect jobs, yielding a total increased output in the State economy of approximately \$27.8 million over its operating period. In addition, net annual fiscal revenues of over \$0.77 million would be generated by the resort for the County and State (after consideration of per-visitor expenditures made by these governments). Although these figures may seem modest when considering the total state economy, they are very significant in the context of the economy of Kukuhaele and Hamakua. Furthermore, the property tax trust fund proposed by the developer will shield

residents from negative, indirect impacts of this economic boost. Considering all these factors, the economic and fiscal impacts of the proposed project are significant and beneficial.

6.2 Summary of Other Impacts

Rural Lifestyle

Many of the concerns related to degradation of the rural lifestyle are mitigated by the design and theme of the resort. It is unlikely that a one-story, well-landscaped hotel of 36 rooms hidden on a large parcel accessed by a single, small road will constitute a major intrusion. Also, the "blend with nature" theme of Aman Resorts, which seeks out and attempts to preserve local cultures and natural landscapes, is as ideally suited as any resort hotel can be to maintaining the rural atmosphere of Kukuhaele.

Specific concerns related to cemetery expansions and residents' use of the developers' land appear to be easily mitigable using the provisions of the Developer's Letter of Commitment.

The aspect of the project least compatible with preservation of the existing atmosphere of Kukuhaele is the Residential Lots component. Even with strict enforcement of architectural and landscaping covenants promised by the developers, these units have the potential to be obtrusive.

The issue of the perceived identity and style of Kukuhaele village and the Hamakua District, along with potential value conflicts between locals and hotel guests/newcomers, may continue to be troubling to certain individuals living in or near the community.

Nevertheless, it must be recognized that the rural lifestyle of Kukuhaele might be impacted independently of the hotel. If, as is assumed in Alternative 3, subdivision of the subject property proceeds in accordance with existing zoning, the greater densities and smaller lots might produce a less "rural" atmosphere than in the full-project scenario. Only if the land remains vacant (Alternative 2) will Kukuhaele be preserved precisely as it is. Even then, subdivision of adjacent Hamakua Sugar lands might bring about higher densities in the future.

Socioeconomic/Ethnic Change

The proposed project will introduce new residents whose background will be quite different from the existing community. Whether this impact will be enriching and broadening or a source of conflict depends upon the individuals involved.

Property Tax

The creation of a trust fund by the developer, as provided in the Developer's Letter of Commitment, can mitigate this impact completely.

Social Impacts of Employment

Viewed in the context of the Hamakua District, with its legions of unemployed plantation workers and no alternative employment, the jobs entailed in the proposed project are undoubtedly welcome. Many of the positions at the Aman Resort, including maintenance and landscaping, require skills that are readily transferrable from plantation work. Furthermore, the resort will probably employ graduates of Honokaa High School who will probably find it difficult to obtain local employment. Construction and indirect jobs will also provide benefits to region.

It is still unclear to what extent current residents of Kukuiahaele will directly benefit from new employment opportunities. It is likely that many of those who help build the hotel and Residential Lots and work in the hotel will be from Honokaa and other surrounding towns.

Some training will be necessary to prepare both former plantation workers and young employees for the hotel jobs. It appears that given coordination between the existing government programs and the practices of Aman Resorts itself, this training can easily be accomplished. It is also expected that satisfaction with jobs at the Aman Resort will be high, in keeping with that of the visitor industry in general and small, Aman-style hotel in particular.

Recreational Impacts

The community package offered as part of the Developer's Letter of Commitment, which includes upgrades to the Social Hall and construction of a swimming pool, a playground and other amenities, is an important community benefit.

The only potentially adverse recreational impact is the addition of visitors to an already "stressed" Waipio Valley. Although this project would likely add less than 5% to the existing number of visitors, the valley is currently over-capacity. This impact can be controlled by sensitive consultation of the developer with the Waipio Task Force, the shuttle companies and the appropriate state and county agencies.

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ATTACHMENT A KEY INFORMANTS

Barbara Dart:	Paauilo resident and District Supervisor (Hakalau to Waikoloa) for Hawaii County Economic Opportunity Council (HCEOC) for the last 25 years.
Kevin Bilag:	President of the Hamakua Business Association, owner of local construction and trucking company, and Paauilo Resident.
Clyde Imada:	Officer at Pioneer Federal Savings and Loan and representative of Hamakua District Development Council, who was raised in Kukuhaele and is currently a resident of Honokaa. He visited Aman Dari in Bali.
Debbie Duldulao:	Property owner in Waipio whose husband is from Kukuhaele; she works for HCEOC.
Reynolds Kamakawiwoole:	Policeman, Honokaa resident, and president of the Hawaiian Civic Club of Hamakua.
John Keppeler	First Deputy, Hawaii State Department of Land and Natural Resources.
Jitsuo Nishida	Native of Kukuhaele living in Hilo.
Mildred Oshiro	Lifelong Kukuhaele resident and former postmistress.
Gladys Ablao	Kukuhaele native living in Waikoloa. Employee of Waipio Valley Shuttle and Tours.
Bob Impsen	Kukuhaele resident and owner of Last Chance Store.
Steve Strauss	Land Use attorney, community activist and resident of Kaalaea (near Laupahoehoe).
Hidemi Miyasaki	Kukuhaele resident and former plantation supervisory employee.

ATTACHMENT B
TRANSCRIPT OF PUBLIC MEETING HELD IN KUKIHAELE,
AUGUST 26, 1993

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[Faint, illegible text from a transcript, possibly including names and dates.]



AMANRESORT PUBLIC MEETINGS

Ron Terry:

First of all, welcome and thank you for coming. I know we are going to have people drifting in a little later, but I'm glad to see we've already got a real good turnout. I want to first of all explain who we are and why we're here. I think there probably is some confusion as to exactly what we are doing at this meeting. We are a social impact assessment team. We are contracted as part of an environmental impact statement on the Amanresort. We are an objective and impartial group of individuals as we can be and we are here tonight to collect public input, and I've got some illustrative materials here to get going with, but first of all let me introduce our team. Myself, my name is Ron Terry and I'm from Hilo, and I'm a consultant in environmental impact work. That's what I do full-time. We have with us also Roy Takemoto. Roy is the main consultant in charge of the Environmental Impact Statement. Helping on the Social Impact Assessment is Elton Okinaka. Dr. Okinaka is a sociologist originally from Honolulu now at the University of Hawaii at Hilo. And also assisting are Russ Rapoza. Russ is a local boy with a masters in sociology from Purdue and he has a consulting practice as well in addition to duties at the University, and also Jasmine Paresa. Jasmine, would you please stand up? Jasmine will be assisting us tonight as well. Okay, let me get started right away by showing you this information on the flip charts. Those of you way in back, that's why I said try to move up, but I guess it's kind of hard to see, I hope you can read some of this. Anyway, I'll go through it.

What is Social Impact Assessment? First of all, it's part of an Environmental Impact Statement. An Environmental Impact Statement is required by state law when certain conditions occur, and this condition is the Amanresort with require a general plan amendment to the county general plan. And for this reason, an environmental impact statement is required under state law, and an Environmental Impact Statement must be objective and impartial. It is not a public relations exercise and I know that there have been EIS's in the past that didn't meet that requirement, and if they don't meet that requirement and if ours doesn't, I welcome you to challenge it. We are doing an objective and impartial job as much as we can. We need your help. Social Impact Assessment is about people impacts, impacts on people as distinct from physical or biological impacts. Okay, social impacts distinct from physical or biological impacts. Uh, we will also be addressing physical and biological impacts as part of this statement, but the main reason for this meeting here tonight is to get a handle on social impacts.

The bottom line of an EIS is who benefits and who loses, what are the desirable effects or outcomes of a proposed action, what effects are undesirable of a proposed action, and how can these undesirable effects be reduced or eliminated. I want to stress the fact that an Environmental Impact Statement is a disclosure document.

Okay, it's to disclose and uncover information. An Environmental Impact Statement does not make a decision one way or the other. It brings out information that the public and government agencies can use to help them decide what they should do, and so a good EIS brings out all the information it can.

What can we accomplish tonight? Well, first of all, we can review the project concept. We have maps, diagrams and other material here that can help you understand the project, and we have someone who is going to explain it. Well secondly, we can identify issues and concerns and we can encourage an open discussion of your thoughts, feelings, opinions, concerns about the project, both positive and negative. Third, we can contribute ideas to improve the project. Fourth, create a dialogue for future interaction. We plan to have another meeting of our Social Impact Assessment Team with the community, and we want you to help us structure that meeting. We also want you to help us identify other people and organizations who may want to contribute their view points to this Social Impact Assessment. They may not all be here tonight. We want to know about them.

So tonight's meeting, what's the format. First of all, we have an introduction, kind of boring, but it's almost over. Then we have a project concept presentation and Roy Takemoto is going to do that tonight because he's very familiar with the details of the project. Then we are going to have a short question and answer period on the project facts, and I say facts here. This is where you ask information of Roy about, you know, exactly how big is it going to be, how many rooms, where is it going to be, that sort of thing - factual things. Then we are going to take a ten-minute break, and at that time you might want to come up and look at the exhibits for a little, and when we get back together again we are going to have an open comment period. And that's when it's time to voice your thoughts and concerns. I have some rules I's like everyone to follow so we can have an orderly meeting and everyone can be heard and that is first of all, please limit your comments to five minutes per person. If everyone has spoken by the end of our meeting and you have more to say, take another five minutes. Also, when you come up to the mike, please state your name so that we know who is speaking, okay. We are recording this, and this will be part of a transcript that will be included in the Environmental Impact Statement, so we need to know who you are and what you want to say. Also, in your comments I would appreciate it if you try to state them in a positive way. In other words, what we don't want is attacks on other people in this room or out of this room. We want to hear your opinion, but we should not attack others opinions because we want a free and open dialogue. We don't want to have a situation where people are afraid to say what they want to say because of what someone else will say, so try to be as candid as possible. And at the end of all this, for those who are interested, we'll have a round table, or maybe more like a square table discussion of the future meeting, where we want to do it, how we want to do it, who we want to have there, okay? So, thank you very much. Without further alicut, Roy is here to explain the details of the project.

Roy Takemitsu:

I will be explaining the project following the fax sheet. Do all of you have a fax sheet? If you don't, there is some outside. Raise your hand and someone can distribute a copy to you. So follow along on the fax sheet and also can you see this? Okay, what is Amanresort? You folks have a history here of projects being proposed to you that we're not part of. We're not too aware of what's gone on before. This is a totally new project. Later on I will explain who is Amanresort, but right now let me just explain the project as it is today, okay. I know a previous proposal was something like 200 hotel units. This one is very different. Amanresort consists of three component. The first component is the hotel. The hotel is in this area. Just to give you an orientation of how a guest would get to the hotel. This is the turn-off through Kukuihaele, the broken bridge. The present proposal is to take the guests, let them feel the community of Kukuihaele going down this road. Take the road by the Roman Catholic Church and enter here right to the lobby, and then there are 36 units and there's a restaurant, meeting room, library, other things that comprise a very low scale hotel.

The second component is Aman Hideaway. That's the plantation manager's house that would be preserved and renovated into four suites. It will be kind of like a bed and breakfast operation. All the landscaping at the plantation manager's house will be preserved as it is and maintained.

Third component is Aman Villas. Aman Villas is 45 lots, and these lots are spread out in this area by the Roman Catholic Church near the county cemetery and a little bit here between the plantation manager's house and the social hall right in here. So that basically is the plan of the Amanresort.

The supporting facilities, the water, waste water, roads, etc. are in the process of being worked out in detail. Presently, there will be road improvements, but to what extent, that's where we need to hear your input. Water, there will be probably a new well or something like that developed to give Kukuihaele Water System more capacity. Waste water would be a private treatment plant serving the hotel and septic tanks serving the individual lots. But the main benefits to you folks, you are here thinking what is there for us? The community benefits as presently proposed. You know, whatever I state tonight is not set in stone. That's what we are here for, so now is the time to express your ideas. The design can change. This is early enough in the project. The community benefits anyway include expansion of this social hall into an improved social hall and recreation center. What exactly that looks like, that's where we need your input or the developer needs your input to design that facility. What he proposes is for the guests and the residents to share that facility. I'll get into that later.

Another community benefit is to improve the existing Kukuihaele Park and the developer will also maintain that park. Another benefit, mainly for employees of the resort, would be housing or rental housing behind Tiger Camp. So that's the project. Now you may wonder how this project differs from other resorts on this island. That's where you need to understand Amanresorts. There's a folder behind Ron that you can take a look during the break that shows some examples of Amanresorts in other places around the world. The formula that makes Amanresorts so successful, in fact, there's an article in that folder that shows one of the Aman resorts ranked in the top ten in the world, but what makes Amanresort special from the other resorts on this island, basically there are four things, and these are the objectives that I have listed under the project description on the fax sheet.

1. Maintain a low-key presence. This will not be like Waikoloa Resort, you know, with a big sign that says, "Here is Kukuihaele." The Amanresorts likes to stay, you know, real low-key. The sign will be just a simple sign. If you didn't know Amanresorts was here you would probably drive right past the sign. Besides a low-key entrance, by low-key, they also want one-story buildings. You know, everything is set down into the environment. Nothing big hotels like Mauna Kea multi-story or anything like that.
2. Another objective is to design the facilities to blend with the natural surroundings. Now, what does that mean? In this case, it means the rolling contours like at the point there where the Amanresort is proposed, it's kind of a sloped area. What they propose is not to alter that land form too much. They want to just design the unit so that it fits in with the existing contours. Another means to design with a natural surroundings is the color of the buildings. They want everything to blend with the natural colors, you know, browns, greens, things like that. And a lot of landscaping.
3. A third objective is to maintain the rural feeling of Kukuihaele. This especially is what kind of makes Amanresort different. Some of you, a few of you may have been lucky to be sent to Bali, Indonesia, to visit on the Amanresorts there, and they will tell you that that resort kind of, one of the features is how it features the local culture. They hire local with good intentions. They want the guests to interact with the local people and that adds to the guests' experiences. So in this case the developer came here, looked at Kukuihaele, and said, "This is it!" And why they picked Kukuihaele, I'm not too sure. It must be because of the ruralness here - your chickens, your pigs, your dogs, that all should stay because that's why the developer probably picked Kukuihaele to give the guests this kind of rural experience in Hawaii.
4. The fourth objective is to integrate with the community. That's something, I don't know if that happens in any other resort in Hawaii, where the hotel operator deliberately tries to bring the guests in touch with the community.

Usually the locals are kind of second-class citizens, but in this case, you are one of the reasons, one of the attractions which the guests will come and experience at this resort. If you are nasty or give them stink, then probably they won't return. But on the other hand, that's why the developer wants to work with the community so that you accept his project. Be a part of that experience and give the guests that aloha spirit that they are trying to capture here at their resort which is a big reason why they decided to share this social hall and recreation center.

Now who is Amanresort? Let me back up a little bit. The developers of this project are two entities - Royal Coast and Silverlinks, and Silverlinks is just another name for Amanresort. Amanresort is a hotel operator. They don't just develop the hotel, sell it and run away. They develop the hotel, stay and they operate it. So that's what kind of makes Amanresort different from all the projects that may have been brought before you in the past. Amanresort currently has ten other resorts world-wide, and like I mentioned before, one of them was in the top ten, the one in Thailand.

Time Table. What are we talking about in terms of implementing this project? The EIS which we are engaged in now is targeted for completion by the end of this year. Throughout that process we will be inviting comments from the community and anybody who wants to be heard on this project. A lot of you may not want to come up and speak tonight. That's fine. Come to us between the breaks, after meetings call me at home. My contact, my number is on the fax sheet. Write letters to us. We want to hear, we want your input. So anyway, the EIS is targeted for completion by the end of this year. There are three other permits that also need to be utilized for this project. Ron mentioned the General Plan Amendment. A second one is the State Land Use District Boundary Amendment where some of the lands which are currently zoned agriculture would need to be reclassified to urban. A third permit is County rezoning. Now the target date to obtain those permits is May of next year. Now, if the project is successful in getting those permits by May of next year, they shift gears to full speed in designing the project and that would take roughly six months. So by the end of 1994 is when they plan to start construction. Construction would take about one year, so the projected opening date of the hotel would be the end of 1995. However, job training will occur probably a year before the hotel opens sometime next year, the middle or latter part of next year is when job training will begin. I believe the plantation phases out some time next year so the timing may be perfect to just slide into the job opportunities for this project. So, anyway, that's all I've got. Any questions?

Christopher Rathbun:

I had a couple of questions that I wanted to ask. My name is Christopher Rathbun. I'm Treasurer of the Wai Kukuhaele Community Association. I also happen to be one of the people that was sent over to the Amanresort in Bali. Do you have any

kind of firm architectural plan about what the hotel is going to look like, or has that been considered yet?

Roy:

Basically, a project like this goes through about three phases in design. There's a conceptual schematic phase, that's phase one. Then there's design development where they go into more detail. That's phase two. Then there's construction documents which is phase three where they go into really great detail. This project is at ground level - phase one - conceptual schematic design, so all we have at this stage is the site plan, and some of those renderings there give you an idea of what the guest units would look like and a cutaway and elevation of the building.

Christopher Rathbun:

Well, I guess the reason I'm asking is because we went to the Aman Dari, like you say, it blended completely into the community. I mean, you could hear the pigs grunting on the other side of the wall and stuff and it was really amazing how you could stand right there and not even know that it was there. It just looked like the rest of the community. But then we went across the Aman to the Aman Kea and it was like, you know, the ultimate nightmare of what an ugly resort can look like as far as I was concerned, you know. So as far as, you know, getting the community to accept the idea of putting a resort here, I think a big part of that would be to give them a good idea of what exactly it's going to look like, because, you know, how it appears, it's going to have a real big impact, I'm sure. The other question I was wondering is how attached are you to the time schedule that you've set out there because...

Roy:

That's one of the few things that's hard to change. We are very locked in to that.

Christopher Rathbun:

Locked into the time schedule. Because that was one of the points that they made with the Aman Dari. They spent twelve years negotiating with the community as far as getting all the little details worked out, and I look at that and it looks like we have nine months at the outside before you intend to get your permits, and it's maybe going to be a little bit harder to work out the details in that amount of time.

Roy:

Well, I don't know how much we can do about the schedule, but between us here we are at your disposal to get as much as quickly your concerns as possible, so we do our best under those constraints.

You can move up. If you want to speak, you can just line up or something.

Merle Toleda:

My name is Merle Toleda. I'd like to hear what our councilman has to say first.

Councilman:

Good evening. Thanks Merle. I was expecting this. As far as I can recall, we had one briefing about this project that was some time last year. And I also had a few things to say, and it's only because I wanted to make it clear for one thing at that time to the community that this proposed project was not in any way connected with Hamakua Sugar Company, and I think that was made clear tonight. When Eugene McCain who is one of the principals in this project first got involved with Hamakua Sugar Company, and that was that he was principally in charge of marketing the lands so that Hamakua Sugar Company would be able to continue its operations, and then we found that because of the original attempt to sell the land was not successful at that time. It's simply because what they were trying to sell were agriculturally-zoned lands in huge parcels. So at that time, I'd like to go through this to give you a history of where we came from and why we are here now.

At that time, the state and the county jointly decided to get together and see if they could look at certain lands from the entire Hamakua Coast and provide for zoning which would enhance the value of those lands. And this is something that most of you were a part of when we went through the reviewing process and the process of drafting the so-called Regional Plan. We know that the focus of that plan was Waipio Valley because the obviously this land if given the proper zoning would truly enhance its value, and because it's a valuable place near a beautiful place that if so, the lands here alone would have brought enough returns to enable the Sugar Company to continue operating. And the basic reasons why the Regional Plan was drafted and adopted was only to provide jobs and continue providing jobs for Hamakua Sugar Company workers. That was the primary reason. And through the negotiations to the drafting of the plan that's when I really got to know Mr. McCain because being one of those who was in charge of the marketing aspects, he had to come and speak to those who were involved and who would ultimately be making the decisions. So in our discussions because it was going to be a large project. And when we speak of community benefit assessments, he in some ways committed for one thing: one of the community benefit assessments was to continue this Highway 290 up to Mudlane

Road and connect up at Mudlane. That's one of those, and the Regional Plan on this also suggested that Hamakua Sugar Company or the bank provide for 18 acres of land at Honakaa adjacent to Honakaa School for future expansion to provide land also along side Mamalahoa Highway above the transfer station a site for future building of a fire station. Over here we provided for a solid waste transfer station. It provided for these lands here which are leased by its present owners to be deeded in fee to those who are presently on it and to also provide the lands in fee to those along Tiger Camp in Kona Camp and to those homes at the park site that the Christensons, Takamulus and Aleyres to also have those lands which they are using now which was previously used by them for gardening or for whatever uses, and at that time the company said you can use it as long as you need. So because of that kind of arrangement, it was decided that all of these would be deeded in fee to those who own the land. And it was also agreed that the park would be expanded and a new community center would be built and that the graveyard expansions in the bottom part of the highway, the county graveyard and Japanese graveyard, would also be expanded and this was a request of the community. The community had a great deal of input into all of these discussions. When you come down to the more detailed development of the plan at that time it was suggested that the resulting traffic be routed away from the existing roadway and that access to whatever resort development would be at a different point. The main reason is that they didn't want to see traffic traverse on this village road because of its narrowness. And they also agreed that they would widen it and provide for bikeway and jogging so all of that was agreed upon. And upon that basis the community along the entire coast felt that in lieu of the fact that jobs would continue, a trade-off such as this could be accepted, and I know there were differences of opinions by many people. But at that point they agreed with it. Even I for one in the very beginning when this very proposal was briefed across me, I told them look, basically what we've been looking at is visiting destination areas primarily located along the south Kohala coast, and that's where the concentration has been, but only because of the need to have our sugar company continue did I consent and participate in this. Unfortunately, things did not materialize as we wished it would have. And at that point when Mr. McCain sensed that things were not going that way he approached me and asked me of my opinion about the manager's house and certain other lands that he could probably get in return for his service. And I said, all we need to see is a conceptual plan or something that we can look at and make a determination. That's where we left off at that time and he came back from time to time with additional information because I believe he had to work with his other partner, Mr. Zecha in trying to put some kind of working arrangement together and see the investments that they will be making. And when he finally started to have some indication that this would be a good project, he then came to the community association. Conceptually, I told him because of the jobs that could be provided, let's take a look at it. I can see that it may be good for the community. I told him my concerns at the time, and in fact, even during the original planning of the resort here, he indicated that he'd provide beach access. In fact, down at cement pier where we all are familiar with where we used to go fishing, he suggested that he

could put up a pavilion and a picnic area for people who go fishing. And he mentioned that and then during these discussions, you know, I told him, look, the previous attempt by the Hamakua Sugar Company and the bank to rezone this area included a real property tax package. In fact, we negotiated with Hamakua Sugar Company at that time because the whole community would be enveloped with tourism development it would sure be an increase of evaluation of the property. And because of that valuation, a real property tax would be so high that people would not be able to pay for it. In fact, the demographics show the majority of the people living here are already pensioned and that was our concern. So what we did was to have them to commit to put monies into a trust fund so that as they develop and the real property tax increased, the trust fund would address the increase in real property taxes that you folks had to pay. In fact, the trust fund would be paying the additional tax that you folks would be leveled with should this resort be built. That was all agreed upon at that time. So when he talked to me I told him about the same concern. I told him about some of the commitments he made in which I would expect him to adhere to. And he said he consented and he said we can leave this for further discussion and negotiations at a later date. But finally I told him, you know, because of the nature and the situation that is involved now, because it will no longer address the very intent that we had when we drafted the original plan. My support would only be on the contingency that the community would support it and that's the commitment I gave him. And to be honest with you folks, I would support the project only if the community would extend its same support. So, we are looking at this as a positive way. I think Ron said clearly that they are open, and if you people feel that it is something that you'd like to further explore, and if you think that things weren't addressed, or that should be addressed because this is just preliminary, sit down with them and talk to them and express your concerns. And at the very end if you still feel that you folks can hardly support it, then so be it.

Now, I'm open for any questions. Jim.

Jim:

Is this area here (inaudible)? How do you feel? I mean, I..

Councilman:

It's borders are from Paauilo extending until the northern boundary of Waipio Valley, so just on the, you know, the zigzag road, that whole cliff. That's how I interpret that.

Jim:

If we're talking about rezoning agri. land, how do you feel about that?

Councilman:

Well, let me tell you the sentiments expressed in the council is that, because there was some individuals who mentioned the fact that this was in the making and it was no secret because it was already published. And then some of the council individuals, even I said that, look, we understand that certain applications have been submitted. We will have to consider that project and any other project that may come in on its merits and see what, well basically on its merits. And notwithstanding the fact that the resolution has been passed. The resolution I have to remind you folks is not a law. It's just a statement of facts and making a statement. It does not have a cause and effect of law unless you have an ordinance. So, but the farming community development council was the actual sponsors of the resolution. And as I stated again in the other meeting, I was a conduit in which that came about. My staff worked on it and then that came about. Any further questions?

Jim:

The ordinance is still in effect (inaudible) 3-tax key.

Councilman:

No, it's not. The mayor submitted an ordinance to the council and it's still held in abeyance. I'm, some of us are trying to see if we can get that up for consideration and have it adopted. It will have a blanket effect on the entire island. It will freeze property taxes I think in 1990 or 1991 level.

Jim:

(Inaudible).

Councilman:

Which one is that?

Jim:

(Inaudible).

Councilman:

But, basically that's where that text...

Jim:

He's talking about some ten-year assessment, you know.

Councilman:

That's a different measure. That's in effect already.

Jim:

(Inaudible).

Councilman:

Yeah, that's in effect already.

Jim:

(Inaudible).

Councilman:

Yeah, that's in effect. You can still do it.

Jim:

(Inaudible).

Councilman:

Yeah, well that's really no big problem. But the thing is, after every ten years it's left for review and you got to reapply, and when you reapply after every tenth year they come in there and appraise your land. If that is the one, then that's what it says. You know, after ten years, the first ten years okay. You pay low tax. Then all of the developments come in. Your property escalates in value. Then at the tenth year when you got to renew that exemption they come in and reappraise your property and it will be on the prevailing evaluation so every tenth year you see an increase in your property. The measure that the mayor submitted to the council is the one that we want to see, but some people basically can't accept the results of what actually would, how that would be applied and they contend it's not fair. Larry.

Larry:

So the assessment on the taxes, you said every ten years they reassessed it. The price will go up if you have a resort coming and your taxes go up, how would that work as far as, you know, down the road if you want to dedicate up to your family. Is that also reassessed the value also? You know, if you give it to your children.

Councilman:

It does not cover that situation. We're looking at a way at which we can provide for exemptions in which let's say, for instance, a couple owns a home and then to some unfortunate circumstance, they go through a divorce. You know, then you have to divide that estate, you know. So we'd like to make it so they cover that kind of situation. We'd like to make it so that you can cover those who are elderly in which the one that's going to be in the home, okay. So if you transfer ownership in the sixth or seventh year, you got to go all the way back to the first year to pay the back taxes. It's like an ag. dedication measure. David.

David Caccia:

Since this is being recorded, we are going to have people come up to the mike to give their questions. Otherwise, we might not be picking it up at all.

Councilman:

David Caccia, the main use I understand that we want to make of the sugar company lands is diversified agriculture, and I guess any resort, no matter how well designed it is, is going to be a signal to land speculators that this land is going to be only for resorts, and as soon as land prices go up, then you can't afford to be a farmer. So, you know, diversified agriculture is only going to work if land prices stay low enough that a guy can afford ten acres and then plant whatever and make a profit on it. That's my main concern. You know, it looks like a great resort, but it's a resort and what it does to land prices is just going to ruin agriculture.

I'd like to find out if we have any more questions for Br--(inaudible) here. Thank you very much councilman.

Larry Miller:

Thank you Taka. My name is Larry Miller. I'm the vice-president of the Waipio Kukuhaele at Lahanalike Community Association which is the same if anybody comes up and says Waipio Kukuhaele Community Association. So, the question on the resort I had was you stated that the entrance would come down this road between the social hall and the store. That would be the main entrance into the resort. Okay.

And that is true, okay. And we'll all say trucks and maintenance, you know, delivery trucks use that same route. Yes, they will use the same route. What will be the entrance to the manager's home? Will it be the same route?

Roy:

Will it be the same route? Yes.

Larry Miller:

Yeah, by the store, up to the manager's home. So the houses that are going to be developed Aman Villa, will that be the same entrance?

Roy:

Right.

Larry Miller:

Past the store...

Roy:

Uh-huh. One, two, three, four, five, six units.

Larry Miller:

Yeah, six, okay. So, how will you develop an entrance? Will it be the same entrance to the affordable houses then, or will that come out the main highway?

Roy:

That has not been designed.

Larry Miller:

Oh, I see.

Roy:

I'm not sure if the State would allow access from this highway.

Larry Miller:

Okay, so that possibly could come the entrance, also. And so everybody in this camp is going to get a lot of traffic past the store, okay.

Roy:

No traffic, then they have no, but we have retained a traffic engineer who will be studying the traffic.

Larry Miller:

Could you explain to me your relationship with Eugene McCain and Amanresort? Who pays you and that kind, I mean, are you being paid by Amanresort?

Roy:

We are like any private project in Hawaii. The EIS is funded by the applicant in this case. Aman Silverlinks (inaudible) Coast, yes.

Larry Miller:

Okay, and you are in charge of that EIS, is that correct?

Roy:

Right. I am...

Larry Miller:

You're the leader of the...

Roy:

Right, I'm the lead consultant for the EIS.

Larry Miller:

Okay, thank you very much.

Jim Kane:

Hello, my name is Jim Kane. I live in Waijio. I must say for objective folks you do a pretty good job of PIT. And the reason I say that is all the little graphs and things

I've seen, I see all these positive things being put forth, but there is no question on whether or not the people here really want to see any resort at all. You know, I'd much rather see something like a poi factory there instead of all these houses and resorts. The question that I have is access into Waipio and what is the ultimate goal of the resort? About a month and a half ago I happened to be at the River Mouth in Waipio at the beach with my family and Eugene McCain was there. And we got to talking and he mentioned he had plans of a horse trail ride down the access road into Waipio for access for his guests into the valley. Has this been mentioned? You know, I'd like to know what the status is on this plan.

Roy:

(Inaudible).

Jim Kaug:

Eugene McCain told it to me himself.

Roy:

If that is a real proposal, then we need to disclose it in the EIS and then you have an opportunity to comment, and if that's something that you are concerned about, then that's something that they should probably reconsider.

Pam Katcha:

Hi, I'm Pam Katcha from the Honakaa area, and I just was curious, what is the largest acreage that Amanresorts has at their other locations?

Roy:

I can't answer that question. I wish I was able to go to all the others, but I don't know.

Pam Katcha:

Yeah, I noticed on your paper that you say this particular one is approximately 113 acres?

Roy:

113 acres, yes.

Pam Katcha:

Yeah, is there a possibility down the road that they will also purchase other adjoining property or properties nearby and continue developing this resort?

Roy:

Um, that I wouldn't know. That's something that in subsequent meetings with the developer (inaudible) in our Amanresorts you can raise that question. If that's the concern that you have about future expansion, we need to identify that in the EIS, and if there's ways that we can mitigate it or control it some how, then we need to work with you to try to flush out those ideas.

Pam Katcha:

Yeah, I would be concerned about this also setting a precedent that once this is established that other developers will also try to buy tracts of land even if it isn't by Amanresorts, and this will definitely change the community. My husband and I came out of a community that was rural and developers came in and the entire community lost its history, it lost every meaning that it had. And the newcomers just went out to work, came back in their homes and could care less about the community. So Kukuhaele is a special place as is this whole area, and you know, I think all us are just concerned, you know, what will happen.

Joseph Badalona:

Alola everybody. I'm Joseph Badalona from Waipio Valley. Now I'm at Kukuhaele. You know, last year we had some development come over here, and we had a lot of people that came in more than a crowd. I know we are concerned about people that, you know, on the job. You know, on the last year subject we had we had we were talking about the road because we were concerned about our guys. Like our guys, we, I'm over 72 years old and I saw one of the trad__ over here in the Kukuhaele Community, Hanalike Cloud. You know, supposing these developments come out. Is there going to be a safety for everybody, because now, you know, over here in Kukuhaele a lot of problem. It would be a safety that for everybody. The reason why I ask this because, you know, right now we live in Kukuhaele, we have peace, we have no problem, and I think, I don't know how long we're going to last because I know we have the future of our children. But, you see the point is supposing this development come on. Right now I live at Tiger Camp. Tiger Camp at least we can see where they get blast onto Hilo, whether they get lot of cane or what. The only point we consider, tonight I'm going to come here for this meeting and I'm going to say something because when we were down here, nothing was getting involved, we don't see anything that has been built up. Anyone in Waipio are going to be, really know that tourism, I know the tourist doesn't make trouble with

Yeah, and also like Taka, everything he said before they going to in fee simple the people the land. Is that still on from the last meeting. You know, everything was concerned about the guys living at Tiger Camp, yeah. The fee simple area. Is that still on, or what's happening with that? Mr. Alegre, Mr. Takemoto? Also, I have this letter from the engineer which we have this drainage problem, and did the engineer talk to you?

Roy:
I saw the letter.

Myron Kidani:
Okay, I want it to be addressed because of the flooding situation that might occur with the Amanresort such as this, and...

Roy:
That particular situation if they allow it to develop they will address that.

Myron Kidani:
Okay. That's why I just wanted the letter to make sure that the people in that area which is us and us guys over there are protected.

Roy:
And another thing, when you said about those lands in fee. The last time I talked to him, and I think that's the last time we had a meeting in here, as far as I know he was going to commit, he committed to giving all those to the owners all the way from the Christensons, Takamotos, Alegres and whatever lands they want. That's my understanding, and if it was presented to me that way if the support is there that is something that we got to write into the ordinance.

Myron Kidani:
Okay, and we got to address all the animals and whatever yet. And I might think of something else. Hopefully, it will be a biased sort of thing which you guys can all, unbiased, yes. Gee, I used the wrong word, but hopefully it is the wrong word. Thank you very much.

us. But the point is, all we are asking for is the future of the old people like us guys. You know, today we have a lot of young guys. You know, I can go more than ten minutes to talk five minutes, but how safe is these developments can protect and how safety is the guarantee that jobs going to be for the people just in case Hamakua Sugar Company may fold up. Because, you know, I want to entertain that Mauna Kea be shut down. Really seldom there's people come in. Not every time. Rarely seldom though. Now, supposing the people doesn't come on, how guaranteed they are going to support the people on the job. May God bless you all.

Roy:
Let me just make sure I got that. So your concerns were the guarantee of jobs and safety. By safety mean the traffic or crime?

Joseph B.:
Traffic.

Roy:
Traffic, okay.

Myron Kidani:

My name is Myron Kidani. I live, that's me right over there. The closest, almost the closest. I think Ron _____ is a little bit more close than me to this resort or whatever it is. First of all, I'd like to say that being that he brought out that you guys working for Mr. McCain in development, how you guys can be biased to this project being an EIS? That's one question you can answer later. Another thing is we want to bring out that this area is not part of the plantation land; in the first project it was brought it's Catholic Church land, right. The first project, I think, wasn't even included in this, you know, thing. And now all of a sudden the plantation is still going down and then they are taking over this side of the land. One other thing is, uh, just as was mentioned to Mr. Terry. Animals, like you say, in the resort area they have all kind of animals running around, and like everybody got dog, I got chickens, maybe some guys got pigs. But like you say, we in the RS designation, right? Well, yeah. Okay, we in the RS designation, we, like you say, we not supposed to even have animals. Now the ambience, or whatever you call them, of this rule area is we all have animals. So how, like when people come in and the resort like this comes up, what they going to say? Okay, you got animals, you not supposed to have animals. That's one thing you have to address. You know, we got all dogs and lot of. You saw one tonight; you got to shoot him, eh? Okay.

Roy:

Okay, I'm not sure if we're kind of getting into the broader issues beyond the project description. And according to Ron's schedule we're going to have a break. I don't know if you folks want a break now, then we'll come back and concerns that will be raised can be recorded. If you folks don't want a break, you want to go on and finish early, it's fine with us, too.

Jim Hunt:

My name's Jim Hunt and I live here. Actually, I really don't want anything to do with this thing. I don't want to see it happen here at all, but I'll ask a particular question anyway because I worked on this thing for quite a while before. When we were working trying to represent the community's interests before on developing plans we had a cut-de-sac up here by Tiger Camp and we had traffic coming down, where is it? Right here, and then people would go on out to Tiger Camp from here. Nobody would be going through there. There's lots of kids in there, and we specifically designed it so that there would be no traffic impact in that area. Now you've got the main thing going right by there again. I don't think that's a good idea at all. And water, with the big development, we came up with major wells being drilled way up mauka just below the forest reserve to get good clean water. And all that water was going to be brought on down and service everything. I know Mr. McCain's lands that he got out of his little deal that he worked out don't go up very high and he's talking about drilling some well, and I don't see how he's going to avoid drilling them in the same water table that our present water system is working off of right now. And my understanding is that that water system is maxed out already, and I don't really understand how he intends to get water any place else that's going to be from another source and not put our water supply in jeopardy. So that's just two pertinent questions to this that I wanted to throw out right now. Thanks.

Roy:

Okay, we'll be. Yeah. Okay. I was just going to respond to them, or should I, maybe just give me the questions. I'm writing it down and after the break I'll get your questions and then we can get to Mr. Hunt's questions. You want to raise a question and we just write it down, respond after the break?

Kurt Von der Heyden:

My name is Kurt Von der Heyden. I live in Kapulena. I design houses among other things. I notice you've got the affordable housing jammed up there on the highway and the expensive all in a nicer area. How locked into that are you? Well, I expect

that, but it pisses me off, okay. That's just a design question, I mean really a specific thing. They are strung out in a line along the road. There's many, many ways to design affordable housing. I mean, some of the villages you see all over the world, they don't cost much but they have a different design approach and I wonder how open you would be to a different approach than that one. You know, stripping them along the highway, okay?

Roy:

I'm sure any ideas, you being a builder, and all these emerging ideas about town development and community that that site plan can be improved.

Larry Miller:

Larry Miller. Sorry, I just had two more questions. Do know the cost per night of the hotel units?

Roy:

That I'm not sure, but if it's based, if it's similar to what you see in those other brochures, Thailand, Indonesia, U.S. dollars, I think, was \$300 to \$500 a night.

Larry Miller:

Okay, and what are the cost of the villas, what will the cost of the land and a single villa be?

Roy:

That I don't know at all.

Larry Miller:

Okay.

Roy:

Let's take a break.

Christopher Rathbun:

This is Chris Rathbun, again. I had three more questions about the actual facts about the proposed Amanresort. My first question concerned the Aman Villas. I noticed that they're kind of drawn in on the plan as, you know, certain. I was wondering,

are they going to be built by Amanresorts, or are you just going to sell the lots and the people are going to build whatever they please on the lots.

Roy:

On Aman Villas. Aman Villas, the 45 lots will sold fee simple. However, there will be very strict covenants that will require the owner to design to the resort's standards. If you design any other covenants to protect concerns that you may have, then you should raise them and we can suggest that those also be incorporated as covenants.

Christopher Rathbun:

Another very important question since I'm a Waipio resident is about visibility from Waipio of the resort and of the various houses during the Hamakua Master Plan, we went to great lengths to assure that nothing would be visible from anywhere in Waipio, and I'm wondering if the same care is being taken with this resort.

Roy: One section of the EIS would be scenic resources impact assessment. What we hope to do there, it's kind of the state of the art is still developing, but what we are going to try to do is get a photographer to shoot pictures back from Waipio Valley, different places in Waipio Valley - the beach, maybe further in towards further inland, and shoot back towards the villas and towards the resort and have like red flags the height of the buildings. So it the reds flags show up in the photograph, then you know it can be seen. If they don't, then it's likely that it won't. And also, we will try and have someone kind of sketch in into the photograph at scale the building as it's being proposed.

Christopher Rathbun:

My final question concerns the social hall here. The community uses this constantly, you know. It's like a really valuable resource to us, and most people that I've talked to seem to like it just the way it is. What exactly are your plans for the social hall?

Roy:

That, I understand, is completely open. That's one area that definitely the community should have maximum input. As far as how we deal with it in the EIS, we can definitely identify that as a concern that the community wants that input, and if you can suggest specific ways that you want to provide that input whether you want meetings, at certain stages we can also go into that type of detail. But, at this point all we can do as EIS consultants is document the value that this social hall has, and if you want to keep it as is we can also state that. But if you have more definite ideas as far as how you want to redesign it, we can also include those alternatives.

Christopher Rathbun:

I think basically what I was trying to bring up is just the historical value of this building itself. Thank you very much.

Roy:

Okay, answers time. Animals. I'll answer this question first. Animals. We by just speaking off the top of my head how we can address that in the EIS. The objective is not for you to discontinue what you're doing now. If the problem is that on the current only rules you are not supposed to do that, but you are doing it now, then maybe what we need to do to insure that you can continue using it is maybe going for a rural-type zoning, rezoning, or some other zoning that would allow you that type of use. And if that's something you want to pursue, then that's a rezoning action that can take place separately. Or if you want to throw it in with this action, you know, maybe we should talk about that. Don't be shy.

Russell Rapoza:

Okay, those of you who I went around during the break and talked to you and I did write a bunch of stuff down, now you may want to speak up. We can get it down on a official charts and on tape so you be sure that I got it down, okay? Thank you.

Doug Genova:

My name is Doug Genova. I'm from the John Eno Kanekoa family of Waipio Valley. Basically what I want to say is that I'm in opposition of this development. The reason is if you look at the design plan that you've shown us tonight, just by the sheer size of what you are talking about, you are actually going to change this village. You are going to change it. You will not be able to control the traffic. I cannot see tourists only using one or two roads. They are going to use every road that's available here. You are also going to increase the value of the land which in the future is going to mean that the people that are here today will not be able to afford to live here in the future. I think that if the developer really has concern for the community, for the village, and wants to see it preserved in this way, then they should move the development to another site. There is a lot of land in the Hamakua Coast, and I think that for the future of the whole area here which includes Waipio Valley that we should preserve it in this way and that I have no objection personally against resorts. I used to work for resorts in the past. However, I just, again I think it's in the wrong location. It will definitely change this community and a question that we have to ask ourselves is, do we care enough for this village the way it is, or are we going to allow it to just disappear with a whole new village. Thank you.

Myron Kidani:

This is Myron Kidani again. I wanted to address the issue of the helicopter issue with helicopters riding around, and they're using the ballpark actually. And I talked to George Euchia about this and the landing of the DLNR guys or the scientists use them. But I told them this park here is a park no matter whether it's unused, designated unused, but shouldn't be a heli-pad for the people, DLNR guys. But they're still using them anyway. He used to call me and tell me they come on a certain day, but lately he forgets, I think, cause I see the helicopter still landing. Also Mr. Badalona had to go home and he asked me to bring up the cemetery issue whether more land was going to be given to the cemetery.

Roy:

Which one, the county, or the...

Myron Kidani:

The county, or I'm not sure which one he mentioned, but he said if I could bring that up. I think Mr. McCain I guess maybe he said they was going to give some more land or, you know, for the cemetery, and what I asked where treatment plant going to be located. It's not shown on that map you have, yeah, because of the wind situation we have. Oh, I addressed that earlier thing about the berm, and then we got a letter and Taka knows about the problem which we are having about the ditch they dig behind Mr. Christenson's place here and all the water coming down to Haru's place. So I addressed that to Taka already and so I go think some more. Thank you.

Merle Lekukile:

I'm Randy Lekukile, resident. I have two questions. Do you folks have the lease on the land yet, or you folks purchase it?

Roy:

About one-third is already in the name of Royal Coast and Silverlink and the balance is being leased already from Roman Catholic Church.

Merle Lekukile:

The next question I want to keep this place in _____ (inaudible). Thank you.

Bob Impson:

Hi, I'm Bob Impson. I have the Last Chance store across the street. Not to really get into specifics on the project, but I think we have two general problems that need to be addressed. One is I don't think that everybody realizes what's going to happen when the million dollar payroll is gone per monthly payroll. I think you're going to see the bank with fewer workers, the grocery store with fewer workers, and you are going to see small businesses boarded up like Kohala was. So that is the problem that needs solving. Now whether this solves it or not is another question that should be addressed. The second problem we have here is Royal Coast and Silverlink own this property as Merle just asked, and they lease with an option to buy that property. Now what happens if this resort doesn't go through. We now have property that cannot be controlled by us and they can do basically what they want to with it. It's zoned 7500 sq. ft. residential up here. They don't have to give us the social hall; they own it. They can have houses at the plantation location, the plantation house. They can put a house every 7500 sq. feet because it's zoned that way. Whether they do it or they sell it so somebody else, that's a potential. And we have destroyed a landmark there. They can sell the land at the Catholic Church and somebody can go down there on the bluff as we have had over the last few years where a number of houses were built on the bluff with no control whatsoever from us. I mean, they have the right, they can build a farm house there and farm if they want to, but they can do what they want to and they can build what they want to without any control, which came up, from us. At least on a project we have some control, and that's what we should be exercising exactly what we want it to be if we want it. Otherwise, we are just a big question mark. Thanks.

Larry Miller:

So I just got a bunch of paperwork, and I need to be back here. My name is Larry Miller. Again, I'm the vice-president of the Waipio Kukuhiacle Hanalike Community Association, and what I would like to begin with is that we have conducted over the past three years three separate surveys on resort development in this area. The first one was conducted by Chris Rathbun who did a survey of all the landowners in Waipio - 132 landowners - and got a 65% return, or no, I got a 57%, 43% return on it. One of the questions is, "Do you think resort development is appropriate above Waipio?" which would be this area. 16% yes, 72% no, 12% not sure. We conducted a community association on the last Hamakua development proposal, Hamakua Regional Plan, in 1991, and we also did a survey. "Do you feel resort development is appropriate above Waipio?" Yes - 20%, no - 63%, not sure - 17%. We just conducted a survey in the spring of this year with exactly the same results. In this last survey, we wrote down what this development is, which hasn't changed very much at all besides a couple of words. They used to call them one million dollar houses, and now they call them villas. So, "Are you in favor of this proposed resort in Kukuhiacle?" Yes - 18%, No - 75%. So with that, our statement as of

right now from the community association is, we of the members of the Waipio Kukuiaele Hanalei Community Association believe a very viable alternative to resort development in Kukuiaele would be: A) Keep the area in agriculture. This would be more in keeping with the rural lifestyle, the Hamakua area which is a vital part with identity of the Big Island. We are agricultural people, i.e., taro farmers, sugar plantation workers, flower and vegetable farmers; again, we are farmers. B) A play factory in Kukuiaele. This would be a more appropriate use of the area and provide needed employment. C) That the State is a part of their settlement from the \$10,000.00 loan to Hamakua Sugar should acquire the buffer zone as it currently exists in the Hamakua Regional Plan under room of Waipio Valley. I'll give you all this information.

And now for my personal comment. That was the community association. July of 1992 the county came up with this draft report on the County of Hawaii Agricultural Development Plan. Now there is five pages of different groups which participated in this. There was 50 or 60 different farming groups alone plus participants in all these meetings all over this island. One of the main objectives that they got out of all this and wrote this nice green book about was that the goals, visions, strategies, objectives and plans of action to keep agriculture as a viable future in this area. The County of Hawaii agriculture character should be preserved because of its importance to local lifestyles and the tourism industry. Strategies: The key is major role in agriculture is to protect land suitable for agriculture from conversion to non-agricultural land uses.

Now, objectives and a plan of action. Land use availability objectives. The land use system that defines prime agricultural land and protects that prime agricultural land from non-agricultural uses such as golf course and urban development. A land use system which directs golf course and urban development to areas unsuitable and inappropriate for agriculture. That's what this is. This is an agricultural area. The main problem all over the world, and where I'm from on the mainland, it's the same story. I grew up working on farms from the time I could walk, and there isn't a farmer left there because development came in and priced the farmer out. He could not afford to live there. We're talking about the same thing here. We do not know what is going to happen with Hamakua Sugar yet. The county is sending a very strong signal to keep it in ag. so that could be a very viable alternative, keeping it in ag. Thank you very much.

Joycie Badua:

My name is Joycie Badua and I'm a resident and a landowner of Kukuiaele. My family lived here for three generations. In fact, I lived on the same property with my grandma and grandpa and with my mom and me and my husband. My family and I are not for the development because first we would like to remain in ag. My family now consists of ten goats, three dogs, two chickens and everything else that comes in our yard, but we really enjoy our animals, and I can see it because I lived on Oahu.

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After awhile, you cannot even own a chicken, after awhile not even a dog and we do live in the country and we need these animals. Another thing, your development looks really good, seems like you did work a lot into it. But no matter how much trees you put you can develop all you want, put pongalos, put whatever and hide it with lot of bushes, a lot of flowers, palagonias and trees. It doesn't matter because when tax time rolls around it affects us. I really know that for a fact because I just appealed my land tax and they couldn't help me because everybody builds around me, even built in Honokaa so they cannot help me with my tax. I'm caught between a rock and a hot spot.

In our community, going to Tiger Camp, you're lucky if you have four houses that people go out and work. So with Kona Camp, you're really lucky if you have this many families that go out and work. Most of the houses, everybody is retired. When you are retired you have a tax break; you taxes are low. Some is maybe only \$25.00. When these people die, most of them will go to their children. Now, how can their children afford to live here? They will not be able to afford to live here. That is really God's truth. After awhile, even how nice your resort is, none of us will be able to live here. That means the whole Kukuiaele will be gone, and I mean gone. The reason we're not going to be here, we can't afford it taxwise and otherwise. Socially, it will be so, it's not like home any more. My husband works for a hotel away from here and he drives to work like 50 miles each way every day, and I know other people do to. But they don't mind driving cause when they come home you're at home. You're in the country; it's peaceful. Someone said it's better to work 40-50 miles away and come home and you're at peace instead of walking down the hill when you come home you're still looking at your job.

Okay, you spoke to us; I got the feeling like we're just renters. We're just passing by. But most of us here in this room, we're landowners and we own the land that we live on and we are very much concerned about what happens around us. We're not passing through. Most of us, this is all we have and this is where we want to live, we want to work, we don't want to develop, we just want to live in peace and farm and just die here. So development is not our way of, how would say, advancing. At this stage we more want to be at peace instead of getting rich. Like some people would get really rich with this project, and that's not our goal. Our goal is really to live a peaceful life.

Ron Terry:

That was pretty eloquent. Do we have some more comments here. Okay, come on up please.

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Margaret Loo:

My name is Margaret Loo and I have property at Tiger Camp. The reason I'm here is because I'd like to go on record should the resort go through that we the residents of Tiger Camp would like to have the promise that was given to us that the property in the back of us would be given to us and not taken away because according to your plan there the affordable homes will be directly in the back of Tiger Camp and some of our boundaries are pinned and we are using the property beyond the pin. And according to your plan there you would be having affordable homes in the back of us and we would like to go on record that we would like to have continued use of the property or give it to us upon your surveying, give it to us in black and white through a deed. We would also like to go on record that at the last meeting we had that we attended at the plantation manager's home on the tax for our property we understood there's two different ways that we understood it that we were talking about it in the back there. One is that we understood that for ten years we would have a tax exemption on the property and we would pay according to the assessment that was given to us by the county. Upon our selling of the property, then we would have to pay the back taxes of the property. Say for example on the sixth or whatever year between the tenth year that if we would sell the property, then we would have to pay the taxes from back one because we were not being assessed the full value of the property. The other way that the, some of the members in our community understand is that the tax would be that we would not have to pay the back taxes if we were selling within the, from the tenth, before the tenth year, we would not have to pay taxes unless we would sell it above the value that we are being assessed. Say, for example, if we are being assessed by the county at \$80,000, then we would be paying taxes on that because we have exemption. But then, if we were to sell our properties say, for about \$120,000, then they would, the person that brought this up to me said that then we would have to pay the additional taxes above the \$80,000 which would come a profit of \$40,000 and not go back to year one. And so this is what we'd like to have cleared up at this time, or if at a later time. So this is what we'd like to go on record. And according to this, I've read everything in here and I understand that the Amanresort already have owned one-third of the resort property that they plan. They also have the lease and the option to purchase the property because I worked at Church. This is what it has in here. I am in favor of the resort because I worked at the resort area for seventeen years, and believe you me, the people that come to the hotels, they like to see how the local people live. I invited many of them on trips into Waipio, I invited many of the guests that were in the hotel to different luau's, and it's a different feeling for them altogether. I've had friends that had invited a guest into their homes to see how local people live, and if according to what the plan is that they will not eliminate or do away with our lifestyle, then I say we should go ahead with the resort. Yes, it's true that the plantation will not be sure whether they are going to succeed after they harvest all the cane that's in. We don't know what's going to happen, and we'd like agriculture to continue, but then we'd also like to have jobs for our people when they come out. And according to this plan, jobs will

be available. And like any other resort area, any hotel, they always have training periods and this will be good for them. Many of them that work in the plantation will be able to work in this different resort, and I would like to see the plantation people be given first preference to these jobs that will be available upon the resort being completed or going forth. So there are a lot of people in the community that are for this resort, but like some of them, do not want the main traffic coming from down Tiger Camp into this area over here. What we understand was the road was going to be between Tiger Camp and Kora Camp going down to the old plantation road down to the mill. That's what we thought it was going to be further down. So with that in mind, then that would eliminate the heavy traffic coming through our town over here. And then, like I told Roy, we'd also like it to go down on record about the Catholic Church, I was the one that brought that up about the cemetery, because I have all my family buried at the Catholic Cemetery. Right now it's dark, but one of these days you should all try to go down there to the cemetery and see how the road is. I'm sure that if the resort goes through the road will be opened up and we would be able to go down there more often. But as it is right now it is an eyesore the way the road is. But I asked between the Catholic Church and the Catholic Cemetery to have that portion there continued for the cemetery. And likewise, I also asked about the county section to continue to have that portion there for the county cemetery. So I'd like to say that there are some people who are against it, some people are for it, but I think like Bob said, it's food for thought for us to see because you people owned this area right here right now as it is and some other areas that we are leasing from, so this is all I have to say.

Ron Terry:

I think your questions about the tax should be taken up with Mr. Domingo here. We were referring to it earlier and the county is right now deliberating on tax proposals to relieve people throughout the county of the problem of assessments going up and tax rates going up. So while the resort may make the problem worse, it's actually something that's happening everywhere. And I hope that the county does respond to it.

Kia Franda:

My name is Kia Franda and my ohana comes from Waipio. We are descendants of Ni'ole, high chief Ni'ole from Waipio who took care of Kamehameha. I'm a resident of Waipio and I am the acting president of the Waipio Community Association. Kukuhaele means moving light. Waipio means water, but it also means the water that starts and it moves up and it comes back down again and it goes into a complete circle. That is the rain that comes down and it seeps through the soil. The water that comes out of the ground, the spring water that goes into the taro patch, then it goes into the rivers out into the ocean and the process starts over again. And each one of you have that in you. Egg in this area is important. Food is what feed us. Water is

what feeds the ground. We are talking about an area that is the goose, and that goose lays the golden egg. The resort will kill the goose that laid a golden egg.

Ben Badur:

My name is Ben Badur. I'm usually seen and not heard, but tonight I got to say something. I'm totally against the resort. We have resorts down in the Kohala Coast and I'm working for one of them and Margaret said that, yeah, we going to have jobs over here. True, but right now the hotels and the resorts are so slow that a lot of people are getting laid off or on call and we don't need that over here. Build some place else.

Jim Hunt:

Hi, Jim Hunt again. I thought it would be nice out of curiosity to find out how many people here are against this resort proposal, and if we could get a count we could put that into the record. Is that alright with you?

Ron Terry:

Fine.

Jim Hunt:

Could we get a raise of hands how many of you here are against this resort proposal?

Ron Terry:

Can I clarify, this is against the resort unconditionally no matter whether it gets changed or modified in any way.

Jim Hunt:

Hold your hand up. I got 34, and there's...how many of you are for it or not sure? 4 are not sure, well, I know, I know, but at least four or five, okay. Just to have it on record. Well, wait. You had your chance and you can come back up again.

Unknown lady's voice:

We have some people out of state, (rest inaudible).

Jim Hunt:

Yeah, this is not like going to make the decision in any way, shape or form, but I just thought it would be nice to get an idea. I didn't know myself, and I was curious to know.

Bob Impson:

Well, all it really tells us is who's here tonight. That's all it can really tell us.

Jim Hunt:

Okay, a couple of things. Jobs, on the survey that we did I was involved with about 45 homes here in town, and out of those 45 homes, three people said they might be interested in working for the hotel. And what that told me is, is that the majority of the people who would be working here are not going to be from here. And their probably from Honokaa. They are going to be displaced workers from the sugar company or whatever. My feeling is, if you look at this, this thing is taking over two-thirds of our town at least. Why do we need to be burdened by this for the sake of people who are going to be working here from some place else? If that's the case, let them take this whole thing and move it down the coast somewhere where it's not going to affect us. Why should it affect us? It was fine when it was going to save Hamakua Sugar. There was a good reason there. We were willing to make sacrifices. Now, there's no good reason for it that I can see.

I was in Bali. I was the first guy sent over there. Free trip, sure why not. And while I was there, Eugene McCain came over and we hung out together. I've known him for 15 years, and he was negotiating with the bank trying to get this deal set up here. And part of the deal behind all of this is that he and Brian Sharp Construction Company up in Waimea would be marketing and building all these homes. That's built into the contracts. When you buy your million dollar house, how many of you out here are going to be buying million dollar homes by the way? Anyway, you sign on to get Brian Sharp Construction Company building your home and Eugene McCain is going to market it and get his commission. Guess who's going to get two free lots and sit up here and live happily ever selling land and building homes? These guys have this whole thing set up for their lives for to be profitable. They may or may not stay and at what cost? It's been said before, we're not going to be here in five or ten years. We won't be able to afford it, and yet they'll be fat and happy. And it's really not fair and we don't deserve it, I don't think, at all.

The jobs we do need, Larry was going to say something about the buffer zone. I think the state should have taken over the manager's home. When they had the chance they should have made it into a Hawaiian cultural preserve center, hired some people, and maybe even Hamakua Sugar, all the different history all you folks know,

preserve it and display it here and make it something of a community resource that we can all be proud of and hire some people to run it and participate in it. Get the buffer zone and put in some bike paths and hiking trails and run tours and hire some people there, too. Outdoor things, you know. Maybe run some ag. things up in there, too, as demonstration dry land taro patches, or you know, that the tourists how sweet potatoes and dry land taro were grown by the Hawaiians and still could be. These kinds of things. The resort, if we get something like that in here, it's going to be an open door to more of that same kind of thing, and this whole lifestyle here that is so precious and so beautiful is going to be gone. And I don't see, the only thing that is going to be worth anything is Eugene McCain is going to be making a lot of money out of this. It's not going to save Hamakua Sugar any more, so it just can't be worth it. I just don't see anything that makes it worth it at all.

Bob Impson:

Next.

Morgan Toledo:

My name is Morgan Toledo. I'm a taro farmer in Waipio Valley and also a resident in Kukuhaele. I'm totally against this project. I hope to see the land stay on the ag. so I can grow more taro. That's all, thank you.

Debbie Teixeira:

My name is Debbie Teixeira, and for the record I'm representing the Waipio Taro Farmers Association. I have my members sitting in here and our association is in a position to the resort, and we're not in support of what's, you know, has been presented.

Ron Terry:

Can you get a little closer to the mike?

Debbie Teixeira:

We have been in this process for many years now, and we have testified and submitted our testimony to the county council when our councilman, Domingo, introduced a resolution to make sure that these lands remain in ag., and so it's in direct conflict with what our association stands for and we will be submitting written statements addressing issues perhaps next week. And personally I was born and raised in Kukuhaele and the Waipio taro farmers have been very active in the community. And, I don't know if you are aware of this, but we do have a Waipio Task Force which we are trying to deal with issues relating to Waipio. And in going

over your proposed Amanresort fact sheet, I notice that there is no listing of Waipio. And Waipio is one of the gateways that this island promotes. And the issues that we are talking about right now, personally for me, is the road issues and also the impact, too few roads with too many people on it. We have not even as a task force going on three years, addressed how are we going to control the numbers that are impacting on our roadways. And you have to realize that it's not only cars going through Kukuhaele, but also cars entering into Waipio which is a big concern to the county. And you talk about disturbing a lifestyle. We can talk about low-key, blend with nature, maintain ruralness, integrate with community. We the effects of not a big scale development like this, and we are already having a lot of negative impacts in Waipio. It's very difficult for the farmers to operate continuing what we do as we perceive as being cultural because of, you know, the limited amount of two operators going down which is a problem for us. I can foresee what is going to happen in this community. There's a lot of people in this community that is sitting right here in this room tonight, and I'd like to refer to them as the roots of this community who have not spoken, but it's through people like me and my association that we go forward and bring it to people like you that are very ingrained, they have a sense of community. A sense of community means sharing and caring for one another, and for what I see as this resort, you have not addressed the issue too much. You very lightly covered the road improvements being done only as necessary. We already have congestion on this road with the building I have seen come up in this community in the last year or two. We have already created more congestion. And the water source will be developed or the existing system upgraded to provide water to the development. I don't think that very many of you are aware of it, but we have been organizing already in the community of Honakaa which we consider to be a blend on the whole district of Hamakua, and we see diversified ag. as the way of income for this community and also, more importantly, keeping our people together socially and giving them a firm economic base. The community has been working. I have been in a lot of processes throughout this district that has anything to do with the Hamakua area, and just a lot of people that I represent that you do not see here tonight, but strongly feel that this Hamakua Coast, especially in Kukuhaele should remain ag. And we will promote it, not only from Waipio, but we will come up top and continue to promote this community as an ag. community and keep it in rural. Thank you.

Jim Cain:

My name is Jim Cain and I live in Waipio, and I'd like to state for the record that I'm 100% against this resort proposed for Kukuhaele. I was sent down to Valley last year also to check out the resort there, and yes, it was a nice resort. But one thing that stands in my mind is the whole of Iboud where we stayed. If you went out far on close to the river, if you looked down one side of the river, there was a big resort they were building. And if you looked to the other side, there was another huge resort going in up river, and I see the same thing here. I grew up in Honolulu and over in Maui, and I've see the same thing happen and I see it just, this is just the start

of something much, much bigger that will destroy Kukuiahe and reach into Waipio as well. Thank you.

Ron Jerry:

Yeah, come on up. We're getting kind of near the close of this meeting. We wanted to run from 7:00 to 10:00, and I wanted to reserve some time near the end to talk about the format, structure, place, time of the next meeting. So pretty soon, I think, we'd like to wrap this up and set the parameters for a new meeting. And after we close we'll just maybe gather around here at this front table and we can start to talk. But you've got something to say.

Jim Cain:

Yeah, I'm sorry. I forget this the last time. Bob mentioned that Eugene McCain does have ownership of surrounding properties here. All this land up in here is zoned 7,500 square feet. There's no way he's going to get a million dollar homes on 7,500 sq. ft. lots. That's why he needs this rezoning. That's why he's going for the Catholic Church land to get that broken up so he can get one acre, is it? Is that, about one acre lots so he can build his big mansions on there. Have any of you really stopped to visualize what 45 one-million dollar homes is going to be like and feel like and look like around here? He can't do it if he does not get the rezoning. What he can do, but he won't cause I've already heard him say he's going to sell it to somebody else and let them deal with it. Someone else will pick it up, and they'll have the zoning. We've got 60 lots, and Lord knows. I mean, I've been teaching this school for 20 years and I see the kids go out and have a hard time. There's not a whole lot of 7,500 sq. ft. lots available at a reasonable price. It would sure be nice if someone would come in and do something up here and provide lots for our graduates and our young people and give them a chance to build something and raise families here. Most likely, if they were able to do that, the homes they would build and the price they would pay for the land would not increase our taxes which is one thing we are all afraid of. So to me, the alternative is keep the 60 homes with the 7,500 sq. feet, do a low-cost residential, blend it in with our local lifestyle here, don't raise our taxes, and beyond that, I don't know. The manager's home I'd still like to see a historical center. Is that clear on that? The zoning to me is a critical thing here. 7,500 sq. ft. is not going to bring a million dollars.

Roy:

That was Jim Hunt.

Kurt Van der Heydan:

My name is Kurt Van der Heydan. I live in Kapulena. I'm not going to talk to them. I'm going to talk to you. Mr. Domingo clarified the political process of what happens from here, who actually says yes or no to this. And he said if the community wants it, it sounds to me like they will try to find a way to make it happen. If the community doesn't want it, it's not going to happen. That's really encouraging, so I just wanted to pass that on to you. There's a lot of different issues involved with this at the butt end of it. A few times in my life like yourself I came from a couple of places that started out rural and I don't even want to go back and look at any more over the last 20 years. So the specifics of design and the taxes that we are worried about, I don't believe they are going to help our taxes. Up in Kapalana, are they going to go that far? Are they going to take care of everybody in Honoaka and Ahualoa? I mean, where do they stop? It's going to affect all of those people.

I am a recent member of the Hamakua Farmers Coop, and it's pretty exciting what's going on right now. We have a tremendous opportunity here to do ag., and by ag. I don't mean 10,000 acres of monoculture. I mean, at least the way I think about it is diversified, in other words, taro and aquaculture and sandalwood and bamboo, and this is one of the best places in the world to grow anything. We all know that much. 100 jobs, you know, two farms can do that. 100 jobs is nothing. We're talking about 1,000 jobs or 2,000 ten years down the road. How many people are employed in Waipio Valley? You know. The last thing I want to say and it's more of a spiritual thing. I guess, but certainly the people are struggling with it now in the valley. The reason that they want to come here to make a resort and not the Kona Coast. They're not trying to put this in Waikiki. They're trying to put it here. Why? It's, there's a spiritual resource here, there's a cultural resource here. There's a natural resource here of beauty and of this community. They want to come here to look at you, at us. I live down the road. I won't be looked at so much. They go by my house at 60 mph., but here, they want to look at you. This place goes on. The visitors here will come and I, I'm not trying to down that whole issue in terms of tourism. But the effect of it is, it's very subtle. I mean, you know, your children will be used to seeing their dances, it's no longer sitting around in the back and playing the guitar. It will be go to the hotel and see the act. That's what happens. The culture gets trivialized. It gets turned into a show. I don't think you want that to happen here. I mean, it's, tourism as an industry has a dehumanizing effect. Diversified agriculture is an empowering thing, okay. It reinforces culture. It reinforces independent thinking. You're not going down, okay, my life depends on the soil. We have that. That's a much better way to go, so that's what my vote. By the way, I'm against it if you didn't figure that out.

Cynthia Kanakoa:

My name is Cynthia Kanakoa and I'm a resident of Kukuihaele. In fact, I'm the resident that is overlooking where the resort, they want to put the resort. And when I get up in the mornings I would like to just see the ocean and not the resort that has been planned. And speak about jobs for the plantation workers. On the paper it says 100 jobs. Now if 400 people going to be laid off on the plantation, where will the other 300 go and how are we guaranteed that our families will be, or the residents will be employees of the resort? In speaking of having jobs here, I have two sons. They work in the hotel business, and you know, they are often on call because there is not enough jobs. And so, somebody told me about facing reality. This is reality, and all in all, what I have to say is I'm against the development.

Sylvia Thompkins:

My name is Sylvia Thompkins.

Roy:

I think it would be a good idea, maybe you should speak to the people.

Sylvia Thompkins:

Ok, sure. Actually, I'm not a public speaker. However, I sat there and I thought if I didn't come up and say what I felt, then you know, I would go home and be frustrated. I know there's a lot of people here that sitting in the audience, Mr. Alegre and my dad, for instance. They would like to express themselves, too, but it's hard for them. It's hard for me, so it would be harder for them. However, just thinking about Kukuihaele and you know, we just had a class reunion and there's a lot more people like me in my age group that have grown up here and would gladly come here and testify that they would be against this in their town where their parents live. And seeing that our parents are all retired and all the talk of taxes, for sure that would happen. The county cannot guarantee that these taxes would not be raised or the hotel people would pay for it in later years, whatever. Looking down this facts sheet - Objectives. I would think the first thing would be on this would be their objective would be to profit. These people wouldn't just come in to do all these things for us. We have all these things. How could maintain a low-key presence? How could you not notice any new dwelling or face in Kukuihaele? This surely would be noticed. Designed to blend with the natural surroundings. Okay, fine. Hotel - want to blend in with the natives. But how about us trying to blend in with them? I can't see us changing all our lifestyles to blend in with a resort. Employment - about 100 jobs. Would it be absorbed by the plantation workers or the residents? And also, it says here about employee housing and/or rentals. I don't see that anybody here in Kukuihaele doesn't have a roof over their heads, so this housing would be provided

for probably people coming from the outside being employees here. So that I couldn't see also. Infrastructure, anybody mention police protection, fire? The traffic people have said. An example would be the bridge here that hasn't been fixed for some time now. During the break I heard somebody mention maybe having these resort people come in, this would be done, things would be done rather than come from the government. I'd rather put my money on the government because we are the government and we can have a say, but with the resort people, we won't have a place to say anything once it's done. And who's to say that all these things that are listed here that's 36 suites, whatever, that's all that's ever going to be. It's going to be more and more and more. So along with my family, the MockChews, I know that we are against this resort.

Larry Miller:

I'm sorry to take up time. Since it was mentioned, I just wanted to report on the results of the survey on one question. Are you in favor that the plantation manager's home in Kukuihaele being preserved as a cultural museum learning center for Hawaiian values? Yes - 88%, No - 9%, Not sure - 3%. And that was the same results from all three surveys that we've done. Now if I may, written comments received from our survey. As for the development, let's keep it where residents benefactor before all other motives. Keep Kukuihaele the way it is. Biggest written response. Keep it ag. Sell three 5 - 10 acre parcels to Hamakua Sugar Employees. Resorts should stay in Kona. I believe that if resorts come, we, most of the people that live in Kukuihaele, will not be able to afford to live here in 10 to 15 years because of the luxury houses and hotels with high taxes. If you let one person or company come in, change the zoning, it gives the rights to others to come.

APPENDIX F

TRAFFIC IMPACT ANALYSIS REPORT: AMANRESORT

TRAFFIC IMPACT ANALYSIS REPORT

AMANRESORT

Kukuihaele, Hawaii

October 1993

Prepared For:

**Roy R. Takemoto
Planning Consultant**

Prepared By:

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LIST OF EXHIBITS

Exhibit	Site Plan
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TRAFFIC IMPACT ANALYSIS REPORT

AMANRESORT
KUKUIHAELE, HAWAII

October 1993

The potential traffic impacts of a resort development in Kukuihaele (Exhibit I) were assessed using highway capacity and other engineering analyses procedures. This report describes the existing traffic conditions in the area, provides an estimate of future traffic conditions without the proposed project, and evaluates future conditions with traffic due to the proposed project.

The traffic analyses were conducted for a proposed Amanresort at Kukuihaele consisting of a 36-suite luxury hotel located along the cliff's edge, a four-suite inn at the former Plantation Manager's Estate, and 45 additional units on individual one-acre lots in various locations around Kukuihaele. These individual lots will be privately owned and would each have a single dwelling unit. The hotel will include swimming pools, a restaurant, gift and sundry shops, and resort service areas. The Plantation Inn will include dining and other facilities, to be shared with the individual units; maid and room service would be available from the resort. The resort, which is estimated to provide 100 jobs, is expected to open by the end of 1995.

The description of existing conditions is based on field observations made on Thursday, July 15, 1993. Traffic counts were not conducted because of a temporary road closure due to a bridge failure on the Old Route 240 (Kukuihaele's main street) in March 1993. While most of the village is west of the bridge, one of two stores in the village, which also serves as the village's post office, and the county-owned community center are to the east. Repairs to the bridge and eventual reopening of the roadway are expected. Estimates of existing traffic volumes, therefore, assume a roadway system similar to that in place prior to March 1993.

Highway volumes on the Hawaii Belt Road (Highway 19) and the Honokaa-Waipio highway (Highway 240) are from traffic counts taken by the State Highways Division¹ in 1992. Growth factors for highway traffic are based on traffic projections from the *Island of Hawaii Long Range Highway Plan²* final report. Future conditions for year 1996 were evaluated.

The traffic due to the proposed resort was estimated using trip generation factors for resort hotels from *Trip Generation³*, a reference published by the Institute of Transportation Engineers. Analysis methods from the *Highway Capacity Manual⁴* and Transportation Research Circular 373 *Interim Materials on Unsignalized Intersection Capacity⁵* were used to determine traffic conditions, with highway and intersection conditions being described by a "Level of Service" (LOS) ranging from "A" (good) to "F" (poor). An appendix to this report provides descriptions of these levels of service.

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Existing Traffic Conditions

The site of the proposed project is in and around the village of Kukuihaele, which is located near the Waipio Valley lookout at the west end of the Honokaa-Waipio highway. The Honokaa-Waipio highway (State Highway 240) is a two-lane highway with twelve-foot lanes and wide (greater than six-foot wide) shoulders, and is generally posted for a speed limit of 45 miles per hour (MPH). An old portion of the highway ("Old Route 240") parallels the existing highway for about 1.2 miles, providing local service to Kukuihaele village. The speed limit on Highway 240 is 35 MPH near its eastern intersection of the Old Route 240.

Old Route 240 is a two-lane roadway, approximately 18 feet wide with minimal shoulders. Generally oriented in an east-west alignment, Old Route 240 connects to the newer Highway 240 at stop-controlled intersections at both ends. Approximately halfway between these intersections, a one-lane north-south roadway connects Old Route 240 with the newer Highway 240. This roadway, stop-controlled at both ends, is identified as "Mud-Lane Road" and has a pavement width of 12 feet.

Two-way traffic volumes on all roadways in the Kukuihaele area except Highway 240 are estimated to be less than 100 vehicles per hour (VPH). At all driveways and intersections, minimal delays (LOS A) are encountered by all users.

Traffic conditions on Highway 240 between Kukuihaele and Honokaa were determined using traffic count data from the State Highways Division's station C-13-D (Honokaa-Waipio Road at Kawaikalia Bridge). A 24-hour count taken in June 1992 showed a two-way volume of 1,652 vehicles per day (VPD). The highest hourly volume occurred between 9:30 and 10:30 AM, with a two-way volume of 138 VPH. Highest hourly volumes during the times of the day most affected by the proposed project are 122 VPH in early afternoon (1:15 PM - 2:15 PM) and 137 VPH during the normal PM peak period (3:00 PM - 4:00 PM). Peak hour conditions on Highway 240 are described by LOS A.

Highway 240 is also the main street through the town of Honokaa. While traffic volumes are higher through the town than at Kawaikalia Bridge, field observations indicate no significant delays at any of the side streets which intersect Highway 240.

Traffic between the project site and east Hawaii (Hilo direction) would use Highway 240 to its junction with the Hawaii Belt Road (Highway 19). Eastbound traffic on Highway 240 is stop-controlled at Highway 19, which has a posted speed limit of 55 MPH. Left turns from eastbound Highway 19 to Highway 240 are made from the through lane, behind any eastbound vehicles on Highway 240 (but no more than two) waiting to enter Highway 19.

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While no new turning movement counts were taken at the junction of Highway 240 and Highway 19, analysis of this intersection using an afternoon count taken in 1991⁶ shows LOS D or better for each controlled movement; field observations indicate that actual conditions may be better than the analysis findings at this intersection. On Highway 19 east of this junction (toward Hilo), a 1992 State Highways Division count showed a peak hour volume of 419 VPH, or LOS B on the two-lane highway.

Traffic between project site and west Hawaii (Waimea direction) would use Lehua Street, located about 1.5 miles west of the Highway 19/Highway 240 junction, to access Highway 19. Lehua Street, a two-lane roadway for most of its length, is the stop-controlled stem of the T-intersection with Highway 19. A median deceleration and storage lane, approximately 650 feet in length, is provided on Highway 19 for left turns from the eastbound lane of Highway 19 into Lehua Street. On Highway 19 west of Lehua Street, a 1992 State Highways Division count showed a peak hour volume of 461 VPH, or LOS C on the two-lane highway.

The State Highways Division traffic count data discussed above are summarized in Table 1.

Table 1
TRAFFIC COUNTS

	Westbound	Eastbound
Highway 240 at Kawaikalia Bridge		
24-hour (June 22-23, 1992)	837	815
early afternoon (1:15-2:15 PM)	51	71
PM Peak Hour (3:00-4:00 PM)	74	63
Highway 19 east of Highway 240		
24-hour (June 22-23, 1992)	2,690	2,318
early afternoon (1:15-2:15 PM)	144	158
PM Peak Hour (4:00-5:00 PM)	181	238
Highway 19 west of Lehua Street		
24-hour (June 22-23, 1992)	2,927	2,552
early afternoon (1:30-2:30 PM)	152	185
PM Peak Hour (4:00-5:00 PM)	195	266

Source: State of Hawaii, Department of Transportation, Highways Division, *Traffic Survey Data (Individual Stations) - Island of Hawaii 1992*.

Future Traffic

Traffic volumes on Highway 19 and on Highway 240 have been increasing and are expected to continue to increase. The Long-Range Highway Plan for the island of Hawaii included projections of future traffic volumes on various segments of highways. For Highway 19, daily traffic volume on the segment between Akaka Falls Road and Mamane Street (Highway 240) was projected to increase from 5,056 VPD in 1986 to 9,500 VPD in year 2000, or an average compounded rate of 4.6% per year. Increases of 4.7% per year were projected for Highway 19 west of Mamane Street, in segments to Plumeria Street, and between Plumeria Street and Mud Lane. Traffic growth on three segments of Mamane Street were projected to be 2.7% per year. These projections are summarized in Table 2.

Table 2
TRAFFIC INCREASES

	1986 Volume*	2000 Volume*	Annual Increase
Hawaii Belt Highway (HWY 19)			
Akaka Falls Road to Mamane Street	5,056	9,500	4.61%
Mamane Street to Plumeria Street	2,800	5,300	4.66%
Plumeria Street to Mud Lane	3,521	6,700	4.70%
Mamane Street (HWY 240)			
Hawaii Belt Highway to Pakalana Street	3,558	5,210	2.75%
Pakalana Street to Lehua Street	5,353	7,800	2.73%
Lehua Street to Niemie Bridge	3,990	5,800	2.71%

* Source: State of Hawaii Department of Transportation and County of Hawaii Departments of Planning and Public Works, *Final Report, Island of Hawaii Long Range Highway Plan*, prepared by Parsons Brinckerhoff Quade and Douglas, Inc., May 1991.

Peak hour volumes are expected to increase in proportion to daily volumes. Traffic volumes in the immediate vicinity of the proposed project, therefore, were increased 2.75% per year to reflect estimated short-term growth. Similarly, a factor of 4.75% was used to increase traffic volumes on Highway 19 to the future year.

Traffic assignments showing peak hour volumes for 1996 at the intersection of Highway 240 and Highway 19 are shown in Exhibit 2.

Project Traffic

Traffic volumes generated by the proposed resort were estimated for the hotel and for other components of the project. Total trip ends were calculated and the estimated internal movements between two parts of the resort were deducted to derive a net traffic generation from the resort. A higher estimate for the hotel based on the number of employees was used for total trip ends at the hotel, while the lower estimate based on the total 85 units of the resort was used as a check of the net traffic (total trip ends less internal trip ends) from the hotel site. Traffic generated from the individually owned units on one-acre lots and the Plantation Inn suites was based on per-unit factors, while traffic due to the social hall and recreation center was estimated assuming a gross floor area of 4,500 square feet in the building. Table 3 presents the factors used and Table 4 summarizes the traffic generation estimates.

Table 3
TRAFFIC GENERATION FACTORS

variable	Daily	Mid-Afternoon		PM Peak Hour	
		Rate	%In	Rate	%In
Hotel employees	10.27	0.82	47%	0.75	37%
One-acre lots unit	10.16	0.67	47%	0.48	37%
Plantation Inn unit	10.16	0.67	47%	0.48	37%
Social Hall/rec. center 1000GSF	25.00	4.00	50%	8.00	60%

Table 4

TRAFFIC GENERATION

quantity	Daily		Mid-Afternoon		PM Peak Hour	
	In+Out	In	Out	In	Out	
Hotel	1,030	39	43	28	47	
One-acre lots	450	14	16	7	13	
Plantation Inn	40	1	1	1	1	
Social Hall/rec. center	110	9	9	22	14	
Total trip ends	1,630	63	69	58	75	
Less Internal trips	180	8	8	5	5	
Net project traffic	1,450	55	61	53	70	

Traffic distribution, which considers the location of the other end of these vehicular trips, was based on field observations and an evaluation of traffic count data. Table 5 shows the trip distribution factors used in the analyses.

Table 5
TRIP DISTRIBUTION

	Hotel	1-acre Lots	Plantation Inn	Village Center
Hotel lobby	0%	30%	30%	35%
Kukuiahaele/Waipio Valley	5%	5%	5%	10%
Honokaa	40%	30%	30%	30%
Waimea	30%	20%	20%	10%
Pa'auilo	15%	10%	10%	10%
beyond Pa'auilo	10%	5%	5%	5%

A new access road will be constructed to provide access to the resort. An existing dirt/gravel road passing near and on the Honokaa side of the Plantation Manager's Estate would be upgraded to County standards. This new roadway would also serve seven one-acre lots and would minimize traffic impact to the existing community. This roadway would intersect Highway 240 in a T-intersection. The traffic assignment shown in Exhibit 3 represents the estimates of peak hour traffic at this T-intersection; these estimates include a portion of the existing traffic using Old Route 240, since this connection is expected to provide an alternate path to/from the highway. Exhibit 4 shows the traffic estimates for the intersection of the new access road with Old Route 240.

An alternative location of the project access road, following a dirt road between the social hall and existing homes to the east, is also being considered. Greater impacts to the existing road may result with this alternative and estimated volumes are shown in Exhibit 5. The connection of this alternative access road to Highway 240 would also be a T-intersection and the volumes would be as shown in Exhibit 3.

Away from Kukuiahaele, the greatest impact of the project traffic is expected at the intersection of Highway 240 and the Hawaii Belt Highway (Highway 19). With project traffic estimates are shown in Exhibit 2.

Capacity Analyses

The traffic assignments at intersections (Exhibits 2, 3, 4, and 5) were analyzed using the Unsignalized Intersection Analysis procedure from the *Highway Capacity Manual* to determine peak hour conditions. This analysis determines the capacity of the left turn into the side street and the capacity of the controlled side street movement by estimating the number of adequate gaps available in the uncontrolled movements at the intersection. The volumes wishing to make these movements are deducted from the capacity, and the difference (or "reserve capacity") determines a level of service. The findings of the intersection analyses are presented in tables 6, 7, and 8, assuming that left and right turns from side streets share a single lane.

Table 6
INTERSECTION LEVELS OF SERVICE

Highway Intersections	Reserve Capacity	Level of Service
Highway 240 at Highway 19		
Existing (1993) PM Peak Hour	640	A
Left turn into Highway 240	180	D
Shared lane out of Highway 240 (stopped)		
Future (1996) PM Peak Hour (without project)	612	A
Left turn into Highway 240	128	D
Shared lane out of Highway 240 (stopped)		
Future (1996) PM Peak Hour (with project)	601	A
Left turn into Highway 240	103	D
Shared lane out of Highway 240 (stopped)		
Project Access Road at Highway 240		
Future (1996) mid-afternoon Peak Hour	950	A
Left turn into project access road	553	A
Shared lane out of project access road (stopped)		
Future (1996) PM Peak Hour	959	A
Left turn into project access road	530	A
Shared lane out of project access road (stopped)		

The peak hour volumes at the intersection of the project access road and Highway 240 (Exhibit 3) are well below the volumes which would warrant a separate left turn storage lane on the highway. The PM Peak Hour volumes are only about 35% of those meeting a warrant for the separate lane⁷ on a two-lane highway with speeds of 60 miles per hour and 20% left turns from the highway.

Table 7
INTERSECTION LEVELS OF SERVICE

Proposed Access Road and Old Route 240	Reserve Capacity	Level of Service
Stop Sign Control on Proposed Access Road		
Mid-afternoon Peak Hour		
Left turn into Access Road	946	A
Shared lane out of Access Road	687	A
Left turn into Amanhideaway	997	A
Shared lane out of Amanhideaway	713	A
PM Peak Hour		
Left turn into Access Road	939	A
Shared lane out of Access Road	667	A
Left turn into Amanhideaway	998	A
Shared lane out of Amanhideaway	699	A
Stop Sign Control on Old Route 240		
Mid-afternoon Peak Hour		
Left turn from Access Road	928	A
Shared lane (eastbound)	805	A
Left turn from Amanhideaway	932	A
Shared lane (westbound)	614	A
PM Peak Hour		
Left turn from Access Road	914	A
Shared lane (eastbound)	805	A
Left turn from Amanhideaway	933	A
Shared lane (westbound)	599	A
All-way Stop Control		
Mid-afternoon Peak Hour		
Eastbound Old Route 240	0.36	A
Westbound Old Route 240	0.04	A
Northbound Access Road	0.11	A
Southbound Access Road	0.08	A
PM Peak Hour		
Eastbound Old Route 240	0.22	A
Westbound Old Route 240	0.04	A
Northbound Access Road	0.11	A
Southbound Access Road	0.04	A

* for All-way stop control, Level of Service determined from average delays related to volume-to-capacity (v/c) ratio

Table 8
INTERSECTION LEVELS OF SERVICE:
Other Intersections Along Old Route 240

	Reserve Capacity	Level of Service
West Roadway at Old Route 240		
Mid-afternoon Peak Hour	963	A
Left turn into private road	883	A
Shared lane out of private road (stopped)		
PM Peak Hour		
Left turn into private road	968	A
Shared lane out of private road (stopped)	886	A

WITH TRAFFIC FOR ALTERNATIVE ACCESS ROAD:

Hotel/Plantation Roadway at Old Route 240		
Mid-afternoon Peak Hour	961	A
Left turn into Plantation Inn	882	A
Shared lane out of Plantation Inn (stopped)		
Left turn into Amanhideaway	935	A
Shared lane out of Amanhideaway (stopped)	651	A
PM Peak Hour		
Left turn into Plantation Inn	963	A
Shared lane out of Plantation Inn (stopped)	884	A
Left turn into Amanhideaway	942	A
Shared lane out of Amanhideaway (stopped)	646	A
Social Hall/Recreation Center Driveway at Old Route 240		
Mid-afternoon Peak Hour	901	A
Left turn into Social Hall	768	A
Shared lane out of Social Hall (stopped)		
PM Peak Hour		
Left turn into Social Hall	882	A
Shared lane out of Social Hall (stopped)	800	A
New Access Roadway at Old Route 240		
Mid-afternoon Peak Hour		
Left turn into access road	891	A
Shared lane out of access road (stopped)	889	A
PM Peak Hour		
Left turn into access road	644	A
Shared lane out of access road (stopped)	630	A

For the intersection of the proposed access road with Old Route 240 (Table 7), stop controls on the access road were first considered. However, because existing sight distances along Old Route 240 are limited and because the volumes on the access road would be higher than those on Old Route 240, stop controls on Route 240 were also considered. In each case, all controlled (stopped or yielding) movements would operate at Level of Service A.

This intersection was also analyzed as an all-way stop. In this analysis, level of service is related to the estimated volume-to-capacity (v/c) ratios, with v/c ratios less than 0.42 representing Level of Service A conditions.

Conditions on extended segments of two-lane highways were also analyzed. Because of the long travel distances on the island of Hawaii, the availability of opportunities to pass any slow moving vehicles affects operating conditions; LOS C conditions are desirable. The two-lane highway analysis, based on highway characteristics and two-way volume, was used on segments of Highway 19 near Honokaa and on Highway 240 between Honokaa and Kukuiahaele to determine levels of service and to compare volumes with the service (maximum) volume for LOS C. Table 9 presents the peak hour volumes and findings of the two-lane highway analyses.

Table 9
TWO-LANE HIGHWAYS

	Volume	LOS	V/svc*
Highway 240, Kukuiahaele to Honokaa			
Existing (1992) Mid-afternoon	122	A	0.13
Existing (1992) PM Peak Hour	137	A	0.14
Future (1996) PM, without project	149	A	0.15
Future (1996) PM, with project	259	A	0.26
Highway 19, Mud Lane to Lehua Street			
Existing (1992) Mid-afternoon	337	B	0.34
Existing (1992) PM Peak Hour	461	C	0.69
Future (1996) PM, without project	555	C	0.83
Future (1996) PM, with project	586	C	0.88
Highway 19, Pa'aulio to Mamane Street			
Existing (1992) Mid-afternoon	302	B	0.39
Existing (1992) PM Peak Hour	419	B	0.56
Future (1996) PM, without project	505	C	0.68
Future (1996) PM, with project	532	C	0.72

* V/svc = ratio of volume to service volume for LOS C

As indicated in Table 9, the addition of the proposed project's traffic would be a large proportion of existing or future traffic on Highway 240; however, LOS A conditions will remain and total volume would be well below the maximum desirable volumes (service volume for LOS C). On Highway 19, the addition of the project traffic would increase peak hour traffic volumes by about 5% but not change highway levels of service.

Continued growth in volumes on Highway 19 beyond 1996 may require improvements if LOS C conditions in the peak hour are desired. The *Long Range Highway Plan* recommends widening, to occur between 2000 and 2005, "to provide passing lanes in each direction. These passing lanes should be located at various locations and alternate in direction. Passing lanes increase capacity and improve the flow of traffic by allowing vehicles to pass slower-moving cars and trucks."

Conclusions and Recommendations

The analyses show that the proposed project will have a noticeable effect in increasing traffic volumes in the Kukuiahae area because existing volumes are low. However, because existing volumes are low, the addition of project traffic will not cause a deterioration of operating conditions. Stop controls on all intersections within the Kukuiahae area were found to be adequate, with little or no delays to users. Stop controls at the intersection of the proposed access road with Old Route 240 could be placed on either roadway or on all approaches for Level of Service A conditions.

Farther from the project site, the project's traffic impact will be smaller, increasing traffic on Hawaii Belt Road (Highway 19) near Honokaa by about 5 percent. The highway would operate at acceptable levels of service with or without the addition of project traffic. The most critical movement that could be affected, the afternoon peak hour left turn from Highway 240 to Highway 19 toward Hilo, was found to have sufficient capacity.

New roadways serving the project should conform to applicable standards. Each connection to an existing roadway should be designed to accommodate the largest vehicle (including delivery and emergency vehicles) expected to enter or exit the resort roadways. Stop signs should be installed to control traffic exiting from the project. Other appropriate signing should be placed if desirable sight distances are not available along Old Route 240.

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5. Transportation Research Board, National Research Council, *Interim Materials on Unsignalized Intersection Capacity*, Transportation Research Circular 373, July 1991.
6. Pacific Planning & Engineering, Inc., *Traffic Impact Assessment Report for Hanalei Project Waipio*, April 15, 1991.
7. M. D. Harnelink, "Volume Warrants for Left-Turn Storage Lanes At Unsignalized Grade Intersections", Highway Research Board, National Research Council, *Highway Research Record Number 211*, Washington, D.C., 1967. (Figure 17)

APPENDIX - LEVELS OF SERVICE

A qualitative measure used by traffic engineers to describe traffic operational conditions is the level of service (LOS). Six levels have been defined, from LOS A (best operating condition) to LOS F (worst). The *Highway Capacity Manual* describes analysis procedures for different types of facilities. For uninterrupted flow facilities such as freeways, other divided highways, and two-lane rural highways, factors such as speed and travel time, freedom to maneuver, comfort and safety, and continuity of flow are used to determine levels of service.

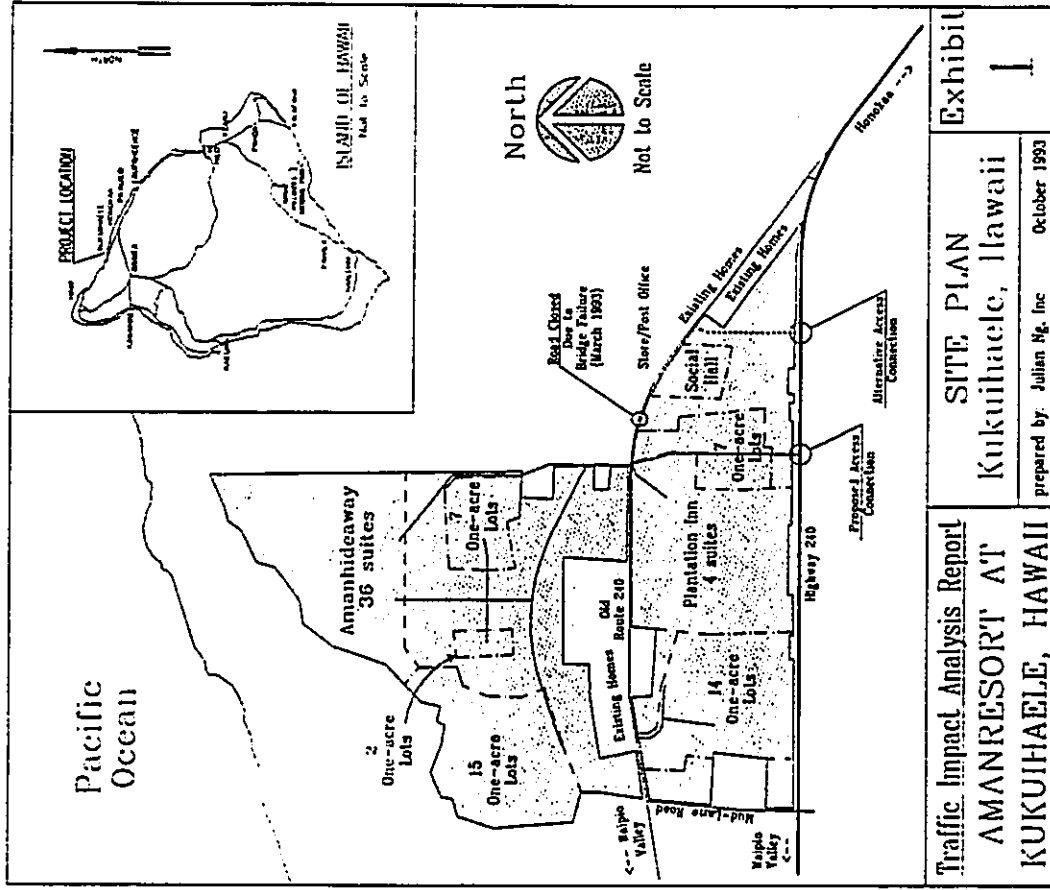
On multi-lane highways, levels of service are related to maneuverability within the traffic stream travelling in the same direction; directional volume and traffic density are used to determine capacities and levels of service. On two-lane highways, levels of service are affected by a driver's ability to pass slow-moving vehicles; opposing volume is also a factor. Descriptions of the levels of service for two-lane rural highways are:

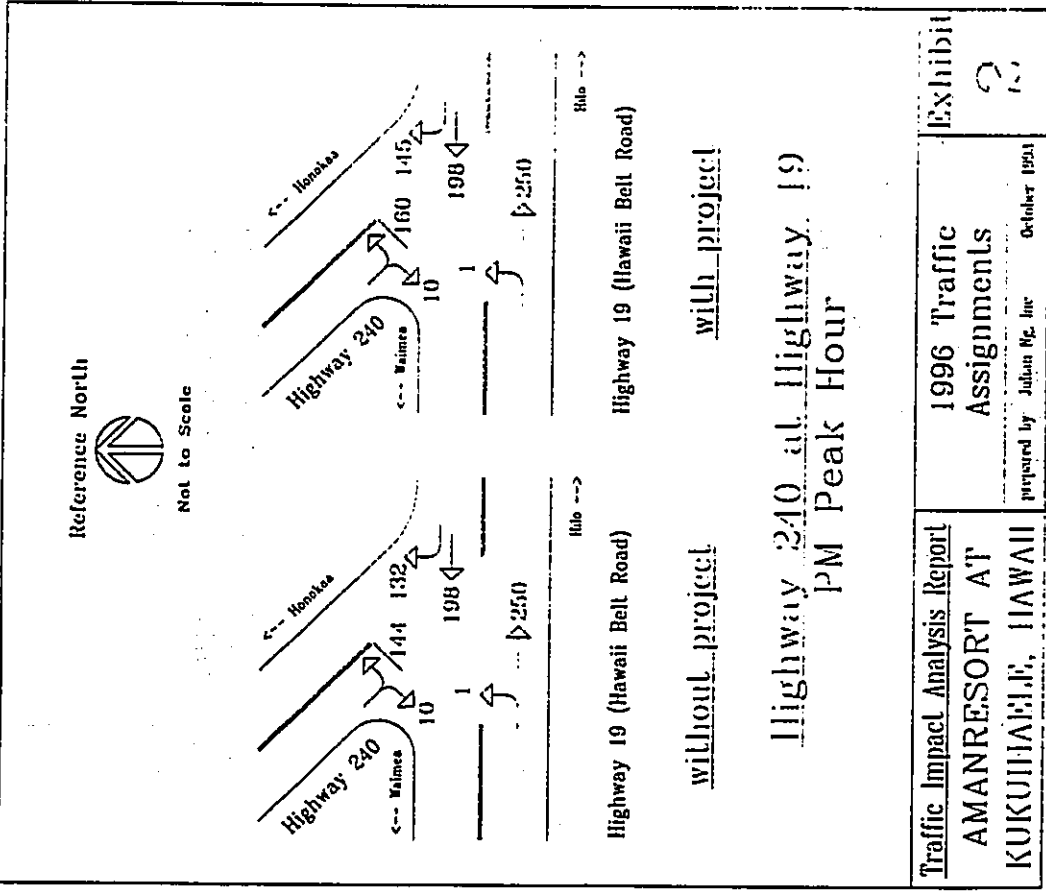
- LOS A represents free flow. Travel at desired speeds is unimpeded, as passing of any slow-moving vehicles is infrequent and can be done easily. Platoons of vehicles would be three or less.
- LOS B describes stable flow. Passing to maintain desired speed becomes significant and platooning of vehicles increases.
- LOS C also describes stable flow. Platooning and restrictions to passing become noticeable and while flow remains stable, some congestion may occur because of slow-moving vehicles or turning movements.
- LOS D is characterized by opposing traffic flows operating separately. Passing is extremely difficult as opportunities are very limited.
- LOS E describes unstable operation at or near capacity levels. There are no usable gaps in the traffic stream and any disruption to flow causes congestion. Flow is unstable as slow-moving vehicles and other interruptions cause intense platooning and congestion; passing is virtually impossible.
- LOS F represents a forced or breakdown flow caused by traffic demand volume exceeding capacity; actual volume served will drop as speed decreases and congestion increases. LOS F is used to identify bottlenecks, or points of congestion, and operations within the queue behind these bottlenecks.

Levels of service are identified for the controlled movements at unsignalized intersections. The analysis procedure determines the reserve capacity (total capacity less volume) of a controlled movement such as a left turn against oncoming traffic, or traffic entering a roadway from a side street controlled by a stop sign:

Reserve Capacity	Level of Service	Expected Delay to Controlled Movement
≥ 400	A	Little or no delay
300 - 399	B	Short traffic delays
200 - 299	C	Average traffic delays
100 - 199	D	Long traffic delays
0 - 99	E	Very long traffic delays

Reference: Transportation Research Board, National Research Council, *Highway Capacity Manual*, Special Report 209, Washington, D.C., 1985

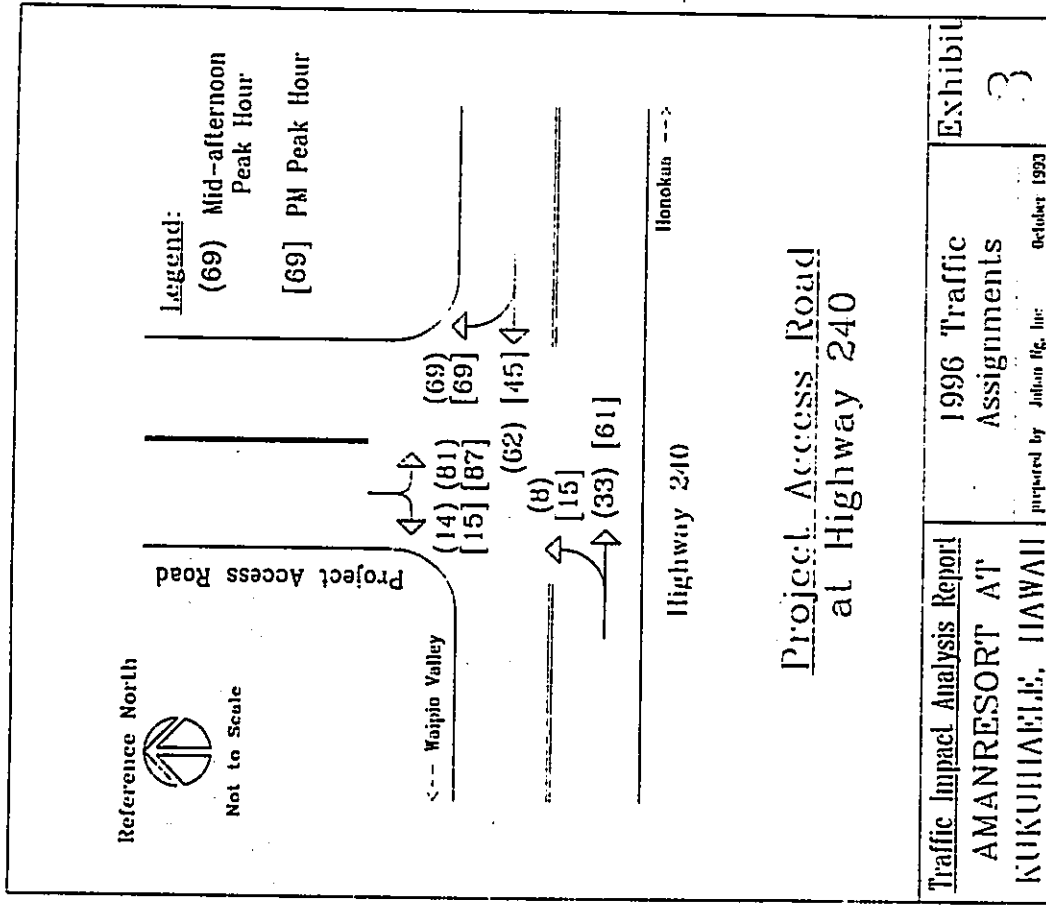




Traffic Impact Analysis Report
AMANRESORT AT
KUKUIHALE, HAWAII

1996 Traffic Assignments
prepared by Julius Ng, Inc. October 1993

Exhibit 2



Traffic Impact Analysis Report
AMANRESORT AT
KUKUIHALE, HAWAII

1996 Traffic Assignments
prepared by Julius Ng, Inc. October 1993

Exhibit 3

APPENDIX G

EVALUATION OF KUKUIHAELE WATER SUPPLY ALTERNATIVES

EVALUATION OF
Kukuihaele Water Supply Alternatives
15 Sep 83

SITE DESCRIPTION

The proposed project site (Exhibit 1 & 2) is comprised of seven parcels, TMK (3) 4-8-6-3-11, 13, 41, 43 and 44, totaling approximately 150 acres, located in Kukuihaele, Hamakua, Hawaii. The lands lay makai (east) of Highway 240 over looking the pali of Hamakua and range in elevations from 200 feet at the pali to 880 feet at the highway (Exhibit 3).

AWANRESORT
Kukuihaele, Hawaii
September 1993

WATER DEMAND

The estimated water demand for the Kukuihaele project is outlined in the Table 1 below. The residential demands are based on the County standards of a maximum day demand of 600 gallons per day (gpd) per housing unit.

Prepared By:
Waimea Water Services Inc.
POB 326
Kamuela, HI 96743

Prepared For:
Kukuihaele Development Company
c/o Itoy R. Iikuniwa
Planning Consultant

Table 1 reviews the estimated water demand for the Kukuihaele project. Using the maximum daily demand for potable water, which is based on the average daily demand times 1.5, dictates the needed installed pumping capacity for potable wells and water system design for permit needs. The 600 gpd for one housing unit is the max. day amount as used by the County (400 gpd ave. daily use times 1.5). This amount for potable water would equal about 59,000 gpd or one potable supply well (1 well at 41 gpm).

EVALUATION OF KUKUIHAELE WATER SUPPLY ALTERNATIVES

ESTIMATED MAXIMUM DAILY WATER DEMANDS - TABLE 1

POTABLE WATER	KUKUIHAELE PROJECT	* GOV. USE/UNIT	TOTAL
45 HOUSING AND 1-ACRE LOTS		600 GPD	27,000 GPD
36 RESORT UNITS		600 GPD	21,600 GPD
1 MANAGER'S HOUSE		2,400 GPD	2,400 GPD
1 SEWAGE TREAT. BLDG.		1,000 GPD	1,000 GPD
TOTAL			52,000 GPD (maximum day demand)
IRRIGATION WATER			
20 ACRES LANDSCAPING		3,000 GPD	60,000 GPD (seasonal)
TOTAL			112,000 GPD (Maximum day demand)

* County Design Standard (maximum day demand)
400 average daily demand x 1.5 = maximum daily demand of 600 gpd

gpm - gallons per minute
gpd - gallons per day
gpa - gallons per acre

The estimated demands for the Kukuiahaele area are noted below in Table 2. These encompass the known demands based on information available from the County Water Department.

POTABLE DEMAND - TABLE 2
as of Aug 93
(estimated use only)
Maximum Average Day Rate - gallons per day

DEMAND	AVE. DAY	MAX. DAY	PUMP CAPACITY
PRESENT DEMAND Dept. Water Supply	42,000 (30 GPM)	63,000 (44 GPM)	144,100 (100 GPM)
PROJECTED UNCOMMITTED CAPACITY	54,000 (37 GPM)	81,000 (56 GPM)	

KUKUIHAELE
ESTIMATED (IN MANI) 34,000 (27 GPM) 57,000 (40 GPM)

According to the Dept. of Water Supply (written comments), the uncommitted capacity is subject to low dry weather flows and portions of this capacity will be needed for ohana dwelling requests and 2-hl subdivisions in the future.

IRRIGATION DEMAND

(Table 2 continued)

The Kukuiaele Project demand estimates include the typical household irrigation demand. It is estimated that a portion (50%) of the DWOS Standard potable maximum day demand rate is for normal household irrigation or about 300 gallons daily. For the year 1984-85 (a dry year), the Dept. of Water Supply (DWS) average daily demand at Kukuiaele was 297 gallons per service (household unit). In 1989-90 the daily demand averaged 242 gallons per service.

Using the multiplier of 1.5 for the maximum daily demand in the dry year (297 gpd) would give a maximum day actual demand of 446 gpd versus a maximum day design demand of 600 gpd per household unit. It would appear that a maximum day demand of 600 gpd is more than adequate to handle lot irrigation for the proposed household units.

In addition, irrigation will probably be supplied to an estimated 20 acres of landscaped area for maintenance purposes. This would total approximately 60,000 gallons per day (gpd) and will fluctuate seasonally as the rainfall may be adequate for much of the year. An irrigation requirement of 60,000 gpd from a water source will likely be needed.

RESOURCE DESCRIPTION

RAINFALL AND STREAM FLOW

Rainfall is typically orographic and increases in the mauka direction as shown in Exhibit 4. Historically seasonal dry spells are expected in summer. Prolonged droughts of several months duration also occur. Run off is flashy and nearby streams are normally dry unless subjected leakage from the lower Hamakua Ditch. More sheet runoff nearby can be expected as sugar furrows are removed.

GEOLOGY

The project site lies on the interface of the Kohala and Mauna Kea volcanos. Exhibit 5A contains a recently prepared geologic map, based on detailed field studies of the U.S. Geological Survey. Generally, the lavas at sea level are best described as thin bedded pahoehoe flows interspersed with cinders. These lavas (Pololu) when found in the basal aquifer produce an excellent well yield. Locally, Mauna Kea lavas over lay the weathered soil surface of the Pololu volcanic series of the Kohala Mountain. The Kukuiaele springs are perched on this soil (see Hydrogeologic Section, Exhibit 5B).

GROUNDWATER

Groundwater recharge from rainfall may be considered moderate as a result of the thin soil on sloping land. As described above, perched groundwater is known to occur on the soil surface of the Pololu lava. It can be expected that such springs will be sensitive to variations in rainfall. A basal groundwater lens will be found at sea level with an approximate head of 3 to 4 feet above sea level. No wells exist in the immediate vicinity, however, the geology at sea level is quite similar to the Honokaa area where basal water levels have been established (see Exhibit 6A and 6B). The

groundwater table at Honokaa has a slope of about 3.5 feet per mile. Assuming a hydraulic conductivity of 500 feet per day is reasonable, an estimate of groundwater flow through the area would be on the order of 5 mgd per mile of aquifer (water bearing rock) width. Yuun and Associates Inc. in March of 1992 estimated the sustainable yield of the Honokaa hydrologic unit at about 31 mgd or 3 mgd per mile of aquifer width. These estimates seem reasonable based on the newly drilled State well in Honokaa. A well drilled at Kukuihaele capable of producing from 100 to 200 gpm of fresh water appears to be feasible. A well producing water from the basal aquifer will not effect or impact perched water springs and stream flows.

GROUND WATER SOURCES

Groundwater pumpage is presently restricted to Kukuihaele Spring (State Code #6734-01) at an average of 42,000 gpd or 30 gpm. The source has no flow records and is reported to be susceptible to dry weather conditions. The Department of Water Supply for the County of Hawaii is planning on developing a deep well ground water source to replace or supplement the spring. The spring, at an elevation of 540 feet, reportedly has a capacity of 100 gpm. The supply of water is lifted by two 100 gpm booster pumps to a 100,000 gallon reservoir at elevation 940 feet.

The map in Exhibit 6B shows the locations of existing, planned or permitted potable wells as recorded with the State Water Commission, the County or known development plans.

It is likely that basal groundwater ranging in quality from 50 to 100 mg/l chlorides, can be found within the Project site. A well could be constructed for this purpose. Such a well if used for irrigation

purposes could be drilled from elevation 700 +/- feet. A potable well should be located mauka of the Hiway facility at about elevation 800 +/- feet.

All water resources for this area are reviewed by the State Water Commission and its staff to define and regulate the sustainable yield, well spacing, and pumpage rates.

SURFACE WATER SOURCES

The Lower Hamakua Ditch runs mauka of the property (see Exhibit 7). The flow in the ditch historically averages approximately 32 million gallons per day (mgd) (see flow diagram in Exhibit 7). The Ditch is located about 25 yards mauka of the DWS water reservoir servicing the Kukuihaele water system (see photo in Exhibit 8).

The ditch flow is subject to seasonal fluctuations and maintenance. It is also deemed a surface water source and would require treatment and monitoring to use as potable water.

The Kukuihaele project may require approximately 60,000 gallons per day of irrigation water which could be taken from the Lower Hamakua Ditch to the project site. Arrangements would be required to be made with the operator of the Ditch for any waters removed. Also transmission lines to the project will need to be constructed as this would be dual system, irrigation waters in one and potable water in the other.

WATER SUPPLIES: OPTIONS FOR POTENTIAL SOURCE AND SUPPLY SYSTEMS

1. POTABLE WATER

1. The County of Hawaii operates the Kukuihaele water system (Exhibit 9 & 10) which runs to the rim of Waipio Valley, 1 mile to the north and to Malanahal Gulch, 2.5 miles to the south. The County water system and capacity would seem to meet the potable water demands for the Kukuihaele project. The County may eventually require increased source capacity in the system to meet all the expected future needs. It is likely that a well could be drilled to elevation -50 feet at the existing County reservoir at about 940 feet elevation.

2. The developer could also construct and operate a private water potable water system with its own well, storage, and transmission lines to serve the portion of the project makai of the old highway. A well could be drilled on the mauka portion of the project at elevation 800 +/- feet. A 100,000 gallon storage reservoir could be constructed on-site next to the well. Along with water main improvements on-site adequate fire flow requirements could be provided for the resort hotel units (Aman Resort) and all units below the old highway. It would be assumed that the units above the old highway, the Aman Hiway, the Recreation Center, and the affordable housing would be connected to the County system for service and fire flow.

This option would be meet the needed water requirements for development. This option is not recommended if it requires duplicate services already provided by the County. This option would use the DOW system as an emergency or standby source. A cooperative program with the County as

suggested below would be more beneficial to all parties.

3. Typically, stand alone wells constructed by the developer and which are to be dedicated to the County Department of Water Supply (DOW) for operation require an allocation of 60% of the water for DOW use and 40% for the developer. This option may require additional fire flow capacity in the transmission line and storage. However the fire flow needs for the resort hotel units could be met with irrigation water and storage on property, thus eliminating the need to increase the transmission line sizes. The exact requirements will be dependent on negotiations with the County.

The developer could assist the County by bonding the future development of a potable well for the DOW Kukuihaele water system. There are potable water sources available in the area for this project. Potable well water sources can be developed on or mauka of the property.

2. IRRIGATION WATER

1. Irrigation water sources for the project landscaping can be found mauka of the project from the Lower Hamakua Ditch system. Cooperative use of this resource may be developed with the owners/operators of the ditch. Any irrigation water would need to be stored on the site to provide the appropriate pressure and volumes to meet demand. Because the irrigation demand is at the Hotel portion of the project the water from the ditch could be stored on site and be incorporated into water facilities at the entry to the project.

The irrigation water could also be stored on site to provide the required fire flow demands of the Hotel portion of the project. This demand would need to be engineered and incorporated into the piping plans of the structures.

2. A fresh or brackish water well may be developed on site for project irrigation. These wells will need to be properly located to integrate with irrigation system of the project.

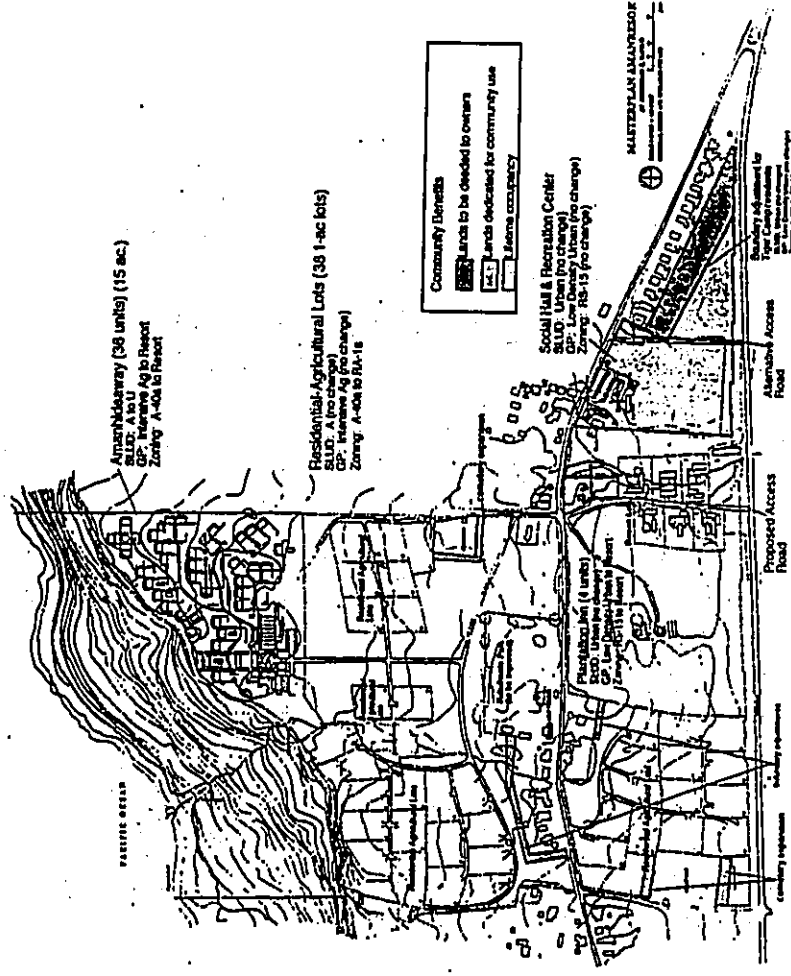
WWTP EFFLUENT, ON SITE

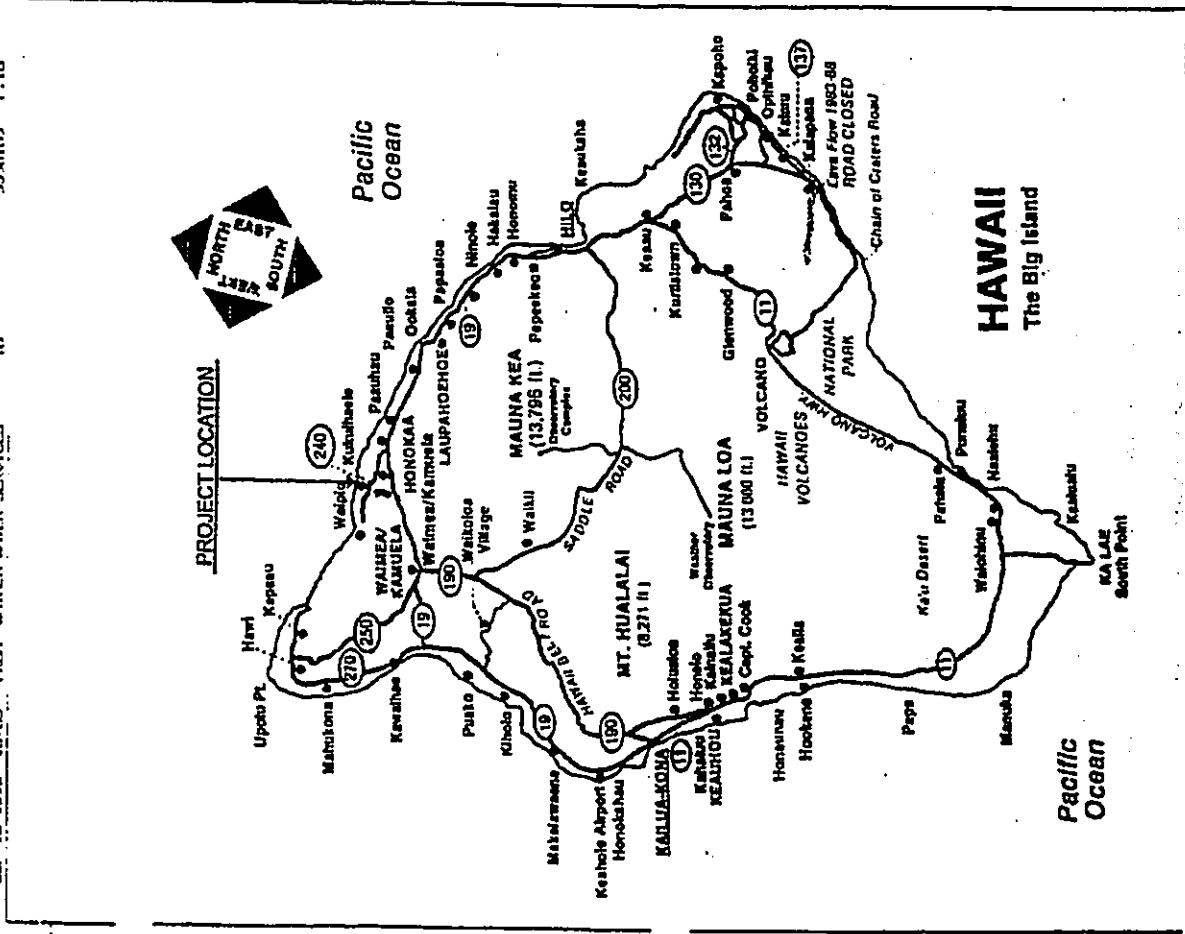
Waste Water Treatment Plant (WWTP) effluent is a valuable source of irrigation water for this property. Effluent can be produced to be used for irrigation. The cost to bring water to the site has been incurred in the drinking water supply and the water should be recovered as an irrigation resource. This water can be used to blend with irrigation water sources.

It is recommended that all WWTP water produced on the site be kept on the site and processed. To insure the highest quality effluent and to provide additional protection of the existing spring source, the use of stand alone WWTP Plants should be used by the 1-acre lots and makai of the highway. This water can be blended with irrigation water and used based on current State regulations. Such out lying plants should be operated and maintained by the resort WWTP operator.

Any sub-surface disposal of sanitary waste water should be handled in the lowest portion of the project area. This will provide maximum protection of the perched ground water.

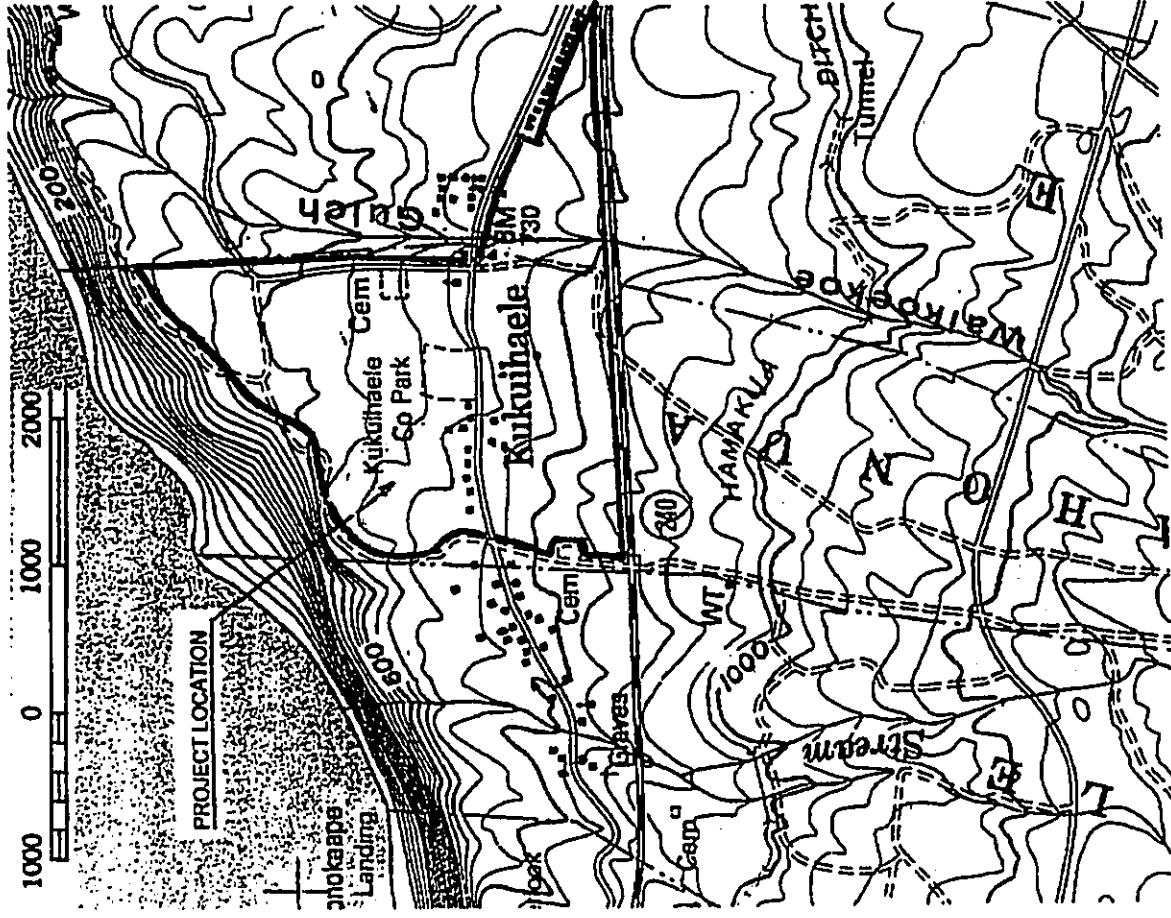
Storm water disposal via shallow drain wells are unlikely to increase pollution potential to the perched water beyond that which already exists.





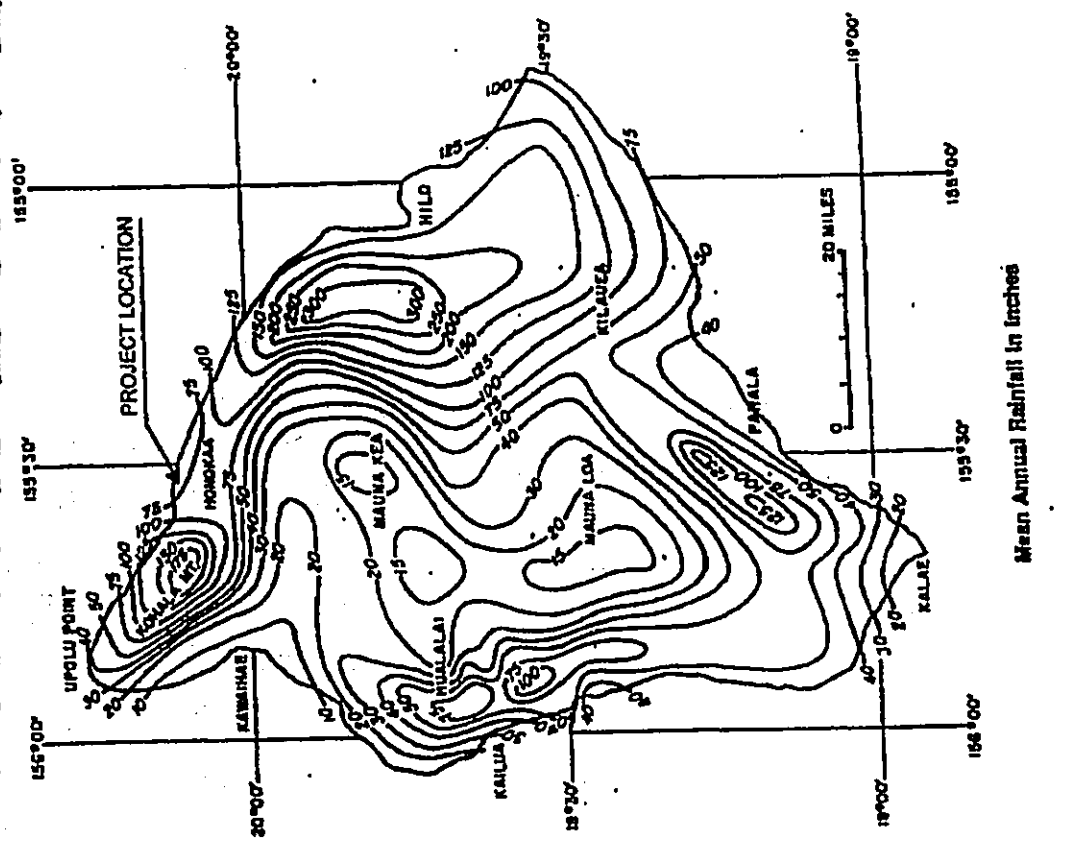
SITE LOCATION MAP
KUKUIHAELE PROJECT

EXHIBIT 1



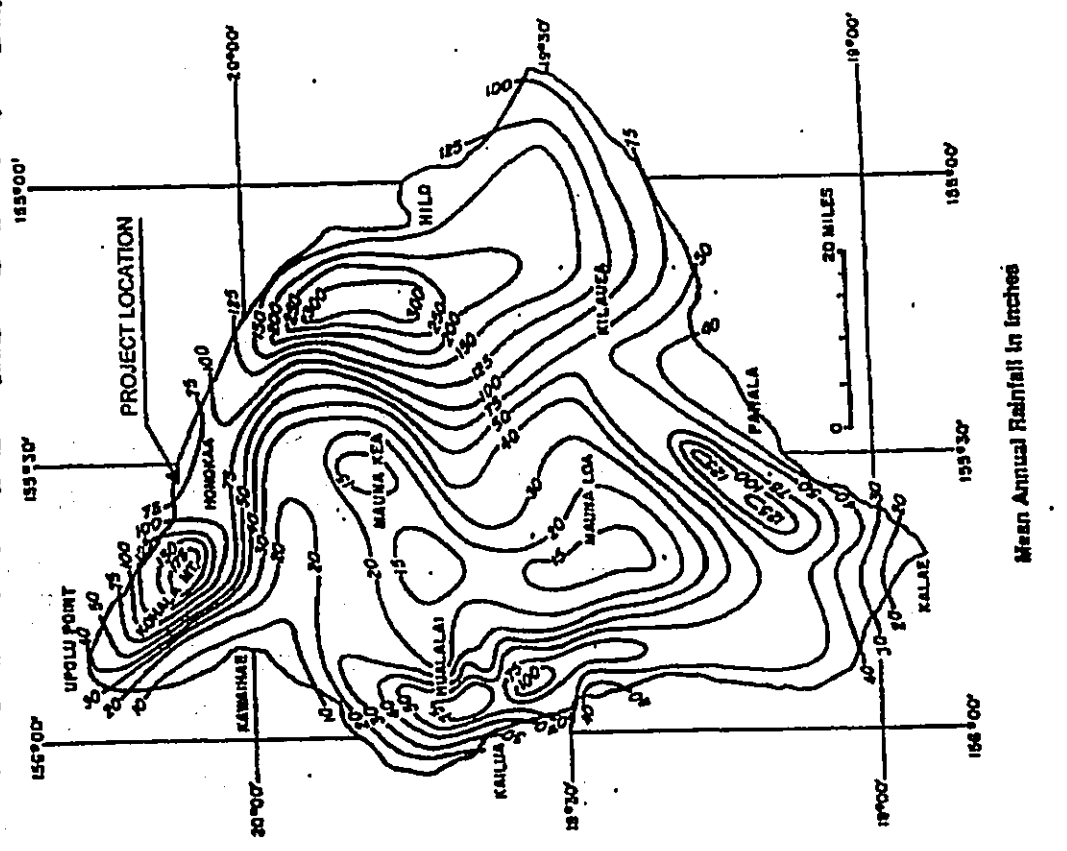
PROJECT AREA TOPO MAP
KUKUIHAELE PROJECT

EXHIBIT 3



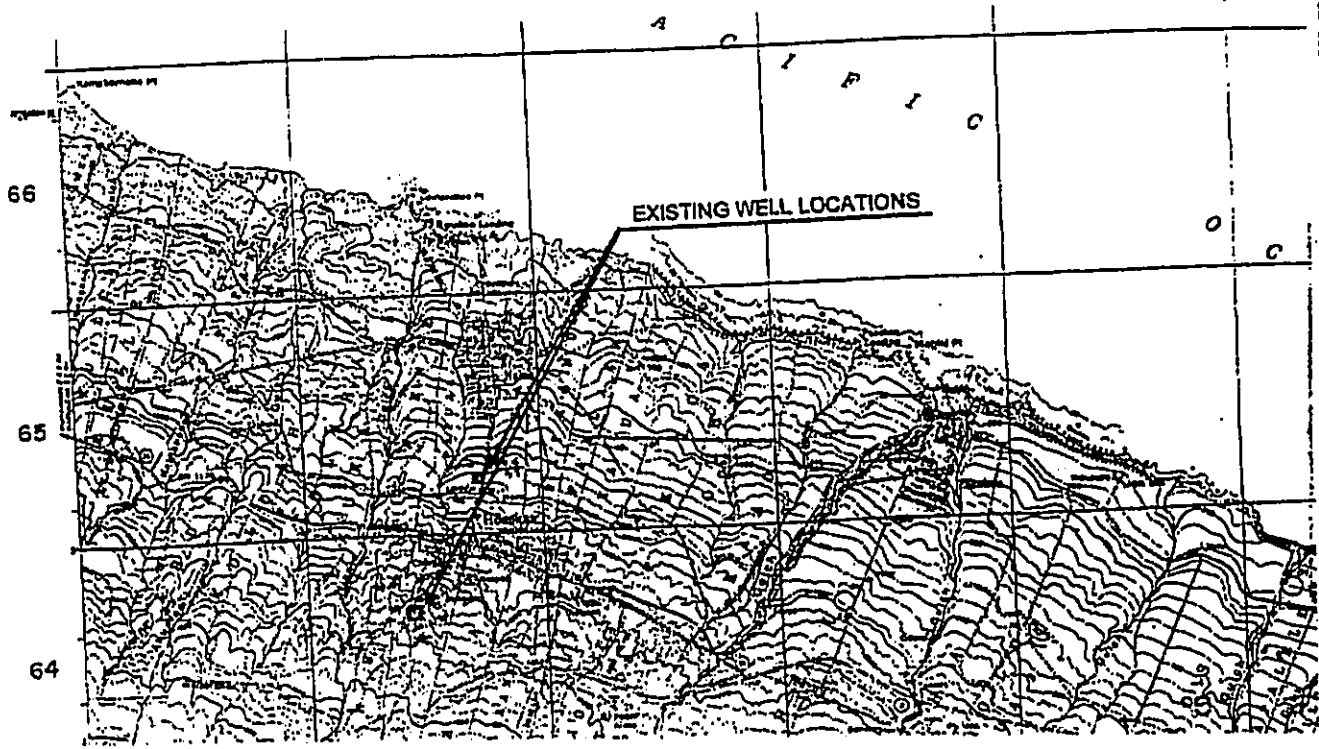
from USGS - 1991 (in preparation)
PROJECT AREA GEOLOGIC MAP
KUKUIHAELE PROJECT

EXHIBIT 5A



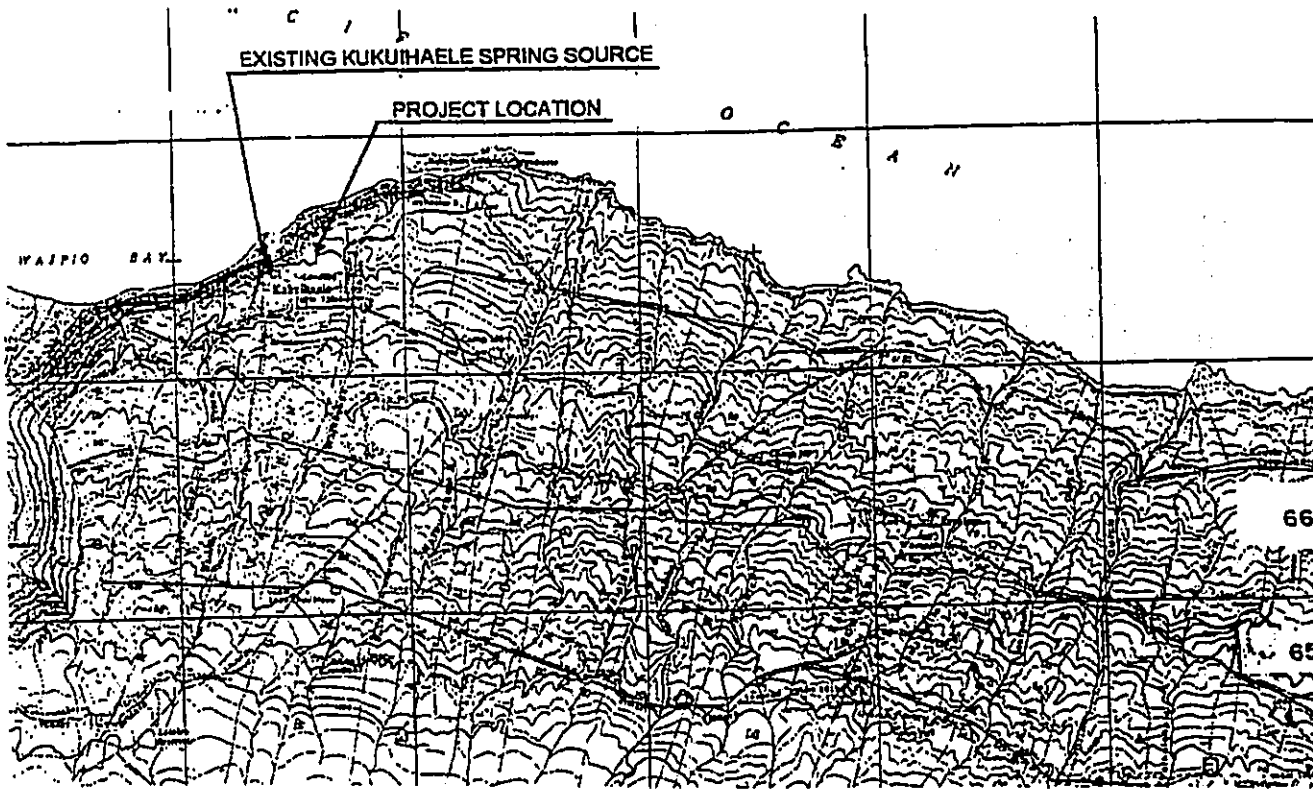
RAINFALL MAP
Source: USGS Report R47

EXHIBIT 4



WELL LOCATION MAP B
KUKUIHAELE PROJECT

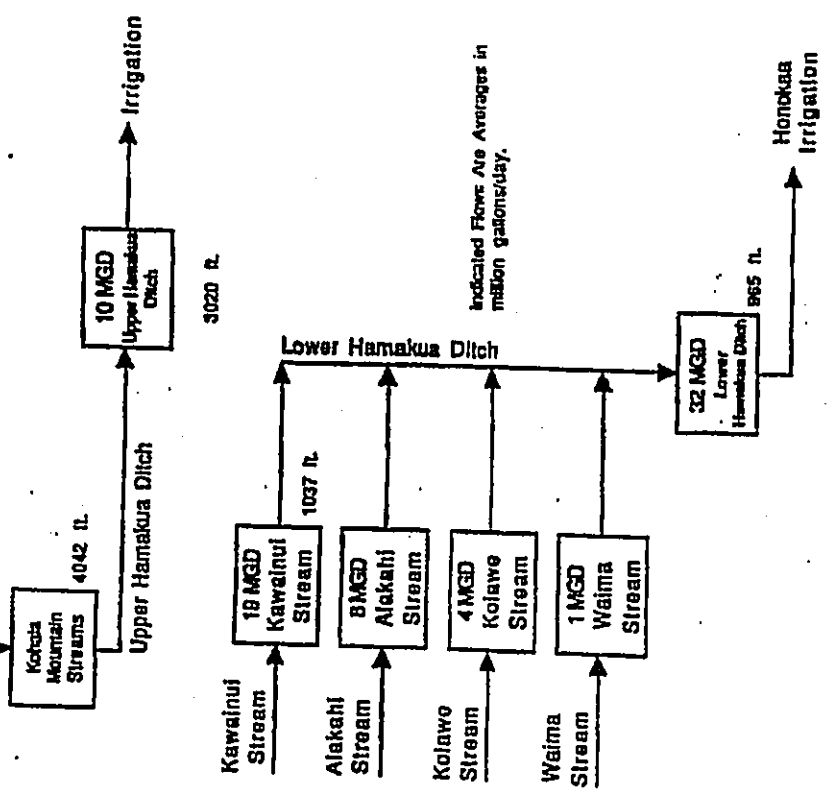
EXHIBIT 6B



WELL LOCATION MAP A
KUKUIHAELE PROJECT

EXHIBIT 6A

HAWAII
 Major Stream Diversions
 Waipio Drainage; Waianai Aquifer System
 Kohala Mountain Streams



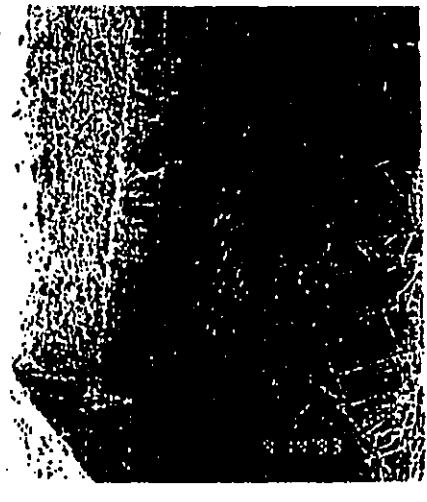
from Hawaii Water Resource Protection Plan
 March 1992

LOWER HAMAKUA DITCH FLOW
 KUKUIHAELE PROJECT

EXHIBIT 7



Lower Hamakua Ditch
 above County reservoir.

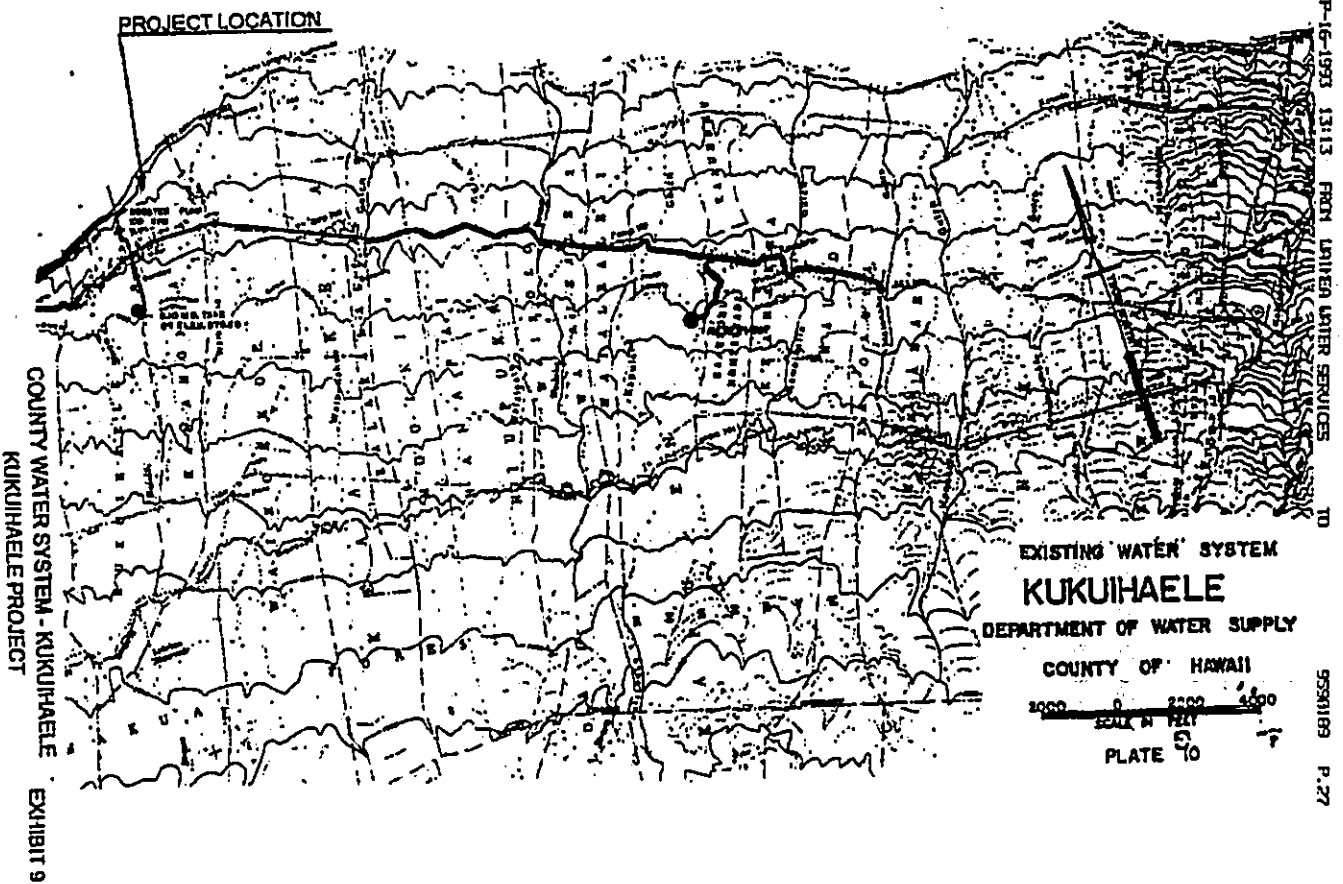
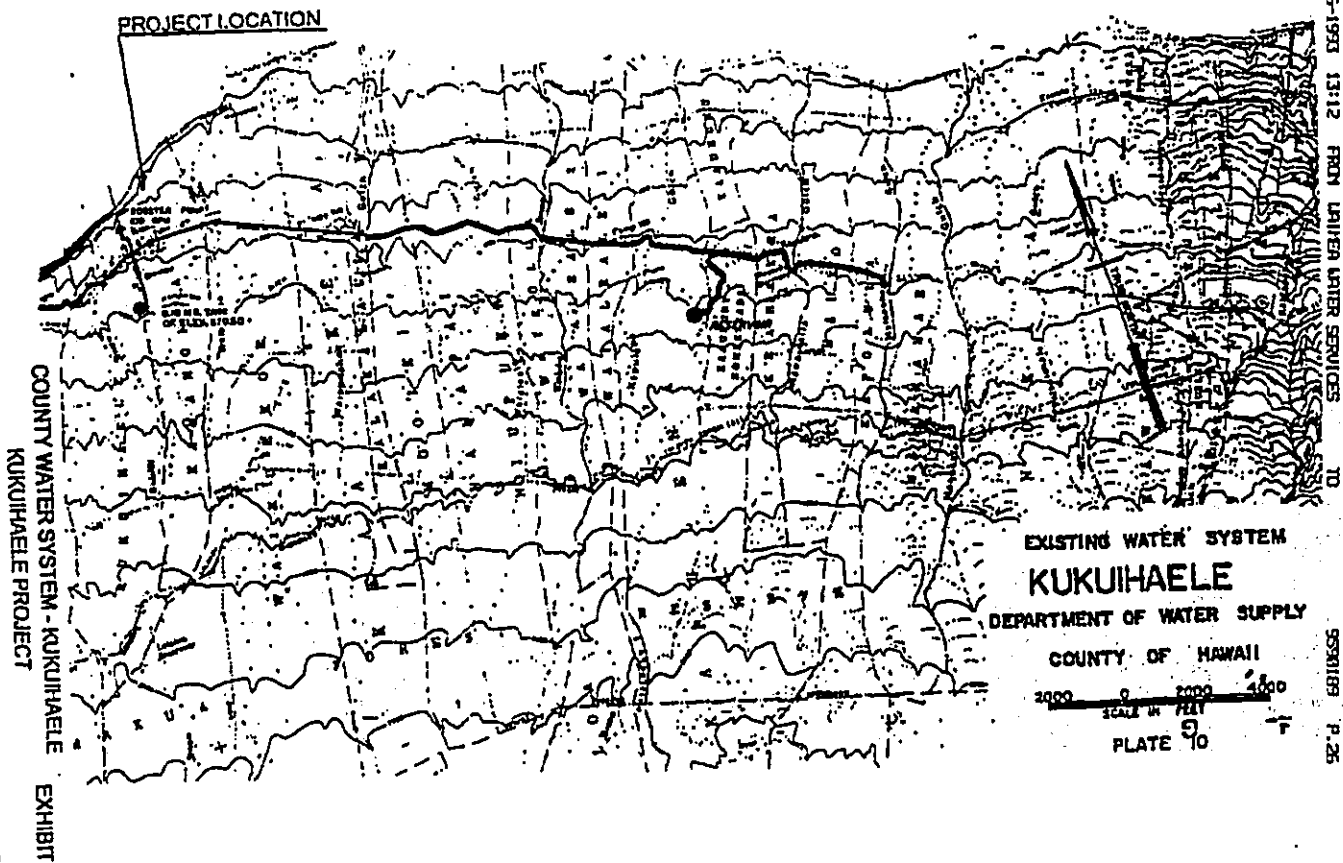


Looking down across
 Ditch to County
 reservoir.

LOWER HAMAKUA DITCH PHOTO
 KUKUIHAELE PROJECT

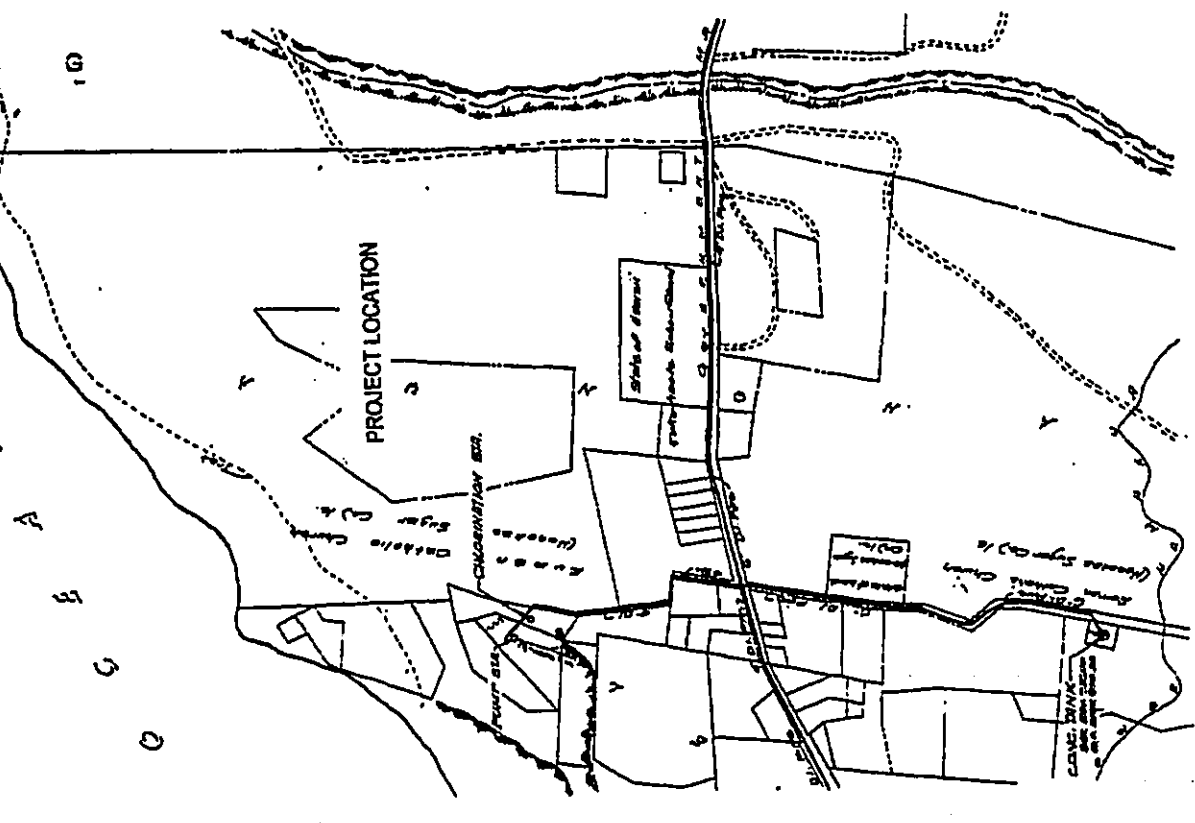
EXHIBIT 8

DOCUMENT CAPTURED AS RECEIVED



SEP-16-1993 17:14 FROM WATER UTILITIES TO

09/16/93 17:20



from Dept. of Water Supply 1993

COUNTY WATER SYSTEM

EXHIBIT 10
FOUR P. 28

APPENDIX H

DEVELOPER'S LETTER OF COMMITMENT

COMMITMENTS FROM AMANRESORT PROJECT DEVELOPERS
TO THE SURROUNDING COMMUNITY

The following represent significant community concerns and issues that we, the Amanresort developers (Silverlink Holdings Limited and Royal Coast Resorts Corporation) are attempting to address by way of making specific commitments to the community:

1. Potential Property Tax Increase On Surrounding Land Owners

We intend to provide a fund to be used to assist in the subsidizing of any increases to the homes in our immediate area (approximately 50-60 homes). To qualify for this subsidy the property owner (1) must have residentially zoned property; (2) must dedicate their property under the existing County Ordinance No. 91-122 which allows them to freeze their property taxes for ten years (adjusted only by the Consumer Price Index), and re-dedicate their property for the next ten year period when the first expires, and (3) continue to retain ownership of their property. A map will be prepared which clearly delineates which homes qualify, but generally speaking it will include Kona Camp, Tiger Camp, the camp behind the Last Chance Store and all other residences in Kukuiahaele extending to the Waipio Lookout.

We will create a Property Tax Trust Fund that initially will be funded with \$25,000 and increased by funding of 2% of the gross sales price of each of the 45 one-acre lots when they are sold. These funds will stay in an interest bearing account during the ten-year period in which the existing ordinance is freezing the tax amount. When the homes that still qualify re-dedicate for the next ten years, they will be re-assessed by the County. This is when there is a potential impact on increases to the homeowner.

The Property Tax Trust Fund will then begin covering the difference between the taxes being charged after reassessment and the previous assessed taxes, adjusted only by the Consumer Price Index increases. There is no way to accurately predict how much the taxes will increase. This fund will provide from \$300,000 to \$500,000 at the end of the first ten-year period.

If a new ordinance is passed in the County which changes the assessment procedures so that property taxes are only re-assessed when a home is sold, this will make this subsidy unnecessary and these funds would become available for other community benefits.

2. Traffic Impact On Kukuiahaele Town Road

The residents of Kukuiahaele have expressed their concern about having the traffic for the project use the existing town road. To minimize this impact, we are prepared to access the project from the State Highway on the west side of Waikooe stream. Access to the Amanresort would only require crossing the town road in one place. Or, as an alternative, the entry can come off the State Highway just west of Tiger Camp so that it would enter the town road on the Last Chance Store side of Tiger Camp. This would require us to use the town road for about two hundred yards. We are prepared to go ahead with either of these alternate routes. We are also looking to the Department of Public Works for guidance on these access routes.

3. Additional Lands to Local Homeowners

Many of the local homeowners have used the former Hamakua Sugar Company lands over the past 30-50 years. We have made a commitment to the owners of lots at Tiger Camp to deed to them the areas they have been using. In many cases these additional lands represent areas of equal or greater size than the actual lots themselves. There are some additional lots near the former grade school playground where we will also deed land to the existing lot owners.

Because these additional lands are all on Agricultural-minimum 40 acre lot size zoned parcels, we will need to apply for rezoning, and in some cases, State land use boundary amendments for parcels as part of our overall land use permitting applications.

4. Community Lands and Recreational Facilities

An area of approximately 11.5 acres, including the social hall site, the field adjacent to it and lands extending to behind Tiger Camp are being dedicated for community use. An Advisory Committee of community representatives will be formed to determine how the community wants to use these lands. A fund of \$175,000 will be set aside for improvements, which may include restoring or replacing the existing social hall, and developing facilities such as a playground, ball field, luau facilities or parking. The area may also be used for taro or other agricultural uses or for a poi factory. We have also committed to improve and maintain the existing playground/park on the makai side of the village road by the former grade school.

5. Affordable Housing

We initially proposed building affordable staff rental units on lands near Tiger Camp. As many residents feel that this will crowd Tiger Camp, we have altered our proposal to offer \$200,000 in cash funds to the County to be used toward building out one of the existing affordable housing sites in Honokaa. If the County of Hawaii determines that these funds would be better spent on community benefits, such as those listed above, these funds may be made available for these in lieu of additional affordable housing funds. Based on the recommendations of the State Housing and Finance Department Corporation, we are also prepared to construct up to ten units of employee housing in an area within the project site that will not impact the Tiger Camp lots.

6. Concern Over Proposed 45 Residential Lots On Land To Be Rezoned For Resort

Concerns have been raised over the impact of these residential lots. We have committed to a minimum one-acre lot size even though portions of the land are currently zoned RS-15 (1/3 acre lots). In our initial proposal we intended to apply for a change of State Land Use Designation for the residential development areas from Agricultural to Urban and from County Agricultural Zoning to Resort. We have now decided to leave most of these areas in Agricultural designation and apply for County one-acre agricultural zoning.

While the intention to have these homes used as residences affiliated with the hotel has not changed, we believe that keeping the land in State Agricultural designation for most of these lots will alleviate concerns regarding future expanded resort use on the property. This change means that only 25 acres of the 77 acres presently in the State Agricultural designation will be taken out of this designation. These 25 acres of Urban State Land Use are being requested for the hotel site, for seven resort-residential one-acre lots, for up to ten units of employee housing and for deedling areas to adjoining residential lot owners.

We hope that this reduction of only 25 acres coming out of Agricultural land use will make some of the Kukuihaele residents more comfortable that their current agricultural lifestyle and use of their lots (keeping chickens, pigs, etc.) will not be jeopardized.

7. Concern Over Increased Density

The developers have committed to not increase the current density on the project lands. The project property of 150 acres is currently zoned to allow for approximately 81 residential units on small 15,000 square foot lots and four larger Ag lots. This residential density of 81 units is almost all crowded onto about 28 acres in the middle of Kukuihaele. The proposed project calls for the same density of 85 units, but spread out over approximately 100 acres. The bungalow style hotel will have only three detached bungalow "rooms" per acre. The residential lots will be minimum one acre in size with significant open space surrounding them so that the overall density is closer to one lot per two acres of gross land area.

8. Access To and Preservation Of the Plantation Manager's Estate

The Plantation Manager's Estate will be preserved in its original state. The grounds are now being carefully maintained and will be further manicured along the lines of the original estate. We recognize the importance and are committed to the protection of the unique stand of 85 year old trees on the property. The house itself will be restored and used as a four-suite Plantation Inn. Because of the interest of the public to not be cut off from the property, there will be buffet/barbecues on the estate lawns held on weekends open to the public.

9. Impact On Waipio Valley

We understand that some of the residents and taro farmers of Waipio Valley are concerned that the development will create more use on the already dangerous access road into the Valley. We would like to work with the various government and local organizations that have been studying the problem to find ways to minimize our impact.

10. Additional Cemetery Lands

Various community members have expressed their concerns that there may not be adequate room to expand the existing Roman Catholic Church and Hawaii County cemeteries. Therefore, we have agreed to deed a strip of land 50 feet wide on two sides of each of these cemeteries to the Church and to the County.

**Commitments From Amanresort Project Developers
To the Surrounding Community**

Page 5

11. Lifetime Residence To Kukulhaele Resident

When we acquired these lands from Hamakua Sugar Company, it included one house on about one acre of land that had been leased for decades to the Reynon family. Mr. Reynon now lives there alone. The former lease expired. We have agreed to let him live out his life on the property.

12. Need For Training For New Job Opportunities

We will participate in providing training programs for former Hamakua Sugar Company employees interested in hotel employment.

13. Need For Project To Support Hawaiian Culture

Some of those in the Hawaiian community have asked us to please try to use Hawaiian names and Hawaiian themes throughout the project and to support Hawaiian activities and Hawaiian culture. Many resorts in Hawaii are now reflecting an international resort culture rather than Hawaiian culture. As with all the Amanresorts in the Pacific Islands, we are committed to supporting local culture and lifestyle and incorporating it into the guest experience. We will be working closely with leaders of the Hawaiian community to seek ways to best support the Hawaiian culture.

APPENDIX I

COMMENTS AND RESPONSES TO THE EIS PREPARATION NOTICE

COMMENTS AND RESPONSES TO THE EIS PREPRATION NOTICE

The EIS Preparation Notice (EISPN) was published in the August 8, 1993 OEQC Bulletin. This publication date was the official start of the 30-day Consultation Period, which officially ended on September 7, 1993. The EISPN included a brief description of the project, the environmental setting, and the potential impacts and mitigation measures to enable reviewers to understand the scope of the project and provide any comments and concerns they believed should be addressed in the Draft EIS.

The EIS Consultant sent the EISPN to the agencies, organizations, and individuals listed below who may have had a potential stake or interest in the project. Those who responded with a comment that required a response are marked with a double asterik (**). Those who sent "no comment" or "no impact" letters are marked with a single asterik (*). All others without asterik(s) did not respond.

The comments received during the Consultation Period and the respective responses to those comments are reproduced in this Appendix. The "no comment" letters are grouped together at the end of this Appendix.

- 1 Federal
 - 1.1 U.S. Department of Agriculture, Soil Conservation Service**
 - 1.2 U.S. Army Corps of Engineers, Pacific Ocean Division**
 - 1.3 U.S. Department of Interior, Fish and Wildlife Service
 - 1.4 U.S. Department of Interior, Geological Survey*
- 2 State
 - 2.1 Department of Agriculture**
 - 2.2 Department of Business, Economic Development and Tourism
 - 2.3 State Land Use Commission**
 - 2.4 Department of Education*
 - 2.5 Department of Hawaiian Home Lands*
 - 2.6 Department of Land and Natural Resources
 - 2.6.1 Director**
 - 2.6.2 Land Management Division
 - 2.6.3 State Historic Preservation Division
 - 2.6.4 State Parks Division*
 - 2.6.5 Aquatic Resources Division
 - 2.6.6 Water Resources Division*
 - 2.6.7 Forestry and Wildlife
 - 2.6.8 Na Ala Hele**
 - 2.7 Department of Health**
 - 2.8 Department of Accounting and General Services*
 - 2.9 Department of Transportation**
 - 2.10 Office of State Planning**
 - 2.11 Office of Hawaiian Affairs
 - 2.12 Department of Human Services
 - 2.13 University of Hawaii
 - 2.13.1 Water Resources Research Center
 - 2.13.2 Environmental Center
- 3 County
 - 3.1 Planning Department
 - 3.2 Department of Public Works**

- 3.3 Department of Parks and Recreation
- 3.4 Department of Research and Development
- 3.5 Department of Water Supply**
- 3.6 Department of Housing and Community Development*
- 3.7 Fire Department**
- 3.8 Police Department*
- 3.9 Civil Defense Agency**
- 4 Other
- 4.1 Utilities
 - 4.1.1 HELCO
 - 4.1.2 Hawaiian Telephone
- 4.2 Community and Environmental Groups
 - 4.2.1 American Lung Association
 - 4.2.2 Hamakua Development Council
 - 4.2.3 Waipio/Kukuihaele Ohana Hana Like Community Assoc.
 - 4.2.4 Hawaiian Civic Club (Honokaa)
 - 4.2.5 Sierra Club
 - 4.2.6 Life of the Land
 - 4.2.7 Public Access Shoreline Hawaii
 - 4.2.8 Historic Hawaii Foundation
 - 4.2.9 Waipio Taro Farmers Association**
 - 4.2.10 Hamakua Soil & Water Conservation District
 - 4.2.11 E Mau Na Ala Hele**
- 4.3 Business and Labor Groups
 - 4.3.1 International Longshoremens Workers' Union (ILWU)
 - 4.3.2 Hamakua-Kohala District Council of the Hawaii County Economic Opportunity Council (HCEOC)
 - 4.3.3 Hawaii Chamber of Commerce
 - 4.3.4 Hawaii Visitors Bureau
 - 4.3.5 Big Island Business Council*
 - 4.3.6 Portuguese Chamber of Commerce
 - 4.3.7 Japanese Chamber of Commerce
 - 4.3.8 Kona-Kohala Chamber of Commerce
 - 4.3.9 Hawaii Building & Construction Trades Council
 - 4.3.10 Plumbers & Pipefitters Local 675
 - 4.3.11 Bricklayers, Masons & Plasterers, Local 1
 - 4.3.12 Laborers' International Union, Local 368
 - 4.3.13 Sheet Metal Workers. Local 293
 - 4.3.14 Hawaii Operating Engineers
 - 4.3.15 Hawaii Hotel Association, Big Island Chapter
 - 4.3.16 Hawaii Island Board of Realtors
 - 4.3.17 Hawaii Island Contractors Association
 - 4.3.18 Hawaii Island Economic Development Board
 - 4.3.19 Kohala Coast Resort Association
 - 4.3.20 Kona Board of Realtors
- 4.4 Individuals
 - 4.4.1 Lani Ma'a (relative of Kukuihaele resident)
 - 4.4.2 Henry Ross
 - 4.4.3 Linda Dima**

- 4.4.4 Jack Kaaua**
- 4.4.5 Bob Impson**
- 4.5 Media
 - 4.5.1 West Hawaii Today (Arlene Stephi)
 - 4.5.2 Tribune Herald (Gordon Pang)
 - 4.5.3 Advertiser (Hugh Clarke)
 - 4.5.4 Pacific Business News (Christine Rodrigo)
- 4.6 Politicians
 - 4.6.1 County Council
 - 4.6.1.1 Spencer Kalani Schutte
 - 4.6.1.2 Brian De Lima
 - 4.6.1.3 Takashi Domingo
 - 4.6.1.4 James Arakaki
 - 4.6.1.5 Bob Rosehill
 - 4.6.1.6 Helene Hale
 - 4.6.1.7 Keiko Bonk-Abramson*
 - 4.6.1.8 Keola Childs**
 - 4.6.1.9 James Rath
 - 4.6.2 State Legislature
 - 4.6.2.1 Senate
 - 4.6.2.1.1 Andrew Levin*
 - 4.6.2.1.2 Richard Matsuura
 - 4.6.2.1.3 Malama Solomon
 - 4.6.2.2 Representatives
 - 4.6.2.2.1 Jerry Chang
 - 4.6.2.2.2 Virginia Isbell
 - 4.6.2.2.3 Robert Herkes
 - 4.6.2.2.4 Larry Tanimoto
 - 4.6.2.2.5 Harvey Tajiri
 - 4.6.2.2.6 Dwight Takamine

United States
Department of
Agriculture

Soil
Conservation
Service

P. O. Box 50004
Honolulu, HI
96850-0001

September 8, 1993

Mr. Roy Takemoto
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Subject: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice
Request for Concerns


We have completed review of the proposed resort development at Kukuihaele. Land grading is anticipated; soil and slope conditions at the site will require a comprehensive erosion control plan. This erosion control plan should be closely integrated with a detailed storm drainage plan.

Historically, the Kukuihaele area is consistently affected by flooding and erosion caused by high intensity rainfall on land with highly erosive soils. The potential nonpoint source pollution of the ocean should be addressed.

In addition, it appears the present water supply and distribution system must be improved to support installation of the erosion control plan and proposed development.

We appreciate the opportunity to provide comments and suggestions for preparation of the Environmental Impact Statement. Should you have any questions, please feel free to contact Mike Tulang at 541-2606.

Sincerely,


NATHANIEL R. CONNER
State Conservationist

cc: Ms. Virginia Goldstein, Director, Hawaii County Planning Department
25 Aupuni Street, Hilo, Hawaii 96720.
Mr. Lindsey Carter, District Conservationist, Hawaii Field Office

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

October 20, 1993

Mr. Nathaniel Conner, State Conservationist
Soil Conservation Service
U.S. Department of Agriculture
P.O. Box 50004
Honolulu, HI 96850

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Conner:


Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. Erosion Control-Drainage-Non-Point Source Pollution. The Draft EIS will analyze the susceptibility of the soils to erosion. Appropriate mitigation measures will be suggested as part of an erosion control plan to control erosion and minimize non-point source pollution. A drainage master plan will be prepared during the design phase of the project for review by the Department of Public Works.
2. Water Supply. The Draft EIS will assess the capacity of the existing water system and identify water supply alternatives.

We will send you a copy of the Draft EIS when it is completed. We anticipate completion in the latter part of November. You will have an opportunity to review the document and provide additional comments.

If you have any questions or additional comments, please call me.

Yours truly,


Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858-5440

August 30, 1993

REPLY TO
ATTENTION OF:

Planning Division

Mr. Roy Takemoto
Land Use Planning and Law Consultants
171 Hoomalulu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Thank you for the opportunity to review and comment on the Preparation Notice for an Environmental Impact Statement (EIS) for the Proposed Aman Resort, Hamakua, Hawaii (TYX 4-8-6: 3, 9, for. 11, 13, 43, 44). The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. Any work performed in Waipuli and Waikoekoe Gulches may require a DA permit. The drainage plans will need to be coordinated with our Operations Division. In addition, the EIS should include a botanical and wetland survey to substantiate the statement that wetlands are not present. For further information, please contact our Operations Division at 438-8552 and refer to file number P093-079.

b. The flood hazard information presented on page 6 of the report is correct.

Sincerely,

James A. Cheung
James A. Cheung, P.E.
Director of Engineering

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalulu Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

September 10, 1993

Mr. Kisuk Cheung, Director of Engineering
Department of the Army
U.S. Army Engineer District, Honolulu
Building 230
Fort Shafter, HI 96858-5440

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Cheung:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. The Draft EIS will contain information on wetlands from the Wetlands Inventory conducted by the U.S. Fish and Wildlife. There will be no work performed within the gulches. The Draft EIS will state that drainage plans should be coordinated with your Operations Division during the design phase of the project to ensure that the gulches have not been impacted.
2. The Draft EIS will include the flood information confirmed by your department as being correctly presented in the EIS Preparation Notice.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,

Roy Takemoto
Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

JOHN WAIKIE
Governor



State of Hawaii
DEPARTMENT OF AGRICULTURE
1424 So. King Street
Honolulu, Hawaii 96814-2512

YUKIO KITAGAWA
Chairperson, Board of Agriculture
KUMIA A. PEAMALA
Deputy to the Chairperson
FAX: (808) 973-9613
MADONJ ALBUQUERQUE
P. O. Box 23159
Honolulu, Hawaii 96822-3159

September 30, 1993

Mr. Roy Takemoto
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Subject: Proposed Aman Resort, Kukuiahaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice
TMK: 4-8-6-03; 09; portion of 11; 13; 43; 44; Hamakua, Hawaii

The Department of Agriculture has reviewed the subject proposal and offers the following comments.

According to the proposal, the applicant will seek to amend the designation of the subject parcels in the Hamakua District from agricultural to urban uses. Examples of urban type uses include the construction of resorts or villas, a recreation center, and others (including gift shops, a restaurant, and dining facilities). The proposed development will require the preparation of an Environmental Impact Statement.

The subject area is located in Kukuiahaele, southeast of Weipio Valley. The proposal would result in the urbanization of approximately 66 acres in former sugarcane lands.

Issues That Should be Addressed

Our Department would like to see the following issues addressed in the Environmental Impact Statement:

- The relationship of this project to any other planned developments in the Hamakua Development Plan area;
- An agricultural impact analysis which includes the assessment of the proposed project's potential impact on alternative future agricultural activities which may replace Hamakua sugarcane operations, and on the agricultural policies of the State of Hawaii. The analysis needs to include the full impact of the project on the economic viability of the agricultural options. The analysis would include the loss in potential production per acre, lost revenues, cost of replacement field preparation (if any), and any other indicators of adverse impact;



Roy Takemoto
September 30, 1993
Page 2

- The economic feasibility and potential of establishing viable agricultural uses on the project site;
- The possible impacts of the project on the Lower Hamakua Ditch and other users of the system.
- The broader economic resource impact on the State from the irrevocable loss of "prime" agricultural lands;
- Conformity to the State Agriculture Functional Plan, 1991, and its objectives and policies, particularly, Implementing Action H12(f); and
- The relationship to the following Hawaii State Plan policies and priority guidelines: 226-7(a)(6) "Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs." 226-103(c)(11) "Provide adequate agricultural lands to support the economic viability of the sugar and pineapple industries." 226-103(d)(11) "Identify, conserve and protect aquacultural lands of importance and initiate affirmative and comprehensive programs to promote economically productive agricultural districts." 226-104(b)(2) "Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district."

Thank you for the opportunity to comment. We will provide further comment upon our receipt and review of the Environmental Impact Statement.

Sincerely,

Yukio Kitagawa
YUKIO KITAGAWA, Chairperson
Board of Agriculture

cc: Hawaii County Planning Department
Office of Environmental Quality Control

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

October 20, 1993

Mr. Yukio Kitagawa
Chairperson, Board of Agriculture
Department of Agriculture
1428 South King Street
Honolulu, HI 96814-2512

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Kitagawa:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. Planned Developments. The Draft EIS will list known planned developments in the Hamakua area and discuss the relationship of the proposed project to these planned developments.
2. Agricultural Impact. The Draft EIS will discuss the viability of diversified agriculture as an alternative use of the Project Site. The extent of conformance with the State Plan, including the agricultural policies, will be discussed. The agricultural suitability of the soils will also be discussed.

We will send you a copy of the Draft EIS when it is completed. We anticipate completion in the latter part of November. You will have an opportunity to review the document and provide additional comments.

If you have any questions or additional comments, please call me.

Yours truly,


Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company





DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813
Telephone: 587-3822

August 16, 1993

Mr. Roy Takemoto
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Subject: Environmental Impact Statement Preparation Notice (EISRN) for
Amam Resort, Kukuilaele, Hamakua District, Hawaii

We have reviewed the EISRN for the subject Amam Resort project
transmitted with your letter of August 10, 1993, and have the following
comments:

- 1) Based on the location map and site plan, we find that portions of
the proposed project are located within the State Land Use Urban and
Agricultural Districts. It appears that the proposed Amam Resort and
Amam Villas are within the Agricultural District, while the
Amamideaway and the Social & Recreation Center appear to be within
the Urban District as stated on page 9 of the EISRN. Based on the
site plan, the proposed affordable housing appears to be in the
Urban District, not in the Agricultural District.
- 2) Based on page 9 of the EISRN, we understand that a petition for
district boundary amendment in connection with the project will be
filed with the Land Use Commission in the future. However, as noted
above, the location of the amendment area in relation to the project
site is not clear. We suggest that the draft EIS include a map
showing the project's boundaries in relation to the State Land Use
Districts.

We have no further comments to offer at this time. Thank you for the
opportunity to provide comments on this matter.

Should you have any questions on this matter, please feel free to call me
or Bert Saruwatari of our office at 587-3822.

Sincerely,

ESIHER UEDA
Executive Officer

EU:th
cc: DEEDU

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

September 10, 1993

Ms. Esther Ueda, Executive Director
Land Use Commission
Department of Business and Economic Development
Room 104, Old Federal Building
335 Merchant Street
Honolulu, HI 96813

RE: PROPOSED AMAN RESORT
Kukuilaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Ms. Ueda:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Amam
Resort. Your comments will be addressed in the Draft EIS as follows:

1. The Land Use District boundaries will be reconfirmed when preparing the Draft EIS. Thank you
for highlighting potential inaccuracies.
2. The Draft EIS will include a map to clearly show the Project Site in relation to Land Use
Districts.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October.
You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,

Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuilaele Development Company

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES



DEPARTMENT OF LAND AND NATURAL RESOURCES
DEPUTY
COMMISSIONER
OFFICE

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 831
HONOLULU, HAWAII 96808

REF: OCEA:SKK

Mr. R. Takemoto

File No.: 94-092

We will forward our Historic Preservation Division comments as they become available.

We have no other comments to offer at this time. Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Mr. Roy Takemoto
171 Hoomalu Street
Hilo, Hawaii 96808

Dear Mr. Takemoto:

Subject: Environmental Impact Statement Preparation Notice (EISRN):
Proposed Awan Resort, Kukuiaele, Hamakua District, Hawaii,
TRK: 4-8-06: 3, 9, par. 11, 13, 43, 44

We have reviewed the EISRN information for the subject project transmitted by your letter dated August 10, 1993, and have the following comments:

Commission on Water Resource Management

The Commission on Water Resource Management's (CWRM) staff comments that the EISRN indicates that "The proposed project will share in the cost with the County for a new groundwater source, transmission, and storage facilities which will upgrade the entire Kukuiaele municipal water system."

Pursuant to Chapter 168, Hawaii Administrative Rules, a Well Construction and a Pump Installation Permit may be required by CWRM for the proposed new groundwater source development.

Office of Conservation and Environmental Affairs

The Office of Conservation and Environmental Affairs (OCEA) comments that the northern (makai) boundary of the proposed project is located near the Limited "L" subzone of the Conservation District. OCEA suggests that the applicant consult with the State Land Use Commission on the precise location of this boundary.

Very truly yours,

Keith W. Ahe
KEITH W. AHE

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

October 20, 1993

Mr. Keith Ahue, Director
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96808

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Ahue:


Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. Drinking Water Source. The Draft EIS will acknowledge the applicability of the well construction and pump installation permits to the proposed drinking water wells.
2. Conservation District. The Draft EIS will include a map showing the Conservation district boundaries relative to the Project Site location.

We will send you a copy of the Draft EIS when it is completed. We anticipate completion in the latter part of November. You will have an opportunity to review the document and provide additional comments.

If you have any questions or additional comments, please call me.

Yours truly,


Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company





NA ALA HELE
Hawaii Trail & Access System

September 30, 1993

Mr. Roy Takemoto
171 Hoomalu St.
Hilo, HI 96720

Dear Mr. Takemoto:

Na Ala Hele conducted an on-site inspection of the proposed AHAN Resort at Kukuihaele on September 28, 1993. Although the area was extensively cultivated, some portions of the secondary roads indicated on the attached map were evident on the ground. Perhaps the draft environmental impact statement (DEIS) could address the jurisdiction of the roads as they may have been used to access Kukuihaele landing and lighthouse and the community that existed in the past.

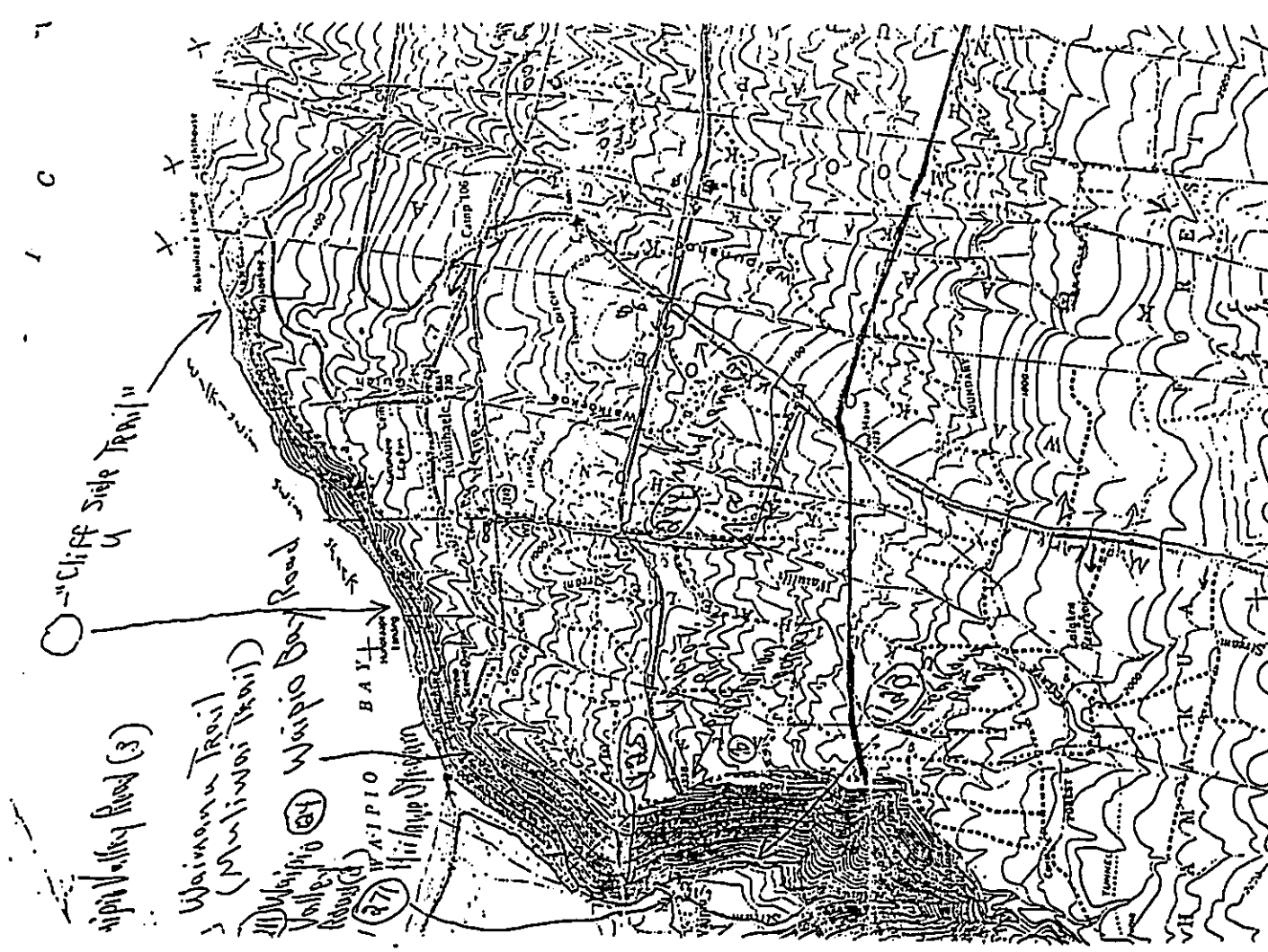
The proposed development is expected to be reviewed by the Na Ala Hele Advisory Council. Please include Na Ala Hele as a recipient of the DEIS when it is completed.

Department of Land and Natural Resources
Division of Forestry and Wildlife
Na Ala Hele
P.O. Box 4849
Hilo, HI 96720

Sincerely,

Roy T. Oki
RODNEY T. OSHIRO
Na Ala Hele

cc: Chris Meller, Na Ala Hele
Gilbert Kabele, Na Ala Hele Advisory Council Chairman



Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomaluu Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

October 20, 1993

Mr. Rodney Oshiro
Na Ala Hele
Department of Land and Natural Resources
P.O. Box 4849
Hilo, HI 96720-0849

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Oshiro:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

- o Trails and Jeep Access Road. We appreciate your effort to conduct a special field investigation. The Draft EIS will identify the shoreline trail. Since this trail is located outside the Project Site, there should be no impact. The Draft EIS will also identify the access to Kukuihaele Landing. Since the jeep trail within the Project Site has not been used to access the Landing, the project will not impede public access to Kukuihaele Landing. If there is a special significance of the jeep trail, we would appreciate any information.

We will send you a copy of the Draft EIS when it is completed. We anticipate completion in the latter part of November. You will have an opportunity to review the document and provide additional comments.

If you have any questions or additional comments, please call me.

Yours truly,


Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company





JOHN WELSH
DIRECTOR OF HEALTH

JOHN C. LEWIS, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH

P. O. BOX 2378
HONOLULU, HAWAII 96801

In reply, please refer to:

September 20, 1993

93-241/epo

Mr. Roy Takemoto
Land Use Planning & Law Consultant
171 Hoomaluu Street
H110, Hawaii 96720

Dear Mr. Takemoto:

Subject: Environmental Impact Statement Preparation Notice
Request for Comments
Proposed Aman Resort
Kukuihaele, Hamakua District, Hawaii
THK: 4-8-8: 3, 9, par. 11, 13, 43 & 44

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Water Pollution

A National Pollutant Discharge Elimination System (NPDES) permit is required for any discharge to waters of the State including the following:

1. Storm water discharges relating to construction activities for projects greater than five acres;
2. Storm water discharge from industrial activities;
3. Construction dewatering activities;
4. Cooling water discharges less than one million gallons;
5. Ground water remediation activities; and
6. Hydrotesting water

Any person wishing to be covered by the NPDES general permit for any of the above activities should file a Notice of Intent with the Department's Clean Water Branch at least 90 days prior to commencement of any discharge to waters of the State.

Mr. Roy Takemoto
September 20, 1993
Page 2

Any questions regarding this matter should be directed to Mr. Denis Lau of the Clean Water Branch at 586-4309.

Solid Waste

1. The applicant should develop an overview of the solid waste impacts resulting from the proposed resort, including a conceptual plan for minimizing the generation and disposal of waste during construction and operations. This plan should be based on the State's waste management hierarchy and goals and any applicable County goals or conditions.
2. The developer should, based on the impact analysis, participate in the funding and construction of necessary solid waste disposal and diversion facilities, on a pro-rata basis, as determined by the State's Department of Health and the County's Department of Public Works.
3. At the time of local zoning approval, a detailed Integrated Waste Management Plan for the development should be submitted to the County's Department of Public Works, which would address specific waste diversion programs necessary to assist in meeting the State and County reduction goals.
4. The developer should investigate the use of secondary resources (recycled materials) whenever possible in the construction of the project, including but not limited to, the use of crushed glass as an aggregate substitute in road paving and the use of locally-produced greenwaste compost as a soil amendment in landscaping.

Any questions regarding this matter should be directed to Mr. John Harder of the Office of Solid Waste Management at 586-4240.

Underground Injection Control (UIC)

1. The UIC program administers Hawaii Administrative Rules, Title 11, Chapter 23, "Underground Injection Control." If any injection wells, including drywells for storm water runoff are proposed, the UIC program must review and approve the plans prior to commencing construction.
2. UIC rules prohibit injection wells within 1/4 mile of a drinking water well.
3. Individual Wastewater Systems (IWS) serving residential and non-residential buildings which receive solely sanitary wastes less than one thousand (1000) gallons per day (gpd) of wastewater are excluded from UIC Chapter 23 regulations. If an IWS, including a cesspool, receives greater than 1000 gpd of wastewater, then it would be a sewage injection well, which is prohibited by Chapter 11-23 above the UIC line.

If you should have any questions on this matter, please contact Mr. Kevin Hood of the Safe Drinking Water Branch at 586-4270.

Mr. Roy Takemoto
September 20, 1993
Page 3

Drinking Water

1. Federal and state regulations define a public water system as a system that serves 25 or more individuals at least 60 days per year or has at least 15 service connections. All public water system owners and operators are required to comply with Hawaii Administrative Rules, Title 11, Chapter 20, "Rules Relating to Potable Water Systems."
2. Section 11-20-29 of Chapter 11-20 requires that all new sources of potable water serving a public water system be approved by the Director of Health prior to its use. Such an approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set forth in Section 11-20-29.
3. The engineering report must identify all potential sources of contamination and evaluate alternative control measures which could be implemented to reduce or eliminate the potential for contamination, including treatment of the water source. In addition, water quality analyses, performed by a laboratory certified in the state of Hawaii, must be submitted as part of the report to demonstrate compliance with all drinking water standards. Additional tests may be required by the Director upon his review of the information submitted.
4. Section 11-20-30 of Chapter 11-20 requires that new or substantially modified distribution systems for public water systems be approved by the Director. However, if the water system is under the jurisdiction of the County of Hawaii, the Department of Water Supply will be responsible for the review and approval of the plans.

If you should have any questions regarding this matter, please contact Mr. Stuart Yamada of the Safe Drinking Water Branch at 586-4271.

Wastewater


1. The subject project is located in the noncritical wastewater disposal area as determined by the Hawaii County Wastewater Advisory Committee.
2. Although cesspools may be allowed in this area under our new rules, we would like to begin phasing out the installation of cesspools wherever possible. As such, we would like to begin recommending the use of treatment individual wastewater systems when a treatment plant (municipal or private) is not feasible or compatible with the land area. The use of septic systems would help minimize contamination to the underground water resources and prevent further cesspool failures.
3. As there is no existing sewer service system in the area, the Department of Health (DOH) concurs with the use of a private treatment plant to serve the resort and recommends the use of treatment individual wastewater systems (septic onsite systems) for wastewater treatment and disposal from the 4-suite inn and villas. The treated effluent from the private treatment plant should be reused for irrigation purposes wherever possible.

Mr. Roy Takemoto
September 20, 1993
Page 4

All wastewater plans must conform to applicable provisions of the DOH's Administrative Rules, Chapter 11-62, "Wastewater Systems."

If you should have any questions on this matter, please contact Ms. Lori Kajiwara of the Wastewater Branch at 586-4290.

Very truly yours,



JOHN C. LEWIN, M.D.
Director of Health

cc: Clean Water Branch
Safe Drinking Water Branch
Waste Water Branch
Office of Solid Waste Management

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomala Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

October 20, 1993

John C. Lewin, M.D., Director
Department of Health
P.O. Box 3378
Honolulu, HI 96801

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Dr. Lewin:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

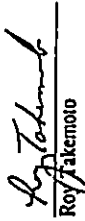
1. Water Pollution. The Draft EIS will acknowledge the applicability of the NPDES Permit to construction activities.
2. Solid Waste. The Draft EIS will estimate the potential volume of solid waste that could be generated by the project based on county standards. Mitigation measures will include a requirement for the hotel operator to develop an integrated solid waste management plan to reduce and recycle waste, as well as a requirement for the contractor to consider use of recycled materials such as crushed glass as an aggregate substitute.
3. Underground Injection Control (UIC). The Draft EIS will acknowledge the applicability of the UIC Permit to stormwater drywells if the drywells meet the definition of injection wells. The project will not use individual wastewater systems that receive greater than 1000 gpd since the entire Project Site is above the UIC line. Since a proposed alternative is to drill a drinking well within the Project Site, the Draft EIS will note the restriction to locate injection wells within 1/4 mile of the drinking water well. Thank you for clarifying the applicability of these UIC rules.
4. Drinking Water. The Draft EIS will identify water supply alternatives. Since one alternative will be to drill a well serving a "public water system," the Draft EIS will acknowledge the applicability of Hawaii Administrative Rules Chapter 11-20 to the new potable source.
5. Wastewater. The Draft EIS will state DOH's preference for septic onsite systems in lieu of cesspools even if cesspools may be permitted. Regarding the effluent from the proposed private treatment plant to serve the hotel, the Draft EIS will include reclamation for irrigation purposes as a disposal alternative.

We will send you a copy of the Draft EIS when it is completed. We anticipate completion in the latter part of November. You will have an opportunity to review the document and provide additional comments.

John C. Lewin, M.D., Director
Department of Health
October 20, 1993
Page 2

If you have any questions or additional comments, please call me.

Yours truly,


Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

JOHN WANKER
COUNCILOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5007

September 8, 1993

Mr. Roy R. Takemoto
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Subject: EIS Preparation Notice
Proposed Aman Resort
Kukuihaele, Hamakua District, Hawaii

A Traffic Impact Analysis Report (TIAR) for the proposed development should be prepared and made a part of the draft EIS. Our comments will be submitted after our review of the TIAR.

Thank you for the opportunity to provide comments.

Sincerely,

Rex D. Johnson
Director of Transportation

REX D. JOHNSON
DIRECTOR
CAPTIVE DIRECTORS
MAHANA HOLY
JOYCE T. OARNE
AL PANG
CALVINIA TSUDA
IN REPLY REFER TO:
STP 8.5440

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720
Phone/Fax (808) 959-0109

October 20, 1993

Mr. Rex D. Johnson, Director
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice- Response to Comments

Dear Mr. Johnson:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. The Draft EIS will include a Traffic Impact Analysis Report for your review.

We will send you a copy of the Draft EIS when it is completed. We anticipate completion in the latter part of November. You will have an opportunity to review the document and provide additional comments.

If you have any questions or additional comments, please call me.

Yours truly,

Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



OFFICE OF STATE PLANNING

Office of the Governor
MAILING ADDRESS: P. O. BOX 3340 HONOLULU HAWAII 96831-3340
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR
HONOLULU, HAWAII 96813
TELEPHONE: (808) 521-7944, 521-7950

FULL-DIRECTOR OFFICE 521-2888
PLANNING DIVISION 521-2884

Ref. No. C-2016

August 25, 1993

Mr. Roy Takemoto
Land Use Planning and Law Consultant
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Subject: Review of Proposed Aman Resort Environmental Impact Statement
Preparation Notice

We have reviewed the referenced document and have the following comments:

Although the project site is not within the Special Management Area (as noted on page 10 of the referenced document), the project site is located within the coastal zone management area, and thus the State's Coastal Zone Management (CZM) law, Chapter 205A, Hawaii Revised Statutes, is applicable. With the recent passage of Act 91 in 1993, the coastal zone management area now includes all land areas, as well as all marine waters extending to the limit of the State's police power and management authority. State forest reserve lands were excluded until recently. Chapter 205A was also amended to add two additional sets of objectives and policies. There are now nine objectives and their supporting policies that should be addressed by the project: recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managing development, public participation, and beach protection. Please refer to the actual legislation in preparing your draft environmental impact statement.

The primary coastal management concerns for this project relate to the impact on coastal ecosystems, scenic and open space resources, and historic resources. We will be interested in reviewing in more detail specific plans relating to these concerns in forthcoming documents. At this time we do not have any specific comments on the proposal in its general outline. However, we may comment when more information becomes available in the draft environmental impact statement.

We appreciate very much the opportunity to review the proposal. If you have any questions, please contact Terry Hildebrand at 587-2881.

Sincerely,

Harold S. Masumoto
Harold S. Masumoto
Director

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

September 10, 1993

Mr. Harold Masumoto, Director
Office of State Planning
State of Hawaii
220 S. Hotel Street, 4th Floor
Honolulu, HI 96813

RE: PROPOSED AMAN RESORT
Kukuihale, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Masumoto:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. The Draft EIS will discuss the Coastal Zone Management Act as amended by Act 91/93 and Act 258/93. Thank you for bringing to our attention these recent amendments.
2. The Draft EIS will analyze the relationship of the proposed project to the objectives and policies of the Coastal Zone Management Act, with particular focus on the coastal ecosystems, scenic and open space resources, and historic resources.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,

Roy Takemoto
Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihale Development Company

Stephen K. Yamashiro
Mayor



County of Hawaii

DEPARTMENT OF PUBLIC WORKS
25 Aupuni Street, Room 202 - Hilo, Hawaii 96720-4151
(808) 941-9121 • Fax: (808) 949-7118

August 30, 1993


MR ROY TAKEMOTO
LAND USE PLANNING & LAW CONSULTANT
171 HOOMALU STREET
HILO HI 96720

SUBJECT: EIS PREPARATION NOTICE - PROPOSED AMAN RESORT
Applicant: Royal Coast Resorts Corporation and
SilverInk Holdings, Ltd.
Location: Kukuhaele, Hamakua, Hawaii
TRK: 4-8-6: 3, 9, por. 11, 13, 43, 44

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

1. Provide a flood study for any streams crossing the subject parcels and a site drainage study. All development generated runoff shall be disposed of on site and shall not be directed toward any adjacent properties.
2. All new and/or existing driveway connections shall be constructed/reconstructed to Public Works standards.
3. Portions of the old Waipio-Honokaa Road fronting and leading to the proposed development shall be improved and widened to meet minimum standards for two-way movement of traffic.
4. Submit a traffic impact analysis report for review.

Should you have any questions, please contact Stanley Takemura at 961-8321.


GALEN H. KUBA, Acting Division Chief
Engineering Division

STT:byf
cc: Planning Department

Donna Fay K. Kiyosaki
Chief Engineer
Riley W. Smith
Deputy Chief Engineer

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

September 10, 1993

Mr. Galen Kuba, Acting Division Chief
Engineering Division
Department of Public Works
County of Hawaii
25 Aupuni Street, Room 202
Hilo, HI 96720

RE: PROPOSED AMAN RESORT
Kukuhaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

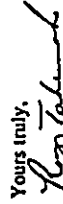
Dear Mr. Kuba:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. **Drainage.** We will provide a flood study, as required by your department. The timing of this study, if required, would be during the detailed design phase of the project, which will be after the EIS has been completed and entitlements have been received. For the Draft EIS, the engineers will analyze drainage on the basis of the Flood Insurance Rate Maps and known flood problems in the area. Runoff will be disposed onsite and will not be directed toward any adjacent properties.
2. **Driveways.** Driveway connections will be in accordance with Public Works standards.
3. **Roads.** The Preliminary Engineering Report will include improvements to the old Waipio-Honokaa Road for the portions leading to and fronting the proposed project.
4. **Traffic.** A traffic impact analysis report will be included in the Draft EIS.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,

Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuhaele Development Company



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

25 AUPUNI STREET • HILO, HAWAII 96720
TELEPHONE (808) 969-1421 • FAX (808) 969-6996

August 16, 1993

Mr. Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street
Hilo, Hawaii 96720

EIS PREPARATION NOTICE
PROPOSED AHAN RESORT
KUKUHALE, HAWAII
TAX MAP KEY 4-8-06:3, 9, 11 (POR.), 13, 43, AND 44

Pursuant to Section 23-84 of the Hawaii County Code, a water system shall be provided in accordance with the Department's Water System Standards and Rules and Regulations.

Compliance with the following conditions relative to source development and water system design and construction is required.

1. Submit water master plan for the required offsite and onsite water system improvements. The plan shall include design calculations, construction cost estimates and development time schedules. Water system improvements shall include sources, storage reservoirs, booster pumps, and pipelines.
2. Submit construction plans prepared by a registered professional engineer for review and approval. Plans shall include, but not be limited to, sectional drawings, plot plans and maps showing the exact locations for proposed water system facilities, and construction specifications. As-built plans must be submitted after construction.
3. Submit engineer's and hydro-geologist's report on the sustainable yield of the groundwater aquifer that will be affected by proposed wells.
4. Submit a Well Completion Report as required by the State of Hawaii Department of Land and Natural Resources.
5. Submit test records which shall include time, pumping rate, drawdown, chloride content, and water quality data.
6. Submit engineer's report which complies with applicable rules of the State of Hawaii Department of Health (DOH).
7. Submit DOH's approval of all proposed drinking water sources.

... *Water brings progress* ...

Mr. Roy R. Takemoto
Page 2
August 16, 1993

8. Comply with other applicable requirements of the Department's Rules and Regulations, which shall include the construction of all water system improvements and payment of inspection fees for private water systems and facilities charges and other fees for public water systems.

The above requirements were discussed with the developers' consultants. The Department is receptive to a joint participation in the construction of the offsite improvements, which will include a deepwell source, storage reservoir, and transmission pipeline. The improvement cost, which does not include land acquisition, surveying and design, is roughly estimated to be in excess of \$2,000,000. Specific details need to be worked out. Construction of required onsite improvements is the developers' responsibility.

William Sewake
H. William Sewake
Manager

QA

cc - Ms. Sandra Pechter Schutte
Mr. Ray Makamura, Imata & Associates, Inc.

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalou Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

September 10, 1993

Mr. H. William Sewake, Manager
Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, HI 96720

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Sewake:


Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. A Water System Report will be included in the Draft EIS that will provide a geohydrological analysis and preliminary water system design. A detailed water master plan with calculations and cost estimates will be provided during the design phase of the project.
2. The Draft EIS will acknowledge the permit requirements pursuant to the State Water Code (e.g., well drilling permit) and Safe Drinking Water Act.
3. The appropriate allocation of costs will be a subject of negotiation and confirmation during the Review Period of the Draft EIS. The Draft EIS will provide sufficient information that will facilitate such negotiations. Any preliminary agreements can be documented in the Final EIS.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,


Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



Stephen K. Yamashiro
Mayor



Nelson M. Tsuji
Fire Chief

County of Hawaii

FIRE DEPARTMENT

466 Keeaou Street • Hilo, Hawaii 96720-3981
(808) 961-6197 • Fax (808) 961-6920

August 18, 1993

Mr. Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Re: Proposed Aman Resort
Kukuihaeole, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice -
Request for Comments

Basic requirements by the Fire Department are on fire apparatus
access and water supply for fire protection as stated in the Fire
Code:

"Fire Apparatus Access Roads

"Sec. 10.207. (a) General. Fire apparatus access roads shall be
provided and maintained in accordance with the provisions of this
section.

"(b) Where Required. Fire apparatus access roads shall be
required for every building hereafter constructed when any portion
of an exterior wall of the first story is located more than 150
feet from fire department vehicle access.

"EXCEPTIONS: 1. When buildings are completely protected with
an approved automatic fire sprinkler system, the provisions of
this section may be modified.

"2. When access roadways cannot be installed due to
topography, waterways, nonnegotiable grades or other similar
conditions, the chief may require additional fire protection
as specified in Section 10.301 (b).



Mr. Roy R. Takemoto
Page 2
August 18, 1993

"3. When there are not more than two Group R, Division 3 or
Group M Occupancies, the requirements of this section may be
modified, provided, in the opinion of the chief, fire-fighting
or rescue operations would not be impaired.

"More than one fire apparatus road may be required when it is
determined by the chief that access by a single road may be
impaired by vehicle congestion, condition of terrain, climatic
conditions or other factors that could limit access.

"(c) Width. The unobstructed width of a fire apparatus access
road shall be not less than 20 feet.

"(d) Vertical Clearance. Fire Apparatus access roads shall have
an unobstructed vertical clearance of not less than 13 feet 6
inches.

"EXCEPTION: Upon approval vertical clearance may be reduced,
provided such reduction does not impair access by fire
apparatus and approved signs are installed and maintained
indicating the established vertical clearance.

"(e) Permissible Modifications. Vertical clearances or widths
required by this section shall be increased when, in the opinion of
the chief, vertical clearances or widths are not adequate to
provide fire apparatus access.

"(f) Surface. Fire apparatus access roads shall be designed and
maintained to support the imposed loads of fire apparatus and shall
be provided with a surface so as to provide all-weather driving
capabilities." (20 tons)

"(g) Turning Radius. The turning radius of a fire apparatus
access road shall be as approved by the chief." (45 feet)

"(h) Turnarounds. All dead-end fire apparatus access roads in
excess of 150 feet in length shall be provided with approved
provisions for the turning around of fire apparatus.

"(i) Bridges. When a bridge is required to be used as access
under this section, it shall be constructed and maintained in
accordance with the applicable sections of the Building Code and
using designed live loading sufficient to carry the imposed loads
of fire apparatus." (20 tons)

Mr. Roy R. Takemoto
Page 3
August 18, 1993

"(j) Grade. The gradient for a fire apparatus access road shall not exceed the maximum approved by the chief.

"(k) Obstruction. The required width of any fire department access road shall not be obstructed in any manner, including parking of vehicles. Minimum required widths and clearances established under this section shall be maintained at all times.

"(l) Signs. When required by the fire chief, approved signs or other approved notices shall be provided and maintained for fire apparatus access roads to identify such roads and prohibit the obstruction thereof or both.

"Premises Identification

"Sec. 10.208. (a) General. Approved numbers or addresses shall be placed on all new and existing buildings in such a position as to be plainly visible and legible from the street or road fronting the property. Said numbers shall contrast with their background.

"(b) Street or Road Signs. When required by the chief, a street or road shall be identified with approved signs.

"Key Box

"Sec. 10.209. When access to or within a structure or an area is unduly difficult because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes, the key box shall be a type approved by the chief and shall contain keys to gain necessary access as required by the chief."

"Sec. 10.301. (c) Water Supply. An approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which buildings or portions of buildings are hereafter constructed, in accordance with the respective county water requirements. There shall be provided, when required by the chief, on-site fire hydrants and mains capable of supplying the required fire flow.


"Water supply may consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems capable of providing the required fire flow.

"The location, number and type of fire hydrants connected to a water supply capable of delivering the required fire flow shall be protected as set forth by the respective county water requirements. All hydrants shall be accessible to the fire department apparatus by roadways meeting the requirements of Section 10.207."

Mr. Roy R. Takemoto
Page 4
August 18, 1993

Thank you for giving us the opportunity to submit our comments.

Sincerely,



NELSON M. TSUJI
Fire Chief

NMT/mo

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

September 10, 1993

Mr. Nelson Tsuji, Fire Chief
Fire Department
466 Kinohole Street
Hilo, HI 96720

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Tsuji:


Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. Fire Access. The resort buildings will be designed in accordance with the Fire Code requirements for fire access. The Draft EIS will acknowledge awareness of this requirement; detailed compliance will occur during the design phase of the project at which time the designers will be consulting your department.
2. Fire Flow. A Water System Report will be included in the Draft EIS that will address the capacity of the proposed system to meet fire flow requirements.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,


Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

October 20, 1993

Mr. Harry Kim, Administrator
Civil Defense Agency
920 Uluhiani Street
Hilo, HI 96720

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Kim:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comment regarding flooding problems will be addressed in the Draft EIS by identifying the need for a drainage study during the design phase of the project.

We will send you a copy of the Draft EIS when it is completed. We anticipate completion in the latter part of November. You will have an opportunity to review the document and provide additional comments.

If you have any questions or additional comments, please call me.

Yours truly,

Roy Takemoto
Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

Harry Kim
Administrator
Civil Defense Agency
920 Uluhiani Street
Hilo, HI 96720

doc0217P



County of Hawaii
CIVIL DEFENSE AGENCY
920 Uluhiani Street, Hilo, HI 96720
(808) 935-5551 - Fax (808) 935-5552

September 13, 1993

Roy R. Takemoto
171 Hoomalu Street
Hilo, HI 96720

PROPOSED AMAN RESORT

The only hazard Civil Defense Agency has been involved in for the proposed project area would be that associated with heavy rains.

Heavy rains have caused severe flooding which resulted in road closures, risk to homes, and erosion to occur in the general area.

Thank you for the opportunity to input.

Harry Kim
HARRY KIM, ADMINISTRATOR

dj



22-89-13-93 Takemoto R. 02-05-93 (808) 935-5551 CIVIL DEFENSE AGENCY 20:59 16. 01 005



September 1, 1993

Mr. Ron Terry
Mr. Roy Takemoto
E.I.S. Consultants

Re: The Amanresort at Kukuihaele

Dear Mr. Terry and Mr. Takemoto,

Thank you for your presentation (of August 26, 1993) on the proposed Amanresort at Kukuihaele, Hawaii, and for the opportunity for all to express their interests and concerns regarding this development.

Our organization, The Waipi'o Taro Farmers Association, would like to submit this statement as our official stance concerning the proposed Amanresort at Kukuihaele. For the records, we stand united and in overwhelming opposition to this development.

Our membership is comprised of long-time residents, representing generations of families from Kukuihaele-Waipio Valley area. We also represent a variety of ethnic backgrounds and have been an example of successfully integrating diverse cultures into a peaceful and harmonious community. The agricultural lifestyle and rural setting of this area is highly valued and is an integral part of our lives.

We are not against resort development per se but we are against the idea of changing and loosing our community at Kukuihaele. Placing the proposed development in the heart of our village will undoubtedly change our community and will eventually lead to the loss of our way of life at Kukuihaele.

We believe that the proposed development will attract increasing numbers of visitors into Kukuihaele and will create traffic hazards and new challenges for our young and older residents. The building of an upscale development will increase the value of land in Kukuihaele and this in turn will make it unaffordable for our children. It is not difficult to see that this development will also have a negative effect on our limited water supply and will only add to other infrastructural concerns.

We have other concerns regarding the impact of this proposed development but all concerns can be traced back to the underlying concern-which is the realization of the inevitable loss of our village at Kukuihaele, if this development is allowed to be constructed.

page 2.
The Amanresort at Kukuihaele

We therefore appeal to the developers to not to build this development in Kukuihaele Village and we also ask all those in positions of influence and authority to disallow the building of the proposed Amanresort in Kukuihaele Village.

Respectfully,
The Waipi'o Taro Farmers Association

c.c. Mayor Stephen Yamashiro, Hawaii County
Chairman Kalani Schutte & Members of the Hawaii County Council
Takashi Domingo, County Councilman & Chairman of the Task Force to Preserve
Waipi'o Valley
Representative Dwight Takamine
Senator Malama Solomon

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

September 10, 1993

Waipio Taro Farmers Association
P.O. Box 5034
Kukuihaele, HI 96727

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Participant:


Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. The Draft EIS will acknowledge your organization's opposition to the project for the reasons stated in your letter, including the loss of Kukuihaele's rural character, increased traffic hazards, impact on the water system, and the impact on land values.
2. The Draft EIS will suggest mitigation measures and alternatives to reduce or avoid the impacts which you identified. After you have had an opportunity to review the Draft EIS, we will consult with your organization during the Review Period, if you are willing, to determine the acceptability of the suggested measures or alternatives.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

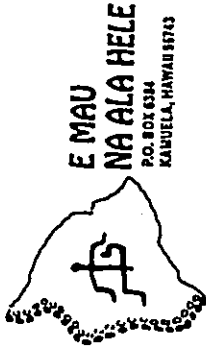
If you have any questions, please call me.

Yours truly,


Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company





September 3, 1993

Ms. Sandra Pechter Schutte
Roehrig, Roehrig, Wilson, Hara, Schutte & Desilva
101 Aupuni Street, Suite 124
Hilo HI 96720

Dear Ms. Schutte:

The trails group E Mau Na Ala Hele would like to be a consulted party in the preparation of the EIS for the Aman Resort at Kukuhaele, Hamakua.

We have reviewed the EIS Preparation Notice and find some inaccurate statements in it. Our board is concerned for effects on the natural environment. Also the resort, if built, may overwhelm the small Kukuhaele community where it is situated. Here are points we wish you to address in your EIS.

- 1) The EIS should clearly delineate existing trails, public rights of way and public roads on the property. Please specify the developer's public access provisions. Is any loss of public access envisioned?
- 2) Why does the developer seek "resort" zoning for approximately 60 acres of land for a "retreat" resort? We don't believe the Hideaway (with 4 suites) requires resort zoning, nor does the proposed villa development, which consists of lots. The large acreage being sought for "resort" zoning (double that of the Punaluu Resort, for example) suggests a much larger project than the one described by the Notice. The EIS should explain why "resort" zoning is being sought in these instances, and set forth maximum build-out figures based on such zoning, even if a larger project is not part of present planning.
- 3) We believe the project should be presented as "in addition to," not "in lieu of," the neighboring Intermediate Resort above Waipio Valley. The zoning for the Intermediate Resort, on the property of an adjacent landowner, was voided by the circuit court on a technicality, and there is good

reason to suppose that the landowner will reapply. We ask that the EIS acknowledge the prospect of a neighboring Intermediate Resort and include population, labor and traffic figures that, in a scenario, are cumulative.

4) On what basis do you say that the resort land area is not a primary habitat for the Hawaiian hawk, an endangered species? And, irrespective of whether it's primary or not, on what grounds do you say the resort will not have a significant effect on the hawks? We believe the EIS should discuss impacts of the resort development on the endangered species.

5) Would you please clearly describe sewage arrangements for various portions of the resort. Are injection wells planned? Will there be an SPP?

6) Fiscal impacts on the county and state will be more extensive than acknowledged by the Notice. We hope the EIS will develop the topic thoroughly. For instance, why would the County government share the cost of water source development for the privately owned resort, and what might that cost be?

Thank you for the opportunity to participate.

Sincerely,

Judith Graham
Judith Graham
Board of Directors

cc: Planning Director, County of Hawaii
Director, Department of Water Supply

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720

Phone/Fax (808) 959-0189

E Mau Na Ala Hele
September 10, 1993
Page 2

September 10, 1993

Ms. Judith Graham, Board of Directors
E Mau Na Ala Hele
P.O. Box 6384
Kamuela, HI 96743

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Ms. Graham:

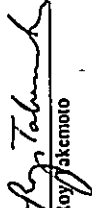
Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. **Public Access.** The Draft EIS will identify existing trails and public rights of way, and the impact of the project on public access. The basis for this information will be the Na Ala Hele trails inventory, tax maps, and interviews. Any other sources of information you may have would be appreciated.
2. **Resort Zoning.** The Draft EIS will explain the rationale for the proposed rezoning. The impact of this rezoning in terms of the maximum allowable build-out will be addressed.
3. **Cumulative Impacts.** The Draft EIS will discuss cumulative impacts in terms of proposed projects that have applied for or been granted approvals. The status of the proposed Intermediate Resort on the neighboring property will be specifically addressed.
4. **Endangered Species.** The Draft EIS will contain a report by a biologist to provide information on the impact to endangered species, particularly endangered birds.
5. **Wastewater System.** The Draft EIS will include a Preliminary Engineering Report that will describe the proposed wastewater treatment and disposal system. The impacts of the proposed system will be analyzed.
6. **Fiscal Impact Analysis.** The Draft EIS will include a fiscal impact analysis prepared by an economist. The rationale for any cost sharing with the County will be explained.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,


Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

29 August 1993
Kapulea, Hawaii

Aloha Mr Takemoto,

I attended the public meeting on the proposed Aman Resort on Thursday Aug. 26, 1993. Although I did not speak on that evening I would like my input to be part of your E.I.S.

I am opposed to the Aman Resort being built here in Kukuihaele. I too have come from farm areas that have been replaced by development and destroyed communities, culturally, socially and economically.

No matter how hard Aman tries to integrate into this place, it will not happen because one has taken many years to establish whereby the other would be a planned attempt to build in a brief time something that looks like Kukuihaele but lacks it's true values.

Many of my concerns were voiced by my community. Just a few that I have in mind need to be considered.

One being the approach to building. I have seen beautiful big trees, groves of bamboo, and fruit bearing trees stripped from the ground. The area leveled by development. Then they build and landscape to make it look like "a natural

area. I would like to see, if the resort goes through, a way of building that would not disturb the established growth that already exists. Does landscaping also include gardens for vegetables, bananas, & fruit?

Also will this be job training? or will job training be merely service work? Can they provide meaningful training to educate people here in more work than the lowest paid jobs?

I guess that's all for now. Look forward to the next meeting.

Mahalo
Linda Dima

P.O. Box 1728, Honokaia Hawaii 96727

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

September 10, 1993

Ms. Linda Dima
P.O. Box 1728
Honokaa, HI 96727

RE: PROPOSED AMAN RESORT
Kukuihaele, Hanalei District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments


Dear Ms. Dima:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. **Impact on Kukuihaele Community.** The Draft EIS will analyze the socio-economic impacts on Kukuihaele. Although the analysis will be as objective as possible, in fact we are aware that such objectivity may not capture the intangible, unquantifiable, values and feelings that make a community. The Draft EIS will suggest mitigation measures and alternatives to reduce the impacts. The accuracy of the analysis and the acceptability of the suggested alternatives will depend on your careful review of the Draft EIS and constructive comments.
2. **Landscaping.** The Draft EIS will include a mitigation measure that significant existing vegetation should be preserved to the extent possible. We welcome your input to specifically identify these "significant" specimens. "Edible landscaping" is an interesting concept that will be mentioned in the Draft EIS.
3. **Job Training.** The Draft EIS will describe the proposed job training programs. The types of jobs will also be described.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,

Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



from the desk of **JACK KAAUA**

540 S. Forest Street, 8-203, Denver, Colorado 80222 (303) 371-8383

September 6, 1993

Mr(s) Rodney Nakano/Rich Warshauer
County of Hawaii, Planning Dept.
25 Aupuni Street
Hilo, HI 96720
(608) 961-8258

RE: EIS Preparation Notice
(Concerns & Comments)

Dear Mr(s) Nakano/Warshauer,

My mother, Mrs. C. Kaaua-Rabensteiner, has an undivided-interest ownership in several pieces of property on the Hamakua Coast. These properties have been family owned for generations. One of the parcels is TKM 3/4-8-06:9. I have been given my mother's Power-Of-Attorney in all matters concerning these properties.

It has only recently come to my attention, following inquiries on another matter, that Kukuhaele Development Company (Eugene McCain) has filed the above referenced Notice for an AWAN RESORT. Parcel 9, mentioned above, is located within this planned resort.

Although Mr. McCain and I have personally met twice (in February of this year), and have had a few telephone conversations, I was not made aware of this Notice nor a General Plan Amendment Application (which I have been told he has also filed). The Notice is dated July 26, 1993--- FIVE WEEKS AGO!

As a landowner with a piece of property that is strategically located within the boundaries of this planned resort, I feel it is my right to any and all documents which apply to, and effect, this property. May I be placed on the Section 3 mailing list? I will pay any copying and postage charges, if necessary.

I also have some very serious concerns and questions about the Notice:

- 1) In Section 4 (4.1) it states; "A 2-acre portion of the project site is in the process of being finalized with the landowner." If this refers to my property then that statement is inaccurate at best. My last communication to Mr. McCain was a letter dated June 1, 1993 which was basically ignored. I then called him on July 9th and 12th (finally being successful in reaching him). In a lengthy discussion of the property he agreed to send me a new proposal letter dealing with this property. This he has not done to date, and I have heard nothing further from him. It is very likely that my property will not be included in the planned resort.

- 2) I do not understand the term "FIT" in Section 4.3 on


page 3. It is obviously an anagram for something, but what? Financially Independent Tourist?, i.e., the wealthy?

- 3) Also Section 4.3 states there will be 45 villa sites. Are these villas resort rentals? Private homes? Lot sites only for either of the foregoing? What exactly are they? The August 16, 1993 Pacific Business News quotes them as being "45 single-family homes".
- 4) There is also mention of access in Section 4.4, but it implies there will be only one entrance to the project. If this is so, it concerns me. Should not there be at least two for a project this size?
- 5) What will the density of the villas be, i.e., how many villas per acre?
- 6) How will taxes be effected? On page 8 in Section 5.2 the notice contradicts itself by stating that "...the County is considering measures to limit increases in property taxes for residents." and a few lines later saying "the project will generate increased revenues to the County through higher property taxes (my emphasis)". What if I build on my property? Will I benefit by any tax exemption or deferment?
- 7) How will property values be effected?
- 8) What of quiet enjoyment of my property?
- 9) I need copies of all the Permits (applications?) referred to in Section 6.7 of the Notice. Is not my signature required on most of them that apply to my property, e.g., Rezoning, etc.?

These are some of my concerns. Naturally, I cannot make an accurate assessment with so little information. If my questions are misdirected here, please refer this letter to the proper source. Any advice you can give would be helpful.

Thank you for your time and assistance in this matter. I await your reply.

Sincerely,


Jack L. Kaaua
for Mrs. C. Kaaua-Rabensteiner
(owner of TKM 3/4-8-06:9)

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

October 20, 1993

Mr. Jack Kaaua
540 S. Forest Street, 8-203
Denver, CO 80222

RE: PROPOSED AMAN RESORT
Kukuihaele, Hanalei District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Mr. Kaaua:

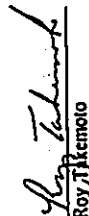
My apologies for not sending you a copy of the EIS Preparation Notice. Henceforth, you will receive all documents relating to the EIS process-- this includes the Draft EIS and the Final EIS. The Draft EIS will include a full description of the proposed project, and will also address the concerns you expressed in your letters to the Planning Department (e.g., impact on property taxes).

The developer has informed us that he is attempting to negotiate an agreement with you in which you would join in the application. If the negotiations are unsuccessful, the developer will complete the subdivision process and exclude your lot from the application.

We anticipate completion of the Draft EIS in the latter part of November. You will have an opportunity to review the document and provide additional comments.

If you have any questions or additional comments, please call me.

Yours truly,


Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

AS I SEE IT

Hamakua has a problem. And it's going to get worse. We need jobs. Many find it hard to believe that what happened in Kohala could ever happen here--the boarded-up town of Hawi, people leaving, children growing up with no opportunity of staying close to home. Malama Solomon (Kohala) made this statement in the Honolulu High Casteeria, "Without the Hamakua Sugar Co. families are going to have to move to where the jobs are, or the husband will have to go and leave the family behind."

The Plantation is going to close in approximately one year. The over 1 1/2 million dollar monthly payroll (\$1,500,000) will be history. This 744 person payroll and the other expenses of the plantation, which generated another 937 jobs of all kinds on this island will be no more. Larger employers will have to trim payrolls, smaller employers will terminate all employees, or just leave.

Should a major casualty to the mill occur, there is a serious possibility of closing earlier than next year.

Lifestyles are going to change--that is the only sure thing. Change will happen to some people who think they are not affected. It will impact on everyone, some more than others. To expect the government (federal, state, or county) to maintain the status quo is to ignore the earlier Kohala disaster, and the Kukuiahaele bridge.

The only thing that will keep life close to what it is now is to replace the sugar company payroll--that means new jobs.

Some jobs are obviously better than others. A steel mill and Hamakua are not compatible. A prison has been mentioned by the government. Agriculture jobs are, of course, the most desirable. Why didn't they happen in Kohala with all the millions spent by the State to bolster that economy? Hamakua has the rain that Kohala lacks-- and the steep hills and the rocks and the soil that has grown nothing but sugar cane for 130 years. How soon can any agriculture project get off the ground? Right now, according to state officials, there are no projects in the planning stage. Ag is definitely the goal, but it won't be easy as there is no large market near, the ground is

worn out and not easily farmed. It will take time. In the meantime, people will be uprooted and lives will forever be changed.

Those who feel that they for sure will not be affected by the shutdown cannot be too selfish about their good fortune. For those fortunate few, please keep an open mind when an opportunity for your friends occurs.

There may be an opportunity to replace approximately 100 of the 744 jobs we have lost and are losing at the plantation. Like everything else, there's the good news and the bad news. As previously stated, the ideal would be to replace all the jobs in ag. The bad news is that is not going to happen in the foreseeable future, and when/if ag happens all the old workers will have gone away.

The opportunity for the 100 permanent jobs comes from a development consisting of a 36 unit bungalow type hotel retreat below the Catholic Church in Kukuiahaele, a vacation rental at the plantation manager's house, and the eventual construction of 45 houses adjacent to the plantation house and the hotel. The development company now owns the land from Tiger Camp to the Waipio side of the plantation manager's house, and between Hwy. 240 and the Kukuiahaele road. They have a lease with an option to buy land below the Catholic Church. As far as developments go, this is a very low key approach compared to other Hawaiian resorts.

However, there will be impacts and benefits on the Kukuiahaele community. Others in the Hamakua District will enjoy the job benefits that will make it possible for up to 230 more families to continue living in their homes (the 100 direct jobs, plus 130 indirectly created jobs). Much of the impact can be controlled, and significant community benefits can be received in mitigation. The following are impacts of which I'm aware, and the conditions I demand of the developer. If these conditions are satisfied, I will be in support of the development as presently planned. Other developments cannot presently be controlled (see the example attached taken from the West Hawaii Today newspaper). We can, if we plan properly, have some cake and eat it too.

THE NEW JOBS: The jobs (engineers, computer operators, electricians, landscapers, groundskeepers, housekeeping, clerks, kitchen, etc.) must go in the following preference order: (1) Kukuiahaele residents (2) immediate family of Kukuiahaele residents (3) Hamakua residents. A recent survey of Kukuiahaele residents showed that 33% of those surveyed would like to work at the resort.

PRESENT KUKUIHAELE PARK: Design and construct an area for archery, a chipping and a putting golf greens. Improve existing basketball court, install water fountains and park benches. The permanent dedicated maintenance contract in the paragraph above would include this park.

AFFORDABLE HOUSING: First, deed fee simple to the residents of Tiger Camp their garden plots. Second, affordable housing should be primarily low income rental only for present residents of Kukuihaele who may be displaced. Third, all design be coordinated closely with the residents for Tiger Camp so that sight and sound impacts are minimized. The deeding and the design are to be completed prior to resort construction.

FUTURE HOMEOWNER'S TAXES: The Hawaii County Council is presently considering some form of tax relief for homeowners. However, until this occurs, Kukuihaele and Kona Camp residents should be offered by the developer the following guarantee with adequate collateral in escrow (to be determined by consultant selected by the Hawaii County Council and at the developer's expense) to insure the guarantee: Any present Kukuihaele homeowner who makes the Hawaii County 10 year Non-speculative Residential Use Dedication would have all the benefits that dedication, and also at the end of their 10 year dedication, their new property assessment will be no greater than the old assessment, plus no more than the Consumer Cost of Living Index increase over the previous 10 years as determined by the U. S. Government. The developer will guarantee that he will pay the difference between that figure and the Hawaii County property value assessment as long as the resident remained in the dedication, but would not include penalties and back tax assessment if the owner opted out of dedication for capital gains on the property. This would only include homeowners at the time of the developer's approval. (example: tax is \$200 on dedication, the tax for the next ten years is \$200 per year. If the consumer price index increases 2% average per year during this fixed tax dedication period, the new tax for the next ten year period could be no more than \$200 plus the 2% per year, or \$243.80. If the county assessed the property at twice the previous property value (\$400) the developer must pay the additional \$156.20 each year as long as the homeowner stays in County dedication.) The present County dedication would allow the homeowner to renew as many times as he desires. It also allows the property to be passed to the family when the owner dies, and has many other provisions to protect the homeowner and family. A copy is available at the Last Chance Store.

COVENANTS FOR THE RESORT LOTS: The covenants shall state unequivocally that the purchaser realizes that he is purchasing property in a

ROADS: The developer says that they prefer an unobtrusive entrance off the main highway, and that is why they suggested the present entrance to the village. I also prefer a simple entrance such as we have now, but the impact of the present entrance might be too great on the residents of Tiger Camp (a traffic study will be made to determine the impact). The entrance should be on the Waipio side of Tiger Camp, join the present road Honokaa side of Last Chance Store, improve this roadway and eliminate the two blind curves (a dead child is waiting to happen here) prior to the Catholic Church road, and finally bring this road up to county standards to the resort entrance. In addition the present entrance at Tiger Camp should be closed to eliminate all but homeowner traffic. All of the above must be completed prior to start of resort construction.

UTILITIES: Improve as required by county officials. In addition all cables should be placed underground.

SOCIAL HALL: Dedicate in perpetuity as a park area the present social hall and the approximately 7 acres which encompasses it. The maintenance of the new park would be by the developer and included in the dedication. It should be designed primarily for the use and enjoyment of Kukuihaele residents, but would be open to the public. It would include the following:

- (1) Swimming pool with a minimum of 25x50' dimension, a wading pool for toddlers, and a diving facility.
- (2) Softball/little league baseball field with back screen and a wire outfield fence
- (3) Horseshoe facilities
- (4) A playground similar to the one in Kamuela park
- (5) Farmer's market roofed pavilion, 100x20', with tables and benches suitable for a farmer's market and/or social occasions, located adjacent to the present social hall
- (6) Picnic tables and benches scattered throughout the area as appropriate
- (7) Stone BBQ facilities convenient to the picnic tables
- (8) Water fountains adjacent to activities areas
- (9) Parking lot for 50 vehicles
- (10) Renovation of the existing social hall including a full service kitchen capable of food preparation for 150 people and toilet facilities for a gathering of 150 people. This social hall would be operated basically as it is presently--reservations to made by the general public with only a damage and cleaning deposit required. The bylaws for use and care of the hall are to be included in the dedication. Construction of the above conditions, along with the present park improvements must begin prior to or concurrently with resort construction.

rural community, a community that enjoys the keeping of animals near the home, and that they will violate their covenant should they make or cause complaints concerning the local resident's traditional ways with animals.

THE PLANTATION MANAGER'S HOUSE AND GROUNDS ACCESS: The developer must agree to a down zoning of the present house and grounds so that it may never be subdivided. Community access to the house and grounds is to be granted periodically for a "Plantation Day" event. This is a historically important site for the community, and future generations should be able to appreciate their heritage.

FUTURE DEVELOPMENT: If this project is approved, Kukuiaele will be doing more than its share for the people in Hamakua. To prevent further development a Rezoning Ordinance must rezone the following: (1) a perpetual Waipio Valley Preservation Buffer zone with a 1000' setback from the valley rim mauka to the present public lookout, (2) a perpetual Preservation Buffer zone of Hamakua Sugar Co. lands, with a 400' shoreline setback, from the present public valley lookout and continuing along the shoreline to the Honokaa boundary of TMK 4-8-01:4 (Honokaa side of Kona Camp), and (3) the remaining lands between this shoreline buffer zone and State highway 240 be no less than Ag 40 zoning. These actions would affect the owner (Western Farm Credit Bank) negatively. In exchange the bank should be offered favorable rezoning near other communities in Hamakua to repay them for the taking, and in order that these communities can share in the creation of new jobs.

As other concerns become apparent and important to the community, additional positions may be taken.

There is one other concern, and it is important only to the residents of this community. The property mauka of the present village road, and makai of highway 240 is owned by the developer. This acreage, and possibly the Catholic acreage, would be sold by the developer if resort approval is not granted (they have stated that they are not interested in any other development use). As presently zoned, a new buyer/developer could build 65 houses on the mauka portion alone without any rezoning application. They also could cause removal of the present social hall, and the eviction of one elderly resident living on the property.

This is not likely to happen as long as the Hamakua district is in a depressed state. However, should a prison or any other large facility be constructed by panicked politicians to "save" the district, smaller houselots such as these

would be attractive for the workers, no matter where in Hamakua the facility was located.

Within Kukuiaele there has been more than 20 houses and/or other rentals built in the last 10 years--and the pace is accelerating. Residents have and will see increased taxes as more structures are built, we will become less "country" like it or not, we will have little or no control on this growth, we will receive no job benefits, and we will still have a dangerous road situation, and, sadly for the children, no recreation facilities.

THESE ARE MY THOUGHTS AND MY POSITION. YOUR THOUGHTS ARE WELCOME AND NECESSARY SO THAT ALL THE RESIDENTS OF KUKUIAELE MAY PARTICIPATE IN OUR FUTURE. PLEASE DROP YOUR COMMENTS THRU THE LITTLE WINDOW AT THE LAST CHANCE STORE. YOU MAY SIGN YOUR NAME OR NOT, WHATEVER YOU FEEL. I WILL FORWARD YOUR COMMENTS TO THE STATE COMMUNITY LIAISON OFFICER AND THE COUNTY COUNCIL.

Bob Impson
Owner, Last Chance Store

** ALL THE INFORMATION I CAN GATHER ABOUT THE PROJECT, THE DEVELOPERS, AND THE STATUS WILL BE AVAILABLE FOR ANYONE WHO WISHES TO LEARN MORE. COME IN AND BROWSE THROUGH THE INFO AT YOUR LEISURE.*

Bob

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalau Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

October 20, 1993

Mr. Bob Impson
P.O. Box 5016
Kukuihaele, HI 96727

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice— Response to Comments

Dear Mr. Impson:

Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. You did a very good job expressing several community concerns and offering possible solutions to mitigate the concerns. We will carefully evaluate your suggestions, and incorporate them as appropriate into the Draft EIS as mitigation measures.

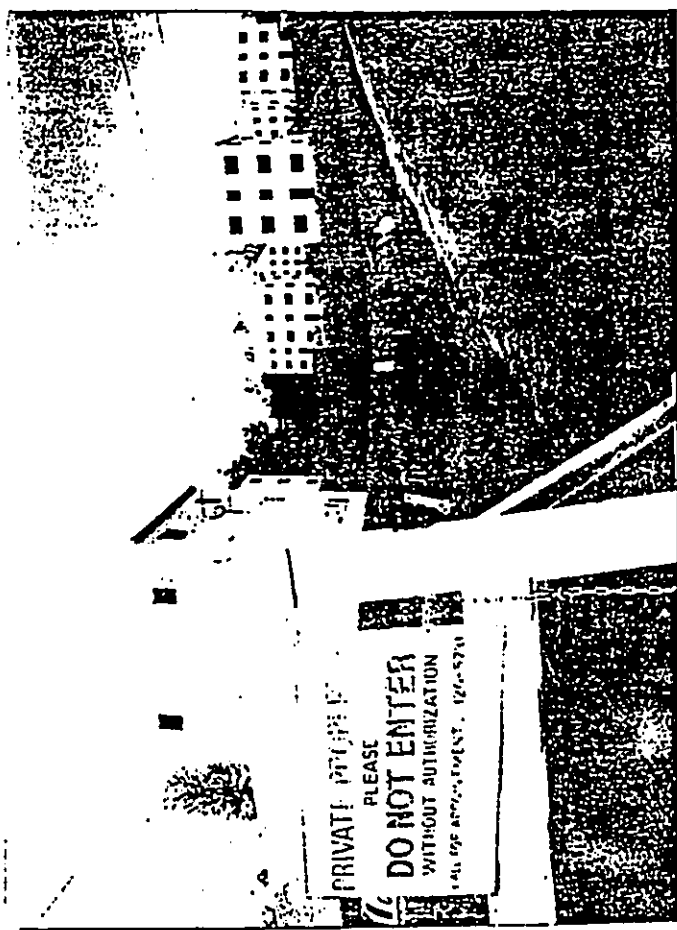
We will send you a copy of the Draft EIS when it is completed. We anticipate completion in the latter part of November. You will have an opportunity to review the document and provide additional comments.

If you have any questions or additional comments, please call me.

Yours truly,


Roy Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



—DAN BREEDEN—WHT
CRAZY HORSE SUBDIVISION — Dwellings built upon Crazy Horse Ranch subdivision on agricultural lots north of Palani Junction have attracted negative attention from neighbors.

Kaloko houses called unsightly, are legal

BY DAN BREEDEN
West Hawaii Today

The rapid construction of more than a dozen three-story "monoliths" on agricultural lots north of Palani Junction has rumors flying among area residents about whether they will soon be living beside a reform school, tentment housing project or possibly even a low-security detention center.

But the most likely use of the identical, five-bedroom, six-bath, buildings will be as private rental units capable of housing as many as five families each, according to construction plans filed with the county. Full utilization could mean as many as 100 people living in the project. The Crazy Horse Ranch subdivision consists of ten 1-acre lots at the mauka end of Ona Ona Drive, each with ohana

permits which allow two houses per parcel. The development is owned by World Square of Kailua-Kona and has Ronald A. Brown as a general partner. Brown did not return messages left at his home Wednesday.

"It isn't conducive to the community" going to be a tenement up there," said area resident Jim Schleiter. "That's

Schleiter said he is concerned about the impact of having as many as 100 families and individuals living in a subdivision that is supposedly agriculture and has been required to make no infrastructure improvements.

The houses are obviously designed to take full advantage of county zoning and building regulations. Among these is a rule which allows houses to be occupied by a maximum of five unrelated parties.

And the structures are considered single-family houses, as opposed to apartment buildings, as long as they only have one kitchen, according to county planning officials.

County regulations allow structures on agriculturally zoned land to be a maximum of 45 feet, taller than is allowed on residential property. "Also, under the ohana permitting, the developer is only required to provide three parking spaces for each pair of houses — even if they are rented to as many as 10 separate parties.

The concept of ohana permitting was originally discussed as a way that parents could provide a home for their grown children or vice versa.

See KALOKO:
Page 4A

KEOLA CHILDS
Councilmember



COUNTY COUNCIL
County of Hawaii
Hawaii County Building
25 Aupuni Street
Hilo, Hawaii 96720

Phone: (808) 961-8266
Fax: (808) 969-3291

Roy R. Takemoto
Aman Resort EISPN
August 28, 1993
Page 2

Discussion of view impacts should expressly contemplate building architectural appearance with any explicit landscaping commitment which the developer is willing to make, as well as building (including roof) colorations.

3. Waipio Valley. The EISPN doesn't suggest any impact other than visual is being contemplated for Waipio Valley. It is essential that the EIS assume a certain percentage of its guests and employees (and the employees' family members, guests and relatives) will be walking or riding into the valley and crossing its roads and trails. The percentages will be the major variable of contention, not whether or not the visitors and employee-families will impact the valley directly. The mitigation proposals will be the second most important consideration, particularly how they will relate to the need for island resident access to not become significantly constrained merely because a visitor demand is created from the project.

August 28, 1993

Roy R. Takemoto
171 Hoomalu Street
Hilo, HI 96720

RE: Aman Resort at Kukuihaele

Dear Mr. Takemoto:

I have the following comments in response to the EISPN:

1. Affordable Housing. The EIS should consider the consequence of locating such housing elsewhere as an alternative. I believe a strong case can be made that most of such housing units should be closer to the urban center where family support and amenities exist, such as schools for the kids, shopping and medical care, with minimal transportation needs (except for a ride to and from work at the proposed project site).

While I am open minded to the case which the applicant may make, I have very strong concerns about placing more low/moderate income families at a location which will be inconvenient for them in the non-work setting, and which may create an unnecessarily greater demand on county services reaching the site (such as social service worker visits, handi-vans, and medical service shuttles). I think it may well be prudent to provide a small number of rental apartments at or near the site, to provide a transitional facility for newcomer or peak season, temporary employees.

If the developer insists on creating all the proposed employee housing at the site, a careful analysis of the social impacts and fiscal impacts from demand for county support services at the site should be included in the EIS.

2. Scenic Resources. The view plane analysis should pay careful attention to visual impacts from (i) the north end of the beach, (ii) the top of the trail leading north to/from Waimanu Valley, and (iii) the ocean waters between Waipio and Waimanu, as the project would be seen by the increasing number of kayakers running between Waipio and the Kohala area.

I believe it is entirely possible that project approval may be justifiable with sufficient mitigation measures in place. Properly done, a low-key visitor facility on this site could be a positive contribution in many respects. "Properly done" may, however, be difficult at a sensitive location such as this. I look forward to reviewing the applicant's proposal.

Sincerely,

Keola Childs
Councilmember

Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street, Hilo, HI 96720
Phone/Fax (808) 959-0189

September 10, 1993

Honorable Keola Childs, Councilman
County Council
County of Hawaii
25 Aupuni Street
Hilo, HI 96720

RE: PROPOSED AMAN RESORT
Kukuihaele, Hamakua District, Hawaii
Environmental Impact Statement Preparation Notice-- Response to Comments

Dear Councilman Childs:

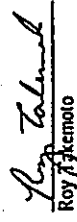
Thank you for your interest and time in responding to the EIS Preparation Notice for the proposed Aman Resort. Your comments will be addressed in the Draft EIS as follows:

1. Affordable Housing. The Draft EIS will address the alternative of locating affordable housing offsite possibly through payment of a fee in lieu of actual construction. The community and County Council will then be able to decide the best location to use the contributed fees.
2. Scenic Resources. The Draft EIS will include view plane analyses. Mitigation measures, such as landscaping and building color, will also be addressed.
3. Waipio Valley. The resort's impact on Waipio Valley in terms of increased visitations will be addressed in the Draft EIS. Mitigation measures will be suggested to reduce such impacts.

We will send you a copy of the Draft EIS when it is completed, probably in the latter part of October. You will have an opportunity to review the document and provide additional comments.

If you have any questions, please call me.

Yours truly,


Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



United States Department of the Interior

GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
677 Ala Moana Blvd., Suite 415
Honolulu, Hawaii 96813

August 24, 1993



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P O BOX 2343
HONOLULU, HAWAII 96810

OFFICE OF THE SUPERINTENDENT

August 27, 1993

Mr. Roy R. Takemoto
Land Use Planning & Law Consultant
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Subject: Proposed Aman Resort, Environmental Impact Statement
(EIS) Preparation Notice, Kukuihaele, Hamakua District, Hawaii

The staff of the U.S. Geological Survey, Water Resources Division, Hawaii District, has reviewed the subject EIS Preparation Notice and we have no comments to offer at this time.

Thank you for allowing us to review this EIS Preparation Notice.

We are returning the EIS Preparation Notice to your office for your future use.

Sincerely,

William Meyer
William Meyer
District Chief

Enclosure

Mr. Roy Takemoto
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

SUBJECT: Environmental Impact Statement Preparation Notice
Aman Resort
Kukuihaele, Hamakua District, Hawaii
THK: 3/4-8-6: 3, 9, 11, 13, 43, 44

We have reviewed the subject preparation notice and have determined that the proposed resort will have minimal impact on the public schools in the area.

Thank you for the opportunity to comment.

Sincerely,

Charles T. Toguchi
Charles T. Toguchi
Superintendent

CTT:hy

cc: A. Suga
A. Garson

JOHN WADSWORTH
GOVERNOR
STATE OF HAWAII

JOHN A. BISHOP
GOVERNOR
STATE OF HAWAII

AGRICULTURE
COMMERCE
CORRECTIONS
EDUCATION
ENERGY
ENVIRONMENTAL AFFAIRS
GENERAL INVESTIGATIONS
HEALTH
HUMAN RESOURCES
INDUSTRIES
LAND AND NATURAL RESOURCES
LAND MANAGEMENT
PLANNING
STATE PARKS
WATER AND LAND DIVISION



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF STATE PARKS
P. O. BOX 521
HONOLULU, HAWAII 96809
August 19, 1993

JOHN WADSWORTH
GOVERNOR
STATE OF HAWAII

HUALIKU L. DRAKE
CHAIRMAN
HAWAIIAN HOMES COMMISSION



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1579
HONOLULU, HAWAII 96809
August 17, 1993

JOHN WADSWORTH
GOVERNOR
STATE OF HAWAII

Mr. Roy R. Takemoto
Land Use Planning and Law Consultant
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Subject: Proposed Aman Resort, Kukuiahaele, Hamakua District,
Hawaii, Environmental Impact Statement Preparation
Notice

Thank you for allowing our review of information on the
proposed project enclosed with your letter of August 11, 1993.

We concur that an Environmental Impact Statement should be
prepared, but anticipate no direct impacts upon the programs
and projects of this department.

Warmest aloha,

Hualiku L. Drake, Chairman
Hawaiian Homes Commission

HLD:BH:JEC:asy/3001L

Roy Takemoto
171 Hoomalu St.
Hilo, HI 96720

Dear Mr. Takemoto:

Thank you for the opportunity to review the EIS
Preparation Notice for Aman Resort.

There are no existing state park concerns regarding
your project. Waipio Valley and the eastern valley rim
are of interest but there are no active proposals for any
portions of these areas to become part of the state park
system.

Sincerely,

RALSTON H. NAGATA
State Parks Administrator

JOHN WARNEE
COLLECTOR



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER AND LAND DEVELOPMENT

P. O. BOX 373
HONOLULU, HAWAII 96809

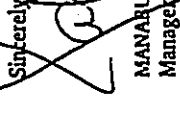
AUG 27 1993

Mr. Roy R. Takemoto
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Environmental Impact State Preparation Notice
Proposed Aman Resort, Kukuihaele, Hamakua, Hawaii

Thank you for your August 10, 1993 letter requesting our comments for the Environmental Impact Statement for the subject project. We have reviewed the notice and have no comments to offer at this time.

Sincerely,

MANARU TAGOMORI
Manager/Chief Engineer

GA:lc

ROBERT P. THAUSH
COLLECTOR



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P. O. BOX 111, HONOLULU, HAWAII 96810

SEP 3 1993

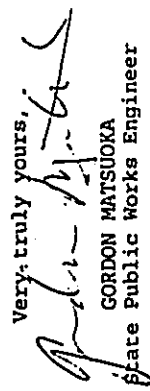
Mr. Roy Takemoto
171 Hoomalu Street
Hilo, Hawaii 96720

Dear Mr. Takemoto:

Subject: Proposed Aman Resort
Kukuihaele, Hamakua District, Hawaii
EIS Preparation Notice

Thank you for the opportunity to review the subject document. We have no comments to offer.

If there are any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Very truly yours,

GORDON MATSUOKA
State Public Works Engineer

RY:jy



Stephen K. Yamashiro
Mayor

County of Hawaii
OFFICE OF HOUSING AND
COMMUNITY DEVELOPMENT
50 Waihala Drive • Hilo, Hawaii 96720-2484
V/TT (808) 935-8581 • Fax (808) 935-4725

August 17, 1993

Roy Takemoto
171 Hoomalu Street
Hilo, Hawaii 96720

Subject: Proposed Aman Resort
Environmental Impact Statement
Request for Comments

This is to acknowledge receipt of your Request for Comments on
the Environmental Impact Statement Notice for the proposed Aman
Resort in Kukuhaele, Hawaii.

The Office of Housing and Community Development has no comments
at this time.

Thank you for the opportunity to participate.

Edwin S. Taira
for
Edwin S. Taira
Assistant Housing Administrator



EQUAL HOUSING OPPORTUNITY
AN EQUAL OPPORTUNITY EMPLOYER



Stephen K. Yamashiro
Mayor

County of Hawaii
POLICE DEPARTMENT
349 Kukuhaele Street • Hilo, Hawaii 96720-3998
(808) 935-3111 • Fax (808) 961-3702

September 14, 1993

Mr. Roy Takemoto
171 Hoomalu Street
Hilo, HI 96720

Dear Mr. Takemoto:

RE: PROPOSED AMAN RESORT
KUKUHAELE, HAMAKUA DISTRICT, HAWAII
ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE---REQUEST
FOR COMMENTS

The EIS Preparation Notice for the proposed Aman Resort project
has been reviewed and we foresee no adverse effect.

Sincerely,

Victor J. Vierra
VICTOR J. VIERRA
CHIEF OF POLICE

EHR:sk

cc: Captain Edwin Rapozo

Victor J. Vierra
Chief of Police
Francis C. DeMoralis
Deputy Chief of Police



COUNTY COUNCIL
 County of Hawaii
 Hawaii County Building
 25 Aupuni Street
 Hilo, Hawaii 96720

KEIKO BONK-ABRAMSON
 Councilwoman

Big Island Business Council

Hawaii Hotel Association
 Hawaii Board of Realtors
 Hawaii Island Contractors' Association
 Hawaii Island Economic Development Board
 Hawaii Island Portuguese Chamber of Commerce

Kona Board of Realtors
 Kona's Coast Restaurant Association
 Hawaii Island Restaurant Association
 Kona-Kona Chamber of Commerce
 Kona-Kona Industrial Area Association
 Japanese Chamber of Commerce and Industry of Hawaii

P.O. BOX 4815
 HILO, HAWAII 96720
 (808) 969-7863 / FAX (808) 935-7405

Monday, August 23, 1993

Roy R. Takemoto
 Land Use Planning & Law Consultant
 171 Hoomalu Street
 Hilo, HI 96720

Dear Mr. Takemoto,

Thank you for your letter of August 17, 1993 requesting input from the Big Island Business Council on the Aman Resort Project's Environmental Impact Statement. B.I.B.C. forms its positions through consensus of all member groups. As you can imagine this is a time consuming process requiring consent of each member organization's Board of Directors.

Therefore, I have enclosed a list of our member groups and would suggest that you contact them directly as it would be impossible to reach a consensus within your time frame. Thank you for soliciting our input.

Sincerely,

 Genetta Bennell
 President

August 27, 1993

Roy Takemoto
 171 Hoomalu Street
 Hilo, Hawaii 96720

Dear Mr. Takemoto

Thank you for the EIS preparation notice for the proposed resort at Kukuhihale. I am receiving this notice but am also interested in reviewing the Draft EIS before making specific criticism or addressing concerns. Please keep me informed of when this Draft will be prepared.

Thank you.

Aloha,

 Keiko Bonk-Abramson
 Councilwoman

KBA/ctd -

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

The Senate
 The Seventeenth Legislature
 of the
 State of Hawaii
 STATE CAPITOL
 HONOLULU, HAWAII 96813



August 13, 1993

Mr. Roy R. Takemoto
 Land Use Planning & Law
 Consultant
 171 Hoomalu Street
 Hilo, Hawaii 96720

Dear Mr. Takemoto

Thank you for your letter dated August 11th concerning the proposed Aman Resort.

Although I appreciate your taking the time to write to me, I really have no concerns or issues to raise at this time. May I urge that you contact Senator Malama Solomon, if you have not already done so, since Hamakua is the district that she represents.

Very truly yours,

AL

ANDREW LEVIN
 Senator, Third District

AL:CSY

- 1. CHIEF CLERK
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APPENDIX J

COMMENTS AND RESPONSES TO THE DRAFT EIS

Official notice of availability of the Draft EIS was published in the OEQC Bulletin on November 23, 1993. The 45-day public review period commenced from that publication date and ended on January 7, 1994.

The Draft EIS was sent to various agencies, organizations, and individuals including those listed in Appendix I. The following is a list of those who sent comments during the review period of the Draft EIS. This appendix includes copies of the comment and corresponding response in the order listed below.

- = "no comment" or "no impact"; no response necessary
- * = substantive comment requiring a response
- I. Federal
 - A. U.S. Department of the Navy
 - B. U.S. Department of Interiors, Geological Survey
 - C. U.S. Army Engineer District, Honolulu
- II. State
 - A. Office of State Planning*
 - B. Office of Hawaiian Affairs*
 - C. Department of Accounting and General Services
 - D. Department of Budget and Finance, Housing Finance and Development Corporation*
 - E. Department of Business, Economic Development, and Tourism
 - F. Department of Business, Economic Development, and Tourism, Land Use Commission*
 - G. Department of Defense*
 - H. Department of Health*
 - I. Department of Land and Natural Resources*
 - J. Department of Land and Natural Resources, Na Ala Hele
 - K. Environmental Center, University of Hawaii at Manoa*
- III. County
 - A. Department of Water Supply*
 - B. Fire Department
- IV. Other
 - A. Utilities
 - B. Community and Environmental Groups
 - 1. E Mau Na Ala Hele*
 - 2. Waipio/Kukuihaele Ohana Hana Like Community Assoc.*
 - C. Business and Labor Groups
 - D. Individuals
 - 1. Angelo, R.*
 - 2. Badua, K.*
 - 3. Berinoluis, L.*
 - 4. Cain, J.*
 - 5. Coates, D.*
 - 6. De Luz, D.*
 - 7. Hunt, K.*
 - 8. Impson, R.*
 - 9. Kaaua, J.*
 - 10. Kanekoa, C.*
 - 11. Kaneshiro*

12. Kurashige, E.*
13. Kurashige, M.*
14. Mock Chew, J., Mr. & Mrs.*
15. Mock Chew, S. & H.*
16. Phillips, L.*
17. Revilla, S.*
18. Ross, H.*
19. Soares, A.*
20. Soletto*
21. Texeira, D.*
22. Toko, A. & S.*
23. Toledo, D.*
24. Toledo, M.*
25. Tompkins, S.*
26. ?? (P.O. Box 1395)*
27. Tummons*

E. Media
F. Politicians



DEPARTMENT OF THE NAVY
 COMMANDER
 NAVAL BASE PEARL HARBOR
 BOX 110
 PEARL HARBOR, HAWAII 96860-9020


REPORT REFER TO

11000
 Ser N44/3717
 06 Dec 1993

Planning Department, County of Hawaii
 25 Aupuni Street
 Hilo, HI 96720

Gentlemen,

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) for the Amanresort development at Kukuihaele, Hamakua District, Hawaii. The Navy has no comments to offer at this time. We will maintain a copy of the DEIS in our files for future reference. If you have any questions, please call LT Bob Keiser at 471-3324.

Sincerely,

 R. K. KEISER
 Lieutenant, CEC, USN
 By direction of
 the Commander

Copy to:
 State of Hawaii
 Office of Environmental Quality Control
 220 S. King Street
 Fourth Floor
 Honolulu, HI 96813

Kukuihaele Development Company
 Attn: Eugene McCain
 P. O. Box 44394
 Kawaihae, HI 96743

Case & Lynch
 Attn: Sandra Pechter Schulte
 460 Kilauea Avenue
 Hilo, HI 96720



United States Department of the Interior

GEOLOGICAL SURVEY
 WATER RESOURCES DIVISION
 677 Ala Moana Blvd., Suite 415
 Honolulu, Hawaii 96813

December 2, 1993

Mr. Rodney Nakano/Baryn Arai
 Planning Department
 County of Hawaii
 25 Aupuni Street
 Hilo, Hawaii 96720


Dear Mr. Nakano/Arai:

Subject: Amanresort, Draft Environmental Impact Statement (DEIS).

We are in receipt of the subject DEIS. We regret that due to prior commitments, we are unable to review the subject DEIS by the January 1st deadline.

As requested, we will return the DEIS to the Office of Environmental Quality Control for your future use.

Sincerely,


 William Meyer
 District Chief

cc: Office of Environmental Quality Control
 220 South King Street
 Honolulu, Hawaii 96813

Mr. Eugene McCain
 Kukuihaele Development Company
 P. O. Box 44394
 Kawaihae, Hawaii 96743

Ms. Sandra Pechter Schutte
 Case & Lynch
 460 Kilauea Avenue
 Hilo, Hawaii 96720

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

DOCUMENT CAPTURED AS RECEIVED



DEPARTMENT OF THE NAVY
COMMANDER
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860-5070

IN REPLY REFER TO
11000
Ser NA44/3717
06 Dec 1993



United States Department of the Interior

GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
677 Ala Moana Blvd., Suite 415
Honolulu, Hawaii 96813

December 2, 1993

Planning Department, County of Hawaii
25 Aupuni Street
Hilo, HI 96720

Gentlemen,

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) for the Amanresort development at Kukuihaele, Hamakua District, Hawaii. The Navy has no comments to offer at this time. We will maintain a copy of the DEIS in our files for future reference. If you have any questions, please call LT Bob Keiser at 471-3324.

Sincerely,

R. K. KEISER
Lieutenant, CEC, USN
By direction of
the Commander

Copy to:
State of Hawaii
Office of Environmental Quality Control
220 S. King Street
Fourth Floor
Honolulu, HI 96813

Kukuihaele Development Company
Attn: Eugene McCain
P. O. Box 44394
Kawaihae, HI 96743

Case & Lynch
Attn: Sandra Pechter Schulte
460 Kilauea Avenue
Hilo, HI 96720

Mr. Rodney Nakano/Datyn Aral
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Nakano/Aral:

Subject: Amanresort, Draft Environmental Impact Statement (DEIS),
Hamakua, Hawaii

We are in receipt of the subject DEIS. We regret that due to prior commitments, we are unable to review the subject DEIS by the January 23 deadline.

As requested, we will return the DEIS to the Office of Environmental Quality Control for your future use.

Sincerely,

William Meyer
District Chief

cc: Office of Environmental Quality Control
220 South King Street
Honolulu, Hawaii 96813

Mr. Eugene McCain
Kukuihaele Development Company
P. O. Box 44394
Kawaihae, Hawaii 96743

Ms. Sandra Pechter Schutte
Case & Lynch
460 Kilauea Avenue
Hilo, Hawaii 96720



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5448

December 6, 1993

REPLY TO
ATTENTION OF

Planning Division

Mr. Rodney Nakano
County Of Hawaii
Planning Department
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Nakano:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement for the Aman Resort, Hamakua, Hawaii (TMK 4-8-6: 3, 13, 43, 44; por. 9 and 11). We do not have any additional comments to offer beyond those provided in our previous letter dated August 30, 1993.

Sincerely,

(Signature)

Kisuk Cheung, P.E.
Director of Engineering

Copies Furnished:

Mr. Eugene McCain
Kukuihaele Development Company
P.O. Box 44394
Kawaihae, Hawaii 96743

Ms. Sandra Pechter Schutte
Case and Lynch
460 Kilauea Avenue
Hilo, Hawaii 96720



OFFICE OF STATE PLANNING
Office of the Governor

MAILING ADDRESS: P.O. BOX 2244, HONOLULU, HAWAII 96822-2244
STREET ADDRESS: 260 SOUTH HOTEL STREET, 6TH FLOOR
HONOLULU, HAWAII 96813-1900
TELEPHONE: (808) 521-7944, 521-7900
FAX: (808) 521-7944, 521-7900

Ref. No. C-447

January 4, 1994

The Honorable Virginia Goldstein
Planning Director
Planning Department
County of Hawaii
Hilo, Hawaii 96720

Dear Ms. Goldstein:

Subject: Draft Environmental Impact Statement for Amanresort at
Kukuihaele, Hamakua, Island of Hawaii,
TMK: 4 8-06: 3, 13, 43, 44, par. 9 and 11

We have reviewed the above referenced document proposing a 36-unit, one story luxury resort, a 4-suite inn for the old Plantation Manager's Estate, 38 residential-agricultural lots and 7 residential-resort 1-acre lots. It is our understanding that the project area is approximately 113 acres within the Agricultural District. The proposed Amanhideaway hotel will encompass approximately 15 acres which the applicant proposes to reclassify to the Urban District.

The Office of State Planning is currently developing an "Interim Planning Document" for the Hamakua region which will discuss low density resorts and ecotourism as an alternative for the region.

We have no further comments at this time. If you have any questions, please contact the Land Use Division at 587-2886.

Sincerely,

Harold S. Masumoto
Director

cc: Kukuihaele Development Company
Case & Lynch

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. Harold S. Masumoto, Director
Office of State Planning
State of Hawaii
P.O. Box 3540
Honolulu, HI 96811-3540

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. Masumoto:

Thank you for your comments dated January 4, 1994. We hope you consider the proposed low density resort project as a model of ecotourism that fits with the plans for the Hamakua region. We welcome any comments to improve the fit of the project as it relates to the ecotourism objectives.

Yours truly,

Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 SUIPOJAN BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813-2110
PHONE (808) 546-3777
FAX (808) 546-3776

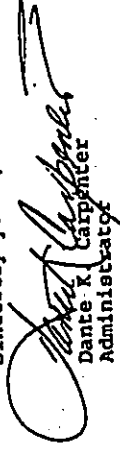
January 18, 1994

Planning Development, County of Hawaii
25 Aupuni St.
Hilo, HI 96720

Dear Sir/Madam:

We have reviewed the Draft Environmental Impact Statement for the AMANRESORT development at Kukuihaele, District of Hamakua, Hawaii. Enclosed you will find a copy of a report outlining our response to the proposed development. Please contact Linda Delaney at 586-3740 should you have any questions about this report.

Sincerely yours,


Dante K. Carpenter
Administrator

LM:es

Enclosure

cc: Kukuihaele Development Company
Case & Lynch
Clayton Hee, Chairperson, OHA Board of Trustees

Report

AMANRESORT: A Review of the Draft Environmental Impact Statement

Kukuihaele Development Company submitted an Environmental Impact Statement (EIS) for its proposed retreat resort development (AMANRESORT) located in Kukuihaele, Hamakua District, Island of Hawaii in compliance with Chapter 343 of the Hawaii Revised Statutes. The Office of Hawaiian Affairs (OHA) has reviewed the EIS and issues the following report stating OHA's views of the potential impacts of the proposed development.

The area for the proposed development is located in the Kukuihaele area, District of Hamakua on the Island of Hawaii. The Waipio valley, a significant scenic resource, is located about one-half mile from the proposed development.

Agricultural Suitability

According to the EIS report, the area for the proposed development consists of abandoned sugarcane fields located about 7 miles from Honokaa town. One border of the development will be near the cliff edge of the Waipio valley with views of the ocean, coast, and Waipio valley.

The Office of Hawaiian Affairs is truly concerned with the arguments used in the EIS to justify the AMANRESORT development. It is particularly disturbing how the available information on agricultural suitability has been interpreted

to conclude that lands in the area are marginally suited for agriculture and that the development of AMANRESORT would probably be the best and highest land use. Literally, the following is said at page 26:

"However, since the soils do not strictly meet all of the Department of Agriculture's criteria for 'Prime Agricultural Land', it must be presumed that these soils were classified on the basis of their use for sugarcane cultivation at the time of the mapping. The Soil Conservation Service rated the capability of the soils in Class III or IV."

Also a footnote is included on page 26:

"State of Hawaii, Department of Agriculture, Agricultural Lands of Importance to the State of Hawaii (Revised), brochure, November 1977. The brochure discusses the classification criteria. One criterion for prime agricultural land is that the soil must not be thixotropic."

These two paragraphs are in clear conflict with the soil description given in page 24 of the EIS and the ranking of the area as prime agricultural land by the Agricultural Lands of Importance to the State of Hawaii (ALISH) system (page 26).

The description in page 24 of the EIS states that soils in the area belong to the soil series Paauhau and Kukaiiau. These soils are well drained, medium textured, volcanic-ash soils (Andepts) with unique soil physical properties (including thixotropy) stemming from their high organic matter content and dominance of amorphous materials. These characteristics confer them unlimited potential for

agricultural use. In fact, volcanic ash soils in Hawaii and elsewhere are the most productive soils in the world providing that sound soil and crop management practices are instituted. Furthermore, and contrary to what it is stated in the footnote in page 26, thixotropy does not render soils less suitable for crop production.

Slope steepness could be one factor constraining agricultural use of the soils in the area. But Figure 17 of the EIS fails to show that steep slopes prevail in the area. Furthermore, the slope ranges given on page 24 of the EIS are average values for the soil series and may not be indicative of slopes prevailing in the area.

Overall, OHA finds the Soils and Topography section of the EIS lacks depth and substance to truly discern land qualities and uses for lands in that portion of the Kukuiahaele area.

Diversified Agriculture

The EIS states that diversified agriculture is not a feasible alternative for the Kukuiahaele area (page 123) and some statistics are given to support this contention. It is stated that due to the breakdown of the sugarcane industry, a large segment of the population is or will be unemployed. But it is stated that only a small portion of this idle population is actually interested in pursuing diversified agriculture. It is also stated that only 28% of the agricultural area in the Hamakua Coast will be needed to

cover islandwide potential markets for diversified agriculture's products and that lands in the Kukuihaele area are not part of the lands for diversified agriculture. After a careful analysis of these arguments, OHA states the following:

1. A wealth of knowledge indicates that given equal opportunity, diversified agriculture is a viable alternative to plantation agriculture. There are several attributes of diversified agriculture which are highly appealing to the Hamakua Coast but which have not been fully explored. Among these are:
 - Its diversity, that is the growing of various crops under various cropping systems, reduces the risks of crop failure and precludes economic hardship.
 - Diversified agriculture operates at a much smaller scale than plantation agriculture. That is, farmers operate small tracts of land. This broadens the opportunities for more people to engage in diversified agriculture.
 - Diversified agriculture provides a wide range of accessory employment opportunities derived precisely from this diversity.
 - Diversified agriculture brings opportunity for change and renewal to areas agencies traditionally engaged in plantation agriculture.
 - Diversified agriculture is practiced worldwide but the available technology is less than adequate to tackle soil

and environmental constraints. Given the similarity in soils and environments, the Hamakua Coast has an unique opportunity and a comparative advantage to develop technology for worldwide application.

2. The apparent dismissal of diversified agriculture as a viable economic activity for the the Hamakua Coast apparently stems from an analysis of the local markets. It is true that local markets are too small to absorb products from diversified agriculture. But one important key element is missing in the analysis. That is diversified agriculture possesses the means to produce high quality products able to (i) stand long distance shipment, and (ii) compete in foreign markets. Thus, it is important to place the prospects of diversified agriculture in the Hamakua Coast beyond the Big Island's boundaries and within a statewide, Pacific Basin, and Southeast Asia context.
3. Diversified agriculture in the Hamakua Coast lacks visibility. This stems from factors such as (i) current academic and practical training are strongly oriented to plantation agriculture and few opportunities exist for research and training in diversified agriculture, (ii) diversified agriculture is often wrongly equated with subsistence agriculture, and (iii) very few people actually understand the scope and extent of diversified agriculture. To increase visibility, there is need to (i) reorient academic curriculum to address current and future changes in

agriculture, and (ii) develop the mechanisms to increase awareness and understanding of the capabilities, requirements, and scales of operation of diversified agriculture.

4. If OHA allows loosely constructed arguments to justify the use of good agricultural areas for resort uses, it will miss the opportunity to increase diversified agriculture and provide the State of Hawaii with a broader economic base.

Overall Conclusion

The Office of Hawaiian Affairs strongly encourages and supports developments in the Hamakua Coast that will lessen economic hardship brought by the closing of the sugarcane industry. But OHA has serious doubts that resort developments such as AMANRESORT will bring economic relief to the local population and will benefit segments of the population which are vastly underrepresented in the workforce. Agricultural activities, with innovative approaches such as diversified agriculture, are feasible strategies for economic development in the Hamakua Coast. If properly implemented, diversified agriculture has the potential for reaching people with neither the means nor the skills to pursue other economic ventures.

After a careful review of the EIS, OHA is not prepared to endorse the arguments used in the EIS to propose the permanent and irreversible removal of prime lands from agriculture and placement in some sort of resort use.

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/Fax (808) 959-0189

February 4, 1994

Mr. Dante K. Carpenter, Administrator
Office of Hawaiian Affairs
State of Hawaii
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813-5249

RE: Draft Environmental Impact Statement for Amanresort, Hanakua, Hawaii

Dear Mr. Carpenter:

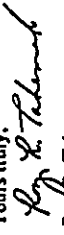
The following responds to the comments from your staff dated January 18, 1994:

1. **Agricultural Suitability.** There are alternative soil classification systems that rate the soils on a scientific basis for agricultural suitability. The State Land Use Law (*Hawaii Revised Statutes Chapter 205*) uses the Land Study Bureau classification instead of the ALISH system. The Land Study Bureau and Soil Conservation Service both rate the soil as "fair" for agriculture. The ALISH system is not as detailed in its evaluation as the Land Study Bureau or the Soil Conservation Service. Furthermore, the soils within the project site do not even meet the ALISH criteria as noted in footnote 8 in the Draft EIS. The Final EIS will revise footnote 8 to clarify that the criterion of not being thixotropic is the Department of Agriculture's criterion taken from their brochure referenced in footnote 8. The soil within the project site may be good, but there are acres of better soil along the Hanakua Coast which are rated prime according to a consensus of these classification systems. The overall policy objective is not to preserve all land that was used for sugarcane or other agricultural use, but rather to preserve as much as possible the best or "prime" soils.

2. **Diversified Agriculture.** This project does not preclude diversified agriculture in Hanakua-- there are 40,000 acres becoming available with the closure of Hamakua Sugar Company. This project would withdraw 65 acres of land formerly used for sugarcane-- less than 1% of the total available land. Every square foot of the 40,000 acres does not have to be devoted to diversified agriculture; the market could not absorb the production. This project offers an alternative use that could stimulate the start-up of diversified agricultural ventures in the vicinity (see for example the article cited in footnote 44 of the DEIS describing a former Lanai plantation worker who has started a farming business selling his products to Koele Lodge). The EIS relied on statistics from the State Department of Agriculture in the feasibility assessment; your arguments do not provide specific data to refute the Department of Agriculture's projections. The Department of Agriculture must have considered all feasible markets in their analysis, including foreign markets if these have proven feasible.

Mr. Dante Carpenter
February 4, 1994
Page 2

Thank you for your comments.

Yours truly,

Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

JOHN WAHNEE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P. O. BOX 118, HONOLULU, HAWAII 96819

ROBERT F. TAKUSHI
COMPTROLLER
LLOYD UREBASAMI
DEPUTY COMPTROLLER
LETTER NO. (P) 1856.3

JOHN WAHNEE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
577 OLIVER STREET, SUITE 200
HONOLULU, HAWAII 96813
FAX (808) 547-4000

JOSEPH E. COHART
RECEIVED DATE

BY REPLY REFER TO:
94: PPE/32

January 4, 1994

DEC 8 1993

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

Attention: Mr. Rodney Nakano
Gentlemen:

Subject: Amanresort
Draft EIS

Thank you for the opportunity to review the subject document. The proposed project will not impact any of our facilities. Therefore, we have no comments to offer.

If there are any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Very truly yours,
Gordon Matsuoka
GORDON MATSUOKA
State Public Works Engineer

RY:jj
cc: Kukuiahaele Development Company
Case & Lynch
OEQC

Mr. Rodney Nakano
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Nakano:

Subject: Draft Environmental Impact Statement (EIS) for
Amanresort TMK: 4-8-6:3,13, 43, 44, 44, por 9 and 11,
Hamakua, Hawaii

We have reviewed the subject Draft EIS and have the following comments to offer:

1. While the payment of in-lieu fees is acceptable, the Housing Finance and Development Corporation would prefer the construction of affordable homes. The Hawaii State Housing Functional Plan Policies A(3) and B(3) were formulated to ensure that housing projects and projects which impact housing provide a fair share/adequate amount of affordable for-sale or rental opportunities to residents of Hawaii.
2. However, if the payment of in-lieu fees is made, the amount of subsidy required to provide affordable housing units of \$12,500 per unit as stated may not be adequate to actually produce the required units. We estimate the in-lieu fee to be approximately \$18,000 per for-sale unit (1993) which is based on the following assumptions:
 - a. Affordable units are for homeownership.
 - b. The 1993 Department of Housing and Urban Development's (HUD) median income for a family of four in the County of Hawaii is \$33,600.

10755

Mr. Rodney Nakano
Page 2
January 4, 1994

- c. The affordable sales price is based on a 30-year mortgage and at an interest rate of 8%.
- d. A per unit subsidy is calculated as the difference between the cost of development and the affordable price.

Attached is an assumption sheet indicating how the estimated in-lieu fee is derived.

- 3. If units are to be rented, HFDC is willing to assist in calculating the in-lieu payment.
- If you have any questions, please contact Michele Otake of my Planning staff at 587-0637.

Sincerely,


JOSEPH K. CONANT
Executive Director

Attachment

- c: Mr. Eugene McCain, Kukuhaele Development Company
Ms. Sandra Pechter Schutte, Case and Lynch

Assumptions:

Building Type	Area (sq. ft.)	Bldg. Cost (\$75/sq. ft.)	Improved Lot Cost	Total Cost
2 BR, 1BA	800	\$60,000	\$55,000	\$115,000
2 BR, 2BA	900	\$67,500	\$55,000	\$122,500
3 BR, 1.5BA	1000	\$75,000	\$55,000	\$130,000
3 BR, 2BA	1100	\$82,500	\$55,000	\$137,500
3 BR, 2BA	1200	\$90,000	\$55,000	\$145,000

Development Cost	Developer Incentive	Affordable Price	Total Subsidy Required
\$115,000	\$5,000	\$100,900	\$19,100
\$122,500	\$5,000	\$108,500	\$21,000
\$130,000	\$5,000	\$112,000	\$23,000
\$137,500	\$5,000	\$125,600	\$16,900
\$145,000	\$5,000	\$140,000	\$10,000

Average Subsidy = \$18,000 (\$90,000/5) = Estimated In-lieu fee

JOHN WAI'ILI
Governor
MAUI HAHNELMAN
Director
JEANNE SCHULTZ
Deputy Director
BICK IGGID
Deputy Director
TAKESHI YOSHIMURA
Deputy Director



DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

ENERGY DIVISION, 333 KEECHUAH ST., RM. 415, HONOLULU, HAWAII 96813 PHONE: (808) 547-3100 FAX: (808) 547-3170

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. Joseph Conant, Executive Director
Housing Finance and Development Corporation
State of Hawaii
677 Queen Street, Suite 300
Honolulu, HI 96813

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. Conant:

In response to your comments dated 4 January 1994, the applicant will add an area to provide employee housing within the Project Site. However, to minimize the impact on the community, the area will be limited to accommodate a maximum of 10 units.

The applicant will also still contribute in-lieu fees to enable the County to determine the best location for the bulk of the affordable housing relative to schools and other infrastructure rather than to cram all of the units within the boundaries of Kukuhaele. The County will consider your comments in determining the appropriate amount of the fee relative to homeownership or rental assumptions, and factoring as appropriate the on-site employee housing. The Final EIS will identify the specific amount of the fee as an unresolved issue to be resolved during the rezoning process.

Thank you for your comments.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuhaele Development Company

December 14, 1993

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

ATTN: Mr. Rodney Nakano, Planner
Mr. Daryn Arai, Planner

Gentlemen:

SUBJECT: Amanresort
Island of Hawaii
District of Hamakua
Tax Map Key: 4-8-6:3,13,43,44, por. 9 & 11

We wish to inform you that we have no comments to offer on the subject Draft Environmental Impact Statement (DEIS).

Thank you for the opportunity to submit any comments or recommendations.

Sincerely,

Haurice H. Kaya

Haurice H. Kaya
Energy Program Administrator

MHK:ets100hk

cc: Kukuhaele Development Company
Case & Lynch



STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
Room 104, Old Federal Building
Feesala, Honolulu HI 96813
Telephone: 571-2121

Ms. Virginia Goldstein
November 24, 1993
Page 2

Should you have any questions, please call me or Bert Saruwatari of our office at 587-3822.

Sincerely,

ESTHER UEDA
Executive Officer

EU:th

encl.

cc: DBEDT (w/o encl.)
Eugene McCain (w/o encl.)
Sandra Pechter Schutte (w/encl.)

November 24, 1993

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

Dear Ms. Goldstein:

Subject: Draft Environmental Impact Statement (DEIS) for
Amanresort, Kukuiahaele, Hamakua, Hawaii

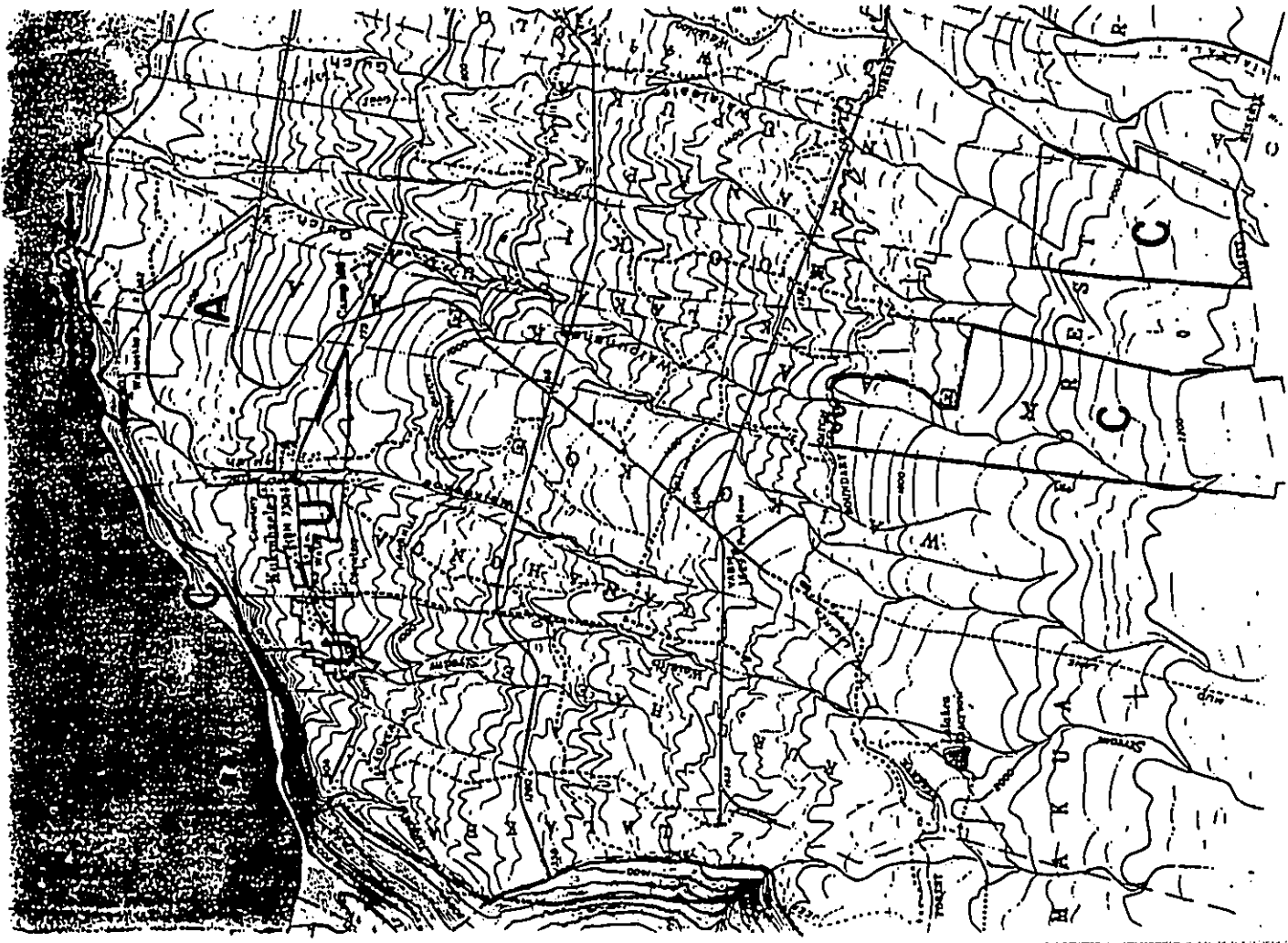
We have reviewed the DEIS for the subject project and have the following comments:

- 1) Based on pages 11-12 of the DEIS, we note that there are several components of the subject project that have changed since we reviewed the Environmental Impact Statement Preparation Notice (EISP/N) in our letter dated August 16, 1993. We understand that one of the changes includes the replacement of the originally planned resort villa lots with "residential-agricultural" lots. We further understand that the applicant does not intend to file a petition for land use district boundary amendment with the Land Use Commission in connection with the project as was earlier implied in the EISP/N.
- 2) Based on figure 36 on page 98 of the DEIS, the State Land Use District boundaries appear to be incorrectly delineated. We have enclosed a copy of the official map showing the district boundaries in the area for your information.

We have no further comments to offer at this time. We appreciate the opportunity to comment on this matter.

10:53





Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/Fax (808) 959-0189

February 4, 1994

Ms. Esther Ueda, Executive Director
Land Use Commission
State of Hawaii
Room 104, Old Federal Building
335 Merchant Street
Honolulu, HI 96813

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Ms. Ueda:

The following responds to your comments dated 24 November 1993:

1. The proposed site plan requires reclassification from Agriculture to Urban of four separate areas:
 - a. hotel site (15.0 acres);
 - b. residential-resort lots and employee housing (8.757 acres);
 - c. boundary adjustment for mauka lot on the Waipio side of the Plantation Manager's House to be consolidated and resubdivided into the abutting residential lot (0.25 acre); and
 - d. boundary adjustment for makai residential lots to be consolidated and resubdivided into the abutting individual residential lots (0.837 acre).

The applicant will submit a petition to the County Planning Department or the State Land Use Commission, as appropriate, to reclassify these areas.

2. The map of the existing State Land Use District Boundaries (DEIS, Figure 36, p. 98), shows the boundaries within the Project Site. When compared to the copy of the official map you sent, the figure appears correct.

Thank you for your comments.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

CHIEF OF BUREAU
MAJOR GENERAL EDWARD V. JOHNSON
DIRECTOR OF CIVIL DEFENSE
ROY C. PRICE, SR.
VICE DIRECTOR OF CIVIL DEFENSE



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE
3415 DRIVING WELD ROAD
HONOLULU, HAWAII 96818-4415

January 6, 1994



PHONE (808) 734-2115

Mr. Rodney Nakano
Mr. Daryn Arai
January 6, 1994
Page 2

TO: Mr. Rodney Nakano
Mr. Daryn Arai
Planning Department
County of Hawaii

FROM: Roy C. Price, Sr.
Vice Director of Civil Defense

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS); AMANRESORT

We appreciate this opportunity to comment on the DEIS by the County of Hawaii Planning Department, on Amanresort, Hamakua District, Island of Hawaii; TRK: 3/4-8-6:3, 13, 43, 44, par. 9 & 11.

State Civil Defense (SCD) does not have negative comments specifically directed at the DEIS. However, the project site is not covered by any siren warning device. We do propose that one electronic siren and siren support infrastructure be purchased and installed by the developer to help alert residents of an impending or actual event that threatens the area. This siren must be solar powered, have a minimum output of 115 dB and be compatible with the existing civil defense siren warning system. The proposed siren requires a 100-foot radius buffer zone in which there are no residential buildings. The suggested location for the siren is at the northeast corner of Kukuihaele Park as shown on the copy of Figure 10, Overall Amanresort Master Plan. The site is annotated in red (the scale on this copy did not show up well, therefore, the coverage shown is only an estimate).

In the "SUMMARY," page V, paragraph 9, "UNRESOLVED ISSUES," subpara-graph 9a.1, "Offsite Infrastructure," "Road," the need to agree on the access road and the extent of improvements is addressed. In the resolution of this issue, SCD proposes that the transportation engineers design and construct the roadway in question for use as a potential ingress/egress for emergency vehicles and, further, as a potential evacuation route. Just as parks, schools, fire hydrants, underground/overhead

utilities and sidewalks are planned as integral parts of a development, so must mitigation measures, early warning and emergency warning devices and evacuation routes be planned for the safety of communities. Additionally, Section 3, "ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES," paragraph 3.1, "PHYSICAL CHARACTERISTICS," subparagraphs 3.1.1, Climate, and 3.1.5, Natural Hazards, address the elevation of the project site and the natural hazards of flooding, volcanoes and earthquakes. The triple threat of storm driven waves, torrential rains and destructive winds resulting from tropical storms/hurricanes must be considered. With the makai and mauka boundaries of the project site ranging from 500' above mean sea level (MSL) and 850' MSL respectively, terrain amplification associated with tropical storms/hurricanes, require serious consideration. Residential structures as well as the Social Hall and Recreation Center within the project area must be designed and constructed to withstand the terrain amplified winds at their respective elevation and location. The Social Hall and Recreation Center should be surveyed and given serious consideration for use as a public shelter for area residents and resort guests in the event of an emergency.

Our SCD planners and technicians are available to discuss this further if there is a requirement. Please have your staff call Mr. Met Nishihara of my staff at 734-2161.

Enc:

c: Mr. Eugene McCain
Kukuihaele Development Company

✓Ms. Sandra Pechter Schutte
Case & Lynch

Office of Environmental Quality Control

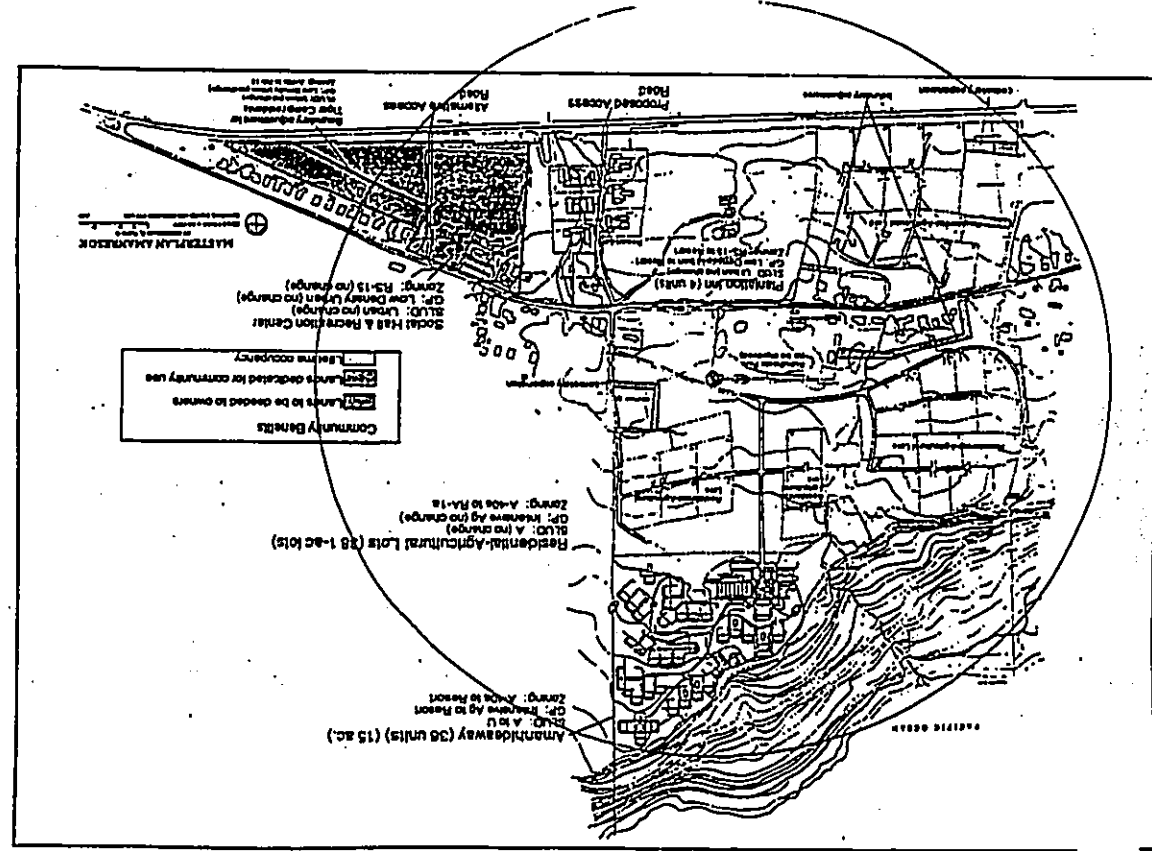


Figure 10 Overall Amanrestort Master Plan

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. Roy C. Price, Sr., Vice Director of Civil Defense
Department of Defense
State of Hawaii
3949 Diamond Head Road
Honolulu, HI 96816-4495

RE: Draft Environmental Impact Statement for Amanrestort, Hamakua, Hawaii

The following responds to your comments dated 6 January 1994:

1. **Siren.** The EIS will identify the potential need for a civil defense siren. If the County requires a siren, the applicant's consultants will coordinate the location and design of the siren with your agency.
2. **Evacuation Route.** The EIS will recommend that the access route be designed to accommodate emergency vehicles and to serve as an evacuation route.
3. **Public Shelter.** The EIS will recommend that the design of the Social and Recreation Center consider the use of this facility as a public shelter.

Thank you for your comments.

Yours truly,
Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3312
HONOLULU, HAWAII 96811

IN REPLY, PLEASE REFER TO:

January 10, 1994

93-241/epo

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

Attention: Rodney Makano

Dear Ms. Goldstein:

Subject: Environmental Impact Statement (EIS)
Proposed Aman Resort
Kukuihaele, Hamakua District, Hawaii
TKK: 4-8-6: 3, 9, por. 11, 13, 43 & 44

Thank you for allowing us to review and comment on the subject document. Besides the comments that we made on the EIS Preparation Notice, dated September 20, 1993, we have the following additional comments to offer:

Nonpoint Source Pollution Concerns

Proper planning, design and use of erosion control measures and management practices substantially reduces the total volume of runoff generated, thereby decreasing sediment loads. Steps should be taken to minimize onsite erosion which may become a source for nonpoint source pollution during construction activities.

- a. Conduct grubbing and grading activities during the low rainfall months (April - October).
- b. Replant or cover bare areas as soon as grading or construction is completed. New plantings will require soil amendments, fertilizers, and temporary irrigation to become established. Use high seeding rates to ensure rapid stand establishment.
- c. Maximize the use of pervious ground covers (vegetation, gravel, and pervious asphalt) to reduce the amount of additional runoff generated.
- d. Sediment basins, diversions, dikes, and any other structural erosion control practices require frequent maintenance to sustain their runoff capacity and to remain effective.

Ms. Virginia Goldstein
January 10, 1993
Page 2

If you should have any questions on this matter, please contact Ms. Shirley Nakamura of the Environmental Planning Office at 586-4337.

The Department of Health recommends that the developer and/or contractor be required to hold a public informational meeting in the surrounding community to describe the project and potential environmental impacts and to respond to concerns relating to the project.

Very truly yours,

JOHN C. LEWIS, M.D.
Director of Health

c: Hawaii District Health Office
Environmental Planning Office
Office of Environmental Quality Control
Kukuihaele Development Company
Case & Lynch



Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

John C. Lewin, M.D., Director
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, HI 96801

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Dr. Lewin:

In response to your comments dated 10 January 1994 relating to nonpoint source pollution, the Final EIS will include your list of additional mitigation measures to supplement the list already included in the EIS. The project's engineers will use this list of management practices to develop an appropriate erosion and sedimentation control plan. Your agency will review this plan through the NPDES Permit process. The County will also review the plan through the Grading Permit process.

The applicant has held public informational meetings in the community and plans to hold additional meetings in the future. The County will hold public hearings as part of the various permit processes (e.g., rezoning, State Land Use District Boundary Amendment, General Plan Amendment).

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

COMMUNITY DEVELOPMENT
COUNTY OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

REF:OCEA:SKK

DEC 22 1993 File No.: 94-350
DOC. ID.: 3912

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

Dear Ms. Goldstein:

Subject: Draft Environmental Impact Statement (DEIS): Aman Resort,
Kuhuihaele, Hamakua, Hawaii, TMS: 4-8-06: 3, 13, 43, 44,
pors. 9 & 11

We have reviewed the DEIS information for the subject project received on
November 22, 1993, and have the following comments:

Commission on Water Resource Management

The Commission on Water Resource Management (CWRM) staff comments that
Waikoeke Gulch appears to run through the site of the proposed resort.
The information submitted with the SMA permit application does not appear
to indicate any alteration or diversion of this gulch.

Stream permits are required when the bed or banks of stream channels are
altered (Section 169-50, Hawaii Administrative Rules (HAR)), or when
stream diversion works are constructed or altered (Section 169-32, HAR).
In addition, the interim stream flow standards would have to be amended if
the proposed project will alter the flow of streams (Section 169-40, HAR).

If the applicant proposes to modify or alter the bed or banks of Waikoeke
Gulch or divert water from the gulch, the applicant should:

1. Determine whether the gulch can be characterized as a stream
following the definition of "stream", "stream channel" and
"continuous flowing water" in Section 13-169-2, HAR.

SECTION 169-50, H.A.R. (HAWAII ADMINISTRATIVE RULES)
SECTION 169-32, H.A.R. (HAWAII ADMINISTRATIVE RULES)
SECTION 169-40, H.A.R. (HAWAII ADMINISTRATIVE RULES)
SECTION 13-169-2, H.A.R. (HAWAII ADMINISTRATIVE RULES)

SECTION 169-50, H.A.R. (HAWAII ADMINISTRATIVE RULES)
SECTION 169-32, H.A.R. (HAWAII ADMINISTRATIVE RULES)
SECTION 169-40, H.A.R. (HAWAII ADMINISTRATIVE RULES)
SECTION 13-169-2, H.A.R. (HAWAII ADMINISTRATIVE RULES)

Ms. V. Goldstein - 2 - File No.: 94-350

2. If the gulch is characterized as a stream, the appropriate stream-related permits should be submitted.

For more information regarding permit requirements for streams, the applicant should call CWRM at 587-0249.

Our Historic Preservation Division will be forwarding their comments to you directly.

We have no other comments to offer at this time. Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa at the Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

Keith W. Aheue
KEITH W. AHEUE

cc: Eugene McCain, Kuhuihaele Development Co.
Sandra Pechter Schutte, Case & Lynch

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. Keith W. Ahue, Director
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, HI 96809

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. Ahue:

The following responds to your comments dated 22 December 1993 and 10 January 1994:

1. Commission on Water Resource Management. Your comment is correct that the applicant does not propose any alteration to the bed or banks of Waiokeo Gulch (or any other gulch within the project site) nor will any water be diverted from this stream. Therefore, a stream permit would not be required for this project.
2. Division of Aquatic Resources. The Final EIS will discuss two known access routes that traverse the project site: 1) on the Waipio side of the project site, there is an unimproved road to the County's chlorination station; there is no trail from the chlorination station to the shoreline; and 2) a road on the Honokaa side of the project site that provides an alternative access to Kukuihaele Landing. The applicant will keep both roads open for public access. No watercourse will be blocked or interrupted (see comment in ¶1 above). Eroded soils and other sources of nonpoint source pollution will be regulated under the County's grading permit and the State's NPDES permit.

Thank you for your comments.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



NA ALA HELE
Hawaii Trail & Access System

January 18, 1994



University of Hawaii at Manoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawaii 96822
Telephone: (808) 956-7351

January 7, 1994
RE:0640

Mr. Roy Takemoto
171 Hoomalu St.
Hilo, HI 96720

RE: Proposed Aman Resort
Kukuihaele, Hamakua District, Hawaii

Dear Mr. Takemoto:

Review of environmental impact statement indicates no adverse impact on the Na Ala Hele program.

Sincerely,

Roy T. Oshiro
RODNEY T. OSHIRO
Na Ala Hele - Hawaii

Mr. Rodney Nakano and Mr. Daryn Arai
Planning Department
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Gentlemen:

Draft Environmental Impact Statement
Amanresort
Hamakua, Hawaii

The referenced project, proposed by Kukuihaele Development Company, will be located on approximately 113 acres in Kukuihaele on the Hamakua Coast. The project will include a retreat resort consisting of a 36-unit resort hotel, the Amanhideaway, and a 4-suite plantation Inn; 38 1-acre residential-agriculture lots; 7 1-acre residential-resort lots to be sold in fee simple; and various community benefits.

We have been assisted in this review by Davianna McGregor, Ethnic Studies; Suzanne Tiapula, School of Law; and Huilin Dong, Environmental Center.

GENERAL COMMENTS

The document seems to address most concerns relative to the potential impacts of the project. However, it appears that some impacts have not been fully appreciated, and that proposed mitigation measures may not be adequate.

References footnoted throughout the Draft EIS are helpful; however, in several instances, materials incorporated by reference are not widely available, and information cited thus is not empirically verifiable or amenable to critical review. For instance, botanical characteristics of the project area are identified summarily in Section 3.1.4, to which is referenced a survey performed previously for a separate project. The reviewer has no access to the original survey except through library or other reference resource

procurement. Similarly, reference is made to a community relations program undertaken for a separate project on Lanai (Section 3.2.2, p. 62), yet details and contexts of the program are not readily available for comparison and evaluation. While the cross-referencing is commendable as far as it goes, our reviewers note the last sentence of Section 11-200-19, EIS Rules, which states:

Care shall be taken to concentrate on important issues and to ensure that the statement remains an essentially self-contained document, capable of being understood by the reader without the need for undue cross-reference.

HYDROLOGY AND FLOODING IMPACTS

1. It is not clear from the EIS what use will be made of the water formerly diverted for the plantation into the Lalakea Reservoir.
2. We are concerned about the impact upon the Waipi'o taro farmers of developing a new well or diverting water for the resort. From reading the EIS, it is unclear to us what the impact will be.
3. Potential problems resulting from use of an underground leach field system if the applicant and County need to dig a well are unresolved.
4. Waipi'o Valley is noted for its susceptibility to periodic flooding. Without the plantation to disperse the increased flow into their irrigation system or for the fields to absorb the excess, the resort with its paved thoroughfares and buildings may contribute to the flooding problem.

SOIL PROPERTIES

Both the Draft EIS (Section 3.1.2) and the preliminary engineering report (Appendix A) note the low bearing capacity of the Paauhau and Kukaiau soils found on the proposed project site. Although soil engineering studies are called for, our reviewers suggest that certain aspects of the project preliminary design, in particular the placement of structures relative to the cliff edge, are fully dependent on results of these studies. In addition, foundation remedies for soil thixotropy and compressibility may significantly increase preliminary cost figures for construction, thereby altering the project economics. While it may be true that geotechnical studies "usually are done in the normal course of design and submitted with the building permit," in cases where soil conditions promote uncertainty, more thorough investigations at the outset may pay handsome dividends in reducing subsequent project costs.

EARTHQUAKE HAZARDS

Section 3.1.5.3 (p. 44) correctly identifies the current UBC designation of Earthquake Zone 3 for the entire island of Hawaii. However, concerns about seismic risk considerations statewide have been raised, and the geophysical and engineering communities are currently engaged in deliberation of prospective suggested amendments to the current UBC.

In particular, citation of the April 26, 1973 subcrustal earthquake draws attention to the shortcomings of the current UBC rating. While the Magnitude of that event is registered at 6.2, the Modified Mercalli Intensity rating in the vicinity of the proposed project was VII, which corresponds to a peak ground acceleration of >0.3 g. Such an intensity rating falls within the range of UBC Zone 4. Even more significant is the record of the April 2, 1868 earthquake, which shows an intensity in the area of VIII. The following descriptive excerpt from "Earthquake History of the United States" (NOAA, 1970, v. 41, no. 1) is illustrative:

Nearly every wooden house at Kelawa, Punaluu, Ninole, and beyond was knocked off its foundation or tumbled over, and straw houses with posts in the ground were torn to shreds. It shook down almost every wall in Hilo and caused landslides beyond Hilo, as far as Waipi'o and Hamakua.

Given the noted thixotropy of soils in the project area, the earthquake hazard leads our reviewers to suggest that blanket reliance on provisions of the existing UBC may not be sufficient to prevent serious structural failure, even in single-story buildings.

SOCIO-ECONOMIC IMPACTS

The economic analysis and fiscal impacts in the EIS are incomplete. The entire economic justifications of the project are based on a few key assumptions, however, the validity of these assumptions are not tested in the analysis. For example, in appendix E, Table 5.5, revenues to the state are given based on Amanresort's total revenue at a 4 percent tax rate, and the projected revenues to the Amanresort can be inferred. However, we notice that data on numbers of guests staying and their daily average expenditures which provide the basis of the revenues are taken from a state-wide survey in 1991. Little has been revealed on how the resort will induce the kind of expenditures anticipated by the guests; no survey has ever been conducted among the actual visitors to the valley on their willingness to stay in the resort and their spending patterns. Nor does the economic analysis take into consideration the economic fluctuation facing the Hawaii tourist industry at present and in the near future. The benefits projected in the EIS to the State and the County seem to be rather speculative, and in the absence of a formal market assessment providing more concrete data, the underlying market assumptions cannot be substantiated.

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January 7, 1994
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Overall, the developers seem to want to be a good neighbor to the Kukuihaele community. They appear to want to be sensitive and responsive to the community. This is reflected in the establishment of the trust fund for property tax hikes, the re-configuring of boundaries, the involvement of the community in the design of the community center, more land for the cemetery, willingness to comply with the Waipi'o Valley Task Force, etc. Nevertheless, we can still identify certain unavoidable negative impacts to the Kukuihaele community and Waipi'o Valley farmers:

1. The property tax fund or county ordinance may postpone the impact of increased property values. However, one can project that eventually surrounding property owners with fixed incomes may find themselves unable to afford the increased property taxes. The impact may not be felt until the next generation is faced with having to pay inheritance taxes. One can envision the gradual phasing out of the current rural and local character of the community as old timers pass on and heirs, facing high property assessments may have to sell the property to pay inheritance taxes. The character of the neighborhood will eventually be transformed due to the lack of affordable housing. This problem has not been alleviated by the applicant's election to contribute in-lieu fees of \$266,000 instead of satisfying the 21 unit on-site affordable housing requirement. The fees are based on \$12,500/unit, which appears to be a rather impossibly low estimate for providing acceptable housing in the community. One possible solution would be to put a certain percentage of profits from the resort or the building cost back into community educational or job training programs, or into a housing trust fund.
2. Economic stratification within the area is likely to occur and be reinforced due to the inflow of high-income new comers and guests in a community characterized by an above average percentage of elderly and adults with work disabilities (p. 56). Contrary to what the EIS claims, such economic polarization in a rural community undisturbed by extravagant ways of modern living will prove to be destructive rather than constructive. Roughly a third of the 100 or so jobs generated by the project are classified as management level, which require managerial skills that the local employees don't have; from experience at the Lanai resort, the 27 positions in food and beverage won't be prized by former agriculture workers; only the few positions in housekeeping and landscaping are preferred by former agriculture employees. The job opportunity created for the community is therefore limited, and job satisfaction is likely to be less than anticipated.
3. The impact on Waipi'o Valley is unavoidable, despite the apparent willingness of the applicant to cooperate with and abide by the policies of the Waipi'o

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housekeeping and landscaping are preferred by former agriculture employees. The job opportunity created for the community is therefore limited, and job satisfaction is likely to be less than anticipated.

3. The impact on Waipi'o Valley is unavoidable, despite the apparent willingness of the applicant to cooperate with and abide by the policies of the Waipi'o Valley Task Force. The resort will increase use of the Valley and exert pressure for changes to accommodate the increased number of visitors. The Applicant claims to be culturally sensitive in their practices at other sites in Third World countries. These claims would be more meaningful if substantiated or documented by non-biased agencies or the local communities on those sites.

Thank you for the opportunity to review and comment on the document.

Sincerely,



John Harrison, Ph.D.
Environmental Coordinator

cc: OEQC
Kukuihaele Development Co.
Case & Lynch
Roger Fujjoka
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February 4, 1994

Mr. John Harrison, Ph.D., Environmental Coordinator
Environmental Center
University of Hawaii at Manoa
2550 Campus Road, Crawford 317
Honolulu, HI 96822

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. Harrison:

The following responds to your comments dated 7 January 1994:

I. **Cross-referencing.** Enclosed is a copy of the botanical report referenced in the DEIS. The Lanai reference you mentioned is generally available as part of an EIS. Please note that the EIS Rules also state:

Data and analyses in a statement shall be commensurate with the importance of the impact, and less important material may be summarized, consolidated, or simply referenced. (EIS Rules, §11-200-19, emphasis added).

The botanical issue was not considered important based on the findings of the previous study and because the project site is almost entirely abandoned sugarcane fields. Similarly, the Lanai community relations program was merely cited as an example where details were not deemed important; interested readers could refer to the generally available EIS for the details.

II. **Hydrology.**

A. No use is proposed for the Lalaeka Reservoir; this will be clarified in the Final EIS.
B. Perched groundwater sources sustain the base flow for perennial streams that flow into Waipio Valley (DEIS, p. 82). The proposed wells would tap the basal groundwater source, not the perched groundwater source; therefore, the wells would not impact the streamflow of the Waipio Valley streams. To ensure that no significant impacts occur, any well drilling would first need a permit from DLNR. DLNR evaluates the impact of the proposed well on the hydrology of the area. If the well has any possibility of affecting the streamflow of the Waipio Valley streams, then either the location of the well or the pump capacity could be changed or the permit denied altogether if there were no acceptable mitigation measures.

C. The location of the leaching field would be downgradient from any well. To ensure that no significant impacts occur, the Department of Health would evaluate the impacts of the proposed wastewater treatment system under *Hawaii Administrative Rules* Chapter 11-62.

D. The project area for the resort is not within the drainage area of Waipio Valley;

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therefore, the increased area of impermeable surfaces resulting from the project would not affect the flooding susceptibility of Waipio Valley. Since the project does not propose any use of the plantation irrigation system, the project has no control on the effect of the irrigation system on the flooding susceptibility of Waipio Valley.

III. **Soil Properties.** In consultation with a reputable soils engineer, the proximity to the cliff and the soil characteristics in the area are valid concerns. However, the FEIS will clarify that these concerns are mitigable by either setting the structures back from the cliff edge at a distance to be determined by geotechnical investigations, or to allow building closer to the cliff edge using structural slabs that are anchored with piers to solid rock and structurally tied from front to back. The proper geotechnical studies are costly and justified only if the project is approved. Projects in similar conditions close to a cliff edge have been allowed to proceed with the proper structural mitigation measures (e.g., Princeville on Kauai). Once the project is approved, the geotechnical study is done almost immediately for the very reason you suggest—i.e., structural costs comprise a significant proportion of the construction costs. The developer analyzes and adjusts total project costs throughout the design phase as the project design progresses through the schematic, design development, and construction document stages. At each milestone in the design phase, if the estimated cost does not comport with the proforma feasibility projections, then the design is adjusted through a "value engineering" process to find alternative means to reduce the construction cost until the project is brought in line to be economically feasible. Finally, when a feasible and acceptable design is completed, the plans and specifications are submitted to the County along with backup studies such as the geotechnical report for the County to review in terms of public health and safety (not feasibility). Although the geotechnical report is reviewed by the County at the building permit stage, the study itself is done very early in the design phase.

IV. **Earthquake Hazards.** As noted in the DEIS and the preceding paragraph, a soils engineering study will be done and will dictate the structural design of the building. Hawaii County adopted the most recent UBC effective November 8, 1993. The recent UBC includes several new requirements to address hazards from earthquakes and strong winds. The project will be designed to meet the applicable building code standards; if the standards change as a result of the deliberations by geophysical scientists and engineers, then the project will be designed accordingly.


V. **Socioeconomic Impacts.**

A. **Projected Revenues.** The annual revenue projections are based on conservative assumptions. The projected annual revenues of \$124,900 from the operation of the resort were projected by the operator based on their experience of the ten other Aman resorts. The figure is the first year proforma projection, which is the most conservative since it is the start-up year, and assumes 50% occupancy. Obviously, visitors do not spend all their money at the resort; they purchase goods and services from businesses other than the resort such as restaurants, gifts, and transportation. The extent of this spending cannot be easily estimated. Although the guests staying at Aman resorts are usually in the higher income bracket, the fiscal analysis based on the estimate on average statistics from general visitor surveys. The study subtracted the amount the visitor spends at Aman resorts (based on proforma projections by the operator) from the total average statistical

- per capita daily amount of \$500 (based on visitor surveys) to estimate the excise tax revenues generated by the visitor outside the resort.
- Economic Fluctuation.* Aman resorts have not followed the worldwide downward trend of the visitor industry. When other resorts have had to scale back, Aman resorts are expanding. Aman resorts offer a unique product-- very small (less than 60 units), exceptional quality, exquisite locations in remote settings, integrated with the culture-- hence, its top ratings in *Forbes* and *Condé Nastre*. Aman's track record speaks for itself. During economic downturns when worldwide competition intensifies for the limited visitor supply, perhaps what Hawaii's visitor industry needs most is an injection of new vitality and image. Amanresorts, with its high quality ecotourism approach, projects a image different from typical resorts in Hawaii like the Hyatts, Sheratons, and Hiltons. Your suggestion of formal market studies will not provide meaningful input into the decisionmaking process since such studies were the basis to justify past resort developments in Hawaii, and time has proven the unreliability of those studies.
- Property Tax Impact.* The closest model for the proposed project is Hana Hotel. Hana Hotel is a low-scale, high-quality hotel in a rural setting. Old timers have continued to live in that community, and have not been forced out over the generations as a result of property taxes or inheritance taxes.
- Affordable Housing.* The in-lieu contribution of fees was intended to enable the County to determine the best location for affordable housing relative to schools and other infrastructure rather than to cram the units within the boundaries of Kukuiahaele. The amount of the fee is determined by the County. The amount is not intended to cover the full cost of construction, but rather the *subsidy* required to provide an affordable unit to a target group based on median income and family size (DEIS, p. 72). In response to comments from the Housing Finance & Development Corporation, the applicant will add an area to provide employee housing within the Project Site. However, to minimize the impact on the community, the area will be limited to accommodate a maximum of 10 units. The applicant will also still contribute the in-lieu fees. The Final EIS will identify the specific amount of the fee as an unresolved issue to be resolved during the rezoning process.
- Economic Stratification.* The purpose of job training is to qualify the local population for the various positions, including managerial positions. The job training will begin at least a year before the resort opens. The State will initially coordinate the job training in close association with the hotel operator (DEIS, p. 71). The job training programs will strive to learn from and improve upon the experience at Lanai.
- Waipio Valley.* The pressure on Waipio Valley already exists. The hotel can control the number of trips into the Valley; the local residents and independent visitors using rental cars cannot be readily controlled. The resort would comprise a very low percentage of the total visitors entering the Valley (DEIS, p. 65), and the operator has agreed to limit the trips to the number of trips determined by the County with input from the Waipio Task Force or other agency. The major problem is to control the residents and independent visitors who will comprise over 90% of the impact on Waipio Valley. Attached is an article on Amanresort that provides a perspective of the resort's operations.

Thank you for taking the time to review the subject project.

Yours truly,


Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuiahaele Development Company

BOTANICAL ASSESSMENT SURVEY
WAIPI'O MAUKA AND WAIPI'O MAKAI
HAMAKUA DISTRICT, HAWAII

BOTANICAL ASSESSMENT SURVEY
WAIPI'O MAUKA AND WAIPI'O MAKAI
HAMAKUA DISTRICT, HAWAII

INTRODUCTION

The project site consists of approximately 3,720 acres of land at Waipi'o, on the island of Hawaii, District of Hamakua. The site is bound by the ocean to the north, sugar cane fields and Waipunahoe Gulch to the east, pasture lands to the south, and Waipi'o Valley to the west. Highway 240 divides the property into two parcels; the parcel north or seaward of the highway is "Waipi'o Makai" and the parcel south or inland of the highway is "Waipi'o Mauka". The town of Kukuiahaele is found on the makai parcel. Actively cultivated sugar cane fields cover roughly 80% of the site. 'Ohi'a forest, covering some ±400 acres, can be found on the mauka parcel adjacent to Waipi'o Valley, above Hi'ilavé and Hakalaoa Falls. Gulches which run through the property generally support mixed forests of 'ohi'a and various introduced tree species. Coastal cliffs on the makai parcel support ironwood forests and low, wind-swept coastal scrub.

Field studies to describe the major vegetation types and search for threatened and endangered plant species were conducted on 23-24 February and 02-03 March, 1991. Four botanists, working in teams of two each, were used in the survey work. The botanical assessment report will be incorporated into an Environmental Assessment (EA) which will be prepared for a land use boundary amendment, zone change, use permits for golf courses, and other approvals.

by

Winona P. Char
CHAR & ASSOCIATES
Botanical/Environmental Consultants
Honolulu, Hawaii

Prepared for: BELT COLLINS & ASSOCIATES
March 1991

SURVEY METHODS

Recent colored aerial photographs and topographic maps of the site were examined prior to the field studies to determine vegetation cover types, terrain characteristics, access, boundaries and reference points. Access to both parcels was from Highway 240. From the highway, major cane haul roads, as well as smaller, overgrown cane haul roads, provided access onto most parts of the property. Major cane haul roads, gulches, "Mud Lane", and Lalakea Reservoir show clearly on the aerial photographs and were used as reference points during the field studies.

Areas covered by sugar cane fields were not surveyed in detail as sensitive native plant communities are not likely to occur in such areas; spot checks were made along major avenues of access. Areas most likely to harbor native plant communities or rare species, as the coastal cliffs, the gulches, and the forested areas along Waipi'o Valley were more intensively examined. Notes were made on plant distributions and associations, substrate types, topography, exposure, moisture regimes, etc. Species were identified in the field; plants which could not be positively determined were collected for later identification in the herbarium and for comparison with the recent taxonomic literature.

DESCRIPTION OF THE VEGETATION

In the following discussion, flowering plant names (Monocots and Dicots) follow Wagner *et al.* (1990); ferns and fern allies follow Lamoureux (1984). Of the five major vegetation types recognized on the site, two, coastal vegetation and 'ohi'a forest, support native species. Tables 1 and 2 list the native species occurring in these two vegetation types.

1. Coastal Vegetation

Along the seaward facing portions of Waipi'o Makai are wave-cut

sea cliffs which plunge precipitously down to the ocean on the eastern half of the coast. On the western half, from about Kukuihaele Landing to the end of the property well before Honokaape Landing, is a narrow cobble and boulder bench which lies at the foot of the sea cliffs.

At the tops of the cliffs, where they border the cane fields, is usually a line of trees. These were planted there by the plantation to intercept salt spray thereby lessening damage to the sugar cane plants. From about Kukuihaele Landing to the eastern boundary at Waipunahoe Gulch, the cliffs are lined by ironwood trees (Casuarina equisetifolia, Casuarina glauca), from 40 to 50 ft. tall. Scattered clumps of Christmas berry (Schinus terebinthifolius) and koa-haole or 'ekoa (Leucaena leucocephala) shrubs are found along the edges of the ironwood forest. Thick mats of California grass (Brachiaria mutica) are locally abundant where the ironwood trees are less dense. On the western half of the coastal cliff area, Java plum trees (Syzgium cumini) and Christmas berry shrubs form a dense thicket; again the more open areas are dominated by thick mats of California grass.

Where the cliff face is more sloping, naupaka kahakai or beach naupaka (Scaevola sericea) forms a dense shrubland from 3 to 5 ft. tall. Also on these cliff faces are low, wind-swept stands of ironwood trees. A few natives such as nehe (Lipochaeta integrifolia), 'aveveo (Chenopodium oahuense), pua kala (Argemone glauca), 'ahinahina (Artemisia australis), and huehue (Coccoloba trilobus) can be found clinging to the cliff faces.

On the coastal bench at the foot of the cliffs, vegetation consists of stands of ironwood and hala (Pandanus tectorius). Naupaka kahakai shrubs fill in the matrix between the trees.

The ocean bottom along the coastal cliffs is boulder-strewn and at least seven Green Sea Turtles or Honu, one 5 ft. across, were observed feeding on the algae growing on these boulders.

Table 1. List of Native Species Found in Coastal Vegetation

Scientific name	Common name	Status
MONOCOTS		
CYPERACEAE (Sedge Family)		
<i>Fimbristylis cymosa</i> R. Br.		I
<i>Marsilea javanica</i> (Houtt.) Herr. & Metcalf	'ahu 'ava	I
PANDANACEAE (Screwpine Family)		
<i>Pandanus tectorius</i> S. Parkinson ex Z.	hala	I
DICOTS		
ASTERACEAE (Sunflower Family)		
<i>Artemisia australis</i> Less.	'ahinahina	E
<i>Lipochaeta integrifolia</i> (Nutt.) A. Gray	nehe	E
CHENOPODIACEAE (Goosefoot Family)		
<i>Chenopodium oahuense</i> (Meyen) Aellen	'aveoveo, 'aheahea	E
CONVOLVULACEAE (Morning Glory Family)		
<i>Ipomoea indica</i> (J. Burm.) Herr.	koali 'ava	I
<i>Ipomoea pes-caprae</i> ssp. brasiliensis (L.) Ooststr.	pohuehue	I
GOODEHIACEAE (Goodenia Family)		
<i>Scaevola sericea</i> Vahl	naupaka kahakai	I
HEPISPERMACEAE (Moonseed Family)		
<i>Cocculus trilobus</i> (Thunb.) DC.	huehue	I
PAPAYERACEAE (Poppy Family)		
<i>Argemone piauca</i> (Nutt. ex Prain) Pope	pua kala	E

Status
 E = endemic, native only to the Hawaiian Islands
 I = indigenous, native to the islands and elsewhere

2. Sugar Cane Fields

Roughly 80% of the project site is covered by actively cultivated fields of sugar cane (*Saccharum officinarum*); a few fields on the Waipi'o Hauka parcel, near the Waipi'o Valley edge, are recently fallowed. Two grasses which may be locally abundant along road-sides and drainage ways are California grass and Vasey grass (*Paspalum urvillei*). Generally though, the plants found in this vegetation type are a weedy mixture of species. These weedy species are commonly associated with agricultural lands and are primarily annuals adapted to frequent disturbance. Among the more frequently encountered weeds found on both parcels are maile hohono (*Ageratum conyzoides*), *Crassocephalum crepidioides*, broad-leaved plantain (*Plantago major*), milkwort (*Polygala paniculata*), honohono (*Commelina diffusa*), *Bidens alba*, and hairy crabgrass (*Digitaria ciliaris*).

On Waipi'o Makai and the lower half of Waipi'o Hauka, the yellow-flowered wild radish (*Raphanus raphanistrum*) is locally abundant along the margins of cane haul roads, and even on the roads themselves. The cane fields on the upper one-half of Waipi'o Hauka, from about the Lalakea Reservoir to the pasture lands (±1,900 to 2,400 ft. elevation), are wetter and cooler and support a number of plants which prefer these environmental conditions. Among them are white clover (*Trifolium repens*), Indian paintbrush (*Castilleja arvensis*), *Lotus subbiflorus*, St. John's wort (*Hypericum mutilum*), marsh purslane (*Ludwigia palustris*), and *Cyperus halpan*.

The only natives found in this vegetation type are popolo (*Solanum americanum*) and koali 'ava (*Ipomoea indica*), both wide-spread species.

3. Gulch Vegetation

Running through the cane fields on the project site are a number

4. Eucalyptus Forest

Northeast of Lalakea Reservoir is a planting of swamp mahogany or eucalyptus (Eucalyptus robusta) which covers some 280 acres of gently sloping land. The trees are from 50 to 70 ft. tall. Other smaller stands of trees are found on the western edge of the forest and include tsugi, black wattle (Acacia mearnsii), tropical ash, and ironwood (Casuarina glauca).

The understory is grassy and open in most places except where the kahili ginger is thick. The grassy, open areas are dominated by large patches of palm grass (Setaria palmifolia). Common in these areas are Glenwood grass (Sacciolepis indica), honohono, Pycnopus polystachyos, thimbleberry (Rubus rosifolius), ma ohono, and downy wood fern (Christella dentata). Scattered through this planted forest are shrubs of guava, strawberry guava, and ti (Cordyline fruticosa). The few natives found here are hapu'u, hapu'u 'i'i, kopiko, and neneleau.

5. 'Ohi'a Forest

Along the southwestern corner of Waipi'o Mauka is a 2400-acre forest dominated by the native 'ohi'a or 'ohi'a-lehua tree (Metrosideros polymorpha). Lalakea Stream and at least three somewhat smaller streams drain this forested area. Typically this forest consists of 'ohi'a trees with a few, scattered trees of tropical ash (Fraxinus uhdei). The tropical ash are large specimens, from 70 to 80 ft. tall, which tower over the 'ohi'a canopy. On the southern two-thirds of the forest, the 'ohi'a trees tend to be somewhat shorter, 15 to 25 ft. tall. Although there are a few, scattered snags of dead 'ohi'a, about 40 ft. tall, the forest is healthy and shows no other signs of 'ohi'a dieback. Under the 'ohi'a trees, kahili ginger (Hedychium gardnerianum) forms a dense growth; the thick rhizomes of this ginger are everywhere on the ground. Normally, one would expect a good complement of

of gulches from about 100 to 300 ft. wide, some of which have perennial streams, others intermittent. Gulch bottoms are usually boulder-strewn or eroded down to the bedrock and swept clean of vegetation from the frequent, heavy rains. Vegetation cover within the gulches is variable. In the gulches of Waipi'o Makai and the lower portion of Waipi'o Mauka, where it adjoins the highway, the gulch vegetation is dominated by introduced or alien tree species as ironwood (Casuarina glauca) and Java plum. Shrubs of guava (Psidium guajava) and Christmas berry are common in these areas; a few small patches of banana (Musa X paradisiaca) also occur here.

Gulches on Waipi'o Mauka, especially in the section above Lalakea Reservoir, are dominated by a mixed forest of 'ohi'a (Metrosideros polymorpha) and introduced tree and shrub species. The introduced trees generally occur as blocks of plantings and include tropical ash (Fraxinus uhdei), silk oak (Grevillea robusta), swamp mahogany (Eucalyptus robusta), banyans (Ficus ssp.), tsugi (Cryptomeria japonica), and ironwood. In some gulches, the native sumac or neneleau (Rhus sandwicensis) is locally abundant. Shrubs of the introduced strawberry guava (Psidium cattleianum) often form a dense subcanopy layer in these gulch forests. Ubiquitous throughout most of these gulches is kahili ginger (Hedychium gardnerianum), which forms a dense, coarse growth from 3 to 7 ft. tall. Smaller clumps of yellow ginger (Hedychium flavescens) also occur in these areas, usually along the gulch margins where it adjoins the cane fields.

A few of the native species found associated with the 'ohi'a forest vegetation type also occur sparingly within these mixed 'ohi'a-introduced trees' dominated gulches. These include pilo (Coprosma pubescens), kopiko 'ula (Psychotria hawaiiensis), kava'u (Ilex anomala), hapu'u (Cibotium glaucum), hapu'u 'i'i (Cibotium chamissoi), lepelepe-a-moo (Selaginella arbuscula), palapalai (Microlepia strigosa), mamaki (Pipturus albidus), Clermontia kohalee, and koali 'ava.

native shrubs and ferns with this forest type but the aggressive ginger plants have displaced most of the native components. A few natives as kopiko, manono, and kava'u may be found. Epiphytic ferns and fern allies, perched on the 'ohi'a trees and away from the strangling ginger rhizomes, are numerous. Among the most common are wahine-noho-mauna (Adenophorus tamariscinus), kolokolo (Grammitis tenella), paknahakaha (Pleopeltis thunbergiana), moa (Psilotum nudum), and Adenophorus pinnatifidus.

On the lower one-third of the forest, the 'ohi'a trees are somewhat taller, from 30 to 40 ft. tall, but the canopy more open. Strawberry guava and guava form a dense subcanopy layer in this part of the forest.

Two variants of this forest type are discussed below. They are (1) the open 'ohi'a forest with large grass and sedge dominated areas and (2) the stream/gulch system 'ohi'a forest.

A large part of the 'ohi'a forest, usually on broad slopes, consists of a grass and sedge association with scattered stands of 'ohi'a trees. This can be picked up on the aerial photos as the light-green colored, irregularly-shaped areas running through the dark-green canopied 'ohi'a forest. These open, sunny parts of the forest are often visited by the cattle which are allowed to graze in the area and the grass-sedge association is kept low, from 4 to 6 inches in most places. Pools of standing water and small streamlets are common. Glenwood grass is the most abundant plant with smaller, scattered patches of Hilo grass (Paspalum conjugatum), and narrow-leaved carpet grass (Axonopus fissifolius). Among the sedges, the most abundant are Cyperus halpan, rush (Juncus planifolius), and Japanese mat rush (Juncus effusus). Other species occurring here in rather large numbers are marsh purslane, St. John's wort, honohono, and killi'o'opu (Kyllinga brevifolia). A small pond filled with water lilies (Nymphaea ssp.) and a community of wrinkled frogs (Rana rugosa) is found in this

area.

Lalakea Stream and the other streams on this part of the project site have created large, V-shaped gulches; in some places the Lalakea Stream/Gulch system is 500 to 600 ft. across. All the streams are perennial, eroded down to the solid, more resistant lava flows, and, in many places, covered by large, water-worn, rounded boulders. Spectacular waterfalls and plunge pools are frequent along the streams. Some of the larger ones, such as Waiholoa Falls, can be easily seen on the colored aerial photos. The slopes along these stream/gulch systems are steep and the 'ohi'a forest is open, about 40 to 50% cover. The 'ohi'a trees are also taller-statured, from 40 to 50 ft. tall. Because the slopes are open, receive greater exposure to sunlight, and also because the kahili ginger tends to be less dense in these areas, the stream/gulch systems support a greater number of native species. In many places, the Cibotium understory is well developed. Shrubs of kopiko, pilo, hame (Antidesma platyphyllum), Clermontia kohalae, manono (Hedyotis terminalis), kava'u (Ilex anomala), 'akolea (Boehmeria grandis), olona (Toucharidia latifolia), and mamaki (Pipturis albidus) are occasional. The last three species were used by the Hawaiians to make a course-textured tapa cloth. Less frequently observed (uncommon to rare) are papala (Charpentiera obovata), olapa (Cheirodendron trigynum), kolea lau nui (Myrsine lessertianae), and kanavao (Broussaesia arguta). On some of the more steeply sloping gulch sides, large mats of uluhe (Dicranopteris linearis), and, less frequently, uluhe-lau-nui (Diplopteridium pinnatum) are found.

All the native species recorded in this vegetation type during the field studies are presented in Table 2.

Table 2. List of Native Species Found in 'Ohi'a Forest

<u>Scientific name</u>	<u>Common name</u>	<u>Status</u>	<u>Scientific name</u>	<u>Common name</u>	<u>Status</u>
FERNS & FERN ALLIES					
ASPIDACEAE (Shieldfern Family)			LYCOPODIACEAE (Club Moss Family)		
Dryopteris wallichiana (Sp. n.)	lau-ka-hi	I	Lycopodium cernuum L.	vavae-'iole	I
			Lycopodium phyllanthum Hook. & Arn.	vavae-'iole	E
ASPLENIACEAE (Bird's-nest Fern Family)			NEPHROLEPIDACEAE (Sword Fern Family)		
Asplenium contiguum Kaulf.		E	Nephrolepis exaltata (L.) Schott	kupukupu, ni'ani'au	I
DENNSTAEIDIACEAE (Dennstaedtia Family)			OPHIOGLOSSACEAE (Adder's Tongue Family)		
Microlepia strigosa (Thunb.) Presl	palapalai	I	Ophioglossum pendulum ssp. falcatum (Presl.) Clausen	puapua-moe	E
DICKSONIACEAE (Tree Fern Family)			POLYPODIACEAE (Common Fern Family)		
Cibotium chamissoi Kaulf.	hapu'u 'i'i	E	Pleopeltis thunbergiana Kaulf.	pakahakaha, 'ekaha-'akolea	I
Cibotium glaucum (J. Sm.) Hook. & Arn.	hapu'u	E	Polypodium pellucidum Kaulf.	'ae, 'ae-lau-nui	E
ELAPHOGLOSSACEAE (Elephoglossum Family)			PSILOTACEAE (Whisk Fern Family)		
Elephoglossum crassifolium (Gaud.) Anders. & Crosby	'ekaha-ua, hoe-a-Maui	E	Psilotum complanatum Sw.	moa, pipi	I
			Psilotum nudum (L.) Beauv.	moa, pipi	I
GRAMMITACEAE (Grammitis Family)			SELAGINELLACEAE (Small Club Moss Family)		
Adenophorus tamariscinus (Kaulf.) Hook. & Grev.	vahine-noho-mauna	E	Selaginella arbuscula (Kaulf.) Spring.	lepelepe-a-moa	E
Adenophorus pinnatifidus Gaud.		E	MONOCOTS		
Grammitis tenella Kaulf.	kolokolo, mahina-lau	E	PANDANACEAE (Screwpine Family)		
GLEICHENIACEAE (Vine Fern Family)			Freycinetia arborea Gaud.	'ie'ie	I
Dicranopteris linearis (Burm.) Underw.	uluhe	I	SHILACACEAE (Catbrier Family)		
Diplazium pinnatum (Kunze) Nakai	uluhe-lau-nui	I	Smilax melastomifolia Sw.	hoi kuahivi	E
HYMENOPHYLLACEAE (Filmy Fern Family)			DICOTS		
Hecodium recurvum (Gaud.) Copel.	'ohi'a-ku	E	AMARANTHACEAE (Amaranth Family)		
Sphaerocionium lanceolatum (Hook. & Arn.) Copel.	palai-hinahina	E	Charpentiera obovata Gaud.	papala	E
Vandenboschia davallioides (Gaud.) Copel.	kilau, palai-hihi	E	ARACIACEAE (Mango Family)		
LINDSAYACEAE (Lace Fern Family)			Rhus sandwicensis A. Gray	neneleau, neneleau	E
Sphenomeris chinensis (L.) Maxon	palai'a, palapala'a	I			

Table 2. (continued)

<u>Scientific name</u>	<u>Common name</u>	<u>Status</u>
APOCYNACEAE (Dogbane Family) Alyxia olivifolia Gaud.	maile	E
AQUIFOLIACEAE (Holly Family) Ilex anomala Hook. & Arn.	kava'u	I
ARALIACEAE (Ginseng Family) Cheiropendron trigynum (Gaud.) A. Heller	olapa	E
CAMPANULACEAE (Bellflower Family) Clermontia kohalae Rock		E
CONVOLVULACEAE (Morning Glory Family) Ipomoea indica (J. Burm.) Herr.	koali 'ava	I
EUPHORBACEAE (Spurge Family) Antidesma platyphyllum H. Mann	hame, ha'a, mehame	E
GOODENIACEAE (Goodenia Family) Scaevola chamissoniana Gaud.	naupaka kuahivi	E
HYDRANGEACEAE (Hydrangea Family) Broussaisia arguta Gaud.	kanavao, pu'ahanui	E
MALVACEAE (Mallow Family) Hibiscus tiliaceus L.	hau	I?
MYRSINACEAE (Myrsine Family) Myrsine lessertiana A. DC.	kolea lau nui	E
MYRTACEAE (Myrtle Family) Heterosideros polymorpha Gaud.	'ohi'a, 'ohi'a lehua	E
NYCTAGINACEAE (Four-o'clock Family) Pisonia sandwicensis Hillebr.	'aulu	E
PIPERACEAE (Pepper Family) Peperomia tetraphylla (G. Forster) Hook. & Arn.		I

Table 2. (continued)

<u>Scientific name</u>	<u>Common name</u>	<u>Status</u>
RUBIACEAE (Coffee Family) Coprosma pubens A. Gray Hedyotis terminalis (Hook. & Arn.) W.L. Wagner & Herbst	pilo manono	E E
Psychotria hawaiiensis (A. Gray) Fosb.	kopiko 'ula	E
URTICACEAE (Nettle Family) Boehmeria grandis (Hook. & Arn.) A. Heller Pipturus albidus (Hook. & Arn.) A. Gray Touchardia latifolia Gaud.	'akolea mamaki, mamake olona	E E E

I Status

E = endemic, native only to the Hawaiian Islands

I = indigenous, native to the islands and elsewhere

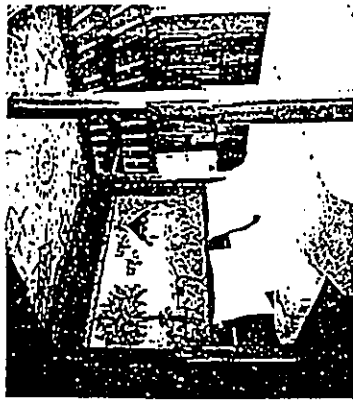
RESULTS AND DISCUSSION

Roughly 80% of the 13,720-acre project site is under sugar cane cultivation. A smaller percentage is occupied by coastal vegetation, gulch vegetation, eucalyptus forest, and 'ohi'a forest. Native species become common to abundant components only on the steep sea cliffs, in some of the gulches which run through the cane fields, and in the 'ohi'a forest. None of these native species found during the field studies are officially listed threatened and endangered plants (U. S. Fish and Wildlife Service 1989); nor are any candidate or proposed for such status (U. S. Fish and Wildlife Service 1990). The majority of these natives are distributed widely throughout the 'ohi'a forests of the Haakua and Kohala areas.

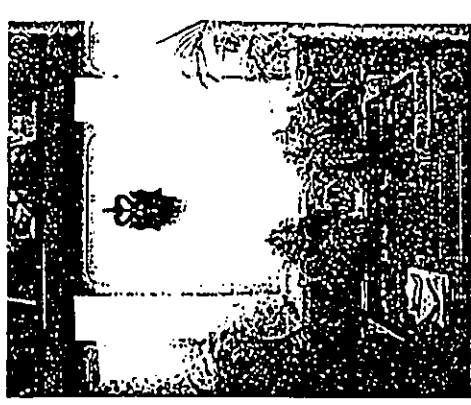
The future changes and developments proposed for the project site will impact the areas now in sugar cane cultivation. There are no botanical reasons or concerns to impose any restrictions, conditions, or impediments to the use of these areas. No development is planned for the portion of the site occupied by the 'ohi'a forest. This site is unsuitable anyway due to the extremely wet conditions and large gulches in the area. One use which has been proposed is to retain this forest as a preserve and equestrian area. This is an excellent and compatible proposal. The picturesque streams, water falls, and pools as well as the sweeping vistas of Waipi'o Valley below make this a good site for such use. Perhaps, hiking trails for bird-watching, botanizing, and other such activities could also be planned.

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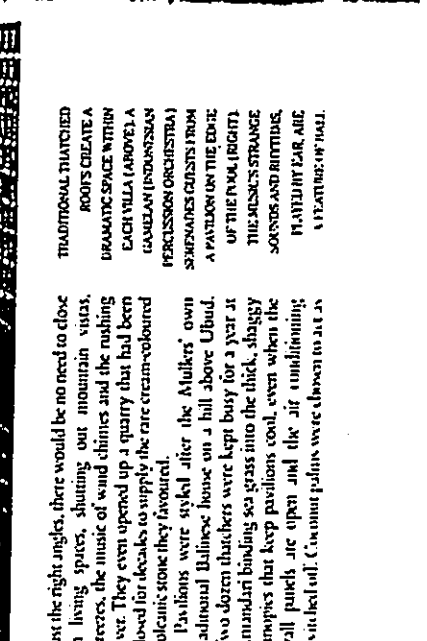
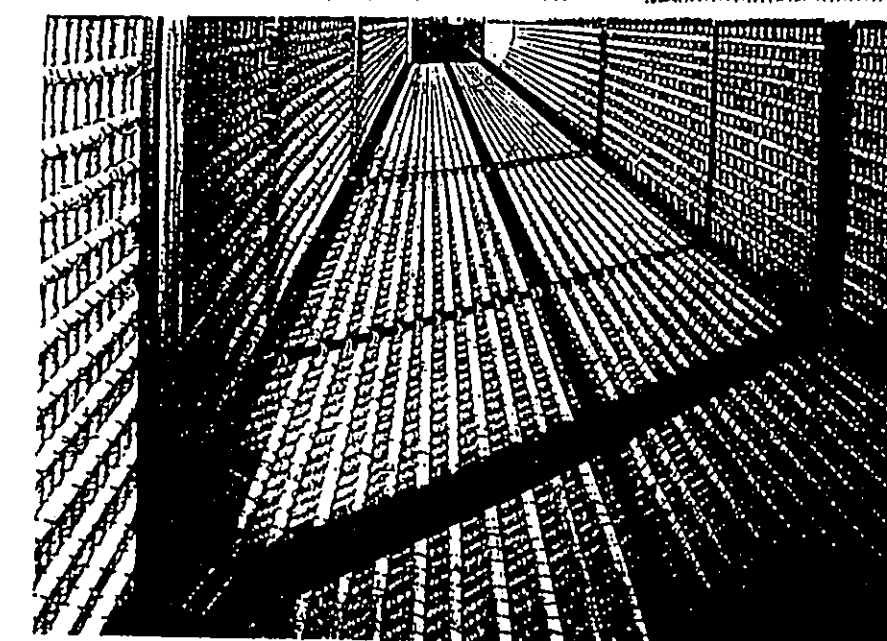
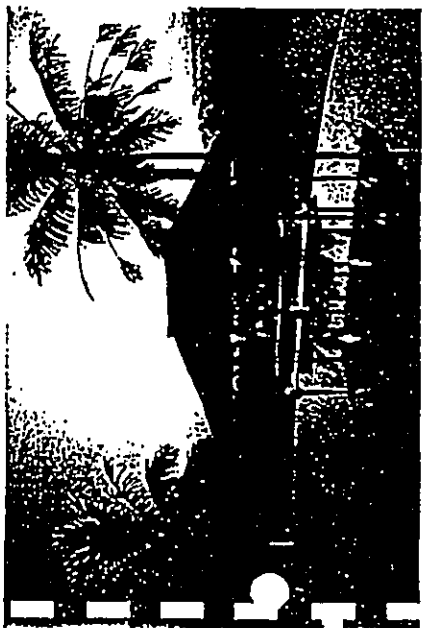
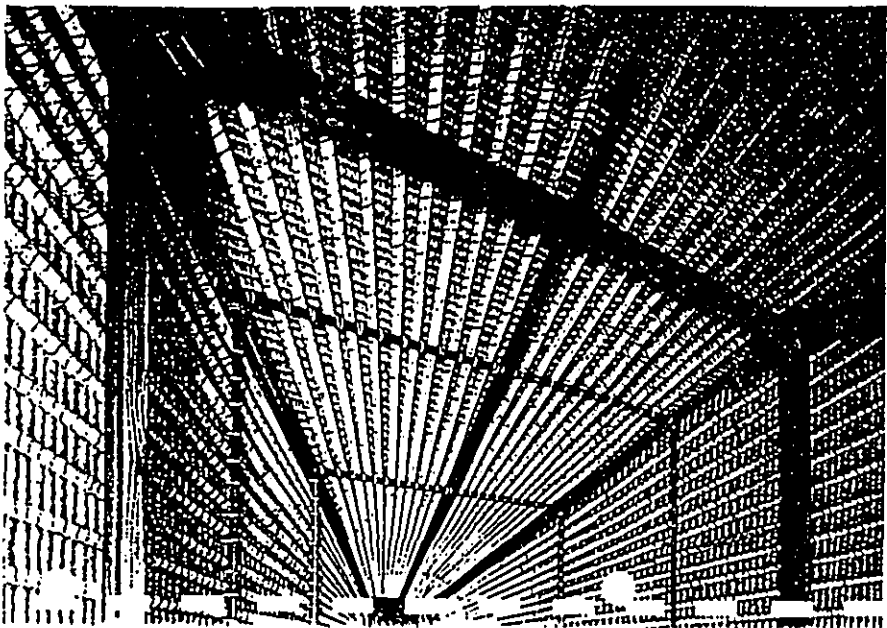
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VILLAS ARE EXQUISITELY FINISHED. THIS FORTY-FOUR ROOM VILLA HAS A PAINTED CANOPY AND HEAVYWOOD FURNITURE.



OUTDOOR SWIMMING BATH IN VILLA NUMBER THREE.



to attend to find the Bali they left behind them. Here, rice farmers and artisans - often one and the same - dwell in peace and harmony, vintaging their harvest in dikes and beginning each day with a Parkera, a dawn-singing rite.

Two only change they will find in the highlands is young of Amandari, a remarkable resort in the highlands of the island has known. Perched on a precipitous slope the Ayung River gorge, near the town of Ubud, Amandari is Bali's first luxury inland hotel. It is a resort that celebrates rather than confronts traditional Balinese culture.

You get more than a room with a view at Amandari. The resort has 27 rambling villas, each with a separate one- or two-story living and sleeping pavilion built in the grass-thatched, open-air style of Balinese mountain houses. Pavilions rest among landscaped gardens and lotus ponds, with terraces overlooking the rice fields or the Ayung River. Each villa is secluded within carved stone walls, modelled after Balinese village ramparts, offering privacy when you roll back your pavilion's glass and teak panels, or bathe in your garden's sunken marble bath. Meandering paths lead from the villa

The name Amandari combines the Sanskrit word for inner peace and the Balinese name for the extremely nymphs who are said to bathe in the Ayung

river to the pavilion front door, to throw off any discordant spirit that might follow you home.

Amandari is the creation of Australian architect Peter Muller (to his job designed the much-admired Pagan Bali resort, at Legian) and his ex-wife Carol, an anthropologist. Amandari is the newest member of Amandari's, the luxury-hotel chain created by Adam Zecha, whose other resorts include the vintaging in Thailand and the Hotel Kota Bora in French Polynesia.

The Mullers, passionate students of Balinese culture, devoted years to planning a resort that would offer the highest standards of luxury in the most remote setting. It would be a resort of Bali, not just on the island. They toured Bali, studying and sketching village walls, searching for the style and stone that would create Amandari's villas and terraced gardens and the same as traditional Balinese. By building the villas high enough, and setting them at

TRADITIONAL THATCHED ROOFS CREATE A DRAMATIC SPACE WITHIN EACH VILLA (ABOVE) A GAMBLING (BOSTONIAN) PERCUSSION ORCHESTRA SERVED UP GUESTS FROM A PATILION ON THE EDGE OF THE POOL (RIGHT) THE RESSES STRANGE SOUNDS AND RHYTHMS, PLAYED BY EAR, ARE A FEATURE OF BALI.

just the right angles, there would be no need to close in living spaces, shutting out mountain vistas, breezes, the music of wind chimes and the rushing river. They even opened up a quarry that had been closed for decades to supply the rare cream-coloured volcanic stone they favoured.

Pavilions were styled after the Mullers' own traditional Balinese house on a hill above Ubud. Two dozen thatched roofs were kept busy for a year at Amandari binding sea grass into the thick, shaggy carpets that keep pavilions cool, even when the wall panels are open and the air conditioning switched off. Coconut palms were chosen to act as

supporting columns, teak for details and for spiral staircases leading to upstairs bedrooms. For the floors, polished cream marble was shipped in from neighbouring Java. Temple artisans were enlisted to carve allegorical friezes around the lobby, or village meeting place, that houses Amandari's open-air lobby, bar and restaurant.

All of this attention to detail might have produced a luxurious parody - certainly few Balinese have marble floors - and ultimately could have imported to the highlands all the dissonant tensions that have spoiled the coast. The Mullers anticipated this problem and addressed it in extraordinary

was they have contributed to make the daily life of the highlands flow endlessly around and through the resort. Arriving guests pass first through the neighborhood village of Kedawatan, which owns the land on which Amandari was built and which shares in the resort's profits. Villagers still work the rice terraces nearby, and hotel guests are greeted warmly whenever they stroll through the inn and handsome little village. Streams that have watered the rice terraces for centuries trickle first through the resort's gardens.

Village elders were consulted as plans for the resort were drawn and redrawn, if something did not look right, it was scrapped. The elders even helped Adrian Zecha arrive at the name Amandari, combining the Sanskrit for "inner peace" and the Balinese name for heavenly nymphs who are said to bathe in the Ayung. Hindu rituals accompanied each phase of building, and local guests were asked to mark the spots where shrines to the proper deities would ensure eternal harmony between village and resort. Priests continue to visit the shrines daily, with offerings and for meditation.

On checking in, guests are assigned an assistant manager to attend to their every need. Dewi, my own guardian angel, was as adept at explaining Hindu rituals and translating allegories as she was at

On the far side of Mount Batur, the view stretched to the Bali Sea and the road plunged to the coast in dizzying hairpin bends

having ice delivered to my villa before I knew I needed it. The resort employs more than 110 staff members, a ratio of about four to each villa. Many come from the village, and if they lack the aloof self-confidence of Swiss hotel-school graduates, they make up for it in natural warmth and an earnest desire to please. Amandari is, after all, their resort, and that makes you their guest: it is a dynamic that cannot be taught in hotel schools. Having fulfilled a requested service, a waiter or pool attendant presses palms together and touches fingers to forehead, the Hindu sign of respect that most guests return in kind - if, at first, self-consciously.

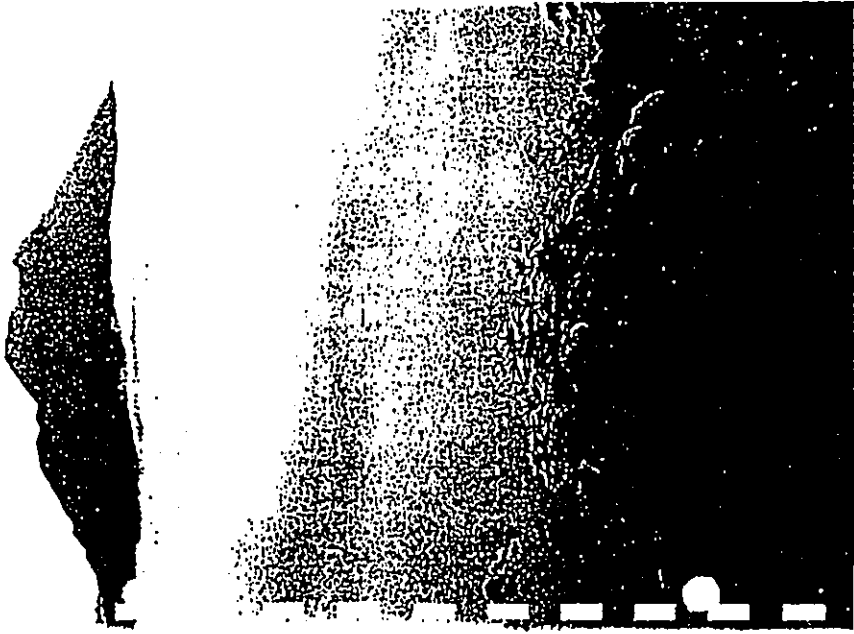
The success of Amandari's restaurant, under the direction of Sydney restaurateur Richard Green, is already earning island folklore. I found no one on Bali, native or expatriate, who quibbled with the prevailing notion that Amandari's cuisine is the best on the island. Epicureans drive all the way from



MOUNT BATUR, AN ACTIVE VOLCANO, RISES SOME 6,500 FEET.



PURAKHENDI GABLES IS A MASTERPIECE OF BALINESE TIMBER ARCHITECTURE. ARCHIVED THROUGH THE U.S. AIR FORCE PHOTO ARCHIVE.



A PRIVATE VILLA AT AN AMANDARI VILLA (ENCLAVE)

Dempasar or Kuta for lunch, and sometimes they stay for dinner. Menus while I was there included rich black nut soup from East Java, grilled chicken based in coconut milk from Yogyakarta, a cow beef curry from Lombok, spiced and sour fish from Western Sumatra.

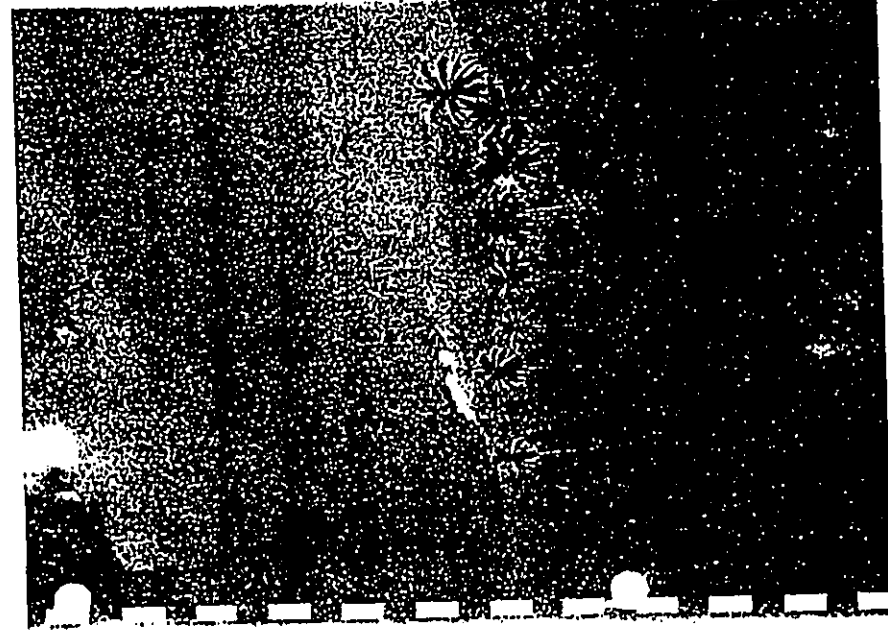
You do not have to leave Amandari for women but there is a host of cars and drivers at the ready, and most guests spend some time rambling around Ubud and the nearby countryside. A former royal enclave, Ubud has been Bali's foremost art center since the 1930s, when two Europeans, painters Walter Spies and Rudolf Bonnet, joined with local artists to found the Pita Maha school of painting. The town still lures artists, both native and foreign. Its streets are filled with studios, galleries and museums, interspersed with bars, shops, ubiquitous souvenir stands and the ruins of royal palaces.

Just south of Ubud is the village of Mas, which workshops produce Balinese woodcarving, Balinese masks, flowers, frogs) that have become popular collectables in Europe and North America. Prices are a fraction of those charged at galleries and souvenir shops downtown the coast, and it is worth a visit to the artisans at work. Both Ubud and Mas move inside on the day-trip circuit, and by the end of each day hotel cars and taxis from Kuta show up on them. Go in the morning, before the sun arrives, or in the late afternoon when the sun is low.

Day trippers seldom venture far from Ubud, where near the exclusive Amandari. Through the day you will have the final villages and rice fields almost to yourself. An ideal way to see them is on foot. One scenic trail leads all the way from Amandari to Ubud, a reasonably easy hour's walk.



RECENT ACTING IS SACRED TO BALINESE BELIEFS. It must have been a handsome place in its day, but I found the advertising boards and the decreed pigpenning me of the Barong Dance discordant. I was ready to head back to the highlands. My thoughts had turned to a sunset swim in a pool among mountain terraces, followed by a bath in a garden, a kevinly dinner and a night's sleep in a house without walls. I would rise early the next morning, while the sun was still behind the volcano, ring for a bearer to bring coffee and wait for the daily procession to come out of the grove banana groves and back skilfully towards the brightly-sailed, many-masted ship. GARY TORPING IS A FREELANCE WRITER BASED IN THE UNITED STATES



THESE ARE STILL PLACES OF EXTRAORDINARY BEAUTY AT CANDIHASA ON THE EAST COAST. ABOVE: THE SITE OF THE LATEST DEVELOPMENT IN A NORTHWEST ISLAND. THE WEST ISLAND WITH RECEPTIONAL CASINOS OF TOURISTS INTERESTED WITH

mostly downhill in this direction, through lovely fields and a series of tiny villages. Have a driver pick you up in town, at the main intersection. Even a scout stroll from Amandari takes you across jade-green plateaus or along the lush winding course of the Ayung River. For serious walkers who want to spend full days exploring remote reaches of the highlands, Amandari has a professional trekking guide who trained in the Alps. Establish before you leave how much clothing you are prepared to do. The guide ranges the hunch and a two-way radio. It's a 45-minute drive down to the beach at Samar or one hour to Kuta, but the ever-angry Dewa counter-sailed the longer, two-hour trip to the deserted black-sanded strands of Bali's north coast. Sitting with an American lady one afternoon at the poolside, I mentioned that I had reserved a car for the following morning, and intended to see the north coast. She burst out laughing. "Why would anyone leave all this for a beach?" she asked, gesturing towards the pool, but meaning, I understood, the vistas and traverses, the harmony and peace of the highlands.

I went anyway - not so much for the black-sand beaches, which were very fine, but for the drive. We passed through Gianyar, seat of an ancient Balinese kingdom, and another thriving art center, and stopped at Tampaksiring, where volcanic springs feed up from the earth in the inner courtyard of an intricately carved temple more than 1,000 years old. Today, we arrived before the pilgrims who come to bathe in the healing waters, and before the tourists who bus up from Kuta to photograph them. Tampaksiring turned out to be the first of several temples I would have to do myself that day.

Beyond Tampaksiring, we scaled the side of Mount Batur, one of Bali's active volcanoes. The road slipped through a high bamboo forest and, at the summit, followed the rim of an ancient caldera halfway around the smoking crater cone. On the far side of Mount Batur the view stretched out across the Bali Sea, and the road plunged to the coast in a continuum of dizzying hairpins. I spent a while strolling along the palm-lined beach at Air Sanih, where more sacred springs (said to promote fertility) flow into the sea, and then went looking for the Temple of the Dead in the village of Jajagaga.

My driver, a confirmed highlander who seemed more bothered than I was by the stifling heat and sticky air of the coast, had never been to the village and had trouble finding it. We made a lucky wrong way, which turned out to be the pink sandstone Puta temple, noted for its wildly animated carvings of fat, red, speckled deities, and for the blooming figs, figs that grow in its courtyard. The temple was empty. Lured by the beauty of the place, and the view of the ocean, I decided to linger a while. We finally pressed on and found Jajagaga, up a

narrow country lane about 5 miles from the sea. I was surprised to find that its little temple was also empty, and judging by the porous reception we received from villagers, and the grass growing in the courtyard, was not frequently visited. Odd, I thought, for the temple's walls, embellished with bizarre figures of snarling Europeans, Missed-T-Fords and crashing airplanes with cocked tails, are among the most photographed on Bali. Not the land of thing highlanders would put on a temple, dedicated to their ancestors, my driver concluded. But he agreed it was genuine, and well worth the considerable effort he had expended to find the place. We drove on to the old Dutch colonial Sengapat, a town of treacherous, bumpy roads, and crumbling

Stephen K. Yamashiro
Mayor



County of Hawaii

FIRE DEPARTMENT
416 Kilauea Street • Hilo, HI-97024
(808) 941-2197 • Fax (808) 941-0910

Nelson M. Tsuji
Fire Chief

Edward Dumatsy
Deputy Fire Chief

November 26, 1993

To: Planning Department
Attention: Rodney Makano/Daryn Arai

From: Nelson M. Tsuji, Fire Chief

SUBJECT: AHANRESORT
ISLAND OF HAWAII, DISTRICT OF HAAKUA
TAX MAP KEY: 4-8-5:3.13.43.44.POR. 9 & 11

We have no additional comments on the Draft Environmental Impact Statement for the above-referenced project which was sent to us by the State Office of Environmental Quality Control.

NELSON M. TSUJI
Fire Chief

MHT/mo

cc: OHQC
Kukuihaele Development Co., Attn: Eugene McCain
Case & Lynch, Attn: Sandra Pechter Schutte



December 1, 1993

DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII
25 AUPUNI STREET • HILO, HAWAII 98720
TELEPHONE (808) 949-1421 • FAX (808) 949-4996

TO: Planning Department
ATTENTION: MR. RODNEY MAKANO AND MR. DARYN ARAI

FROM: H. William Sewake, Manager

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT
PROPOSED AHANRESORT
KUKUIHAELE, HAAKUA
TAX MAP KEY 4-8-06:3, 9, 11(PORITION), 13, 43, AND 44

Pursuant to Section 23-84 of the Hawaii County Code, a water system shall be provided in accordance with the Department's Water System Standards and Rules and Regulations.

Compliance with the following conditions relative to source development and water system design and construction are required.

1. Submit water master plan for the required off-site and on-site water system improvements. The plan shall include design calculations, construction cost estimates and development time schedules. Water system improvements shall include sources, storage reservoirs, booster pumps, and pipelines.
2. Submit construction plans prepared by a registered professional engineer for review and approval. Plans shall include, but not be limited to, sectional drawings, plot plans and maps showing the exact locations for proposed water system facilities, and construction specifications. As-built plans must be submitted after construction.
3. Submit engineer's and hydro-geologist's report on the sustainable yield of the groundwater aquifer that will be affected by proposed wells.
4. Submit a Well Completion Report as required by the State of Hawaii Department of Land and Natural Resources.
5. Submit test records which shall include time pumping rate, drawdown, chloride content, and water quality data.

Water bring program...

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. H. William Sewake, Manager
Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, HI 96720

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. Sewake:

A water study done for the Draft EIS concluded that the existing County system could accommodate the potable water requirements of the proposed project with reserve capacity for contingencies such as low flows or undetermined future needs—your comments dated 1 December 1993 did not confirm nor refute this conclusion. The applicant will be in touch with you to determine the nature and extent of water system improvements required to service this project. The Final EIS will identify the water system requirements as an unresolved issue (just as the Draft EIS did) to be resolved during the rezoning process.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

Planning Department
Page 2
December 1, 1993

6. Submit engineer's report which complies with applicable rules of the State of Hawaii Department of Health (DOH).

7. Submit DOH's approval of all proposed drinking water sources.

8. Comply with other applicable requirements of the Department's Rules and Regulations, which shall include the construction of all water system improvements and payment of inspection fees for private water systems and facilities charges and other fees for public water systems.

The above requirements were discussed with the developers' consultants. The Department is receptive to a joint participation in the construction of the offsite improvements, which will include a deepwell source, storage reservoir, and transmission pipeline. The improvement cost, which does not include land acquisition, surveying and design, is roughly estimated to be in excess of \$2,000,000. Specific details need to be worked out. Construction of required onsite improvements is the developers' responsibility.

H. William Sewake
H. William Sewake
Manager

QA

cc - Ms. Sandra Pechter Schutte, Case & Lynch
Mr. Eugene McCain, Kukuihaele Development Company



January 3, 1994

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

RE: Draft EIS, Amanresort, Hamakua District

Dear Ms. Goldstein:

Please accept our organization's review of the draft EIS for Amanresort. In September we submitted comments which pointed to information we had wanted to see developed in the draft EIS.

1) Old Government Road

Earlier, we asked for a delineation of existing trails and public rights of way. The draft document has not provided this (pages 88-89). For example, we note the existence of an Old Government Road leading to the popular Kukuhaele Lighthouse fishing spot. It is a partially paved, presently used, and is designated an Old Government Road on a 1909-1911 map (Appendix C, figure B-3). The road bisects the mauka portion of this project and runs coastward along the eastern boundary and into the site at places (Appendix G, exhibits 3, 5a and 10). This road is not mentioned in the draft text. The EIS should disclose the government ownership and whether a quitclaim will be sought. Does the developer intend to restrict the public's use of this road?

2) Lateral Access

A jeep road traverses the top of the cliffline and could provide lateral access. But the draft EIS dismisses this road by saying the Hamakua Sugar Company restricted access along it (page 89). The draft also suggests that lateral access is available at the cliff base along a foot trail. But a Waipio resident tells us that trail is interrupted by ocean waters. It can only be accessed from Waipio Valley itself, or on the eastward end on a steep switchback west of the lighthouse. Elsewhere nearby, in the lighthouse area, jeep trails along the cliff line provide lateral access and are used by fishermen. Apparently the developer does not plan to permit public access on this cliff line. The final

EIS should disclose this fact and discuss its relation to County policies concerning lateral shoreline access; CZMA policies; and traditional use.

3) A Private Community?

We ask that the EIS also disclose whether the project will be "gated" like many new developments in West Hawaii. Some Amanresorts are "private," according to brochures. Since both the ag-1 lots and the resort-zoned lots are to be offered for sale, can the applicant make a commitment about whether the project will be gated? We believe that a gated community brings certain sociological impacts with it. Thus, if this community is to be gated, these impacts should be explored in the final EIS.

4) "Overflow" Resort Zoning

On pages v, x and 13 (in a map), the draft indicates that 21 contiguous acres of resort zoning are being requested inland, primarily to provide for overflow (or overbooking) from the Amanresort proper, and to provide for four suites at the plantation manager's house. This appears to be zoning overkill. The four suites could be handled by a special-use permit application. As previously, again we ask that the EIS disclose the maximum potential buildout permitted on this acreage by this zoning. This potential buildout should definitely be reflected in population and traffic impact projections, economic projections, etc.

Specifically, the final EIS needs to discuss the long-term impacts of the seven one-acre, resort-zoned lots which we read are to be sold (page v). What could come about on these seven parcels needs to be developed and disclosed at this time when the zoning is being sought. Otherwise, the final document will not be an adequate disclosure of the impacts of the zoning which is requested.

5) Undisclosed Golf Courses

The project is surrounded by three planned, approved golf courses not mentioned in the draft (see attached maps). The golf courses, granted recently by the County Planning Commission, weren't affected by litigation regarding Hamakua Sugar. So, the final EIS should disclose the golf courses and include their impacts, cumulatively with this project, when discussing traffic impacts, de facto population and impacts on Waipio Valley.

The applicant should disclose what relation the 21 "overflow" acres of resort zoning might have in future to the

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February 4, 1994
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Phone/Fax (808) 959-0189

February 4, 1994

Ms. Judith Graham, Treasurer
E Mau Na Ala Hele
P.O. Box 6384
Kamuela, HI 96743

RE: Draft Environmental Impact Statement for Amanresort, Hanalei, Hawaii

Dear Ms. Graham:

The following responds to your comments dated January 3, 1994:

- Old Government Road. The Final EIS will correct the omissions regarding the Government Road status of the roads within the Project Site. A 1909 map does clearly identify the road on the Honokaa side of the Project Site as a Government Road. Although the plantation blocked this road years ago and is therefore not presently used to access Kukuiahe Landing, the applicant will allow public access on the portion of this road within the Project Site.
- Lateral Access. The only other Government Road in the vicinity of the Project Site (other than Old Route 240) is the mauka-makai road passing next to the County cemetery. According to the 1909 map, this Government Road terminates at the intersection with Old Route 240. A dirt road extends makai from this intersection leading to the County's chlorination station. The County Department of Water Supply has an easement to use this dirt road. Although the dirt road was never a Government Road, the applicant will allow public access to the chlorination station. However, there is no access to the shoreline from the chlorination station. The jeep trail shown on the USGS map that follows the cliff edge does not provide access to the shoreline-- there are no trails from the top of the cliff to the shoreline within the Project Site due to the steep terrain. For this reason, the Final EIS will clarify that the applicant does not intend to provide lateral public access along this jeep trail. This restriction is not contrary to the CZM policies since the project is providing access to the shoreline through the only known historical mauka-makai shoreline public access through the Project Site (i.e., the Government Road on the Honokaa side of the Project Site) and will not impair or interfere with lateral access along the only known lateral shoreline access provided by the historical trail at the base of the cliff. The jeep trail at the top of the cliff is a distance of approximately 300' (at the closest point) to 900' (at the farthest point) inland from the surveyed shoreline fronting the Project Site; it is not a lateral shoreline access.
- Gated Community. The impact of a gated community would be the potential for social stratification-- these impacts were discussed in the Draft EIS (p. 61). The Final EIS will clarify the applicability of the discussion in this section to the worst case possibility should the applicant decide upon gated communities.

- Overflow Resort Zoning. The Zoning Code does not permit resort units through a Use Permit. Although the Zoning Code does allow "bed and breakfast establishments" through a Use Permit, the definition of a bed and breakfast (i.e., owner-occupant, serve breakfast only) is too restrictive for a hotel operation. Therefore, resort zoning is the only option to permit the intended uses. Density will be controlled by rezoning the 1-acre resort lots and the 14.4-acre Plantation Inn to V-43 (no more than 1 remiable unit for each 43,000 s.f.). The Final EIS will clarify the specific resort zoning designation as a means to ensure that density is controlled in this manner.
- Golf Courses. Your comments refer to three golf courses proposed as part of the Kukuiahe Land Use Plan prepared for Hamakua Sugar Company-- Hamakua Makai, Hamakua Mauka, and Lalakea Village. According to the County Planning Department, the permits issued for the golf courses were issued in 1988-1991. According to *Hawaii County Code* §25-10, a Use Permit "not otherwise conditioned has not been utilized within a period of two years from the date of final approval, then without any further action such . . . use permit . . . shall become voided and thereafter may not be used. There are no plans by the previous developer nor any other developer to reapply for golf course permits.
- Waipio Valley. The Final EIS will clarify that the 1 van trip/day is based on the hotel operator's experience at their other resorts located in similar conditions where the only beach required 4-wheel transportation from the hotel to the beach. The number of trips by hotel guests is totally within the control of the hotel operator, unlike the trips to the Valley by residents and U-drive visitors. The impact on the Valley is an existing problem that requires immediate solution regardless whether the project is approved.
- Visual Impact. The Final EIS will clarify that much of the existing cliff vegetation would remain. Therefore, the proposed structures would need to project above the trees to be visible from Waipio Valley. The fact that the Waipio Valley beach is visible from the site looking through the trees does not mean that the structures would be clearly visible from the distant beach. The terrain slopes down inland from the cliff edge as shown in the DEIS (Fig. 30 on p. 52). The Final EIS will clarify that as structures are located closer to the cliff edge (i.e., closer than 500'), then the importance of maintaining the cliff vegetation becomes more critical to screen the structures. The Final EIS will also clearly state that the maximum height limit of 45' will have a visual impact. However, this impact is mitigated by the limitation to one-story. The Final EIS will discuss legally enforceable measures to limit building heights.

Thank you for your comments.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuiahe Development Company

The Waipi'o/Kukuihaele
Chana Hana Like Community
Association
P.O. Box 5080, Kukuihaele, HI.
96727

As the members of the Waipi'o/Kukuihaele Chana Hana Like Community Association (W/KOHLCA) will be used throughout the text) would like to respond to the Draft E.I.S. for the Amanresort/Royal Coast Resorts Corporation/Silverlink Holdings... dba Kukuihaele Development Company, Kawaihae, HI. We would like to express a sincere mahalo to Virginia Goldstein and the Planning Department and the Applicant for allowing us the time to respond to the Draft E.I.S. What we will attempt to do in the next several pages will be to raise questions we have that occur in the Draft E.I.S. We hope that all our questions will all be answered adequately. We have many....

I. The title of the draft E.I.S. states Amanresort, Kukuihaele Hamakua District, Hawaii. On page 11 through page 19 we have a very good description of Amanresort and the kinds of developments they build and run, pg. 11. The Amanresort chain has successfully developed and operated ten other world-ranked resorts in Thailand, French Polynesia, and Bali, Appendix B.2.7.2 "most of these resorts, however, are located in third world countries and their experiences may not transfer to Hawaii." In these Third World countries where Amanresort operates what is the tax system? Do the citizens have private ownership of their land? What is the hourly wage of employees? What kinds of contracts, if any, does Amanresort have with the governments of these countries to operate its facilities? These need to be included in the Draft E.I.S.

II. Introduction I. No. I.I Applicant. The applicant is Royal Coast Resorts Corporation and Silverlink Holdings Limited ("Silverlink"), dba Kukuihaele Development Company. Who is Royal Coast Resorts Corporation? What other developments have they been involved in? Who is Silverlink Holdings? What is their address? What other developments have they been involved in? Either company built a resort in Hawaii? Either company applied for Resort Development in the County of Hawaii? Should not the Draft E.I.S. include information about these companies? How long have these companies been in existence? Should not their names be on the front cover? Are they not the applicant?

III. What is the actual relationship between Amanresort, Royal Coast Resorts Corporation, and Silverlink Holdings Limited? What contracts, if any, have they entered between each other? How is not the Draft E.I.S. include all contractual agreements between the three companies? Would this not give the Planning Department, The Council, The Mayor, and the public a better understanding of the relationship between the three companies. Do the three companies have a strong long-term relationship? Why throughout the text do they refer to Amanresort and the kinds of resorts they build, run, when they do not the applicant? Again what is the actual contractual agreement between these companies? This should be included in the Draft E.I.S....

IV. On page one... titled introduction under I.2" purpose of this agreement, paragraph 4 "The EIS process consists of the following steps: No. 1 through line 7 through it states: the list of consulted parties, are attached in appendix I. In appendix I under 4.2 Community and Environmental Groups, No. 4.2.3, Kukuihaele Community Association. If this refers to the W/KOHLCA, this is not our name. We the W/KOHLCA have been in existence for over 14 years. We have tax

exempt status with the State of Hawaii. We are the only Community Group (besides The Waipi'o Farmers Association) in existence in the Waipi'o/Kukuihaele areas. Please correct this error. Is there a Kukuihaele Community Association?

V. In Appendix E, Amanresort Socioeconomic Impact Assessment, Attachment B, No. 24, Larry Miller, V.P. of the W/KOHLCA testimony at the public hearing, 8/26/93, on the Draft E.I.S. primarily speaks of 3 surveys conducted on Resort Development in Kukuihaele. At the Public Hearing Mr. Miller presented all three surveys to the preparers of the Draft E.I.S.. One survey was conducted on this project in particular. Why were these surveys not included in the Draft E.I.S. in their entirety? Is it not a statement by the community presented in a survey and its results? Should not all documents presented in public hearings be included in the Draft E.I.S.? All other written comments are included in the Draft E.I.S. Why are the W/KOHLCA's left out?

At the Public Hearing the overwhelming testimony was against this project, for various reasons. Why was the Public Hearing all but ignored? Back of the document, very small print. One person at who testified at the public hearing asked how many people were for or against the project. This method was approved by Ron Terry, page 29, Appendix E, for the project 4, against 3. Is this not a method of surveying? These numbers would compare to the W/KOHLCA survey results, 5/93, for 186, against 75. Why was the public testimony ignored in the Draft E.I.S. Is this normal procedure? Why have public testimony? Is not ignoring Public testimony make a mockery of the entire E.I.S. procedure?

In section 8, Appendix E, No. 1.5, Consultants; Data sources and Methodology, paragraph 7 "Additionally, interviews were conducted with key informants." A list of informants is provided as Attachment A, section 80 of Appendix E.. In key informants it lists 12 peoples names. Only three are from Kukuihaele, the most effected area by the proposed development. What questions were asked of these people? What were the circumstances in which they were interviewed? Was there testimony considered more important than testimony at the public hearing? If so, why? Where is there testimony? Why is it not included in the Draft E.I.S.? Is this a professional method of surveying? Where the twelve people asked general questions about tourism? Where the questions asked about this project in particular?

On page 60, paragraph I, Perception of tourism, "The data from a survey a social impact assessment and public testimony..." In Appendix E, No. 2.2.1.1 "Statewide Tourism Impact Core Survey," Conducted in 1989. This survey is a very general survey on Tourism. Was this survey conducted on this project? Who in Hawaii is against tourism? Is not it our major industry? At the time there were no developments proposed for Hamakua. In section 2.2.1.2, Kukuihaele Land Use Plan the Draft E.I.S. refers to a public hearing held on proposed development for Kukuihaele in 1991. This proposal was meant to save Hamakua Sugar Co., it failed. Hamakua Sugar Co. will close in September of 1994. Was not Royal Coast Resorts Corp. involved in the failed proposed development in 1991? Should it not be stated in the Draft E.I.S. Has peoples attitudes changed since this plans (Kukuihaele Land Use Plan is Hamakua Regional Plan) failure? Is this public hearing about the present proposed project?

In appendix E No. 2.2.I.3. Planning Commission Testimony, 1991. Again is this public hearing about this project? Section 2.2.1.4. Conclusions. There is also a socio-geographic differentiation of support for/opposition to tourism, although only one of the sources discussed above provides much insight. Which one? Is it documented in the Draft E.I.S. On page 60 of the draft E.I.S. it boldly states that "Support for Tourism in Hamakua is strongest among business and labor leaders, and also among current and former plantation workers and long time residents of the region." Was this data collected from a survey and two public hearings on a different project? In 1991? Is this survey and public hearings what the preparer relied on for information? At the public hearing on this project Larry Miller presented the results of a survey on this project. The data collected from this survey represent the opinion of 50 households in the area that will be directly affected by this project. Again why was this data ignored and why did the preparer rely so heavily on old data? In appendix I. in a prepared statement to Mr. Ron Terry, Mr. Roy Takemoto from the Waipio Taro Farmers Association they state, "For the records, we stand united and in overwhelming opposition to this development. (amansoor at kukuihaele). Our membership is comprised of long-time residents representing generations of families from Kukuihaele-Waipio Valley area. We also represent a variety of ethnic backgrounds. We are not against tourism per se." Doesn't it seem like a large group long-time residents against this project? Not against tourism per se. Why is this document buried in the back of the Draft E.I.S. Small print? Are they not talking about this project? In 1991 the Waipio Taro Farmers Association went on record in favor of the Hamakua Regional Plan pg. 113 No. 4.5(bld) print/c Kukuihaele Land Use Plan, appendix E No. 2.21.2. It appears that local attitudes have changed does it not? Why are we relying so heavily on old data for this Draft E.I.S.? Is the developer afraid to present present 1991 attitudes about this project?

"We will use the same argument on page 60 when the preparer states that "In general, those who voice the most concerns and or opposition to tourism in Hamakua include many newcomers to the region." Again the Waipio Taro Farmers As. For the records, we stand united and in overwhelming opposition to this development." Placing the proposed development in the heart of our village will undoubtedly change our community and will eventually lead to the loss of our way of life at Kukuihaele. Frtystrong opposition from a local group wouldnt you say. Again hasn't attitudes changed since 1989? 1991? It would appear so, wouldnt it.

The W/KOH/CA has never come out in opposition to this project. We do however have concerns. Does this make us in opposition to tourism as the Draft E.I.S. implies on page 60? Our survey was conducted solely in the Kukuihaele area, not in Waipio. We the members of the W/KOH/CA would like to see a professional survey conducted of the area west project. We believe the survey should be conducted of the area west affected by this project. Kapalona through Waipio, this is the area we believe will be most effected by this project. The preparer of the Draft E.I.S. is relying too heavily on old data. We the W/KOH/CA along with the Waipio Taro Farmers As. would like to be included in the survey process. Until a professional survey is conducted the application process should put on hold. If the applicant should refuse to conduct a survey and include W/KOH/CA and The Waipio Taro Farmers As. in the process a negative E.I.S. should be issued for this project.

V. Page 68 Loss of agriculture land use. "For some of these people, the use of a very small proportion of Hamakua's agricultural land for the proposed project is seen as minimal impact, at least if they are assured that resort development in the area is "one-time only." What "one-time only" means do we have as a community that once you have a development you will not have more? At a public hearing meeting in Kukuihaele in December a County Of Hawaii Planning Department Official was asked this very question "If you have one development will there be more." The answer was that it would be impossible to stop more development in appendix E No. 3.2.5 Social Impacts of Property Tax/ Property Value Increases, paragraph 6 " Another negative impact is that higher values coupled with speculation tend to drive up the prices of nearby agricultural land. Existing farmers may find the taxes burdensome, and new farming ventures are discouraged by the land costs and the taxes, the community as a whole may suffer because of the gradual loss of agricultural land." Could this mean the end of Taro Farming in Waipio? Many of the present farmers live in Kukuihaele. Won't the projects proposed 45 expensive lots with expensive homes have this very effect on the community? Appendix E No. 3.2.4.2 Operational, Class Differences. "Given the expected high-market orientation of the Residential lots, the new residents would almost certainly be high-income individuals and families." Does't this prove that the impact will have a negative on farmers in the area?

VI. Page 20 No. 2.5.3 Community Benefits, Property Tax Trust Fund. It states who qualifies but it doesn't state who does not. Those who don't qualify are far more in the community than do. If you have a rental or bed and breakfast you do not qualify. If you have Ohana houses and your mother lives in one you do not qualify. If you are a renter you do not qualify. Perhaps this is why such a small number of houses on the Island Of Hawaii have entered the County program. There are many flaws in the program. Is this really a community benefit if so few houses qualify for the program? Exactly how many houses would qualify for the program in Kukuihaele and the surrounding area? Why does't this information included in the Draft E.I.S. If many residents do not qualify then won't as stated in appendix E No. 3.2.5 paragraph 5 be true? "However, the continuing rise of property values usually brings about higher taxes that may force fixed-income residents to relocate." Isn't this talking about our Kupuna's? This is a third of our population. In the Property Tax Trust Fund it states that the trust fund will be created by the sale of 38 lots. What if the 38 lots do not sale? Won't the urban land use change have the same effect on property values as taxes? Again will we be taxed off our land, out of our homes? VII. Kohere in this document does it refer to the effects the development will have on renters. Why not? If taxes go up won't renters be forced to raise rents? In the construction phase won't or could't there be an influx of construction workers. Will they prefer to locate near the job site, therefore driving rents up? Will this not drive long time residents from their homes to be replaced by a transient group? This issue needs to be addressed in the Draft E.I.S. VIII. Page 61, Compatibility of Guests/Visitors vs. Locals. It states that we will all get along because of a study done for the Hancle Golf Course on Lanai. What is this study? Why does it not appear in the Draft E.I.S.? How come all we hear or read in the papers is that there has been a total disruption in the local peoples lives. Alcoholism and family abuse on the rise in Lanai. Is there not any other studies which examine the relationship described in the Lanai study. Should they not be included in this document? Does one study give us a complete understanding of what will occur when 36 high-income

and investigate alternative energy sources. Page 22 paragraph 3, Electrical/Telephone "The existing electricals system does not have adequate capacity to accommodate the proposed project. One alternative is for the project to reconstruct the existing distribution line from the Honokaia Substation to the project site. What would the cost of this proposal be? Is the applicant willing to commit to this plan? Should there not be a stop to the applicants application for the project until a contract is agreed upon between HEC and the Applicant? Isnt electricity an important part of the infrastructure for the project? What are the Alternatives that are mentioned? Diesel generators at the project site? Wouldnt this create noise and pollution to Kukuiahaeles rural setting? Would a Diesel not go against the projects main goal to blend into Kukuiahaeles rural setting?

XIV. Page 37, Impacts of Wastewater Disposal. The applicant states that there will be no effect on ground water because of the location of the leaching fields. "1000 ft. from the county's spring source." Where exactly will the waste-treatment plant be located? Why is it not documented in the Draft E.I.S. for this project? How close will it be located to the cliff's edge? Will the leachfield have potential to drain into the ocean? What will be the effect on the aqueduct life in the ocean? This needs to be studied further to determine if there will be possible adverse effects on aqueduct ocean life. There is no sigateria in fish on the Hamakua coast. This is a significant food source for residents of Hamakua and in particular Kukuiahaele/Waipio areas. It needs to be absolutely protected.

XV. The proposed Amnhihaway 36 unit resort. How close to cliffs edge will it be located?

XVI. Page v, Summary, No. 3, Location and Ownership, c. Ownership: "The applicant currently owns in fee simple about one third of the Project Site, and has a lease with an option to purchase with the Roman Catholic Church for most of the remainder of the property." Should this agreement not appear in the Draft E.I.S.? How long is the lease for? Isnt two-thirds of the project located on the Roman Catholic Churches property? Would it not help us the public, Planning Dept. County Council and the Mayor to further understand the relationship between the lease and lease? Is there a long term commitment between the two? The lease agreement between the applicant and the Roman Catholic Church should be included in the Draft E.I.S.

XVII. Visual Impacts from Waipi'o Valley Beach. Page 49, paragraph 4, Impacts. "The poles were visibly marked (15ft.). Photographs were taken from points along the Waipi'o Beach... The photographic record is included in Appendix D." Last page of Appendix C The photos were taken from the same vicinity. The river mouth is located about a 1/2 mile from the other end of the beach in Waipi'o. Why is there not a photograph taken from there? We do not want the project visible from any where in Waipi'o. Photographs need to be taken from the northwest end of the beach to determine any visual impacts the project will have from Waipi'o Valley. They need to be included in the Draft E.I.S.

XVIII. Why throughout the Draft E.I.S. when the applicant developer wants to tell us of the great things this resort will do for Kukuiahaele the actual print of the text is large letters, very readable. Why are the Appendixes printed in such small lettering or print? The actual substance of the text is found in the Appendix section. Studies, History of the area, place names, public testimony, etc. As in the incidence of the Public Hearing the print is very small. It is impossible for our Kupuna to read this small print as the case for almost any one else.

families move into the center of a village with a solid middle class group of residents? The Draft E.I.S. should include more studies. IX. JCES, page 68 increased Employment Opportunities. In the operational phase it states that there will be 101 permanent jobs created. What will be they actual numbers number of jobs created for Kukuiahaele residents? Page 68, line 11 "It is estimated that 32% of these jobs would be classified as management/salary class. Will these people come from Kukuiahaele? Will the applicant be willing to train Kukuiahaele residents for management/salary class jobs? On page 70 paragraph 3, Potential Job Satisfaction, "A social impact assessment conducted for Lanai Company." Page 71 paragraph 1, "Potential employees currently working in pineapple, the most preferred type of future job was landscaping. Few reported wanting jobs with significant amounts of public contact (particularly food and beverage jobs)." Instead "back of the house" resort jobs (eg. housekeeping) were preferable."

Page 70, Table II. Planned Employment at Amanresort, Housekeeping and room attendants, No. of Jobs--8. Nursery and Grounds, No. of Jobs--2. Perhaps some will want to work in Laundry, No. of Jobs--3. Security, No. of Jobs--4. Total of Jobs--17. With Restaurant if trained another--12. Total Jobs--29...not 101...so according to this study the potential employment opportunity for the Hamakua district is 29 jobs. What percentage of employees is drastically reduced according to these figures. We think it is safe to compare the opinion of agriculture workers in Lanai pineapple to Hamakua sugar. So what will be the real potential for jobs for Hamakua residents? Kukuiahaele? Is the Developer willing to commit to training of all phases of the hotel for Hamakua residents, including management? In writing?

X. Impact of Proposed Access, page 76, paragraph 1. "An existing dirt/gravel road passing near and on the Honokaia side of the Plantation Managers estate would be upgraded to county standards. What is the potential traffic impact at the intersection of old route 240 through Kukuiahaele? This is the main road through the village. The Draft E.I.S. does not address this issue. Why? Isnt there a potential for a huge increase in traffic in the village (Kukuiahaele)? We have many children and elderly people who walk this road daily. The potential increase in traffic needs to be addressed. Will this road be a private road? Will it be dedicated to the county? Will residents have access to this road? We the members of the W/KCHLCA would like to see a commitment by the developer to construct a under the road (old rt. 240) entrance to the project.

XI. The applicant is applying for two urban designations. Is it really necessary to change 5 acres of land to residential 4 suite Inn. Is there not then the potential for a Golf Course Club house in one of the two urban areas. The Golf course designation is still in place for the properties adjoining the project. Could this be the Developers plan for the future? We the members of the W/KCHLCA would like to see the urban designation for the Plantation Managers home withdrawn and go back to the original plan of a Bed and Breakfast ~~Hotel~~ ^{Home}.

XII. What is the future plan for the social besides the planned renovation. Will the Applicant be willing to dedicate this land to the county? This would assure the community if the development falls and the Developer where forced to sell there would still be a meeting place for our community.

XIII. Page x, no. 9 Unresolved Issues, No. 111 Electrical/Telephone... "The Applicant needs to determine its power requirements in accordance with..."

attempted to synthesize and identify the concerns. The EIS then attempted to analyze whether the adverse concerns were mitigable or unavoidable. Your comments do not indicate that we failed to identify any particular concern. The reason to focus on concerns, as compared to positions (i.e., "for" or "against"), is that people often are not clear whether they are absolutely opposed to the project as a whole or have concerns about only a certain impact. If this concern can be mitigated, then their opinion could change. Even your letter expressed: "The W/KOHLCA has never come out in opposition to this project. We do however have concerns." (p. 3). The social impact assessment utilized accepted methods that have been employed on other projects (e.g., Manele Bay resort on Lanai)-- public meetings, past surveys using valid sociometric methodology, and interviews. Eight of the twelve informants were either natives or long-term residents of Kukuihaele (not three as stated in your letter). It is not the function of an EIS to gauge public opinion; that is left for the politicians who must weigh the opinions of multiple interest groups at multiple levels of geographic interest ranging from local to regional to islandwide. The EIS Rules do not require surveys.

VI. Property Tax Trust Fund and Impact on Long-Term Renters. The Final EIS will clarify that 64% of the housing units in Kukuihaele are owner-occupied (1990 Census) and would initially qualify for the proposed Property Tax Trust Fund. Renters are indirectly affected by property tax increases-- i.e., a landlord may or may not elect to raise the rent depending on the landlord's carrying cost and the market rent in the area. The Final EIS will mention that renters may be impacted by property tax increases.

VII. Impact on Renters during Construction. The contractor is responsible to find housing, if necessary, for its workers. Such housing arrangements are usually group arrangements (e.g., boarding houses, hotels) since it is more available, cost-effective, easier for the contractor to make arrangements, and reservations can be made in advance for variable short-term periods. As noted in the EIS (p. 58), construction of the Honokaa hospital did not require construction housing.

VIII. Compatibility of Newcomers/Guests vs. Locals. The Final EIS will discuss the experience in Kukuihaele itself where an influx of higher income residents has already begun with the recent large homes along Highway 240, on the Waipio Valley side of Kukuihaele town, and in the vicinity of Waipio Valley lookout. No conflicts are evident. The Lanai situation was considered in the DEIS because it is somewhat analogous to what could occur in Kukuihaele. There are significant differences as well, particularly in the scale of the project. The DEIS provides the references to the Lanai studies-- these studies are included in the "Manele Golf Course and Residential Project, Lanai, Hawaii, Final Environmental Impact Statement" by Belt Collins and is available at public libraries.

IX. Jobs. The State Department of Labor and Industrial Relations, Employment Services Division, will coordinate the initial job training that will begin about a year before the hotel opens. The proportion of the jobs that will go to Kukuihaele and other local residents depends on qualifications of the individuals-- the more individuals that meet the qualification standards, the more jobs will be filled by the local residents. It would be selling Hamakua residents short to say that they are only qualified for or interested in housekeeping, landscaping, laundry, and

security jobs. These categories are simply the categories that best match the skills of the displaced Hamakua Sugar workers. In fact, many Hamakua residents currently hold the full spectrum of occupations, including professional, managerial, and technical. Many residents already work in the tourism industry and hold management positions.

X. Impact of the Proposed Access. This applicant changed the proposed access in response to comments received during the EIS Consultation Period. The previous proposal was to use the Old Route 240; the current proposal is to construct a new access road as described in the Draft EIS. The reason for the change was to divert project-related traffic off of the Old Route 240. The traffic increase along the Old Route 240 would be caused more by the increased visitor traffic to Waipio Valley lookout rather than the proposed project. The impact of the proposed access road at the intersection of Old Route 240 was discussed in the Draft EIS (p. 76 and Fig. 33). Stop signs would be required at the intersection of the access road and the Old Route 240. The traffic study (Appendix F) determined that the Level of Service (i.e., waiting time at the stop sign) would be Level of Service A (minimal waiting time) for stop signs located in any configuration-- i.e., 2-way stop along the Old Route 240, 2-way stop along the access road, or 4-way stop.

XI. Resort Designation for the Plantation Inn. Although the Zoning Code allows "bed and breakfast establishments" through a Use Permit, the definition of a bed and breakfast (i.e., owner-occupied, serve breakfast only) is too restrictive for a hotel operation. Therefore, resort zoning is the only option to permit the intended uses (the property is already zoned State Land Use District Urban). Density will be controlled by rezoning the 1-acre resort lots and the 14.4-acre Plantation Inn to V-43 (no more than 1 rentable unit for each 43,000 s.f.). The Final EIS will clarify the specific resort zoning designation as a means to ensure that density is controlled in this manner. A golf course clubhouse is not feasible since such clubhouses must be located on the premises of a golf course.

XII. Social Hall. The Final EIS will include a mitigation measure to require the applicant to enter into a binding agreement with the community to ensure the long-term use of the Social Hall facility for the benefit of the community (e.g., management agreement with a nonprofit corporation established by the community where the use and maintenance of the facility would be governed by a Board of Directors selected by the community). The details of such an agreement would need to be negotiated at some time in the future. Dedication of the facility to the County may not be in the best interest of the community since the facility would then be open to anyone in the public rather than the exclusive privilege of Kukuihaele residents; the residents will also not have direct control on the maintenance and operation of the facility.

XIII. Electrical/Telephone. The applicant is working with HELCO to determine the specific improvements required to service the project. There was never any proposal to use diesel. The alternative systems alluded to in the EIS were renewable sources such as photovoltaic (DEIS, p. 85).

XIV. Wastewater Treatment System. The exact location of the wastewater treatment plant cannot be determined until more detailed site planning is completed. This detailed planning will occur after

The Waipio/Kukuihaele Ohana Hana Like Community Association
February 4, 1994
Page 4

land use approvals have been received. The Department of Health reviews the location and design of the wastewater treatment system to ensure that there is no impact to the groundwater or coastal waters.

XV. Seaback from Cliff Edge. The seaback distance for the proposed one-story structures will be based on soil engineering analyses. The Final EIS will identify the extent of the seaback as an unresolved issue to be confirmed by the Planning Department through Plan Approval.

XVI. Ownership. The applicant intends to exercise its option to purchase once land use approvals and financing have been secured.

XVII. Visual Impacts from Waipio Valley Beach. The visual impact from the far side (Waimanu Valley side) of the Waipio Valley Beach is covered by the view plane analysis in Figure 30 of the DEIS (p. 52).

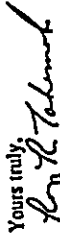
XVIII. Legibility of the Appendices. Many EIS's reduce the appendices to save paper. Our copy of the Kukuihaele Land Use Plan had the same reduced format for the appendices. A separate full-size volume for the Appendices will be made available at the Honokaa Library.

XIX. Hawaiian Hoary Bats. The ornithological study concluded: "Since the area has been under intensive sugar cane cultivation for the best part of this century; coupled with the fact that there is a small town at the edge of the development site, it is unlikely that the proposed development will change the avian makeup of the area in any meaningful way." (DEIS, Appendix B, p. 17). The site is not a pristine native ecosystem; although bats may occasionally fly through the area, the past land disturbance by sugarcane cultivation and the development of Kukuihaele town would have destroyed any habitat for the bats.

XX. Additional Comments. The public will have additional opportunities to make comments on this project at public hearings required to be held for the General Plan Amendment/Rezoning/State Land Use District Boundary Amendment petitions.

Thank you for your comments.

Yours truly,



Roy K. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



I OPPOSE THE PROPOSED AMANRESORT DEVELOPMENT IN KUKUIHAELE BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS:

COMMENTS TO BE OFFERED AT HEARING.

Rudolph Angelo
SIGNATURE

ADDRESS: *P.O. Box 5012*

Kukuihaele HI 96727

FRIEND OF KUKUIHAELE/WATPIO

RESIDENT/LANDOWNER/FORMER RESIDENT

CONCERNED TAXPAYER

OTHER

I don't like the new development because my house of land taxes go up too high.

RECEIVED
94 JAN -7 12:37
OFFICE OF THE ATTORNEY GENERAL
QUALITY CONTROL

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0183

February 4, 1994

Mr. Rudolph Angelo
P.O. Box 5012
Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. Angelo:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

The EIS is one means to present information to the public and clear misunderstandings. If the information presented in the EIS is inaccurate, then it should be corrected. If the suggested solutions do not satisfy you, then you still have the opportunity to express your concerns at public meetings and public hearings to be held by the developer and the County. With your input, the project can possibly be modified to address your concerns in order to shape the project to one that you can accept.

Yours truly,
Roy R. Takemoto
Roy R. Takemoto



63

SO YOU SEE THERE IS NOT A GOOD TASTE LEFT FROM THIS DEVELOPER TO THE COMMUNITY AND WE WISH ALL COULD SEE THAT THIS COMMUNITY WHICH THEY AND US CALL HOME WILL NO LONGER EXIST.

AS FAR AS THE TAX FUND THAT IS CREATED BY THEM WILL NOT TOUCH ALL WHO LIVE HERE. ONLY THOSE WHO WANT AND WHO WILL DEDECATE THEIR LAND. THE REST OF US WHO CAN NOT THAT MONIES WILL NOT HELP US AT ALL. ALSO THOSE OF RETIRED AGE WHO WILL PASS THE LAND ON TO THE ONE AFTER THEM WILL NO BE ABLE TO AFFORD THE TAXES THEREFORE HAVE NO OTHER RECOURSE BUT SELL.

JANUARY 6, 1994

COUNTY OF HAWAII
PLANNING DEPT.
25 AUPUNI STREET
HILO, HAWAII 96720

SEND COPIES TO
APPROPRIATE PARTIES

ATTN: VIRGINIA GOLDSTEIN

SUBJECT: PROPOSED AMANRESORT DEVELOPMENT IN KUKUIHAELE

I AM THE THIRD GENERATION TO LIVE ON THIS TRK HERE IN KUKUIHAELE MY SONS WILL THE FORTH HOPEFULLY. THIS IS WHEKE WE PUT OUR HEAD DOWN ON THE PILLOW EACH NIGHT. THERE IS NO OTHER PLACE ON EARTH THAT WE RATHER BE. NOT KAHUELA, NOT KOHALA (WHERE MY HUSBAND IS FROM), NOT HILO, NOR KONA. WE SAT DOWN AND DISCUSSED THIS AND WHERE WE WILL GO FROM HERE. OUR HEARTS ARE SO HEAVY. THERE IS NO OTHER PLACE TO GO TO.

MY FAMILY ARE VERY MUCH AGAINST THE AMANRESORT DEVELOPMENT TO BE BUILT IN OUR BACK YARD. A FAIR PERSON WILL COME TO THE COMMUNITY AND ASK INPUT BEFORE EVER STARTING ANYTHING IN SOMEONE ELSE'S COMMUNITY. NONE OF THIS EVER HAPPEN. EVERYTHING OUT IN THE OPEN WHEN IT WAS ALL PLANNED AND DUE PROCESS OF LAH MAKES HIM REVEAL ALL. IF NOT FOR THIS THINGS WOULD BE UNDERHANDED DONE AND WE JUST EAT IT. HE WILL NOT BE ABLE TO AFFORD TO LIVE HERE DUE TO VERY HIGH REAL PROPERTY TAXES. WE ARE JUST FARMERS AND HOLD ONE JOB. WE ARE NOT MATCH FOR A DEVELOPMENT OF A RESORT. MANY OF OUR NEIGHBORS RENT THEIR HOMES AND THEY WOULD LEAVE BECAUSE THE LANDLORD IN ORDER TO KEEP UP WITH THE REAL PROPERTY TAXES WOULD NEED TO RAISE THE RENT WHICH THEY CAN NOT AFFORD. WE UNDERSTAND THAT A TAX KITTY WILL BE MADE BUT SO MANY OF US DO NOT QUALIFY. THEREFORE THIS WILL BE

DEATH OF KUKUIHAELE.....

THERE ARE PEOPLE IN THIS COMMUNITY THAT IS ALL FOR THIS PROJECT BECAUSE THEY WANT TO MAKE A FAST BUCK. THEY ALREADY LET BE KNOW ALL THEY WANT IS TO SELL AND LEAVE. SOME ARE OFFERED A SMALL PEICE OF LAND BUT DOES NOT RELIZE THAT THE MORE YOU HAVE THE MORE YOU PAY. ON HUNDRED JOBS ARE OFFERED BUT DOES EVERYONE KNOW THAT THEY WILL BE GROUNDS MEN AND TOILET SCRUBBERS. ALL HIGH JOBS WILL BE FROM OUTSIDE. DO WE HAVE THE GUARANTEE THAT ALL OF THE OFFERS WILL BE UPHELD. WHAT IF HE BEGINS THE DEVELOPMENT AND SELLS IN MID STREAM WILL THE NEXT BUYER UPHOLD THE OFFERS GIVEN BY HIM? THESE QUESTION ARE FOR REAL AND IS THE SCARRY PART. THE DEVELOPER DOES NOT HAVE A VERY GOOD REPUTATION ON THIS ISLAND. PEOPLE THAT I MEET IN KOHALA AND KONA HAVE NOT A GOOD WORD FOR HIM.

THANK-YOU FOR HEARING ME OUT. PLEASE FEEL FREE TO CONTACT ME.

THANK-YOU

Kuilei Badua

KUILEI BADUA
P.O. BOX 5109
KUKUIHAELE, HAWAII 96727

CC: BRIAN CHOI
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813

TAKASHI DOMINGO
CHAIRMAN
PLANNING COMMITTEE
COUNTY COUNCIL

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/fax (808) 959-0189

February 4, 1994


Ms. Kuilei Badua
P.O. Box 5109
Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Amanuresort, Hamakua, Hawaii

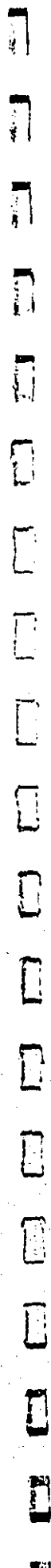
Dear Ms. Badua:

The following responds to your comments dated January 6, 1994:

1. Property Taxes. The purpose of the proposed property tax trust fund was to minimize the impact of the project on the local residents in Kukuihaele. If there are weaknesses in the proposal where deserved residents are left out, then the details of the trust fund can be changed to include these people. The developer will be holding meetings in the community at which time these concerns should be raised and specific solutions suggested.
2. Developer's Commitments. The decisionmakers (i.e., County Councilmembers) could bind the commitments through permit conditions so that any subsequent owner would have to honor the same commitments.

Yours truly,

Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company



94 JUN 11 PM 2:22
RECEIVED
QUAL

I OPPOSE THE PROPOSED ANAHRESORT DEVELOPMENT IN KUKUHAELE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUHAELE DEVELOPMENT COMPANY.

COMMENTS: *There is a great place to live
if you get the permit and work up to the
agencies and look in our above. If you have
happened to me. What would happen if the
development comes in?*

COMMENTS TO BE OFFERED AT HEARING.

Lyn Berinolu
SIGNATURE

ADDRESS: *P.O. Box 5065
Honolulu, HI 96727*

- FRIEND OF KUKUHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

*The home are old and try tell me
what of them won't be condemned if the
development happens. We can't afford to pay
high taxes but we can't become wage or
low. Where are the local people going to
live?*

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

February 4, 1994
Ms. Lyn Berinolu
P.O. Box 5065
Honolulu, HI 96727

RE: Draft Environmental Impact Statement for Ananresort, Hamakua, Hawaii

Dear Ms. Berinolu:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

The EIS is one means to present information to the public and clear misunderstandings. If the information presented in the EIS is inaccurate, then it should be corrected. If the suggested solutions do not satisfy you, then you still have the opportunity to express your concerns at public meetings and public hearings to be held by the developer and the County. With your input, the project can possibly be modified to address your concerns in order to shape the project to one that you can accept.

Yours truly,
Roy R. Takemoto
Roy R. Takemoto

01/07/94 11:56 808 775 9339

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002

01/07/94 11:57 808 775 9339

111uminations

003

page 2

Jan. 7, 1994
RECEIVED
'94 JUN 7 AM 11 56
PLANNING DEPT.
COUNTY OF HAWAII

To: Hawaii County Planning Dept.
25 Aupuni Street Hilo, HI 96720
Attention: Virginia Goldstein
From: Jim Cain

Po Box 884 Honokaa HI 96727

This letter is in response to the DEIS prepared for the proposed Anan resort in Kukuihaele. As a concerned resident and landowner in Maipio Valley, I feel that there are many issues surrounding the proposed resort which are either inadequately or incorrectly covered by the DEIS or are completely ignored altogether.

Of great concern to me is the impact a resort project with its accompanied million dollar homes will have on the very rural tight-knit community of Kukuihaele/ Maipio. A vast majority of the residents are very much against having their town overrun by a resort project. At the public hearing/information gathering meeting held in Kukuihaele in August of 1993, 30-40 community people spoke against this project while only 2 spoke in favor of it. Also several local surveys have shown a vast majority against such a project. Yet in the DEIS it falsely states that most local people are generally for it. Councilman Domingo has repeatedly stated that if our community is not in favor of this project then it will not happen.

The point to remember is this is an issue for Kukuihaele to decide - not the business development leaders of Honokaa or elsewhere.

Another great concern is the issue of increased taxes. The very vague tax relief plan proposed by the developer is not all inclusive, covering only certain types of property, and for only a limited time, and it is full of non-binding loopholes.

Also the developer's past record on promises associated with other projects is very suspect. The only way to ensure the success of agriculture is ensure that the people of the land will not be taxed off their land. The DEIS does not address

the issue of increased taxes due to resort development.

I am also very much concerned with the impact such a project will have on my home, Maipio Valley. Anyone familiar with Maipio knows that commercial tourism has already been overdone in Maipio and adding a resort at the top of the hill will only create more strife. The developer has agreed to abide by the recommendations of the Maipio Task Force concerning tourism in the valley. The Task Force is not a regulatory board and has no jurisdiction over the activities of the tour companies. So this is a useless statement. It is obvious that the lure of the proposed resort is Maipio Valley. The DEIS does not address the problem of increased traffic on the already dangerous Maipio Access Road. The county is ultimately liable for the road and this issue must be addressed, now and not later.

Kukuihaele/Maipio has always been an agriculturally based community. By allowing a resort "in the door", that focus will be changed forever. At a Dec. '93 public meeting with Rodney Nakano in Kukuihaele, a question was posed, "If this general plan amendment change is enacted, will it bring in more resort development to the area?" His answer was a most definite, "yes". In the DEIS it is stated that future development can be kept out by State and County laws. How can you allow one resort and say no to others?? This is a ludicrous statement. Keep the focus on agriculture.

Enough now with all this negative focus. We in the community would rather focus on a positive future. The DEIS states that the only alternative to resort development in Kukuihaele is complete depression for the area. I say baloney! If resort jobs are wanted, what about the opportunities being created by the new hotels at Hapuna Beach and Kahukona, not to mention the many existing resorts along the south Kohala coast, all within easy commuting distance of Hamakua. It is very foolish to put all our economic eggs in one basket. It has been repeatedly shown that the Big Island's main draw is open spaces and the ongoing practise of local culture (i.e. agriculture).

By the way, the DEIS does not address the issue of increased taxes.

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Illuminations

0004

page 3

On the agricultural side many possibilities exist and should be encouraged. At a recent symposium held on reforestation in Hamakua, representatives of C. Brewer announced that recent work with the processing of *Fuacalyptus* for fiber board have been very successful. They spoke of a project that will soon cover 15-20,000 acres along the Hamakua coast. It is important . . . that we keep our ag lands available for ag projects, they will provide sustainable employment.

Another ag project being explored by members of the Waipio Taro Farmers Assoc. is establishing a poi factory in Kukuiaele or Honokea. A poi factory would give the taro farmers another outlet of their crops, provide employment and again keep the focus on Ag. With the recent signing of long term leases of Bishop Museum land in Waipio, more taro fields will be opening up. This type of endeavor should be encouraged.

Another idea that is gaining a lot of support is the establishment of a reforested zone along the rim of Waipio, above Kukuiaele town. The proposed reforestation project, with a connected interpretive center and Waipio Valley lookout would provide many benefits including:

- 1) Provide a new visitor destination while helping alleviate overuse of the Waipio Access Road.
- 2) Help ease flooding problems in Waipio.
- 3) Provide trails and open areas for recreation.
- 4) Provide an area for scientific research so we can work to save our many endangered native plants, birds, and insects.
- 5) Provide access to native forest products for cultural practitioners.
- 6) Provide jobs that are sustainable.

These are but a few of the many alternatives available that are community-based (the money will not be going to a foreign corporation) that the DEIS does not address.

In conclusion, it is obvious that the future direction of Kukuiaele/Waipio as a solid agriculturally based community is being threatened by the proposed Maunaloa resort. I feel that it is vital to keep going forward in this direction and to keep the focus

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. Jim Cain
P.O. Box 884
Honokaa, HI 96727

RE: Draft Environmental Impact Statement for Amanaresort, Hamakua, Hawaii

Dear Mr. Cain

The following responds to your comments dated January 7, 1994:

- 1. Public Opinion.** The social impact assessment (DEIS, Appendix E) used several sources to discuss community attitudes towards the project: 1988 Statewide Tourism Impact Core Survey, social impact assessment for the Kukuhaele Land Use Plan (1991), testimony before the Planning Commission concerning the Hamakua rezoning, informant interviews, and input from the public meeting held in August 1993. The purpose of the public meeting held on 8/26/93 was to identify community concerns. The input from the meeting was exhaustively discussed in Appendix E (pp. 24-32) and referenced repeatedly throughout the report. The Draft EIS attempted to synthesize and identify the concerns. The EIS then attempted to analyze whether the adverse concerns were mitigable or unavoidable. Your comments do not indicate that we failed to identify any particular concern. The reason to focus on concerns, as compared to positions (i.e., "for" or "against"), is that people often are not clear whether they are absolutely opposed to the project as a whole or have concerns about only a certain impact. If this concern can be mitigated, then their position could change. It is not the function of an EIS to gauge public opinion; that is left for the politicians who must weigh the opinions of multiple interest groups at multiple levels of geographic interest ranging from local to regional to islandwide.
- 2. Property Taxes.** The Final EIS will clarify that 64% of the households in Kukuhaele would initially qualify for the Property Tax Trust Fund as proposed by the applicant based on the 1990 Census count of owner-occupants. The concept can be refined to address loopholes with constructive input from the community. The decisionmakers can bind this commitment through permit conditions or other means.
- 3. Waipio Valley.** The applicant committed to abide by the recommendations of the County who will receive input from the Waipio Task Force and other interested organizations. Again, decisionmakers can bind this commitment through permit conditions or other means.
- 4. Precedent for Future Resort Development.** Future resort development can occur only if the community/politicians allow additional rezoning. The County General Plan provides the means to limit future resorts by establishing five levels of resort development: destination resort community, major resort area, intermediate resort area, minor resort, and retreat resort. The proposed project falls under the retreat resort classification, the most restrictive resort

Mr. Jim Cain
February 4, 1994
Page 2

classification. The General Plan policies do not support large-scale resort destination areas anywhere in Hamakua; instead, the General Plan encourages small family-operated hotels and small-scale retreat resort development (DEIS, p. 112). To allow the proposed retreat resort to "open the door" to uncontrolled resort development would be contrary to the General Plan.

- 5. Alternatives.** The EIS analyzed reasonable alternatives to reduce unavoidable impacts and meet the project's objectives. The many alternatives you mention (e.g., reforestation, poi factory, interpretive center) have sites proposed that do not include the Project Site. The project will not conflict with these alternatives and could in fact complement them.

Thank you for your comments.

Yours truly,



Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuhaele Development Company

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

January 6, 1994

RE: Draft EIS for Amanaresort, Hamakua District, dated Nov 3, 1993

The proposed development is not in the best interest of the Kukuhaele/Waipio Valley area. The following comments and concerns are typical of the problems that will arise from the conversion of our rural agricultural home to a developed resort area. While these comments refer specifically to the Draft EIS, they are not to be taken as the sum of all issues concerning the proposed development. Answering these few comments will not settle all of the objections to proposed development.

1. EIS page 5 notes "about 60 homes" in Kukuhaele area and page 12 Table 1 Land Use Plan shows "65 units" are proposed. Therefore the proposed development is larger than the existing community. This will have a devastating negative effect upon our rural community.

2. Page 20 proposes a Property Tax Trust Fund for "residentially zoned property" only. Why not for all noncommercial property. This is our home, so why should area residents carry the added tax burden of commercial development that will be of no benefit to them.

3. Page 21 shows a "growing number of Waipio Valley visitors" due to the proposed development. This will only add to the county's well known safety problems with access to the valley as well exacerbate the problem of preserving this historical area.

4. Pages 20/21 address:

Roads - the entire area past Honoka'a is served only by one dead-end two-lane road. This does not bode well for future development in spite of the Draft EIS low traffic projections. Consider the time it is taking to repair the broken bridge (culvert) that splits Kukuhaele.

Water - "existing CTY system has capacity", but APPENDIX G states "The source has no flow records and is reported to be susceptible to dry weather conditions."

Electrical - "existing electrical system does not have adequate capacity." HELCO has already raised the rates several times with additional

proposed rate hikes in process. Will we get even more additional rate hikes to pay for the required system upgrades?

Telephone - not addressed in the Draft EIS. The existing system does not have adequate capacity and is technically obsolete. More rate hikes?

5. Pages 61/63 state this is a "minimal impact" "one-time only" development. The proposed development will set the precedent and open the door for further future development. Kukuhaele/Waipio will either be an agricultural rural area or it will be a resort area. Like being dead, either you are or you are not.

6. Pages 86/87 Police protection. Kukuhaele/Waipio is now an out-of-the-way primarily rural area with some day visitors. The proposed development will more than double the Kukuhaele population with new staff and overnight visitors. With the increased population and the area image changed from rural neighborhood to resort area the crime rate will go up. In short, after the proposed development is in operation there will be something to trip off.

7. Jobs. The Draft EIS is overly optimistic in stating that the proposed development will rejuvenate Hamakua's economy. The final sugar harvest will be completed and those workers otherwise employed long before the proposed development is ready to hire staff. Therefore, the new jobs will not benefit Kukuhaele/Waipio. The resort will bring in staff from other areas and Kukuhaele will no longer exist as it is now known.

8. Page 99 The proposed resort will contain "city-like" concentrations of people and structures. This is at odds with the stated objectives of having a "hide-away" resort in a local setting.

9. Page 100 "The basic services that serve Kukuhaele would serve the project." Given that the current level of basic services is marginal at best, the proposed development can only raise the rates and otherwise negatively impact the area.

Dan Coates
P.O. Box 5099
Kukuhaele, HI 96727

Dee Coates

Copy to: DEEC

Kukuhaele Dev Co
- Case & Lynch

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Dan & Dee Coates
P.O. Box 3099
Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. & Mrs. Coates:

The following responds to your comments dated January 6, 1994:

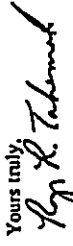
1. **Future Development.** The proposed project would add 85 units (40 hotel units and 45 1-acre lots) to the area spread over an area of approximately 113 acres. Even if this project is denied, the existing zoning would allow 81 15,000 s.f. lots on approximately 24 acres in the heart of town (DEIS, Fig. 41). Growth is already provided for with the existing zoning. The growth proposed by the project is comparable in number to the units allowed under the existing zoning, with the difference that the proposed project has a lower density than that allowed under the existing zoning.
2. **Property Tax Trust Fund.** Agricultural lots are assessed at lower rates than residential lots. The majority of the lots that could be affected by increased property taxes as a result of the resort are zoned residential.
3. **Waipio Valley.** The "growing number of Waipio Valley visitors" refers to the existing trend even without the project. The impact of the proposed hotel is projected to be less than 5% of just the shuttle tour trips and would be considerably less when compared to the non-tour component (i.e., residents and U-drive) (DEIS, p. 65). The project will comply with whatever solutions are adopted to resolve the existing problems.
4. **Infrastructure.**
 - a. **Roads.** Highway 240 is designed to handle a certain traffic volume. The traffic impact assessment considered this design capacity relative to the existing and projected traffic volumes to conclude that the project will not have a significant impact on this roadway (DEIS, pp. 74-79; Appendix F).
 - b. **Water.** The estimated capacity of the Kukuihaele Spring source is based on pumping tests. The projected demand allowed for a contingency for low flows in concluding that the existing system had the capacity to accommodate the project (DEIS, pp. 79-80; Appendix G).
 - c. **Electrical.** Under restrictions enforced by the Public Utilities Commission, HIELCO cannot pass on costs directly resulting from a particular project to the general consumer. The applicant is in the process of determining the nature and extent of improvements to be funded by the applicant.

Dan & Dee Coates
February 4, 1994
Page 2

- d. **Telephone.** Improvements to the telephone system can use the physical improvements provided by the applicant to upgrade the electrical system.
5. **Precedent for Future Development.** As discussed in the first paragraph above, the existing zoning already allows for future development. Future resort development can occur only if the community/politicians allow additional rezoning. The proposed project attempts to vision an inconspicuous resort in an agricultural/rural setting--a model for a term that has become popular, "ecotourism". Simplistic "either/or" beliefs close the door to creative, innovative possibilities.
6. **Police Protection.** The police department reviewed the proposed project and determined that the project will not significantly affect their operations (DEIS, p. 87).
7. **Jobs.** There are no other major job-producers that are projected to offer jobs in the Hamakua area before Amanresort's proposed timetable. The operator has committed to participate in job training so that the local population meet the qualifications for the positions to be offered (Draft EIS, Appendix H).
8. **Project Design.** The "city-like" phrase is the language used by the Land Use Commission Rules to distinguish urban uses from agricultural or conservation uses. The project design as described in the DEIS (pp. 12-21) shows the project as a very low-density bungalow development in keeping with the "hideaway" objective.
9. **Public Services.** It seems quite implausible that a 36-unit hotel and 45 lots would directly impact the utility and County services provided and paid for on an island-wide basis such that rates would increase because of this one project. The project will generate tax revenues and pay utility fees to carry its fair share of costs (DEIS, Fiscal Impact analysis, pp. 73-74, Appendix E).

Thank you for your comments.

Yours truly,


Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1991

Mr. Darren De Luz
P.O. Box 397
Paunilo, HI 96776

RE: Draft Environmental Impact Statement for Amanaresort, Hamakua, Hawaii

Dear Mr. De Luz:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts—such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

The EIS is one means to present information to the public and clear misunderstandings. If the information presented in the EIS is inaccurate, then it should be corrected. If the suggested solutions do not satisfy you, then you still have the opportunity to express your concerns at public meetings and public hearings to be held by the developer and the County. With your input, the project can possibly be modified to address your concerns in order to shape the project to one that you can accept.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

I OPPOSE THE PROPOSED AMANRESORT DEVELOPMENT IN KUKUIHAELE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS: ~~RESORT~~ DEVELOPMENT SHOULD PROGRESS
IN AGRICULTURAL AREAS, IN STEAD OF
RESORTS.

COMMENTS TO BE OFFERED AT HEARING.

Darren D. De Luz
SIGNATURE

ADDRESS: P.O. Box 397
PAUNILO, HI 96776

- FRIEND OF KUKUIHAELE (MAIPIO)
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAVER
- OTHER

December 31, 1993

County of Hawaii
Planning Department
26 Aupuni Street
Hilo, HI. 96720

Attn: Virginia Goldstein
Dear Mrs. Goldstein

This letter is a response to the Amanresort Environmental Impact Statement dated October 18, 1993 and submitted by Roy R. Takemoto.

Except for the following quote, I found this material to be pro-Amanresort throughout its entirety.

"TO THE COMMUNITY, THE RURAL VALUES MOST MENTIONED AND CHERISHED WERE PEACE, LITTLE TRAFFIC, GREENERY, LOW POPULATION DENSITIES, COMMUNITY IDENTITY, ACQUAINTANCE WITH NEIGHBORS, WIDE OPEN SPACES AND AGRICULTURE."

The following are some questions in response to this EIS:

1. Selected Socioeconomic Characteristics of Study Area:
"Percent whose home was built after 1980 - Kukulhaele - 0"
... mark Kukulhaele as a somewhat disadvantaged community".
(pg.56)

I have counted at least 11 new homes in Kukulhaele village built since 1989. And many of these were completed within the last 2 years. This makes me wonder if other "characteristics" are also wrong.

I have lived in Kukulhaele for 15 years and see this community as definitely not disadvantaged. In fact, it is growing more advantaged every year. We do not have the "disadvantaged" characteristics of homeless people sleeping in the streets, street gangs, crime, or unemployment.

00755

QUESTION: What is the definition of a "somewhat disadvantaged community"? Are your "facts" updated? Does Kukulhaele really seem disadvantaged or is it really a paradise found?

2. "The proposed residential-agricultural lots will be 'rural style residential-agricultural' developments as an extension of the existing rural community in Kukulhaele". (pgs. 112-113)

Who is fooling whom! These will be million dollar homes. "80% of the homes will be second or vacation homes". (pg. 58) In order to buy the one acre parcel, you must also purchase the house from the developer. (a package deal) These million dollar homes will have the same amenities as other high-class resorts (ie. Mauna Lani, Mauna Kea), such as room service, maid service and charge privileges. (pg19) These homes will be sitting right in the middle of the Kukulhaele village.

...."confining the resort to the 15 acre portion for the hotel with significant buffer between the resort and the town". (pg. 124)

QUESTION: Why is there no mention of the impact of a high class resort in the center of the village? What will the impact be on the very narrow village road - our main street?

3. "The Public was not permitted in the area when it was used for sugar cane cultivation. With the project, the public will be able to enjoy the vistas from the site since the hotel is a public area." ... "The project will enable the public to enjoy spectacular views of the coast that were previously not open to the public". (pg. 104)

The "spectacular views of the coast" are the same views that the "public" can enjoy at the Waipio lookout.

QUESTION: Is the "public", they are referring to, the local families? Will the local families be allowed to walk around the hotel grounds at leisure, with the guests who are spending probably \$400/night to be there also?

5. "The only potential unavoidable adverse impact is the change in Kukuihaele's rural character. However, this change could happen even without the project since the existing zoning designations could result in a greater population impact than the proposed project." (pg.124) "Population characteristics of these newcomers (with no project) would probably be more similar to the existing population than the visitors that the proposed project would attract." (pg.120)

Kukuihaele is a very desirable place to live. Its population has been increasing and will continue to do so, as land becomes available for sale. The people, that buy property here, want to live here. They love its weather and its friendly character. They want to be apart of this community - this family of neighbors.

If the high-class resort lifestyle is allowed to infiltrate this community, all this will be lost.

QUESTION: How can the EIS dismiss the impact of the Amanresort on our "rural lifestyle" by saying that the population density could potentially be greater without the resort?

6. The land is "marginal agricultural land" (pg.113)

On the contrary, Kukuihaele has great weather for agriculture - not as much rain as higher elevations but just enough to keep everything lush; not as much wind as the Kohala coast side; not as cold as Waimea. All kinds of agricultural products thrive here. And, although I live on the cliff, I have never noticed any salt spray from the ocean. (as stated on pg. 105)

QUESTION: Where did the EIS get the idea that we have "marginal agricultural land"? What is the proof?

7. "Lost opportunity to residents from boundary adjustment (eg. Tiger Camp)" (pg. 121)

4. Property Tax Trust Fund "to compensate existing Kukuihaele residents". (pg. 63)

I am an existing Kukuihaele resident and have been for 15 years. But I will not be compensated. To qualify for compensation you "must have residentially zoned property" - mine is agriculturally zoned. Also, you must dedicate your property under County Ordinance "91-122, which freezes the property taxes for 10 years. But you cannot get the deduction if you conduct any "commercial activities" on your property. I have a vacation rental unit and therefore cannot qualify for this deduction. And there is another catch to this "compensation" they are promising - you must "continue to retain ownership" of your property. So if an owner should die within this 10 year period and their son or daughter takes ownership, they could not be compensated.

Living among million dollar homes, the property tax increase will most probably cause us to have to sell our wonderful home, because we will not be able to afford our property taxes.

There are many others in the community who will not qualify for the property tax trust fund compensation. There are 4 other families who have vacation rentals and many who rent out their houses or land on a long term basis. Some others have ag zoning.

Properties in Kukuihaele that are for sale will become much less marketable, if the property taxes are a hot issue. Many people would like to retire or settle down here and raise families. But living in Hawaii is expensive. The property taxes are a very scary issue, because we have no control over them, and because we can lose our home if we can't pay them.

I don't want to lose my home just so a few developers can get richer.

QUESTION: What are the potential impacts of a property tax increase for owner-residents and owners who do not qualify for this Property Tax Trust Fund?

It is my understanding that the Sugar Co. allowed the use of these lands without rent or release. This was a common practice elsewhere also, and when the Kohala Sugar Co. closed, these extra plots of land space were given to the homeowners. This land is not useable to anyone but the existing homeowners, many of whom could probably file for "Adverse Possession".

This and the other threats of demolition of the Social Hall and the Plantation Manager's House (pg.124) are ploys being used by the developers to get what they want.

QUESTION: Is the EIS stating that these residents in Tiger Camp will lose the use of this dead space land IF the project developers don't get what they want?

8. Land Use Goals - General Plan (pg 112) "The County shall designate and allocate future resort area in appropriate proportions and in keeping with the social, economic and physical environments of the County."

The Kona and Kohala Coast has been "designated" for the resort areas. But a resort in our little village is NOT in keeping with the social, economic and physical environment.

Land Use (Resort) Courses of Action for Hamakua - General Plan (pg. 112) "Encourage the development of small family-operated hotels. *Consider the small-scale retreat resort development. *Encourage resort development which enhances the natural beauty of the area."

There are presently 5 small family-operated vacation rentals in Kukulhaele, each with only 1-2 rental units. Two more families are planning such activities. These enterprises were initiated for survival in Hawaii reasons. All of us do not qualify for the "property tax trust fund", because we cannot dedicate our land. Are we to be driven off our land because we cannot pay the high property taxes that will ensue? We came to the Big Island to make a life for our families. Are we to be punished for trying to get some of our income from our own land that we have worked hard for?

QUESTION: How can this Amanresort project be considered a "small-scale retreat resort development which enhances the natural beauty of the area", when it will have 45 million dollar homes right in the center of the village and when it may cause 5-7 "small family-operated hotels" to fold because of property tax increases?

9. "...A job at the Amanresort is likely to be prized." (pg. 71)

Although a projected 100 jobs will supposedly be available, there will be only 14 jobs in the maintenance department - 2 groundskeepers, 2 truckdrivers, 1 plumber, 1 electrician, 1 engineer, 4 in the carpenter, painter, mechanic division and 3 in the laundry.

There have been large cutbacks in employees seen in the Hotels recently due to decreased tourism on the Big Island. When it is pouring rain in Hamakua, what guest wouldn't rather go to the Mauna Kea Hotel or the Kona Village Resort for sun.

QUESTION: Does the EIS truly weigh the advantages of economic benefits generated by the resort (jobs and market for agricultural products) with an increase in property taxes for many and the loss of the important reasons why we are living here - a loss of community identity?

The Amanresort will NOT harmonize with the physical and social environment. Anyone who thinks otherwise, is being deceived by a snake.

Sincerely,

Kristian Hunt

Kristian Hunt
P.O. Box 5104
Kukulhaele, HI. 96727
Ph: 775-7425

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Ms. Kristian Hunt
P.O. Box 5104
Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Anauresort, Hamakua, Hawaii

Dear Ms. Hunt:

The following responds to your comments dated December 31, 1993:

- Socioeconomic Characteristics.** The Final EIS will correct the figure for the houses built after 1980. The source of information is the 1990 Census which is based on a *sample* of those who filled out the long-form questionnaire. Obviously, the Census is not foolproof, but is the best source of information available. The Final EIS will clarify that "disadvantaged" refers to work disabilities and below-median incomes.
- Residential-Agriculture Lots.** The large lots (minimum 1-acre) and landscaping will promote the rural character. The Plantation Inn in the center of town will be the same physical structure as the existing Plantation Manager's House, only restored. The new access road has been proposed to minimize the resort's use of Old Route 240. The traffic impact study concluded that the impact on the Old Route 240 would be insignificant (DEIS, p. 76).
- Public Access to Hotel Grounds.** According to the Applicant, the public will be welcomed on the hotel grounds.
- Property Tax Trust Fund.** The fund was intended to offset the incremental property tax increase that could arise as a result of the project. For those with commercial activities on their property, it is difficult to determine if any increase in value results from the proposed project or the value of your business. The trust fund will accommodate transfers to immediate family members.
- Population Density Without the Project.** The proposed project would add 85 units (40 hotel units and 45 1-acre lots) to the area spread over an area of approximately 113 acres. Even if this project is denied, the existing zoning would allow 81 15,000 s.f. lots on approximately 24 acres in the heart of town (DEIS, Fig. 41).
- Agricultural Suitability.** The suitability of the soils for agriculture was scientifically rated by the Soil Conservation Service and Land Study Bureau relative to the soils found throughout this island. The soil within the project site may be good, but there are acres of better soil along the Hamakua Coast which are rated prime according to these classification systems. The maps showing the classifications for the soils are in the EIS (DEIS, Figures 17 and 18).

Ms. Kristian Hunt
February 4, 1994
Page 2

7. **Tiger Camp Boundary Adjustments.** The applicant owns the land behind Tiger Camp. Since the prior owner (the plantation) knowingly permitted the residents to use the land, it is highly unlikely that a claim of adverse possession would prevail. The EIS cannot speculate the disposition of this land if the project is not approved; the applicant has all the rights as fee simple owner. The EIS does state that the applicant has committed to offer an opportunity for the Tiger Camp residents to incorporate this area into their boundaries, to own it free and clear (Appendix H). There may be other opportunities for the Tiger Camp residents to obtain this land, perhaps on different terms. The EIS states that this particular opportunity to obtain the land without any payment would be lost.

8. **General Plan Land Use Goals.** The General Plan supports a retreat resort in the Hamakua area (DEIS, p. 112); the project site is within Hamakua. The General Plan's standard for a retreat resort is a maximum of 100 units.

9. **Jobs.** There are no other major job-producers that are projected to offer jobs in the Hamakua area before Anauresort's proposed timetable. The operator has committed to participate in job training so that the local population meet the qualifications for the positions to be offered (Draft EIS, Appendix H). It would be selling Hamakua residents short to say that they are only qualified for or interested in housekeeping, landscaping, laundry, and security jobs. These categories are simply the categories that best match the skills of the displaced Hamakua Sugar workers. In fact, many Hamakua residents currently hold the full spectrum of occupations, including professional, managerial, and technical. Many residents already work in the tourism industry and hold management positions. Anauresorts are located in other parts of the world with comparable rainfall, and these resorts are very successful.

Thank you for your comments.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

January 7, 1994

Ms. Sandra Pechter Schutte
101 Aupuni Street
Suite 124
Hilo, HI 96720

Re: Proposed Aman Resort at Kukuihaele

Dear Ms. Schutte:

The Developer has made commitments to the village of Kukuihaele that satisfy the conditions which I have previously predicated my support. It is now up to the residents to ensure that these commitments are incorporated as conditions in the rezoning ordinance--along with the strongest of statements that Kukuihaele is not sympathetic to any further development.

We would urge the County Administration to seek the means to establish a preservation buffer of our remaining coastal bluffs, and the Waipio Valley rim, perhaps obtaining commitments from some of the Trails organizations and local businesses to maintain the buffer zone. Any other structures would be inappropriate for these areas.

An argument to preserve Kukuihaele is emotionally argued, and rightly so. A difficulty is defining exactly which Kukuihaele is to be preserved. Many of the long-time residents remember a more vibrant community that included 2 schools, a theatre, 2 churches, a limo service to Hilo, a dry cleaner, several stores and restaurants, a jail, 2 tailors and a barber.

Ironically, the defeat of this development may result in that type of development, because the land area for most of the proposal is already zoned 15,000 feet residential -- including the 10 acres the developer is giving to the community for an additional park. The inescapable fact is that the community is growing, and that the County is unable to provide some of the infrastructure which is needed, i.e., road improvement, park improvement and maintenance, and a new social hall.

The tax impact on residents would likely be more extreme with 81 newly built houses in the center of town, and on lots that are similar to those that now exist. There would be no tax fund to offset these tax increases.

The impact on Waipio Valley is another concern. This is a much larger problem than a retreat resort with a 72 people at maximum occupancy.

Preservation of Waipio is a necessity, and the Waipio Task Force is addressing this problem. The developer has agreed to abide by the Task Force determinations, and this should be written into the Ordinance of Rezoning.

An opponent of the project (who does not live in Kukuihaele) has written that development has "destroyed communities, culturally, socially, and economically." I cannot think of a more precise description of what happens to communities when there are no jobs. Ancestral homes have to be abandoned, and families are broken apart. You have to look no farther than Hilo. They are progressing now, but the children have already gone.

Sincerely,

R. L. Impson
Kukuihaele

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 958-0189

February 4, 1994

Mr. Robert Impson
P.O. Box 5016
Kukuihaele, HI 96727

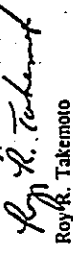
RE: Draft Environmental Impact Statement for Ainaresort, Hanalei, Hawaii

Dear Mr. Impson:

Thank you for your supportive comments dated January 7, 1994. You have correctly perceived that the role of the EIS is only to identify the issues and possible mitigation measures. It is up to the community to lobby the County Council to ensure that commitments to appropriate mitigation measures are enforced through permit conditions or other means. The community must also not lose sight, as you suggest, to protect the areas that deserve protection-- e.g., Waipio Valley and a buffer around the rim, which of course, is one-half mile from the Project Site.

The applicant and the County will be holding public meetings and public hearings in the near future at which time your continued input is encouraged.

Yours truly,


Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihaele Development Company

from the desk of JACK KAAUA

P.O. Box 852, Camifer, Colorado 80433

December 21, 1993

Mr. Rodney Makano
PLANNING DEPARTMENT
25 Aupuni Street
Hilo, HI 96720
(808) 961-8288

RE: Comments on E.I.S.
Draft

Dear Mr. Makano,

I have reviewed the Draft E.I.S. and most of it seems self-explanatory, although there are some terms and the like which are not completely clear to me. Notwithstanding that, I still have some concerns about the project as it relates to my property.

Under Paragraph 9(b) "UNRESOLVED ISSUES", the question of easement still remains. This paragraph implies that the issue will be definitely or readily resolved. Such is not the case. The Roman Catholic Church and Mr. McCain have constructively refused to give me, i.e., define, an easement to my property. Each of them has told me it is the others "responsibility". I have spent countless time with letters and telephone calls (not to mention attorney fees) in an effort to suggest a fair easement--- even offering to make it "flexible" to accommodate their future development; if and when it may materialize. Both of them have "stonewalled" me, and "ping-ponged" me back and forth. TRM 3/4-8-06:9 has no less than six (6) cane roads which lead to it, and have become its access over the past decades of cane growing. Two (2) of those six lead to my property. Although I have not yet asked for one of them to be designated as my easement, I am sure a court might see it that way. My suggested easement to them (McCain and the Church) was for a 500 foot road from the County "Chlorinator Road". The cane road is 1,000 feet distance from Hwy 240, and would basically cut across the entire section of land. Please be advised, that this issue is far from being resolved. Additionally, to date neither of us, McCain and I, has clear title yet. I am waiting on his attorney to facilitate this matter.

In Paragraph 2.4, page 11, the last sentence refers to FIT customers. Exactly what does "free and independent traveler" mean? Are not most travelers seen as such? Is it a euphuism for the very wealthy--- Financially Independent Tourist?

I think I understand what the residential-agricultural lots are to be. But exactly what are the residential-resort lots, and where are they located? Also, I would like to know what the projected estimated sale price of each type of lot is to be

(assuming they will be 1-acre lots and sold as sites only, and not built upon--- which is implied in the EIS draft). Is this a correct assumption?

In Paragraph 2.5, page 11, there is discussion of various types of lots. TRM 3/4-8-06:9 has been zoned Ag-40. I assume McCain plans to re-zone it, i.e., his portion. Will my lot remain Ag-40, and be taxed accordingly?

Tied to the above is my main concern, as it is with many of the residents of the area--- PROPERTY TAXES. I don't believe the Property Tax Trust Fund resolves all the issues here. Firstly, will this Fund have enough monies to pay the tax increases? Secondly, it seems only to protect taxes for ten (10) years. This means that after that period the owners (or their heirs) may not be able to afford the taxes, and could lose their land because of this. Thirdly, it does not address people like myself, who are absentee land owners, but may want to become a resident in the future. The EIS in Paragraph 2.5.3, page 20, states "...existing owner-occupant residents within Kukuiahaele". This clearly discriminates against us who have leased cane land to the sugar companies all these years. This is not fair. It also excludes those who may be renting or leasing land/homes to other current residents. This also is unfair.

The road access to the project remains another concern of mine, as well as others. It seems that only one entrance/exit will create two immediate problems: 1) a "bottleneck" effect at certain times and 2) a safety hazard if for any reason (e.g. a fire) the exit is blocked. Two entrances/exits would supply a more advantageous traffic flow in general; lessening congestion, noise, dust and visual distractions.

Although I reviewed Paragraph 3.1.6, pages 44-49, much of it was unclear to me. Site No. 14987 appears to be in the vicinity of my property. The maps were not detailed enough to demonstrate the exact location, configuration, composition and the like of Site No. 14987. Additionally, Appendix C does not show a photograph of this Site.

These are a few of my concerns. Obviously, it is difficult for me to have a complete and accurate picture of the Project and its potential (both positive and negative) from such a distance, with only limited knowledge. I hope to visit soon.

I have read several articles on Aman Resorts in other parts of the world in various publications. The concept seems to be a "good idea", but it is difficult to know exactly how well it really works. With any project of this nature and size, there is always a "price" to pay. The people who are effected most should know what that price is.

Thank you for your time and consideration in this matter.

Sincerely,
Jack L. Kaaua
Jack L. Kaaua

Mr. Jack Kaaua
February 4, 1994
Page 2

property boundaries and send you a map.
Thank you for your comments.

Yours truly,
Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihale Development Company

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/Fax (808) 959-0189

February 4, 1994

Mr. Jack Kaaua
P.O. Box 852
Conifer, CO 80433

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. Kaaua:

The following responds to your comments dated December 21, 1993:

1. Easement. The EIS identifies the location of your easement as an unresolved issue to be resolved at some point in the future contingent on whether the project is approved. This issue does not have to be resolved prior to decisionmaking on the land use permits.
2. FIT. The term "free and independent traveler" is used by the tourist industry to distinguish this type of guest who makes their own travel arrangements from the group tours. Whether a hotel caters to groups or FIT has a bearing on the types of facilities (e.g., size of meeting rooms), types of guests, occupancy patterns, and transportation modes (e.g., buses).
3. Residential-Resort Lots. The residential-resort lots would be similar to the 1-acre residential-agriculture lots with the exception that these homes could be used by the hotel for overflow hotel guests. All 1-acre lots would be sold as improved lots; the price does not include the building. Each owner would have to build their own dwelling. The price of the lots have not been determined.
4. Rezoning. Your lot will not be affected by any proposed rezoning - i.e., it will remain Ag-40a and taxed accordingly.
5. Property Taxes. The proposed trust fund was intended to assist existing residents. If you have constructive suggestions to improve the concept, it is not too late to send them in to the Planning Department for consideration during the rezoning process.
6. Road Access. We do not understand your comment. The proposed access is *in addition* to the access provided by existing roads (e.g., Old Route 240 and the road passing next to the County cemetery). The proposed access road would be designed to function as an evacuation route in case of emergency and would therefore add a contingent route should any of the existing roads be blocked for any reason.
7. Archaeological Resources. The archaeologists entered your property to conduct an inventory survey prior to the subdivision approval of your portion. Site No. 14987 may in fact be located on your property. We will have the archaeologist determine the location with respect to your

SEND COPIES TO
APPROPRIATE PARTIES



I OPPOSE THE PROPOSED AMAURESORT DEVELOPMENT IN KUKUIHAELE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS: *see below*

RECEIVED
94 JAN -4 P1:31
H.C. QUALITY

COMMENTS TO BE OFFERED AT HEARING.

Cynthia D. Kaneko
SIGNATURE

ADDRESS: *P.O. Box 5122*
Kukuihale, HI 96727

- FRIEND OF KUKUIHAELE/BAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

Cynthia Kaneko
Cynthia Kaneko

SEND COPIES TO
APPROPRIATE PARTIES

Kaneko
My name is Cynthia Kaneko and I'm a resident of Kukuihale. In fact, I'm the resident that is overbooking where the resort, they want to put the resort. And when I get up in the mornings I would like to just see the ocean and not the resort that has been planned. And speak about jobs for the plantation workers. On the paper it says 100 jobs. How if 400 people going to be laid off on the plantation, where will the other 300 go and how are we guaranteed that our families will be, or the residents will be employees of the resort? In speaking of having jobs here, I have two sons. They work in the hotel business, and you know, they are often on call because there is not enough jobs. And so, somebody told me about facing reality. This is reality, and all in all, what I have to say is I'm against the development.

OK 01/25/94

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/Fax (808) 959-0189

February 4, 1994

Ms. Cynthia Kaneko
P.O. Box 5122
Kukuihale, HI 96727

RE: Draft Environmental Impact Statement for Amauresort, Hamakua, Hawaii

Dear Ms. Kaneko:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

The EIS is one means to present information to the public and clear misunderstandings. If the information presented in the EIS is inaccurate, then it should be corrected. If the suggested solutions do not satisfy you, then you still have the opportunity to express your concerns at public meetings and public hearings to be held by the developer and the County. With your input, the project can possibly be modified to address your concerns in order to shape the project to one that you can accept.

Yours truly,
Roy R. Takemoto
Roy R. Takemoto





I OPPOSE THE PROPOSED AMAHRESORT DEVELOPMENT IN KUKUHAELE
 BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
 LIMITED dba KUKUHAELE DEVELOPMENT COMPANY.

COMMENTS:

— COMMENTS TO BE OFFERED AT HEARING.

[Handwritten Signature]
 SIGNATURE

ADDRESS: P.O. Box 5110
Kukuihaele, HI 96727

- FRIEND OF KUKUHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

Roy R. Takemoto
 Land Use Planning & Law Consultant
 P.O. Box 131, Hilo, HI 96721 Phone/Fax (808) 959-0189

February 4, 1994

Mr. Kaneshiro
 P.O. Box 5110
 Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Amaharesort, Hamakua, Hawaii

Dear Mr. Kaneshiro:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

The EIS is one means to present information to the public and clear misunderstandings. If the information presented in the EIS is inaccurate, then it should be corrected. If the suggested solutions do not satisfy you, then you still have the opportunity to express your concerns at public meetings and public hearings to be held by the developer and the County. With your input, the project can possibly be modified to address your concerns in order to shape the project to one that you can accept.

Yours truly,
[Handwritten Signature]
 Roy R. Takemoto

RECEIVED
 94 JUN 11 02:16
 UFL
 QUAL...

I OPPOSE THE PROPOSED ANAHRESORT DEVELOPMENT IN KUKUIHAELE BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS:

COMMENTS TO BE OFFERED AT HEARING.

Maria D. [Signature]
SIGNATURE

ADDRESS: P.O. Box 780
Hanalei, HI 96727

FRIEND OF KUKUIHAELE/WAIPIO
 RESIDENT/LANDOWNER/FORMER RESIDENT
 CONCERNED TAXPAYER
 OTHER

I OPPOSE THE PROPOSED ANAHRESORT DEVELOPMENT IN KUKUIHAELE BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS:

COMMENTS TO BE OFFERED AT HEARING.

Elizabeth [Signature]
SIGNATURE

ADDRESS: P.O. Box 780
Hanalei, HI

FRIEND OF KUKUIHAELE/WAIPIO
 RESIDENT/LANDOWNER/FORMER RESIDENT
 CONCERNED TAXPAYER
 OTHER

COMMENT: Believe this place (Kupihale) should be left in its natural beautiful & peaceful environment.



Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. Moki Kurashige
Ms. Elizabeth Kurashige
P.O. Box 780
Honokaa, HI 96727

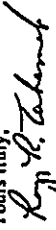
RE: Draft Environmental Impact Statement for Aunaresort, Hanalei, Hawaii

Dear Ms. Kurashige:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,


Roy R. Takemoto

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. and Mrs. Jayson Mock Chew
P.O. Box 627
Honokaa, HI 96727

RE: Draft Environmental Impact Statement for Amanaresort, Hamakua, Hawaii

Dear Mr. and Mrs. Mock Chew:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,
Roy R. Takemoto
Roy R. Takemoto

I OPPOSE THE PROPOSED AMANRESORT DEVELOPMENT IN KUKUHAELE BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS LIMITED dba KUKUHAELE DEVELOPMENT COMPANY.

COMMENTS: This kind of development adds no jobs or services. There is no guarantee that this development will be sold at all. The permits are granted and new business a different attitude. They say to buy things to make things but then the money they say to buy things to make things will not be spent. They say to buy things to make things but then the money they say to buy things to make things will not be spent. They say to buy things to make things but then the money they say to buy things to make things will not be spent.

WE DON'T NEED A RESORT IN KUKUHAELE!!
Mr. Jayson Mock Chew

SIGNATURE

ADDRESS: P.O. Box 627
Honokaa, HI 96727

- FRIEND OF KUKUHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 955-0189

February 4, 1994

Ms. Linda Phillips
P.O. Box 5068
Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Amanaresort, Hamakua, Hawaii

Dear Ms. Phillips:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the zoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,

Roy R. Takemoto
Roy R. Takemoto

I OPPOSE THE PROPOSED AMANARESORT DEVELOPMENT IN KUKUIHAELE
E. ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS:

COMMENTS TO BE OFFERED AT HEARING.

Linda E. Phillips
SIGNATURE

ADDRESS: P.O. Box 5068
Kukuihaele, HI 96727

- FRIEND OF KUKUIHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAVER
- OTHER



Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/Fax (808) 959-0189

I OPPOSE THE PROPOSED ANAHEARSORT DEVELOPMENT IN KUKUIHAELE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS:

February 4, 1994

Mrs. Sophie Revilla
P.O. Box 5068
Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Anahearsort, Hamakua, Hawaii

Dear Mrs. Revilla:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,
Roy R. Takemoto
Roy R. Takemoto

COMMENTS TO BE OFFERED AT HEARING.

Mrs. Sophie Revilla
SIGNATURE

ADDRESS: P.O. Box 5068
Kukuihaele, HI 96727

- FRIEND OF KUKUIHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

To: Hawaii County Planning Department
25 Aupuni Street, Hilo HI - 96720
Att. Virginia Goldstein & Rodney Hakano

From: Henry A. Ross, PO Box 99, Kapaau 96755

Re: Draft Environmental Impact Statement
Aman Resort - Kukuhaele, Hamakua

29 December 1993

I have studied the above DEIS and I have some very serious problems with it, that I think must be addressed in the final EIS, lest we be faced with irreparable damage later.

The most important one is that structures are planned to go almost right on the cliff edge. I know the area intimately because over the years I have spent considerable time along the Hamakua coast and in Haipio Valley.

Apart from the fact that the viewplane is in danger, which is perfunctorily dismissed as the project may not be noticeable from certain abject angles, there is the great danger that anything within 2000 feet of the cliff edge will ultimately end up on the rubble below. The ground is extremely unstable (as superficially mentioned in the EIS with regard to plans for building foundations) and that is exactly why the rubble is there at the foot of the cliff. There have been an will be numerous landslides where the cliff further erodes into more rubble but now with building debris added if this project is allowed as planned. The rubble area at the foot of the cliff is the widest along the Hamakua coast which is why the SMA line is below the cliffs. I have seen and heard immense rock and landslides in this area and the County would be held liable in the future for not having recognized the danger. This project calls for an in-depth study (literally meant) of the area and soil engineers of the caliber of Dames & Moore (national but with offices in Honolulu) are the only people qualified to do such a study without which the EIS will not be complete. I do not know of local engineers that can address or have the equipment and know-how to perform this. Without it the EIS may absolutely not be accepted.

As for agricultural impacts I fully agree with Chair of the State Board of Agriculture Yukio Kitagawa in his letter to Roy Takamoto of September 30, 1993. I think also that the Alish system of land evaluation must still be used instead of the alternatives that give a skewed value of the lands in question which are rated as prime agricultural lands rather than some far-fetched inappropriate other descriptions. We all know that these lands were in sugar for over 100 years and the sugar companies did not exactly buy or use second rate soils to boost their crop. They knew what they did.

There is an important error where the EIS states that no roads are covered by the project. There is an old government road on the Hilo side of this land from the cemeteries in Kukuhaele running makai that even on the diverse maps in the EIS itself is shown to be partially covered by this project. Somebody has to inform us what is proposed to be done to reconstruct that road outside the area involved and what this involves with adjacent landowners and the DLNR. This road is used as an alternate road to the Kukuhaele lighthouse by the Coast Guard and local fishermen, although it was recently illegally blocked by bulldozing a dike of dirt across it. One cannot make government roads disappear, even if the government is delinquent in maintaining such roads.

I further have a problem with the ownership of the lands. Who is Silverlink Holdings Ltd. I cannot find its address in the EIS or in the General Plan amendment application in the Planning Department files. I think it is important if a company wants to do business in the State that we know where to find it for tax purposes and liability and of course also to check on performance elsewhere. Taking some people to Bali will not do, especially where I have heard criticism from one such person about his findings there. And what about its other resorts? What about getting financial statements from the two joint partners in their straw company Kukuhaele Development Co. Where does the County of the State go in case of catastrophes or non-compliance with imposed conditions?

In McCain's agreement with Hamakua Sugar Co and Western Farm Credit Bank, when he obtained some 60 acres of this land under the pressure of bankruptcy proceedings, there is a provision that he gets use for his future occupants and hotel guests of any golfcourses that might be built on the adjacent lands and there are still valid use permits from the Planning Commission extant that will soon be exploited by the above bank as owner of the surrounding lands, although that matter is still pending in the courts. What will this project entail in this respect. Not a sigh about this and a possible conglomeration of smaller or complementary projects in the area. What will a possible connection with Kapulea Orchards in the same area mean that was also developed by McCain and in which he is still involved? The EIS should address this project in the light of the totality of developments in the district and their combined impacts and not as a fragmented approach to greater plans, more so because this involves a General Plan amendment, that can only be treated in the overall context of the future for the entire area.

XC: Roy Takamoto and Sandra Pechter Schutte
County Council and Corporation Council
Takashi Domingo, DLNR, DOA, OEQC, OSP
Mayor Yamashiro, other interested parties

Henry A. Ross

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Mr. Henry A. Ross
P.O. Box 99
Kapaa, HI 96755

RE: Draft Environmental Impact Statement for Amanresort, Hanalei, Hawaii

Dear Mr. Ross:

Thank you for your comments dated December 29, 1993. We respond as follows:

- 1. Proximity to Cliff Edges.** In consultation with Dames & Moore, the proximity to the cliff and the soil characteristics in the area are valid concerns. However, the Final EIS will clarify that these concerns are mitigable by either setting the structures back from the cliff edge at a distance to be determined by geotechnical investigations, or to allow building closer to the cliff edge using structural slabs that are anchored with piers to solid rock and structurally tied from front to back. The project geotechnical studies are easily and justified only if the project is approved. Projects in similar conditions close to a cliff edge have been allowed to proceed with the proper structural mitigation measures (e.g., Princeville on Kauai). The setback area can be used for landscaping and recreational uses (including swimming pools). Once the project is approved, the geotechnical study is done almost immediately. The Final EIS will identify the extent of the setback as an unresolved issue to be confirmed by the Planning Department through Plan Approval. If the required setback happens to undermine the feasibility of the project, the rezoning approval can be conditioned to revert the zoning to its prior designation if no building permit is submitted within two years of the rezoning approval.
- 2. Agricultural Suitability.** There are alternative soil classification systems that rate the soils on a scientific basis for agricultural suitability. The Land Study Bureau and Soil Conservation Service both rate the soil as "fair" for agriculture. The overall policy objective is not to preserve all land that was used for sugarcane or other agricultural use, but rather to preserve as much as possible the best or "prime" soils. The fact that the project site was previously used for sugarcane is only one of many factors to be considered in the overall rating of the soil. The ALISH system is not as detailed in its evaluation as the Land Study Bureau or the Soil Conservation Service. Furthermore, the soils within the project site do not even meet the ALISH criteria as noted in footnote 8 in the Draft EIS. The State Land Use Law (*Hawaii Revised Statutes Chapter 205*) uses the Land Study Bureau classification instead of the ALISH system.
- 3. Government Roads.** The Final EIS will correct the omissions regarding the Government Road status of the roads within the Project Site. A 1989 map does clearly identify the road on the Hanalei side of the Project Site as a Government Road. The applicant will allow public access on the portion of this road within the Project Site.

Mr. Henry Ross
February 4, 1994
Page 2

4. **Identity of Applicant.** The applicant will register as a Hawaii general partnership. This partnership will hold title to the land. The officers and addresses will be public record in the registration documents. Amanresort is wholly owned by Silverlink; Silverlink is the holding ("parent") company for the several Amanresort entities established to develop, own, and/or operate the various Amanresort hotels.

5. **Golf Courses.** According to the County Planning Department, the permits issued for the golf courses were issued in 1988-1991. According to *Hawaii County Code §25-10*, a Use Permit "not otherwise conditioned has not been utilized within a period of two years from the date of final approval, then without any further action such . . . use permit . . . shall become voided and thereafter may not be used." There are no plans by the previous developer nor any other developer to reapply for golf course permits.

6. **Kapulea Orchards.** Kapulea Orchards is a completed project involving 17 40-acre agricultural lots. The A-10a lots are used to grow macadamia nuts. There is no relationship between this project and the proposed resort project located over three miles away.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihae Development Company

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hale, HI 96721

Phone/Fax (808) 959-0189

I OPPOSE THE PROPOSED AMANRESORT DEVELOPMENT IN KUKUHAHALE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUHAHALE DEVELOPMENT COMPANY.

COMMENTS:

COMMENTS TO BE OFFERED AT HEARING.

Alfred Soares
SIGNATURE

ADDRESS: *P.O. Box 721*
Honolulu HI

- FRIEND OF KUKUHAHALE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

February 4, 1994
Mr. Alfred Soares
P.O. Box 721
Honolulu, HI 96727

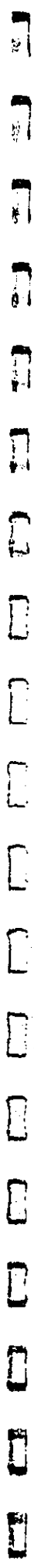
RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Mr. Soares:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the remaining ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,
Roy R. Takemoto
Roy R. Takemoto



Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Ms. Soleto
P.O. Box 5096
Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Ms. Soleto:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,
Roy R. Takemoto
Roy R. Takemoto

I OPPOSE THE PROPOSED AMANRESORT DEVELOPMENT IN KUKUIHAELE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS:

COMMENTS TO BE OFFERED AT HEARING.

Debra P. Penick
SIGNATURE

ADDRESS *P.O. Box 5096*

Kukuihaele HI

96727

FRIEND OF KUKUIHAELE/MAIPIO

RESIDENT/LANDOWNER/FORMER RESIDENT

CONCERNED TAXPAYER

OTHER

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Ms. Debra Teixeira
P.O. Box 819
Honokaa, HI 96727

RE: Draft Environmental Impact Statement for Annarresort, Hamakua, Hawaii

Dear Ms. Teixeira:

Thank you for your comments. The EIS is only one means to present information to the public and clear misunderstandings. The County will hold public hearings, and the developer plans to also hold public meetings.

The EIS attempted to identify your concerns, such as the impact on Waipio Valley and the feasibility of using the Project Site for diversified agriculture taking into consideration the 40,000 competing acres that will become available with the closing of Hamakua Sugar Company. The agriculture resolution you referred to was adopted by the Council as a broad-brush expression of their desire to keep the Hamakua area in agriculture. If the Council intended more definitive controls, they would have adopted an ordinance rather than a resolution. The Councilmembers commented during the deliberations that they recognized the need for ease by case consideration of non-agricultural proposals.

The proposed project would add a negligible increase of visitors to Waipio Valley compared to the problem that already exists. The applicant committed to abide by the recommendations of the County who will receive input from the Waipio Task Force and other interested organizations. This commitment can be enforced by incorporating it as a permit condition in the rezoning ordinance.

The project will create a new access road to service the project, thereby minimizing the project's use of the Old Route 240. The greater traffic problem will be how to control the increasing number of visitors, unrelated to the project, who will visit Waipio Valley lookout and pass through Kukuiaele.

The proposed resort is significantly smaller and different in concept from the 200-unit hotel with condominiums and golf course that you were willing to sacrifice to save Hamakua Sugar Company. The loss of jobs will be a reality when the plantation closes. The need to sacrifice may be greater with the impending closing. In this case, the sacrifice will not be a typical resort, but a low key resort with a reputable and proven operator in Annarresort whose retreat resorts have been acclaimed worldwide.

The Kukuiaele and Waipio community have the opportunity for self-determination. The developer will make funds available for the improvement/renovation of the Social Hall and for the property tax trust fund. The community must organize to hammer out the details of these programs to obtain the best results for the community. The community can also organize to ensure that the resort's landscaping preserves the rural character of Kukuiaele. The farmers can organize to market their products to the hotel. A sense of community, as you mentioned, can heighten as the community organizes to position

Ms. Debra Teixeira
February 4, 1994
Page 2

itself with respect to the hotel and the benefits being offered.

Please understand that you still have the opportunity to express your concerns at public meetings and public hearings to be held by the developer, County Planning Commission, and County Council.

Yours truly,

Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuiaele Development Company



Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/Fax (808) 959-0189

February 4, 1994
Mr. and Mrs. Toko
P.O. Box 5069
Kukuihaele, HI 96727

RE: Draft Environmental Impact Statement for Anaauesort, Hanalei, Hawaii

Dear Mr. and Mrs. Toko:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,
Roy R. Takemoto
Roy R. Takemoto

I OPPOSE THE PROPOSED ANAUESORT DEVELOPMENT IN KUKUIHAELE BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS: I was born and raised here. I have three children. I want this place to be this way as long as possible for my children's sake. I would rather drive 40-50 miles to the other side of the island to work than to walk down the road to a resort right here in Kukuihaele.

COMMENTS TO BE OFFERED AT HEARING.

Alston Toko (shulley) Telto
SIGNATURE

ADDRESS: *P.O. Box 5069*
Kukuihaele, HI.

- FRIEND OF KUKUIHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

RECEIVED
JUN 11 1994
PERMIT



Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

I OPPOSE THE PROPOSED ANAHRESORT DEVELOPMENT IN KUKUIHAELE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS:

COMMENTS TO BE OFFERED AT HEARING.

Debra M. Fleck
SIGNATURE

ADDRESS: P.O. Box 51
Honolulu, HI 96721

- FRIEND OF KUKUIHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

February 4, 1994

Ms. Debra Toledo
P.O. Box 51
Honolulu, HI 96727

RE: Draft Environmental Impact Statement for Ananresort, Hanalei, Hawaii

Dear Ms. Toledo:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,
Roy R. Takemoto
Roy R. Takemoto

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959 0189

February 4, 1994

Mr. Morgan Toledo
P.O. Box 436
Honokaa, HI 96727

RE: Draft Environmental Impact Statement for Amanaresort, Hamakua, Hawaii

Dear Mr. Toledo:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

The EIS is one means to present information to the public and clear misunderstandings. If the information presented in the EIS is inaccurate, then it should be corrected. If the suggested solutions do not satisfy you, then you still have the opportunity to express your concerns at public meetings and public hearings to be held by the developer and the County. With your input, the project can possibly be modified to address your concerns in order to shape the project to one that you can accept.

Yours truly,
Roy R. Takemoto
Roy R. Takemoto

I OPPOSE THE PROPOSED AMANRESORT DEVELOPMENT IN KUKUIHAELE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS: Next.
Morgan Toledo:

My name is Morgan Toledo. I'm a taro farmer in Waipio Valley and also a resident in Kukuiaele. I'm totally against this project. I hope to see the land stay on the ag. so I can grow more taro. That's all, thank you.

COMMENTS TO BE OFFERED AT HEARING.
Morgan Toledo
SIGNATURE
ADDRESS: PO Box 436
Honokaa, HI 96727

- FRIEND OF KUKUIHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER



Sylvia Thompson
My name is Sylvia Thompson.

Box:

I think it would be a good idea, maybe you should speak to the people.

Sylvia Thompson

Ok, sure. Actually, I'm not a public speaker. However, I sat there and I thought if I didn't come up and say what I felt, then you know, I would go home and be frustrated. I know there's a lot of people here that sitting in the audience, Mr. Alegre and my dad, for instance. They would like to express themselves, too, but it's hard for them. It's hard for me, so it would be harder for them. However, just thinking about Kukuiaele and you know, we just had a class reunion and there's a lot more people like me in my age group that have grown up here and would gladly come here and testify that they would be against this in their town where their parents live. And seeing that our parents are all retired and all the talk of taxes, for sure that would happen. The county cannot guarantee that these taxes would not be raised or the hotel people would pay for it in later years, whatever. I'm talking about this fact sheet - objectives. I would think the first thing would be on this would be their objective would be to profit. These people wouldn't just come in to do all these things for us. We have all these things. How could maintain a low-key presence? How could you not notice any new dwelling or face in Kukuiaele? This surely would be noticed. Designed to blend with the natural surroundings. Okay, fine. Hotel - want to blend in with the natives. But how about us trying to blend in with them? I can't see us changing all our lifestyles to blend in with a resort. Employment - about 100 jobs. Would it be absorbed by the plantation workers or the residents? And also, it says here about employee housing and/or rental. I don't see that anybody here in Kukuiaele doesn't have a roof over their heads, so this housing would be provided for probably people coming from the outside being employees here. So that I couldn't see also. Infrastructure, anybody mention police protection, fire? The traffic people have said. An example would be the bridge here that hasn't been fixed for some time now. During the break I heard somebody mention maybe having these resort people come in, this would be done, things would be done rather than come from the government. I'd rather put my money on the government because we are the government and we can have a say, but with the resort people, we won't have a place to say anything once it's done. And who's to say that all these things that are listed here that 336 suites, whatever, whatever, that's all that's ever going to be. It's going to be more and more and more. So along with my family, the Moecklews, I know that we are against this resort.

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SEND COPIES TO APPROPRIATE PARTIES

I OPPOSE THE PROPOSED AHARRESORT DEVELOPMENT IN KUKUIHAELE BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS LIMITED aka KUKUIHAELE DEVELOPMENT COMPANY.

COMMENTS:

All attached

COMMENTS TO BE OFFERED AT HEARING.

Sylvia K. Thompson
SIGNATURE

ADDRESS: P.O. Box 929

Kamuela, HI 96743

- FRIEND OF KUKUIHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721

Phone/Fax (808) 959-0189

February 4, 1994

Ms. Sylvia Tompkins
P.O. Box 929
Kamuela, HI 96743

RE: Draft Environmental Impact Statement for Annarresort, Hanalei, Hawaii

Dear Ms. Tompkins:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts-- such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low-density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,
Roy R. Takemoto
Roy R. Takemoto

MAILED
FEB 10 1994

DOCUMENT CAPTURED AS RECEIVED



SEND COPIES TO APPROPRIATE PARTIES



Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/Fax (808) 959-0189

I OPPOSE THE PROPOSED AMANRESORT DEVELOPMENT IN KUKUHAELE
BY ROYAL COAST RESORTS CORPORATION AND SILVERLINK HOLDINGS
LIMITED dba KUKUHAELE DEVELOPMENT COMPANY.

COMMENTS:

February 4, 1994
Participant
P.O. Box 1395
Honokaa, HI 96727

RE: Draft Environmental Impact Statement for Amanresort, Hamakua, Hawaii

Dear Participant:

Thank you for taking the time to comment on the EIS. The EIS attempted to identify your concerns, such as the impact on property taxes, jobs, and the impact on the rural lifestyle. The EIS also attempted to suggest solutions that could avoid or reduce these impacts— such as establishing a trust fund to compensate for increased property taxes that may be caused by the resort, job training, and controls to keep the project low density with lots of landscaping to maintain the rural character. To make sure these commitments are not just empty promises, the commitments can be incorporated as permit conditions in the rezoning ordinance that would bind the developer and any other subsequent owner of the property.

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Yours truly,
Roy R. Takemoto
Roy R. Takemoto

COMMENTS TO BE OFFERED AT HEARING.

[Handwritten Signature]
SIGNATURE
ADDRESS: P.O. Box 595
Honokaa HI 96727

- FRIEND OF KUKUHAELE/WAIPIO
- RESIDENT/LANDOWNER/FORMER RESIDENT
- CONCERNED TAXPAYER
- OTHER

94 JUN -4 P1:40
QUALITY

187-C Mokuiani St.
Hilo HI 96720

January 6, 1994

Rodney Nakano
Daryn Arai
Department of Planning
County of Hawaii
25 Aupuni St.
Hilo HI 96720

RE: Comments on DEIS for Amanresort

Dear Sirs:

I submit the following comments on the Draft Environmental Impact Statement for the Amanresort proposed for Kukuhaele by the Kukuhaele Development Company.

Soil suitability. As mentioned on pages 27 following, the soil in the area proposed for development possesses thixotropic qualities. On page 30, the DEIS states that a soil engineering study would need to "investigate the need, if any, for special conditions to ensure the stability of structures in proximity to the cliff edge."

This soil engineering study is anticipated but has not yet been undertaken, so far as one can tell from the DEIS.

I would suggest that until a soil engineering study is done and mitigation measures have been agreed upon, the county require a setback from the cliff sufficient to ensure the safety of resort guests and the integrity of resort structures in the event of an earthquake or other occurrence. The distance from the cliff to the structures is not given in the DEIS.

In light of the soil properties and, more generally, in light of the fact that cliffs are inherently unstable for purposes of construction, I would ask that setbacks of at least 100 feet be required for all resort structures.

Cesspools. As described on page 37, the developers appear to believe it possible to use cesspools for the one-acre lots. I question this. If the cesspool possibility remains in the final EIS, it should be accompanied by a discussion of DOH rules, if such exist, that would justify cesspools in this situation.

But in any case, I not believe it is prudent to allow wastewater systems to be installed that preclude the future use of groundwater resources. (See the discussion on page 82.)

Instead of individual wastewater treatment systems (cesspools or

06:56

septic tanks) for the one-acre lots, I would suggest that the developers install a sewer system for the lots that would feed into the wastewater system to be built for the resort.

Water use. The DEIS considers (but does not commit the developer to) installing water saving features at the Amanresort. Yet the proposed water demand seems high: 600 gallons per day per unit (not including water used for landscaping). Inasmuch as one of the developers are considering the use of county water for the potable water supply, and since such use would essentially tap out the remaining capacity of the county system, I believe installation of water-conserving features should be made mandatory if any county water is to be used.

Solid waste. The DEIS raises the possibility of -- but again does not commit the developers to -- developing a solid waste reduction plan. This should be mandatory.

Land reclassification. As I understand it, the developers are proposing that the County Council approve the reclassification of land needed to conform with the state's land use law. The reason the county is asked to approve this, rather than the state Land Use Commission, has to do with the project area being less than 15 acres (see discussion on page 98).

On page 112, however, the DEIS states that the proposal conforms with the county General Plan definition of a retreat resort since it will involve a minimum of 15 acres.

The DEIS itself does not contain maps of sufficient detail to allow me to calculate the precise area that is proposed for land reclassification. Nor does the DEIS contain tables or even a narrative listing of the sizes of the parcels involved that would allow anyone to arrive at the total figures.

I believe that before this proposal is acted upon by the county, there should be included in the DEIS some clarification of this point. Maps should indicate the precise square footage or acreage of the parcels and areas proposed for reclassification. If the total is under 15 acres, then there should be some explanation of how the development complies with the standards of the county's retreat resort definition.

Thank you for your attention to my concerns.

Sincerely,

Patricia Tummons

Patricia Tummons

Ms. Patricia Tunmons
February 4, 1994
Page 2

Thank you for your comments.

Yours truly,
Roy R. Takemoto
Roy R. Takemoto

cc: Planning Department, County of Hawaii
Kukuihale Development Company

Roy R. Takemoto
Land Use Planning & Law Consultant
P.O. Box 131, Hilo, HI 96721
Phone/Fax (808) 959-0189

February 4, 1994

Ms. Patricia Tunmons
187-C Hekulani Street
Hilo, HI 96720

RE: Draft Environmental Impact Statement for Ainaresort, Hanalei, Hawaii

Dear Ms. Tunmons:

The following responds to your comments dated January 6, 1994:

1. **Soil Suitability.** In consultation with Dames & Moore, the proximity to the cliff and the soil characteristics in the area are valid concerns. However, the Final EIS will clarify that these concerns are mitigable by either setting the structures back from the cliff edge at a distance to be determined by geotechnical investigations, or to allow building closer to the cliff edge using structural slabs that are anchored with piers to solid rock and structurally tied from front to back. The proper geotechnical studies are costly and justified only if the project is approved. Projects in similar conditions close to a cliff edge have been allowed to proceed with the proper structural mitigation measures (e.g., Princeville on Kauai). The setback area can be used for landscaping and recreational uses (including swimming pools). Once the project is approved, the geotechnical study is done almost immediately. The Final EIS will identify the extent of the setback as an unresolved issue to be confirmed by the Planning Department through Plan Approval.
2. **Cesspools.** The DEIS included DOH's map that shows where cesspools are permitted (DEIS, Fig. 21). The Final EIS will include additional discussion on the DOH Rules that permit cesspools in the areas shown on the map, provided the development consists of less than 50 units (*Hawaii Administrative Rules* §11-62-31.1). The purpose of the DOH wastewater rules is to protect the groundwater resource; one can expect that compliance with these rules should not preclude future use of the groundwater resource.
3. **Water Use.** The 600 gpd is the County DWS standard used to calculate water needs. Since the standard is conservative, the actual needs would probably be less. The requirement for water conservation measures is a policy decision that must weigh several factors. The EIS only identifies the mitigation measures; the decisionmakers have the power to commit the applicant to the suggested mitigation measures through permit conditions or other means.
4. **Solid Waste.** The role of the EIS is not to commit anyone. Again, if the decisionmakers feel that the suggested mitigation measure is valid, then it is their prerogative to commit the applicant. The EIS performs its role by identifying the impact and possible mitigation measures.
5. **Land Reclassification.** The Final EIS will include maps that show accurate surveyed boundaries and precise areas for the areas proposed for rezoning. The Final EIS will also correct the proposed area for the retreat result-- it will be precisely 15 acres.