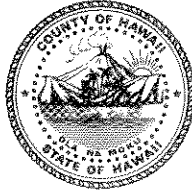


Stephen K. Yamashiro  
Mayor



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JTV

SEP 28 1993  
POSTED  
Virginia Goldstein  
Director  
Norman Olesen  
Deputy Director  
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R

County of Hawaii

PLANNING DEPARTMENT

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

September 28, 1993

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

Dear Mr. Choy:

Final Environmental Impact Statement (FEIS)  
Applicant: Oceanside 1250  
Request: Villages at Hokukano  
Tax Map Key: 7-9-06: 1; 7-9-12: 11 and Pors. of 3, 4 & 5;  
8-1-04: Portion of 3

I am pleased to accept the Final Environmental Impact Statement (FEIS) for the proposed Villages at Hokukano. This acceptance fulfills the requirements of Chapter 343, Hawaii Revised Statutes. Please publish this acceptance in the October 8, 1993, Bulletin of the Office of Environmental Quality Control. This Final Environmental Impact Statement will be a useful tool in the process of deciding if the actions described therein should be allowed to proceed. My acceptance of the FEIS is an affirmation of the adequacy of the document under the applicable laws and does not constitute an endorsement of the proposed actions.


During the review of the legislative and ministerial approvals required for the proposed actions, we encourage the appropriate legislative bodies and governmental agencies to consider the societal benefits to be generated by the proposed actions against its potential economic, social and environmental impacts. These potential impacts are adequately described in the statement, and together with the comments provided by the reviewers, provide useful analysis of the proposed actions.

Mr. Brian Choy, Director  
Page 2  
September 28, 1993

Enclosed with this acceptance letter is my FEIS Acceptance Report for the Villages at Hokukano.

Should you have any questions, please feel free to contact Rodney Nakano or Daryn Arai of this office.

Sincerely,

  
VIRGINIA GOLDSTEIN  
Planning Director

DSA:mjh  
EISLTR.DSA

xc: Mr. Richard Frye  
PBR Hawaii, Inc.  
West Hawaii Office

September 27, 1993

## FINAL ENVIRONMENTAL IMPACT STATEMENT (FEIS) ACCEPTANCE REPORT

**PROJECT:** Villages at Hokukano  
**APPLICANT:** Oceanside 1250  
**LOCATION:** Kealakekua, Island of Hawaii  
**TAX MAP KEY:** 7-9-06: 1; 7-9-12: 11 and Portions of 3, 4 & 5;  
8-1-04: Portion of 3.

### A. BACKGROUND

Proposed is a 27-hole golf course, golf clubhouse, private members' lodge and residential development on 1,540 acres located on the border of the North and South Kona districts at Hokukano, Hawaii. The site is situated approximately 10 miles south of Kailua-Kona and is about 2,800 feet makai of Mamalahoa Highway. Kealakekua is located mauka of the project site along Mamalahoa Highway and Captain Cook is about 1.5 miles further south along the highway. Presently, the subject property is used for grazing. Adjacent land uses consist primarily of pasture, residential and agriculture.

The development is planned to proceed in two phases. The first phase will include applications for approximately 367 residential-agricultural lots of one to three acres in size, a 27-hole golf course with clubhouse, related facilities and infrastructure improvements. The second phase of development will include residential lots to accommodate approximately 1,073 predominantly single-family residential homes, and a members' lodge of up to 100 units. Public parking to provide shoreline access will be incorporated into the design.

Regulatory approvals required for the first phase of development include: petitions for Special Management Area (SMA) Use Permit, Change of Zone, Use Permit, and Subdivision. The second phase will be initiated by a General Plan Amendment and State Land Use Boundary Amendment to allow low and medium density urban uses, followed by rezoning, SMA Use Permit petition and Subdivision applications.

Although the proposed action proposes no changes to the existing Conservation district designation, a hiking trail network with interpretive archaeological sites and public shoreline access is planned for some portions of this area, which may require a Conservation District Use Application (CDUA). The development of the hiking trail network will require improvements to the King's Trail or Ala Loa, a State historical trail, possibly constituting use of State lands.

September 28, 1993

**B. PROCEDURE**

1. The Notice of Availability of the Environmental Impact Statement Preparation Notice (EISPN) for this project was published in the April 8, 1993, "OEQC Bulletin".
2. The 30-day consultation period for this project expired on May 8, 1993. During this period, 2 letters were received which offered comments. These 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 June 23 and July 8 & 23, 1993, "OEQC Bulletin".
4. The 45-day review period for this project ended on August 7, 1993. The Applicant responded to 29 letters of comment that were received prior to and after the 45-day review deadline. These letters and the responses are included in the Final EIS.
5. The Notice of Availability of the Final EIS for this project will be published in the October 8, 1993, "OEQC Bulletin".

**C. ENVIRONMENTAL IMPACT STATEMENT CONTENT**

The Final EIS consists of two (2) volumes, the Villages at Hokukano - Final Environmental Impact Statement and its Appendices.

As required by Sections 11-200-17 & 11-200-18 of the Environmental Impact Statement Rules, these documents contain:

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 and Relationship to 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 the Preparation of the Environmental Impact Statement; and
15. Reproductions of all substantive comments and responses made during the Environmental Impact Statement review period.

**The Planning Director of the County of Hawaii has determined that the content requirements of the Environmental Impact Statement, as specified in Sections 11-200-17 and 11-200-18 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 Planning Director of the County of Hawaii has determined that this Environmental Impact Statement has fulfilled the public review requirement of Chapter 200 of Title 11, Hawaii Administrative Rules, Environmental Impact Statement Rules.**

**E. UNRESOLVED ISSUES**

1. **Unresolved issues as identified within the Final Environmental Impact Statement.**
  - a. The alignment and timing of construction of the proposed Mamalahoa Highway By-Pass relative to the various phases of construction of the proposed Villages at Hokukano.
  - b. The provision of affordable housing to accommodate the in-migrant workers to be generated by the proposed development.

- c. The provision of potable water of sufficient quality and quantity to support the development of the Villages at Hokukano-Phase II.
- d. Recommended mitigation/preservation measures of archaeological/historical features located and identified within project site.
- e. Alignment and ownership status of "Old Government Road" and "Kings Trail" or "Ala Loa".

**2. Unresolved Issues as emphasized in the letters of comment.**

- a. The alignment and timing of construction of the proposed Mamalahoa Highway By-Pass relative to the various phases of construction of the proposed Villages at Hokukano.
- b. The provision of affordable housing to accommodate the in-migrant workers to be generated by the proposed development.
- c. The provision of potable water of sufficient quality and quantity to support the development of the Villages at Hokukano-Phase II.
- d. Method of mitigation/preservation measures of archaeological/historical features located and identified within project site.
- e. Alignment, ownership status and mitigative treatment of "Old Government Road" and "Kings Trail" or "Ala Loa".
- f. The potential adverse effect on the water quality of Kealakekua Bay and coastal waters from use of chemicals in conjunction with golf course, residential and agricultural uses of project site.
- g. Disposal of wastewater generated by the proposed development. Alternatives being considered is the use of the existing Heeia Sewer Treatment Plant (STP) or the construction of an STP within the project site.
- h. Location of unlocated School Grant 10, Apana 2 adjoining the east boundary of project site. State claims ownership of this parcel. Applicant determines this unlocated site is not located within project

site, however, is continuing archival research to determine precise location.

- i. Type, method and management of agricultural activities to be encouraged within portions of proposed development.
- j. Provision of a mauka-makai trail(s) within project site.

**3. Unresolved Issues as noted by the Planning Director of the County of Hawaii.**

Unresolved issues noted by the Planning Director of the County of Hawaii have been previously disclosed by the Final Environmental Impact Statement (FEIS) or through letters of comment received during the FEIS review period as listed above. We identify, however, those unresolved issues of greatest concern to our office:

- a. The alignment and timing of construction of the proposed Mamalahoa Highway By-Pass relative to the various phases of construction of the proposed Villages at Hokukano.
- b. The provision of potable water of sufficient quality and quantity to support the development of the Villages at Hokukano-Phase II.
- c. Alignment, ownership status and mitigative treatment of "Old Government Road" and "Kings Trail" or "Ala Loa".
- d. Location of unlocated School Grant 10, Apana 2 adjoining the east boundary of project site. State claims ownership of this parcel. Applicant determines this unlocated site is not located within project site, however, is continuing archival research to determine precise location.
- e. Provision of a mauka-makai trail(s) within project site.

**F. SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT**

After this Final Environmental Impact Statement for the Villages at Hokukano is accepted, a supplemental environmental impact statement shall be prepared if there is

**September 28, 1993**


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**

It is important to note that all comments received during the development of the Environmental Impact Statement for the Villages at Hokukano should be given consideration equal to the analysis and conclusions presented in the Final Environmental Impact Statement. For this reason, public and agency comments are required to be included as part of the Final Environmental Impact Statement. The Final Environmental Impact Statement for the Villages at Hokukano consist of two volumes, the Final Environmental Impact Statement and its Appendices.

The Planning Director of the County of Hawaii has determined this Final Environmental Impact Statement to be acceptable under the procedures established in Chapter 343, Hawaii Revised Statutes. Therefore, we recommend that this document be accepted.



Virginia Goldstein  
Planning Director  
County of Hawaii Planning Department

*FILE COPY*  
Volume I of II

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Villages at Hokukano  
Final Environmental Impact Statement  
County of Hawaii

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September 1993



**STATE OF HAWAII**  
**OFFICE OF ENVIRONMENTAL QUALITY CONTROL**  
220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185

***Dear Participant:***

*Attached for your information is a Final Environmental Impact Statement which was prepared pursuant to the EIS law (Hawaii Revised Statutes, Chapter 343) and the EIS rules (Administrative Rules, Title 11, Chapter 200).*

TITLE OF PROJECT: Villages at Hokukano

LOCATION: ISLAND Hawaii DISTRICT North & South Kona

TAX MAP KEY NUMBERS: 8-1-4:03 por; 7-9-12:03 por, 04 por, 05 por, 11; 7-9-6:01

AGENCY ACTION: \_\_\_\_\_ APPLICANT ACTION: XX

ACCEPTING AUTHORITY: County of Hawaii Planning Department

ADDRESS: 25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720

CONTACT: Ms. Virginia H. Goldstein, Director PHONE: 961-3333

**PROPOSING AGENCY OR**

APPLICANT: Oceanside 1250

ADDRESS: 74-5620A Palani Road, Suite 200  
Kailua-Kona, Hawaii 96740

CONTACT: Mr. Richard "Dick" Frye, Project Manager PHONE: 326-2966

CONSULTANT: PBR HAWAII

ADDRESS: 101 Aupuni Street, Suite 310  
Hilo, Hawaii 96720

CONTACT: Mr. James Leonard, Managing Director PHONE: 961-3333

*If you no longer need this EIS, please return it to OEQC (please do not recycle document). Thank you for your participation in the Environmental Impact Statement process!*

---

# Villages at Hokuano Final Environmental Impact Statement County of Hawaii

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This document is submitted  
pursuant to Chapter 343,  
Hawaii Revised Statutes

Prepared for:  
Oceanside 1250

Prepared by:  
PBR HAWAII

Submitted by:

A handwritten signature in black ink, appearing to read "Wm. Frank Brandt", is written over a horizontal line.

Wm. Frank Brandt, President  
PBR HAWAII

September 9, 1993

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## **1.0 INTRODUCTION AND SUMMARY**

### **1.1 INTRODUCTION**

#### **1.1.1 Applicant and Project Summary**

Applicant: 1250 Oceanside Partners, dba Oceanside 1250, a Hawaii Based Partnership

Developer: 1250 Oceanside Partners, dba Oceanside 1250

Subject Area:  $\pm$  1540 acres

Location: Kealahou, Hawaii (Island of Hawaii)

Tax Map Key: 8-1-04: 03 portion; 7-9-12: 03 portion; 04 portion; 05 portion; and 11; 7-9-06: 01

State Land Use District: Agricultural ( $\pm$  1400 acres)  
Conservation ( $\pm$  140 acres)

County General Plan: Extensive Agriculture  
Orchards  
Open Space

County Zoning: A-5a (Agriculture - 5 acre minimum)  
U (Unplanned)

Existing Use: Pastureland - Cattle Grazing

Proposed Uses: 27-hole golf course, practice range, clubhouse, members' lodge of up to 100 units, approximately 1,440 predominantly single family residential and residential/agricultural lots (resulting in a total maximum number of 1,540 units), shoreline access with parking, and hiking trails

### 1.1.2 Proposed Government Action

This Environmental Impact Statement (EIS) has been prepared to meet the requirements of various governmental applications required for the project development. Regulatory approvals required for the first phase of development include: applications for a Use Permit, Special Management Area (SMA) Use Permit, Change of Zone and Subdivision. The second phase will be initiated by a General Plan Amendment for a State Land Use Boundary Amendment to allow low and medium density urban uses, followed by petitions for Change of Zone, SMA Use Permit and Subdivision approvals. Although the proposed action involves no changes to the existing Conservation District designation, plans for shoreline access, a hiking trails network, and a public parking area (depending upon its final location) will require a Conservation District Use Application.

### 1.1.3 Purpose and Content of this Document

This document has been prepared in accordance with the provisions of the Hawaii Revised Statutes (HRS) Chapter 343, Title 11, Department of Health, Chapter 200, Environmental Impact Rules, Section 11-200-6 through 11-200-13. Section 11-200-6(b) establishes certain classes of action that subject an applicant to an EIS requirement. These include:

- Any amendment to existing County General Plans;
- Any use within the State Conservation District; and
- The use of State or County lands.

Accordingly, the proposed group of actions below, which are part of the total undertaking, will trigger the requirement of an EIS.

- An amendment to the County General Plan from Extensive Agriculture and Orchards to medium and low density urban use on a  $\pm$  763 acre portion of the project site;
- Development of shoreline access and hiking trails and associated improvements within the Conservation District; and

- Restoration and improvement of the King's Trail (Ala Loa or Ala Aupuni), possibly a State owned historic trail, constituting use of State lands.

This EIS contains a description of the proposed action to the extent possible at this stage of planning; an analysis of the impacts of that action upon the physical, natural, and social economic environment; recommendations for mitigation of any potential adverse impacts resulting from the proposed action; and comments from public agencies, elected officials, private business persons, and the general public, and the applicant's responses to those comments. In addition to fulfilling the requirements of Chapter 343, HRS, this EIS is also presented as a supportive informational document to accompany the applicant's General Plan Amendment application, State Land Use Boundary Amendment petition, Change of Zone application, and SMA Use Permit application, as well as a Conservation District Use Application.

## 1.2 PROJECT SUMMARY

Oceanside 1250 proposes to develop a residential community on approximately 1,540 acres near the village of Kealahou on the Kona coast of the Island of Hawaii. The Villages at Hokuano is a master planned residential and recreational community which, at buildout, is planned to include approximately 1,440 predominantly single family residential units, a 27-hole golf course, a private members' lodge of up to 100 units, and supporting infrastructure. The plan provides for an overall project density of approximately 1,540 units, or one unit per acre. About 140 acres along the shoreline within the State Conservation District are intended to serve as a passive oceanfront park that would remain natural in character and incorporate shoreline access and hiking trails providing access to prehistoric, historic, and cultural interpretive sites. Shoreline access parking would also be provided.

The proposed project is planned to proceed in two phases. The first phase will include the creation of about 367 residential/agricultural lots of one to three acres in size, a 27-hole golf course with golf clubhouse, related facilities, and infrastructure improvements. The second phase of development will include residential development of up to 1,073 predominantly single family residential units that will be executed in several subphases, and a private members' lodge of up to 100 units.



In general, the proposed project is expected to have minimal, if any, negative impacts to the environment. For areas of environmental concern, where necessary, appropriate mitigation measures have been planned as part of the proposed project, such as the integration of appropriate design considerations, implementation of management plans, and use of appropriate plantings in landscape plans. For those areas of particular concern, the following summarizes the associated mitigation measures that are either recommended or planned to ensure that potential adverse impacts are minimized.

#### 1.3.1 Soil Erosion and Sedimentation

##### Potential Impacts

The erosion of soils from wind or stormwater runoff caused by disturbances to the vegetation and soil layer during project related construction, if unabated, can impact surrounding areas and the nearshore environment as a result of sedimentation.

##### Mitigation Measures

To protect nearshore waters from the impacts of erosion and sedimentation during construction, in addition to meeting the State's National Pollution Discharge Elimination System (NPDES) permitting requirements, an erosion and sedimentation plan will be prepared and approved by the Department of Public Works as part of the permitting procedure for grading work. Mitigation measures that could be employed include limiting exposed areas and dust control measures, such as frequently sprinkling and prompt seeding of exposed finished areas, as part of the onsite construction phasing. The retention basins that will form part of the eventual drainage system for the project could be established early on. Because the majority of rainfall occurs during the months from May to September, additional mitigation measures could result from scheduling grading in the drier periods.

### 1.3.2 Agricultural Potential

#### Potential Impacts

In general, the soil conditions on the project site are marginally suited for agricultural purposes. The soils are rated predominantly Class C, D, and E by the Land Study Bureau's Detailed Land Classification Report for the Island of Hawaii. Similarly, no area of the project site has been rated "Prime" or "Unique" by the Agricultural Lands of Importance to the State of Hawaii (ALISH) system. However, limited portions are identified as "Other Important" lands by this system, and a small portion of approximately eight acres in the mauka corner is rated as "B" lands by the Land Study Bureau. Additionally, the upper portion of the project is proposed to remain as part of the State Agricultural District and zoned Agriculture (A-1a) under the County Zoning Code. Historically, the subject property has been used for cattle grazing for the past 100 years.

#### Mitigation Measures

Although the subject lands are, in general, marginally suited for agricultural use, mitigation measures appear warranted in order to offset the potential loss of those areas that may show potential for agricultural use. In addressing this issue, the developer plans to implement a program for integrating appropriate agricultural activities on portions of the larger one to three acre agriculturally zoned lots in a manner that would not only benefit the adjacent residential uses by providing a desirable landscape and open space element within the development areas, but would also allow for an efficient management operation for select crops and/or orchard uses through proper planning and by providing the necessary capital, infrastructure and site preparation needed to support agricultural activity in this area. In total, the developer plans to add approximately 75 acres of land that is not in agriculture at this time to productive agricultural use.

### 1.3.3 Air Quality

#### Potential Impacts

Based on an Air Quality Study prepared by B.D. Neal & Associates, the impacts to air quality from the forecasted project related traffic are projected to be minimal. In the short term, fugitive dust from construction activities could impact air quality in the immediate area. Over the long term, impacts due to air quality are possible due to indirect impacts associated with the development's

electric power requirements. However, based upon the estimated emission rates involved and the relative changes in demand, the attendant impacts are expected to be small. Pesticides used to maintain the landscaped areas and golf course grasses, if not properly applied, could also impact areas downwind as a result of airborne drift.

### Mitigation Measures

Due to the minimal air quality impacts from projected project related traffic, no measures are recommended to mitigate these emissions other than the roadway improvements recommended by the traffic consultant. State air pollution control regulations require that there be no visible fugitive dust emissions at the property line. Hence, an effective dust control plan must be implemented to ensure compliance with State regulations. Fugitive dust emissions can be controlled to a large extent by watering active work areas, keeping adjacent paved roads clean, covering open bodied trucks, and the use of wind screens. Other dust control measures could include limiting the area disturbed at any given time and/or mulching or chemically stabilizing inactive areas that have been worked. Paving and landscaping of project areas as early as practical in the construction schedule will also reduce dust emissions. Exhaust emission impacts can be mitigated by moving construction equipment and workers to and from the project site during off peak traffic hours.

Although pesticides used on the golf course, if properly applied, should not pose a problem to downwind areas, measures that would provide an added level of protection include:

- Use of shrouded spray equipment fitted with computerized flow controllers;
- Maintaining a buffer distance of at least 100 feet between target spray areas and populated locations; and
- Planting of vegetation screens along populated areas of the golf course perimeter to provide added measures of protection.

#### 1.3.4 Nearshore Marine Environment

##### Potential Impacts

Potential threats to the nearshore marine environment could result from erosion and sedimentation of stormwater or wind borne soil or dust as a result of the proposed development. These impacts and the proposed mitigation measures related to these are covered above under Section 1.3.1 pertaining to soils. Additionally, there is a potential threat that those chemicals applied as part of the landscape and golf course maintenance, if persistently and/or improperly applied, could potentially leach into the groundwater and eventually migrate to the area of the coastal waters.

##### Mitigation Measures

Several measures are being proposed by the developer as part of the golf course planning, design, and operation to mitigate, to the furthest extent practical, the potential for nutrients or chemicals associated with the golf course maintenance from impacting groundwater or coastal waters fronting the proposed project. These measures include:

- Incorporating a “Reduced Turf” golf course design, which reduces fairway areas and requirements for water, fertilizers, and chemicals;
- Engineering the golf course with a bowl-shaped fairway construction and with a subsurface drainage system designed to collect stormwater runoff or excess irrigation water and conducting this to the irrigation pond for reuse on the course;
- Implementing an Integrated Golf Course Management Program (Appendix I-7) aimed at minimizing the use of chemicals for golf course maintenance and ensuring safe handling and storage of all chemicals;
- Adopting Hawaii proven biorational pest control methods when appropriate; and
- Implementing a Water Quality Monitoring and Mitigation Program (Appendix I-4) to ensure monitoring of soil and coastal water conditions for chemicals used in golf course landscaping and, if indicated, implementing appropriate mitigation measures.

### 1.3.5 Roadway Traffic

#### Potential Impacts

Access to the project is currently provided off of Haleki'i Street, an 80-foot wide right-of-way that links the site with Mamalahoa Highway. At the Mamalahoa intersection, Haleki'i Street has a channelized "T" intersection, with separate left and right turn lanes. Access from this roadway will be extended into the project site to the vicinity of the proposed golf course and clubhouse. Future traffic will be affected by the proposed construction of the Mamalahoa Highway bypass that would traverse the mauka portion of the project site. The proposed alignment is to begin north of Honalo and terminate at Napo'opo'o Road intersection by tying back into the existing highway. The proposed bypass has been planned to remove much of the through traffic from Mamalahoa Highway, thus relieving the current congestion that occurs during peak times within the villages of Honalo, Kainaliu, and Kealahou. With the construction of the proposed project, the applicant expects to participate with the State and other landowners with the planning, design, and construction of the highway bypass. In this regard, the Hokuano project could serve as a catalyst for the construction of the bypass, allowing this to be built sooner than might otherwise be possible and at a lower cost to the State.

A detailed traffic impact study addressing project related traffic impacts and intersection roadway improvement requirements was prepared by Parsons Brinckerhoff Quade & Douglas, Inc. (PBQD). The traffic study forecasts that with the proposed project, the bypass road will reduce volumes along Mamalahoa Highway, thereby improving operating conditions at the existing Haleki'i Street/Mamalahoa Highway intersection. The study further projects that if forecasted conditions are realized, improving the bypass road to a four lane road is recommended by the year 2005, and signalization of the bypass road/Haleki'i Street intersection may be warranted pending the phasing of the development to facilitate left hand movements. All approaches to the bypass road/Haleki'i Street intersection are recommended to have separate through and turn lanes. In that traffic conditions are projected to improve as a result of the roadway improvements, further mitigation measures beyond those proposed by the traffic consultant do not appear warranted.

### 1.3.6 Archaeological Resources

#### Potential Impacts

Direct impacts to archaeological features located within the project boundaries would primarily be a loss of those features not recommended for preservation. However, the proposed facilities have been carefully sited to avoid significant archaeological sites and features. For those sites to be preserved, possible impacts could include increased human activity around and exposure to the site because of the increased public access to the project area. Many of these indirect impacts can be mitigated to a great degree by access control related to the proposed trail system, which would provide access to the more durable and appropriate sites, as part of the overall historical/archaeological interpretive program.

#### Mitigation Measures

To mitigate potential impacts to historical/archaeological resources of the project area, the recommendations of the consulting archaeologist, which are subject to the approval of the Department of Land and Natural Resources, Historic Sites Preservation Division (DLNR-HSPD), would be followed by the developer. With regard to possible burials identified within the project area, if they are not preserved "as is", it is required that the procedures of Section 43 of Chapter 6e (Historic Preservation, HRS) be followed. Buildings, roads, infrastructure, along with the proposed golf course, have been planned to avoid all sites noted for preservation, including provisions for appropriate buffer zones. It is the developer's intent to incorporate these features into the proposed project through historic parks and interpretive programs linked with an extensive pedestrian trail system. Those sites that are located within the Conservation District would be preserved.

### 1.4 SUMMARY OF ALTERNATIVES CONSIDERED

The alternatives that have been considered are the "no project" alternative, the alternative of developing a smaller project, a higher density alternative, alternate use and alternative combinations of the amenities to be provided and/or different configurations of the proposed project. None of the development alternatives, however, were found to be capable of fulfilling the project objectives. All alternatives that have been considered were found to be either not cost effective or

would present greater potential environmental impacts than the proposed project. The alternatives that have been considered and the reasons for their rejection are fully described within Section 3.

## 1.5 SUMMARY OF UNRESOLVED ISSUES

The applicant has actively sought input over the past few years from area residents, business persons, community leaders, and others to identify and address their concerns as they relate to the proposed development. In most cases, these concerns have been fully addressed and are covered within this EIS. Some issues, however, require further study and will be resolved as part of the regulatory approval process. These are discussed in detail within Section 6.4, and include:

- The precise alignment, intersection improvements, and timing for the Mamalahoa Highway bypass road, in which the applicant has proposed to participate;
- Procedures by which the applicant will address the affordable housing requirements as part of the State and County land use approval process;
- The source of future potable water requirements beyond the first 499 water units already owned by the developer, which may be provided through further development agreements with the County and with other landowners in the area;
- Specific measures for archaeological site preservation and buffer treatments, which will be determined as part of the regulatory approval process in conjunction with the recommendations of the DLNR-HSPD, Hawaii Island Burial Council and County Planning Department; and
- The status of certain trails which, due to their historic use and reference as public roads, may be subject to State ownership, the status and treatment of which would be determined as part of further study and discussions with pertinent State agencies.

## 1.6 SUMMARY OF COMPATIBILITY WITH LAND USE PLANS AND POLICIES

As covered in detail within Section 5, the proposed project is generally consistent with the policies and objectives of State and County land use plans, including the Hawaii State Plan, State Functional Plans, State Land Use Commission rules, the Coastal Zone Management Act, and the

Hawaii County General Plan. Land use approvals required to implement the project include: a State Land Use Boundary Amendment petition, an amendment to the Hawaii County General Plan, Change of Zone and SMA Use Permit applications, Use Permit for the proposed golf course, and possibly a Conservation District Use Application for access and maintenance improvements within the State Conservation District. Each of the abovementioned approvals would require evidence of consistency with appropriate State and County land use policies and objectives. Upon acceptance of the Final EIS and approval of the requested land use changes, the proposed project would be consistent with all State and County plans and policies.

#### 1.7 NECESSARY APPROVALS AND PERMITS

This EIS has been prepared to address the potential environmental impacts of the proposed project and to serve as an informational document in support of various land use applications. Table 1 identifies the required County and State approvals pertaining to the proposed project.

#### 1.8 PREPARERS AND CONTRIBUTORS TO THIS EIS

Table 2 lists the principle preparers and contributors to this EIS, the organizations with which they are associated, and their areas of expertise.



**Table 1**  
**Project Approvals Required**

Approvals Needed	Approving Agency
<b>County of Hawaii</b>	
• Environmental Impact Statement	Planning Department
• General Plan Amendment	County Council
• Special Management Area (SMA) Use Permit	Planning Commission/ County Council
• Use Permit (Golf Course)	Planning Commission
• Change of Zone	Planning Department/County Council
• Plan Approval	Planning Department
• Subdivision Approval	Planning Department
• Building Permit	Department of Public Works
• Grubbing, Grading, Excavation and Stockpiling Permit	Department of Public Works
• Outdoor Lighting Permit	Department of Public Works
• Conformance with County Flood Control Ordinance	Departments of Public Works and Planning
• Sign Permit	Department of Public Works
• Water System Expansion Program	Department of Water Supply
<b>State of Hawaii</b>	
• Land Use District Boundary Amendment	State Land Use Commission
• Conservation District Use Permit	Department and Board of Land & Natural Resources
• Drinking Water System Approval	Department of Health
• Wastewater System Approval	Department of Health
• National Pollution Discharge Elimination System (NPDES)	Department of Health
• Well Development Permit	Department of Land & Natural Resources Commission on Water Resource Management
<b>Federal Permits</b>	
• None Required	

Table 2  
EIS - List of Preparers/Contributors

Name	Firm	Area of Expertise
Richard T. Frye	Oceanside 1250	Project Management
Frank Brandt, ASLA James Leonard, AICP Guy Tsutsui Toshiko Matsushita	PBR HAWAII Hilo & Honolulu	Master Planning, EIS & Graphics Preparation, Regulatory Applications, Project Coordination
Gage Davis, AIA, AICP, ASLA Bob Stuit	Gage Davis Associates Kailua-Kona	Land Planning, Architecture, Site Design
Benjamin Kudo, Esq.	Dwyer Imanaka Schraff & Kudo Honolulu	Legal Counsel
Gordon Leslie	Gordon Leslie Napoo'opo'o	Historical Consultant
Ann Bouslog, Ph.D. Malcolm Tom Jeff Pietsch Rebecca Soh	KPMG Peat Marwick Honolulu	Market Research, Economic/Fiscal Impact Assessment
Richard Brock, Ph.D.	Environmental Assessment Co. Honolulu	Marine Biology, Coastal Water Monitoring
Russell Figueiroa, RLS Roy Tsutsui, P.E.	R.M. Towill Corporation Kailua-Kona & Honolulu	Civil Engineer (Sewer/Drainage)
Hallett Hammatt, Ph.D. Doug Borthwick	Cultural Surveys Hawaii Honolulu	Archeaological Inventory Survey
Robert Miyasaki, P.E.	Parsons Brinckerhoff Quade & Douglas Honolulu	Traffic Engineering
Ronald Ho, P.E. Gary Funasaki, P.E.	Ronald N.S. Ho & Associates Honolulu	Electrical Engineering

**Table 2**  
**EIS - List of Preparers**  
**Continued**

Name	Firm	Area of Expertise
Wm. Lee Berndt, Ph.D.	Wm. Lee Berndt, Ph.D. Florida	Golf Course Integrated Pest Management Program
Donald Okahara, P.E. Nancy Burns, P.E.	Okahara & Associates Kailua-Kona & Hilo	Civil Engineering (Roads, Water)
Jon Stubbart Steve Bowles	Waimea Water Services Kamuela	Water Resource Availability, Water Quality Monitoring
Barry Neal	B.D. Neal & Associates Captain Cook	Air Quality Assessment
Ronald A. Darby, P.E. W. Brendt Ferren	Darby & Associates Kailua	Noise Impact Assessment
Evangeline J. Funk, Ph.D.	Botanical Consultants Honolulu	Botanical Assessment
Phillip L. Bruner	Phillip L. Bruner Laie	Avifauna and Feral Mammals Assessment
James Lipe, ASGCA	Jack Nicklaus Golf Services Florida	Golf Course Architecture

## **2.0 DESCRIPTION OF THE PROPOSED PROJECT**

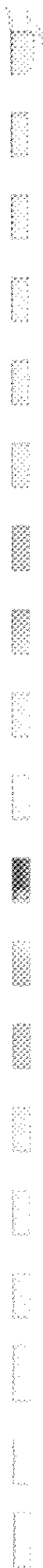
### **2.1 REGIONAL SETTING**

The approximately 1,540 acre project site is bisected by the North and South Kona district boundaries at Hokukano. The majority of the site is owned in fee by Oceanside 1250, and roughly one-sixth of the total area is leased from Ackerman Ranch, Inc. The site is situated approximately ten miles south of Kailua-Kona (Figure 1) and is about 2,800 feet makai of Mamalahoa Highway. The parcel is over two miles wide and the north and south property boundaries extend approximately one mile mauka from the coastline. The middle portion of the property extends approximately two miles mauka from the coastline to an elevation of 1,240 feet. Surrounding uses include agriculture (orchards and grazing) and residential uses, including the Kona Scenic Subdivision, located directly mauka of the property. The town of Kealahou is located mauka of the project site along Mamalahoa Highway, where access to the project site is gained from Haleki'i Street (Figure 2).

The property, which includes Tax Map Key (TMK) parcels 8-1-04: 03 portion; 7-9-12: 03 portion, 4 portion, 05 portion, 11; and 7-9-06: 01, is owned in fee or leased by Oceanside 1250 (Figure 3).

### **2.2 PROJECT BACKGROUND**

The proposed Villages at Hokukano project is a result of several years of planning. Over the past two years, the owners and their representatives have been meeting with neighbors, community leaders, organizations, agency representatives, businesses, and concerned individuals in order to fully understand public and agency concerns, and to address these to the furthest extent practical in the planning of the proposed project. Several studies, which are included with this EIS, were conducted on the site archaeology, environmental and market conditions, economic and fiscal impacts, and engineering requirements. The plan was adjusted, tested, and refined to what is presented in this EIS. A considerable amount of study, planning, and care went into the preparation of the plan for this area, which reflects the thoughts and concerns of many individuals who took the time to explore the site and to determine what is appropriate for this unique property.



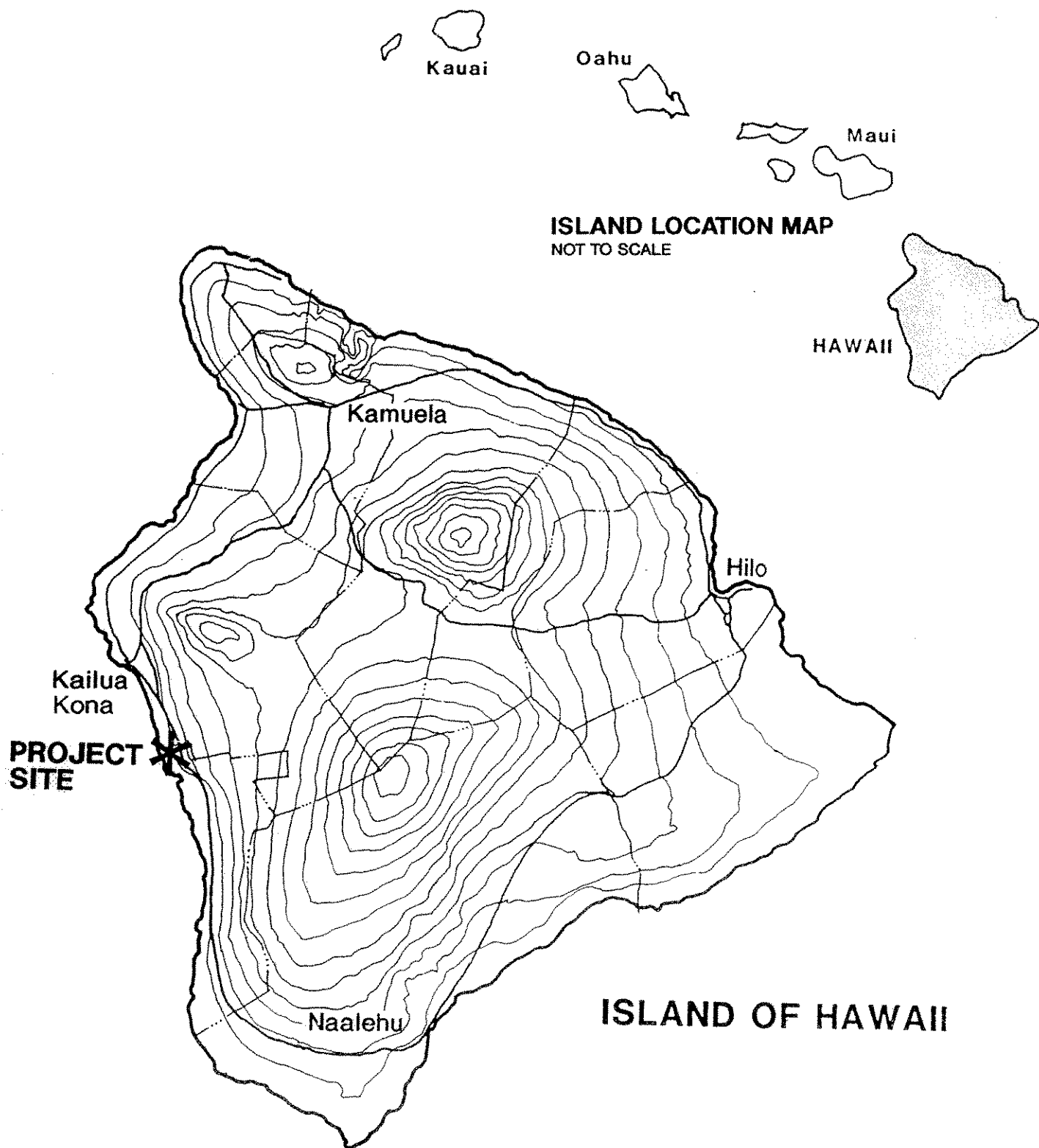
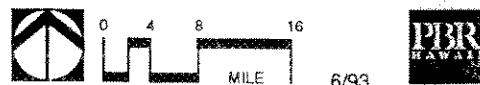


FIGURE 1  
LOCATION MAP  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO











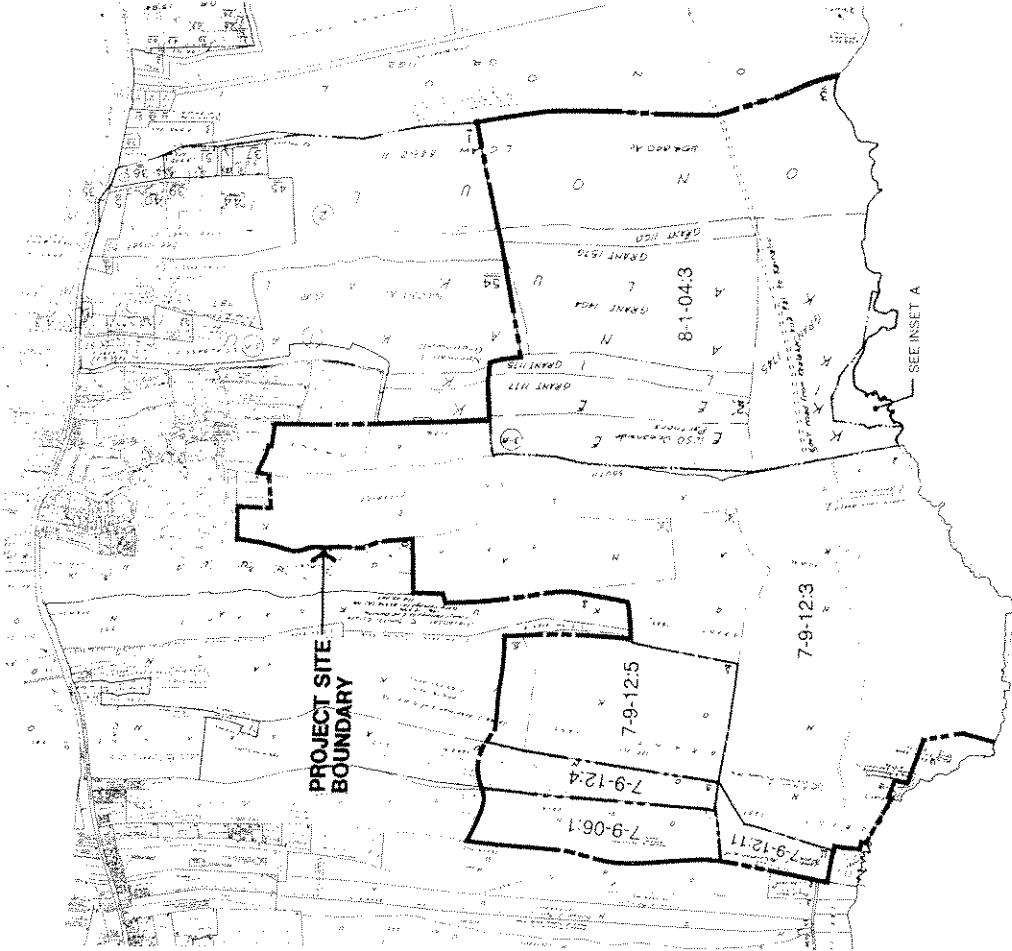
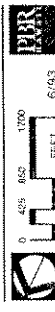
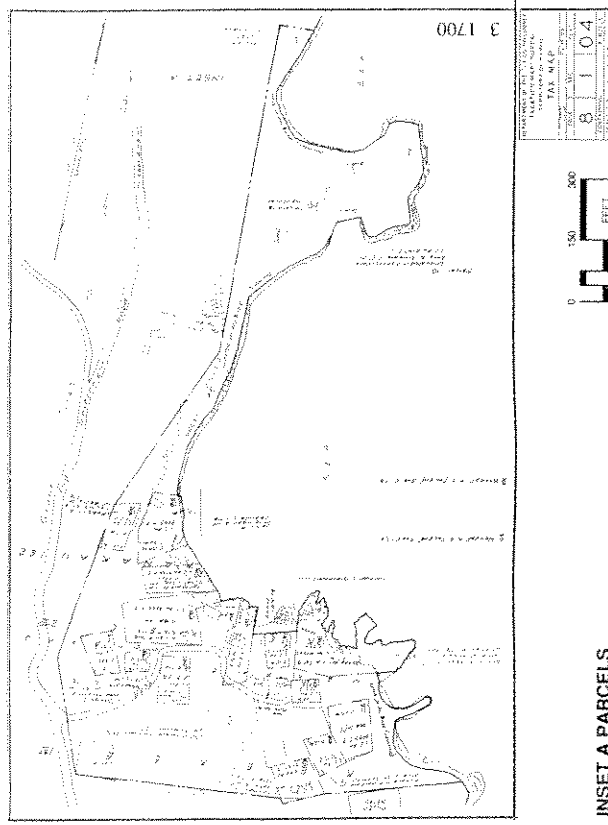


FIGURE 3  
TAX MAP KEY  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO



SOURCE: TAX MAP BUREAU, PUBLISHED 1992





### 2.3

### PROJECT OBJECTIVES

The applicant and developer, Oceanside 1250, is a Hawaii based partnership located in Kailua-Kona. Mr. Lyle Anderson, President of Red Hill 1250, Inc., and General Partner from Oceanside 1250, has earned a reputation for his environmentally sensitive approach and long term commitment to each project he has undertaken, as evidenced by such award winning projects as Desert Mountain and Desert Highlands in Scottsdale, Arizona, and Las Campanas in Santa Fe, New Mexico. The applicant's overall objective is to develop a high quality residential/recreational community that will maintain the rural character and natural beauty of the area. As an experienced specialist in creating similar communities in other areas, the developer has long recognized the benefits of designing a project that is sensitive to the natural land features and unique historical heritage of each area. Based on preliminary studies, the developer believes that these objectives can be obtained for the subject property in an economically viable manner.

### 2.4

### NEED FOR THE PROPOSED PROJECT

The subject property possesses the locational and physical attributes, including ocean and mountain views, proximity to the coast, appropriate slope characteristics and a relatively dry and mild climate, which are ideally suited for the proposed use. The studies performed in the planning process indicate that the proposed project is compatible with and will enhance the existing natural environment.

The market studies prepared specifically for the project indicate, based on an analysis of regional and demographic trends, visitor trends, and an overview of similar residential communities, that the proposed Hokukano project would be unlike any other project currently in existence in Hawaii. Although West Hawaii has several existing agricultural and residential lot subdivisions, the combination of a secluded, spacious residential community that offers extensive recreational facilities without hotel or resort facilities has not yet been offered. Hokukano has an added benefit over existing agricultural communities due to its access to the coastline, its sloping topography, lush vegetation, and calm winds.

Hokukano is expected to attract many potential resort lot owners who appreciate the privacy available in a non-resort development. The Hokukano project would allow residents the greater sense of community and seclusion typically associated with a residential community.

Retaining the property in its present pasture land use poses potential impacts to the marine ecosystem from erosion and cattle inflicted damage. Leaving the property undeveloped would result in the loss of an opportunity to expand employment alternatives and recreational and public facilities that are presently lacking in this area. The project would be phased to respond to market demand, and has been master planned to ensure that there is an orderly and timely development that is planned and coordinated with the provisions of public services and facilities in the region.

## 2.5 PROJECT DESCRIPTION

### Preliminary Development Plan

The Villages at Hokukano is a master planned low density community focused on a 27-hole golf course. The preliminary development plan, as shown in Figure 4, includes the 27-hole golf course, golf clubhouse and related facilities, a members' lodge of up to 100 units, historic park area, open space elements, and a maximum of approximately 1,440 predominantly single family lots, yielding a total project density of no more than one unit per acre. The residential components include approximately 367 one to three acre lots in the upper portion with provisions to encourage agriculture. In the mid portion of the project, 350 to 400 approximately half acre lots are planned in the area above the golf course. At the lower elevations, predominately single family residential neighborhoods ranging in density from three to five units per acre are integrated with the golf course. The State Conservation District, which extends about 300 feet inland and includes approximately 140 acres along the coast, is planned as a natural in character, open-space recreational element. Together with portions of the golf corridor, the Conservation District provides a significant buffer between the coast and planned residential areas.

The golf course has been primarily planned in areas of relatively mild slopes in order to integrate with existing land forms and minimize the need for extensive grading. Overall, the development plan seeks to achieve a rural character and preserve the unique site characteristics of the area by maintaining low density neighborhoods integrated with generous open space areas. Additionally, design standards and controls will be implemented, aimed at maintaining cohesion throughout the project while maintaining visual integrity with the surrounding area.

The development plan includes an historic park area, along with an extensive trail system providing access for the public and residents to other historic and prehistoric archaeological sites within the project area, such as the King's Trail (Ala Loa or Ala Aupuni), Kuakini Wall, heiaus, platforms,



LAND USE SUMMARY			
Parcel	Area	Yield	Gross Density
A	118.0	60	Residential/Agriculture
C	47.3	95	Residential
D	226.0	154	Residential/Agriculture
E	45.5	140	Residential/Agriculture
F	8.5	35	Residential
G	12.0	50	Residential
H	20.0	40	Residential
I	123.5	65	Residential/Agriculture
J	170.0	88	Residential/Agriculture
K	46.0	100	Residential
L	15.0	50	Residential
N	66.0	139	Residential
O	35.0	140	Residential
P	17.0	68	Residential
Q	42.5	200	Residential
R	7.5	16	Residential
Subtotal	1000.0	1440	
Units			
S	4.0	--	Golf Clubhouse
T	14.0	100	Lodge
V	2.0	--	Historic Park
W	140.0	--	Conservation District
X	349.0	--	Golf Course
Y	17.0	--	By-Pass
Z	14.0	--	Roads
Subtotal	540.0	100	
Units			
TOTAL	1540	1540	
Acres			

FIGURE 4  
PRELIMINARY  
DEVELOPMENT PLAN  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO

Planning/Design Team  
Gage Davis Associates  
PBR HAWAII





enclosures and other sites as part of an interpretive program. The project includes provisions for public and resident access to the shoreline, such as shoreline parking, and the necessary internal and external infrastructure to serve the project, including a potable water transmission and distribution system; non-potable water transmission and distribution system (for golf course and landscape irrigation purposes); wastewater collection, transmission, treatment and disposal system; and internal roadway system.

As shown on the TMK Map exhibit, within the area of the State Conservation District are approximately fourteen land court award parcels. The current or alternate access to these privately owned parcels would be maintained throughout the construction period and retained as part of the internal roadway improvements.

Also, with the construction of the proposed project, the applicant proposes to participate with the State and other land owners in the planning, design, and construction of the highway bypass, allowing this element to be built sooner than might otherwise be possible and at a lower cost to the State.

#### Development Schedule and Phasing

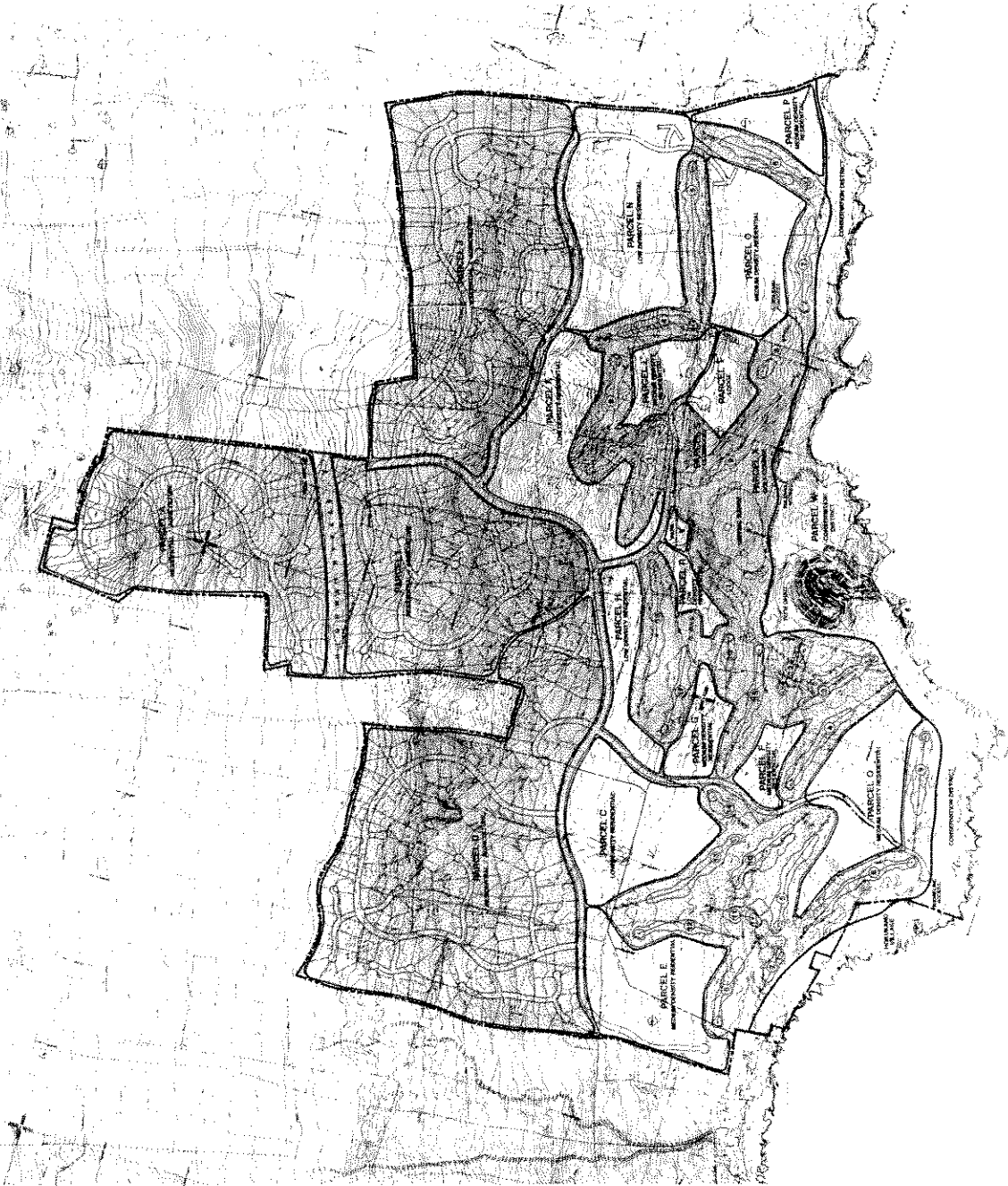
The project would be developed over an approximately 30 year period. The first phase, which is currently planned to begin in 1995, would include the 27-hole golf course, golf clubhouse and related facilities, and approximately 367 lots of one to three acres in size. The members' lodge and related facilities, and the approximately 1,073 predominantly single family units would be developed in subsequent phases, as market forces dictate (Figure 5). Development of the primary internal roads, facilities, and major infrastructure is anticipated to be completed within the first five years of development.

#### Residential/Agricultural Lots

The first phase of development includes approximately 367 one to three acre lots totalling approximately 637 acres in the upper elevations of the property. The developer, in an effort to support agricultural activity within those portions where the zoning will remain within the Agriculture District and larger lot sizes permit, has proposed a program by which the necessary site improvements and infrastructure needed to support agricultural uses could be implemented as part of the Phase I development. The program would allow for commercially viable agricultural







# LAND USE SUMMARY

Parcel	Area	Yield	Use	Gross Density
A	118.0	60	Residential/Agriculture	.5 du/ac
C	47.3	95	Residential	2.0 du/ac
D	236.0	154	Residential/Agriculture	.5 du/ac
E	45.5	140	Residential	3.0 du/ac
F	8.5	35	Residential	4.0 du/ac
G	12.0	50	Residential	4.0 du/ac
H	20.0	40	Residential	2.0 du/ac
I	123.5	65	Residential/Agriculture	.5 du/ac
J	170.0	88	Residential/Agriculture	.5 du/ac
K	46.0	100	Residential	2.1 du/ac
L	15.0	50	Residential	3.1 du/ac
N	66.0	139	Residential	2.1 du/ac
O	35.0	140	Residential	4.0 du/ac
P	17.0	68	Residential	4.0 du/ac
Q	42.5	200	Residential	4.7 du/ac
R	7.5	16	Residential	2.1 du/ac
Subtotal	1000.0	1440		
	Acres	Units		
S	4.0	--	Golf Clubhouse	--
T	14.0	100	Lodge	--
V	2.0	--	Historic Park	--
W	140.0	--	Conservation District	--
X	349.0	--	Golf Course	--
Y	17.0	--	By-Pass	--
Z	14.0	--	Roads	--
Subtotal	540.0	100		
	Acres	Units		
TOTAL	1540	1540		
	Acres	Units		

## LEGEND

PHASE I

FIGURE 5  
PHASING PLAN  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO

Planning/Design Team  
Gage Davis Associates  
PBR HAWAII





activities that are compatible with the residential uses to be integrated in the areas of the project most suited to agricultural use. At the same time, the select agricultural orchards and crops could provide a significant landscape and open space element within the Villages at Hokukano community. Conversely, the resources from the associated residential development would provide the needed capital to support the agricultural use on an ongoing basis. Thus the proposed program offers advantages to the owner/resident and grower alike. In this way, it is felt that commercially viable agricultural activity, on a modest scale, could be supported as part of the large lot development.

### Residential Lots

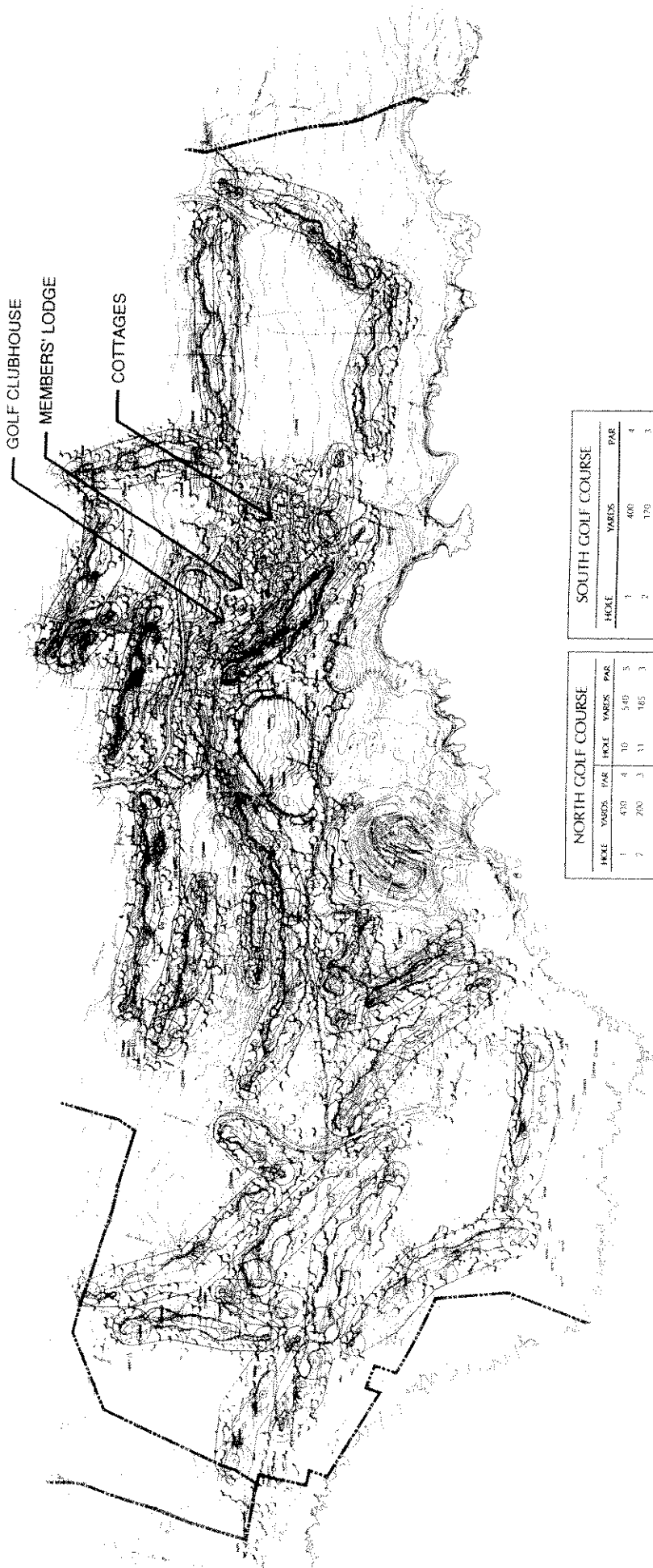
The subsequent phases of residential development will total approximately 1,073 predominately single family lots. The residential lots would be comprised of approximately 350 to 400 half acre lots in the area overlooking the golf course, and the remainder within neighborhoods ranging in densities of three to five units per acre integrated among the 27-hole golf course and associated open space areas. In some instances, where topographic conditions dictate, a cluster of planned unit developments may be appropriate. In general, the individual residential neighborhoods are intended to be single family in nature with densities up to approximately five units per acre. Although individual neighborhoods would be planned with street and landscape features intended to impart individual character and identity, design standards and controls would be implemented to maintain a visual cohesion throughout the residential community.

### Golf Course and Clubhouse

The proposed golf club at Hokukano will be a 27-hole, Jack Nicklaus designed golf course with related facilities, including a golf clubhouse, practice range, maintenance center, and other golf service functions (Figure 6). The golf course and these related facilities are proposed to be sited on approximately 346 acres. The proposed clubhouse would include a reception and check-in area, pro shop, grill, and bar on the upper entrance level. On the lower level are planned women's and men's locker rooms and facilities for cart storage, maintenance, and staging. The clubhouse floor area, as proposed, would comprise approximately 21,000 square feet. The golf course has been carefully sited to help blend with existing land forms, protect significant historical and cultural sites, and integrate existing vegetation into the layout. Turf areas within the fairways would be reduced from typical golf course areas to lessen the amount of irrigation required, while still providing for a pleasant golf experience. Irrigation water would be collected from holes subject to



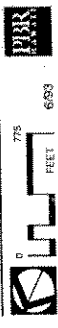
GOLF CLUBHOUSE  
MEMBERS' LODGE  
COTTAGES



SOUTH GOLF COURSE			
HOLE	YARDS	PAR	
1	400	4	
2	170	3	
3	395	4	
4	385	4	
5	555	5	
6	470	4	
7	415	4	
8	200	3	
9	520	5	
TOTAL	3505	36	

NORTH GOLF COURSE			
HOLE	YARDS	PAR	
1	410	4	
2	280	3	
3	375	4	
4	510	5	
5	470	4	
6	370	4	
7	265	3	
8	550	5	
9	420	4	
OUT	3550	36	
IN	3460	35	
TOTAL	7010	72	

FIGURE 6  
ILLUSTRATIVE  
GOLF COURSE SITE PLAN  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO



Planning/Design Team  
Gage Davis Associates  
Jack Nicklaus Golf Services



potential runoff by a subsurface drainage system that recycles the collected water to irrigation ponds for reuse on the course. A well has been established onsite that will provide brackish water sufficient to meet the project's irrigation demands. In addition, project consultants are studying alternative types of turf that are viable in this unique climate and might provide further water savings.

### Members' Lodge

The site for the lodge is an approximately 10 to 20 acre parcel adjacent to the golf clubhouse (Figure 7). The lodge is anticipated to accommodate up to 100 units in the main pavilion and within detached suite and bungalow buildings carefully sited within the parcel (Figure 8). In addition to the lodge units, the main pavilion will accommodate hospitality, reception, dining and pool related activities, as well as administrative and service functions. This pavilion will be designed to complement the style used in the golf clubhouse and each would share a common garden area set between the golf clubhouse and main lodge pavilion. A small tennis center, including two courts, pro shop, and shelter are also proposed for the site. The lodge is envisioned as a hospitality center for member and guest activities and is not intended to offer public accommodations. Other events related to organized member activities may take place at the lodge hospitality center. These might include dinner parties and private weddings, as well as social gatherings associated with members' golf and recreational activities.





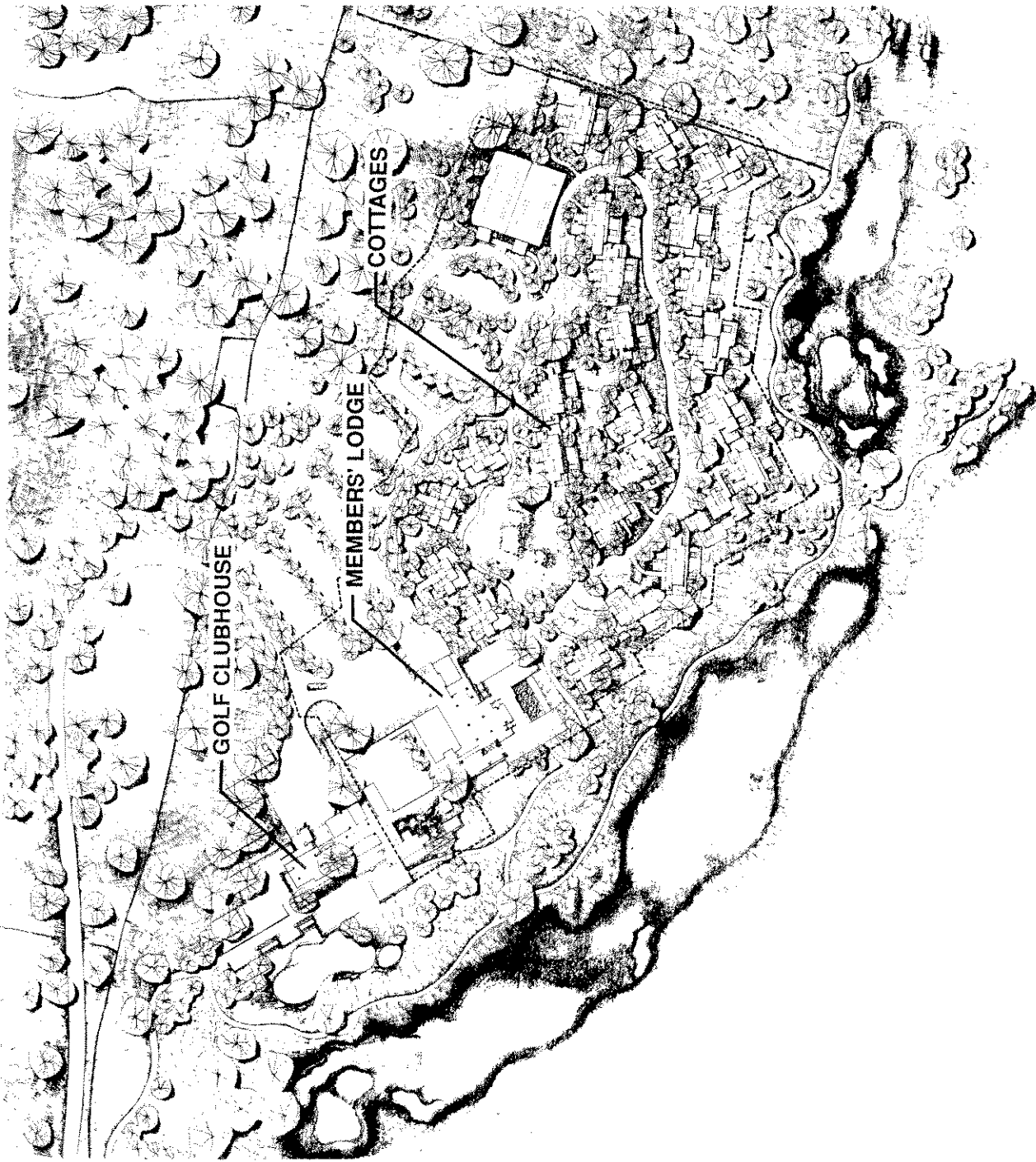
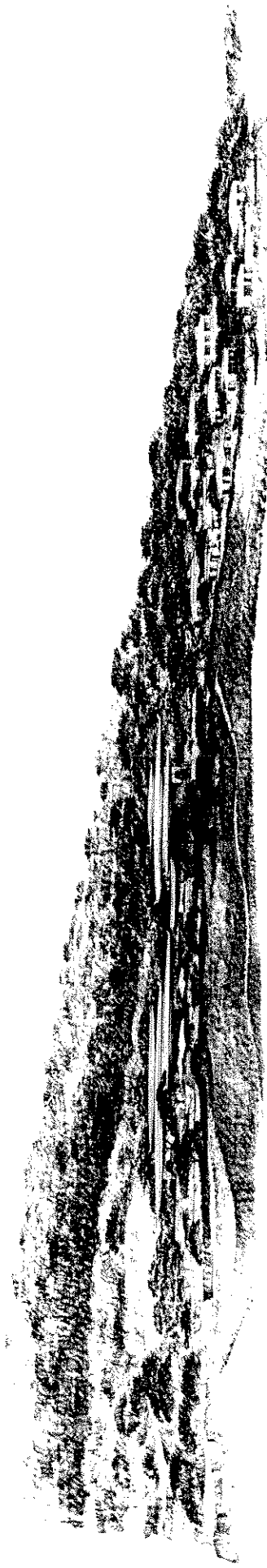


FIGURE 7  
ILLUSTRATIVE SITE PLAN  
GOLF CLUBHOUSE, LODGE &  
COTTAGES  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO



Architect Gage Davis Associates



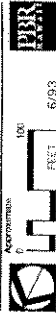


CLUBHOUSE

MEMBERS' LODGE

LODGE COTTAGES

FIGURE 8  
ILLUSTRATIVE ELEVATIONS  
GOLF CLUBHOUSE, LODGE &  
COTTAGES  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO



Architect: Gage Davis Associates



### **3.0 ALTERNATIVES CONSIDERED**

#### **3.1 INTRODUCTION**

The proposed Villages at Hokukano project has been planned to provide a high quality, low density residential community with golf and recreational amenities, which is in keeping with the rural character of the area. It is designed in a manner that seeks to maintain the unique characteristics of the site. This would be accomplished by maintaining low density neighborhoods integrated with generous open space areas and by implementing a design standard aimed at maintaining a visual cohesion and integrity with the surrounding area. Additionally, the project has been planned with a sensitivity to the site conditions and surrounding environment, seeking to minimize potential impacts to the greatest extent practical through implementation of various measures, as discussed previously within Section 2. While the actual development of the property will be phased to respond to the market demand, the entire 1,540 acres has been master planned to ensure that there is an orderly and timely development that is planned and coordinated with the provisions of public services and facilities in the region. In compliance with the provision of Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-17(f), the "known feasible" alternatives to the proposed project are discussed in this section. Those alternatives that could "feasibly" obtain the objectives of the project are described and evaluated. An exploration and evaluation of the environmental impacts of all reasonable alternative actions, particularly those that might enhance environmental quality or would avoid or reduce some or all of the adverse environmental impacts, costs, and risks, is included in order not to prematurely preclude options that might enhance environmental quality or have less detrimental effects.

The alternatives have been evaluated relative to their capability of meeting the proposed project objectives, as stated in Section 2.3. In addition to the preferred alternative (the proposed project), the alternatives of no action, alternate configurations of the site, and alternative uses of the property were evaluated.

## 3.2 DESCRIPTION OF ALTERNATIVES

### 3.2.1 "No Action" Alternative

The "No Action" alternative would retain the property in its present, pasture land use, continuing the potential impacts to the marine ecosystem from erosion and cattle inflicted damage. This alternative would not allow the property owners, the State or the County governments to generate any significant income from the project lands. To receive any reasonable benefits, the developer would likely sell the property to another private buyer, who probably would seek land use changes that would enable a higher use of the land. Leaving the property undeveloped would result in the loss of an opportunity to expand employment alternatives and recreational and public facilities that are presently lacking in this area.

### 3.2.2 Alternative Configurations of the Proposed Project

The analysis of alternative configurations and sizes of the project elements took into consideration several factors. These included the number and types of individual components that could be efficiently and economically located within the project boundaries, the opportunities and constraints of the site, and community and governmental agency input and concerns regarding the proposed project. Following the evaluation of all of the various factors, the preferred alternative (proposed project) was selected as the alternative that could best meet the objectives of the project because it provides the greatest flexibility in phasing and construction, the type of amenities and services best suited for the proposed development, the necessary financial return in order to provide the necessary improvements to the public infrastructure, and it allows the County's goals and objectives regarding the development of the project area to be met in the most expeditious manner.

During the conceptual master planning, a number of alternative concepts and variations were evaluated. The following alternatives are representative of those considered in response to achieving a development program to include a members' lodge and related amenities, an 18 to 36 hole golf course, and residential lots on the 1,540 acre parcel, and to do so in a manner that retains the character of the area and is accomplished with little or no negative impacts to the existing environmental conditions.

### 3.2.3 "Scaled Down" Alternative

One alternative would contemplate similar land uses and would not require the extensive regulatory processing, such as a State Land Use Boundary Amendment, General Plan Amendment or Change of Zone. Current A-5 and Unplanned zoning will allow approximately 300 lots, a golf course (with Use Permit) and related facilities under the current entitlements. A project of such low density, however, would not generate the revenues required to provide the public benefits, as envisioned for the proposed project, including regional roadway improvements, the agricultural development plan, shoreline management plans and interpretive development, and educational programs related to sites of historical and cultural importance.

### 3.2.4 "High Density" Alternative

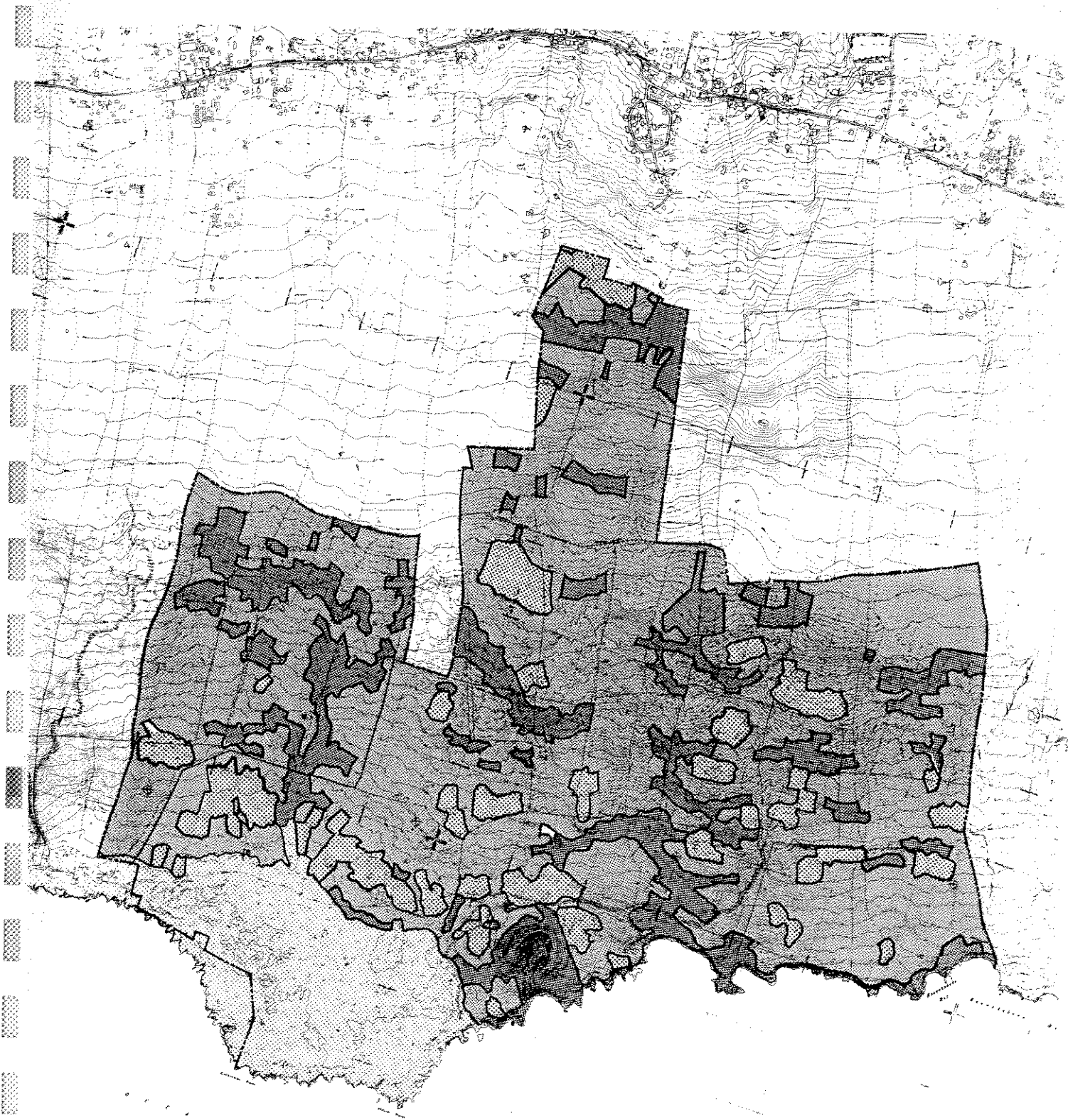
Another alternative envisioned the integration of an affordable housing component as part of the overall residential development. This alternative required additional market units in order to make the project financially viable. The resulting development density from this alternative was found not to be in keeping with the rural character of the surrounding area, nor would it have allowed for as sensitive a design that preserves the unique characteristics of the site. It was felt that, overall, the potential impacts to public services and facilities, as well as to the environment, were amplified with the higher density alternative.

### 3.2.5 Intensive Agricultural Alternative





As noted, the property has been used in ranching for the past 100 years. There are periods during the drier seasons when the productivity of the land for grazing purposes diminishes greatly. Prior to its use as a cattle ranch, there are historical references to limited agricultural use on the portions of the property, including sugar cane, coffee, and citrus. The property as a whole is only marginally suited for intensive agricultural use, which would not be feasible without significant capital input and site and infrastructure improvements. Without the necessary capital and improvements that accompany the proposed development, intensive agricultural use on the property by itself does not appear to be a viable alternative from an economic perspective.



In general, the alternatives evaluated do not provide the degree of satisfaction to meet the project objectives, they have greater adverse impacts, higher on or offsite infrastructural costs, and less expansion capabilities. Furthermore, these alternatives are incompatible land uses for the area, as well as being economically unfeasible, and/or would not allow the County's overall goals and objectives regarding the project area to be met. Alternative uses of the property, including the "no action" alternative, were also rejected because they do not meet the objectives of the proposed project. The proposed project satisfies the owners' objectives and provides the best opportunity to assist in supporting West Hawaii's forecasted residential, recreational, educational, and public facility needs over the period of development. Although each alternative evaluated may have some merit and be worthy of consideration, none have the degree of positive merits nor meet the proposed project's stated objectives.

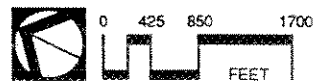


**LEGEND**

-  <5% SLOPE
-  5-10% SLOPE
-  10-20% SLOPE
-  >20% SLOPE

**FIGURE 9  
SLOPES**

**FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO**



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neighborhoods, building envelopes will limit the residential development to those areas most suited for construction with little topographic alteration. The land form of Pu'u Ohau, being situated largely within the State Conservation District and outside the proposed area of development, would remain unaffected by the proposed project. The proposed lodge and clubhouse, as well, will be designed in relation to the natural features of the land. As such, it is expected that the project will be constructed without major adverse impacts to the natural land forms. Likewise, the proposed project will have no effect on climatic conditions and, therefore, no mitigation measures are warranted.

#### 4.1.2 Geology, Topography, Soils, and Agricultural Potential

##### Existing Conditions

The project site is a coastal property situated on the lower slopes of Mauna Loa. Typical of West Hawaii coastal land, the project site and surrounding areas have relatively little soil cover, although pockets of soil are found throughout the site, generally following the patterns of lava flows and drainageways. A number of rock outcroppings occur on the project site. All of the surrounding area, including the project site, is of volcanic origin.

The soils found on the subject property consist of six soil types, as classified by the United States Department of Agriculture Soil Conservation Service Soil Survey (Figure 10). The descriptions of soil characteristics on the subject property are as follows:

- KDD Kainaliu very stony silty clay loam, 12 to 20 percent slopes. This soil generally follows the long narrow patterns of lava flows, but can be isolated and surrounded by more recent flows. On the subject property, these soils may be marginally suitable for macadamia nuts, coffee, and pasture with proper irrigation.
- WHC Waiaha extremely stony silt loam, 6 to 12 percent slopes. The surface layer is very dark brown comprised of extremely stony silt loam approximately 4 inches thick and slightly acid. Subsoil is dark brown, very stony silt loam, neutral to mildly alkaline and approximately 14 inches thick located above pahoehoe lava bedrock. Permeability is moderately rapid, runoff is slow, and the erosion hazard slight.

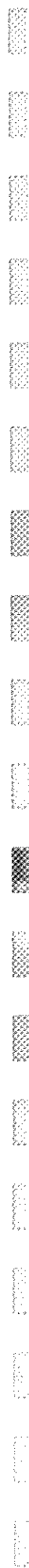
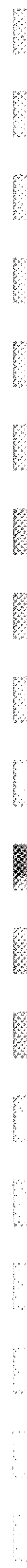




FIGURE 10  
SOIL SURVEY  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO

SOURCE: USDA - Soil Conservation Services & Univ. of Hawaii;  
Soil Survey - Island of Hawaii, State of Hawaii, Dec. 1973





- rKED Kaimu extremely stony peat, 6 to 20 percent slopes. This soil is generally found at low elevations. The surface layer is very dark brown extremely stony peat approximately 3 inches thick and underlain by a'a lava. Permeability is rapid, runoff is slow, and the erosion hazard slight. This soil is not suitable for cultivation, however, some small areas can be used for pasture, macadamia nuts, papaya, and citrus fruits.
- rLW This soil type is also known as pahoe-hoe lava, a "miscellaneous land type". Although this lava often has a billowy, glassy surface, it can also be rough and broken. There is no soil covering and is typically bare of vegetation except for mosses and lichens. Annual rainfall and elevations vary widely.
- rPYD Punalu'u extremely rocky peat, 6 to 20 percent slopes. This soil type characteristically has rock outcrops occupying approximately 40 to 50 percent of the surface. The soil layer on the surface is approximately 4 inches thick and underlain by pahoe-hoe lava bedrock. The peat portions of the soil are rapidly permeable while the pahoe-hoe lava is very slowly permeable if not fractured. Runoff is slow and the erosion hazard is slight.
- rCL Cinder land. This soil type is located primarily at Red Hill and is considered as a "miscellaneous land type" consisting of bedded cinders, pumice, and ash. The particles have jagged edges and glassy appearance and show little or no soil development. Although some grass can be supported, it is not good pastureland because of its loose consistency and poor trafficability.
- KEC Kainaliu extremely stony silty clay loam, 12 to 20 percent slopes. This soil is generally found at low elevations on Mauna Loa and Hualalai. The surface layer is very dark brown with extremely stony silty clay loam about 10 inches thick. The subsoil is approximately 16 inches thick and underlain by fragmental a'a lava.

Other soil classification systems used in Hawaii are the University of Hawaii's Land Study Bureau System and the Department of Agriculture's ALISH system.

The Land Study Bureau's Detailed Land Classification Report for the Island of Hawaii has designated the lands within the project site as predominantly Class C, D, and E. A small portion covering approximately eight acres in the extreme mauka corner is rated as B lands by the Land Study Bureau (Figure 11). From an agronomic perspective, these soils are generally moderately to

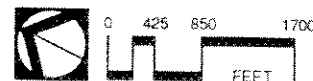




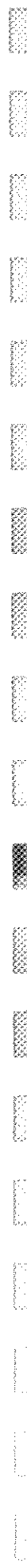


FIGURE 11  
 DETAILED LAND CLASSIFICATION  
 FINAL ENVIRONMENTAL IMPACT STATEMENT  
 VILLAGES AT HOKUKANO

SOURCE: Land Study Bureau, Univ. of Hawaii;  
 Detailed Land Classification - Island of Hawaii, Nov. 1965



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poorly suited for agricultural use. Similarly, no area of the project site has been rated "Prime" or "Unique" by the ALISH system (Figure 12). However, limited portions of the project area are identified as "Other Important" lands. This classification indicates that portions of the site can be used for agricultural purposes but generally require infrastructure support and other necessary agronomic improvements.

### Potential Impacts

Soil depths exceed twenty inches in some portions of the project area. From initial calculations, it is anticipated that sufficient soil exists on the site to supply the soil base for the proposed golf course (turf areas) development. About six to eight inches of soil is required for residential and golf landscaping. Of the approximately 350 acres for the proposed golf course area, approximately 150 acres will be improved as turf areas and a portion will remain as a natural buffer at the edges of the golf course and between some residential areas and the golf course. The Pu'u Ohau cinder cone, the area along the coast within the State Conservation District, specified archaeological sites, and other open space and natural buffers are to remain largely unaffected by the proposed development. Clearing and grubbing activities during construction will temporarily disturb the soil retention values of the existing vegetation and expose soils to erosional forces. Some wind erosion of soils could occur without a proper watering and regrassing program. Heavy rainfall could also cause some erosion of soils within disturbed areas of land. Should imported soils be required, these soils may pose a potential siltation or runoff problem if they are stockpiled without adequate precaution. They also may impact air quality in the form of dust generated during off loading from trucks or if not properly stockpiled.

With regard to agricultural uses, the project will impact the limited agricultural activity (cattle grazing) existing on the property. Given the relatively poor quality of the soil, light rainfall and scrub nature of much of the vegetation over the project site, the loss of these lands for cattle grazing is not considered to be a significant adverse impact from an agricultural perspective. The proposed project will eliminate the agricultural potential of those lands identified as "Other Important" lands of agricultural importance to the State of Hawaii. The value of these lands for agricultural use, however, needs to be evaluated in relation to potentially viable agricultural uses within these areas. Historically, the land has been used for cattle and, to a small degree, sheep grazing. There is also record of limited attempts at orchard and sugar cane cultivation. Any potential agriculture uses, however, would be restricted by the limited usable areas (e.g., areas







with sufficient soil area and topography) and the need for supporting infrastructure, primarily irrigation and roads. Given the marginal soil conditions and lack of even rainfall, the potential for agricultural use is questionable without extensive irrigation, land clearing, and site improvements.

#### Mitigation Measures

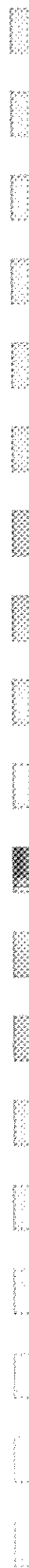
During construction, measures will need to be provided to protect nearshore waters from the impacts of sedimentation. In addition to meeting the State's NPDES permitting requirements, an erosion and sedimentation plan will need to be prepared and approved by the Department of Public Works as part of the permitting procedure for the grading work. Mitigation measures which could be employed include limiting exposed areas, dust control measures (frequent sprinkling), and prompt seeding of exposed finished areas. As part of the construction phasing, retention basins could be established, which will form part of the eventual drainage system for the project. Because the majority of the rainfall occurs during the months from May to September, additional mitigation could result from scheduling grading, as much as practical, to the drier periods.

Generally, soil conditions on the property are marginally suited for agricultural uses, but by providing the necessary site preparation, access, and infrastructure improvements as part of project development, limited agricultural uses can be supported on an ongoing basis. The developer has proposed an agricultural program that would integrate appropriate agricultural activities on portions of the agricultural lots in a manner that would not only benefit adjacent residential uses but would allow for the efficient management and operations of select crop and/or orchard uses. As proposed, the agricultural program would place approximately 75 acres into commercially productive agricultural use. A brief description of the proposed agricultural program follows.

#### Agricultural Program Concept

As part of the first phase of development within the Villages at Hokukano, approximately 367 home lots, covering about 678 acres, will be developed in the upper elevations of the property. These lots would be generally one to three acres in size and are intended to be offered under the County Agriculture (A-1a) zoning designation. As a method to facilitate agricultural uses on these lots, the program would identify certain lands in and around these homesites that could be used for select agricultural activity, as shown in Figure 13. A typical section showing an integration of the agricultural use with the residential/agricultural lots is shown in Figure 14.





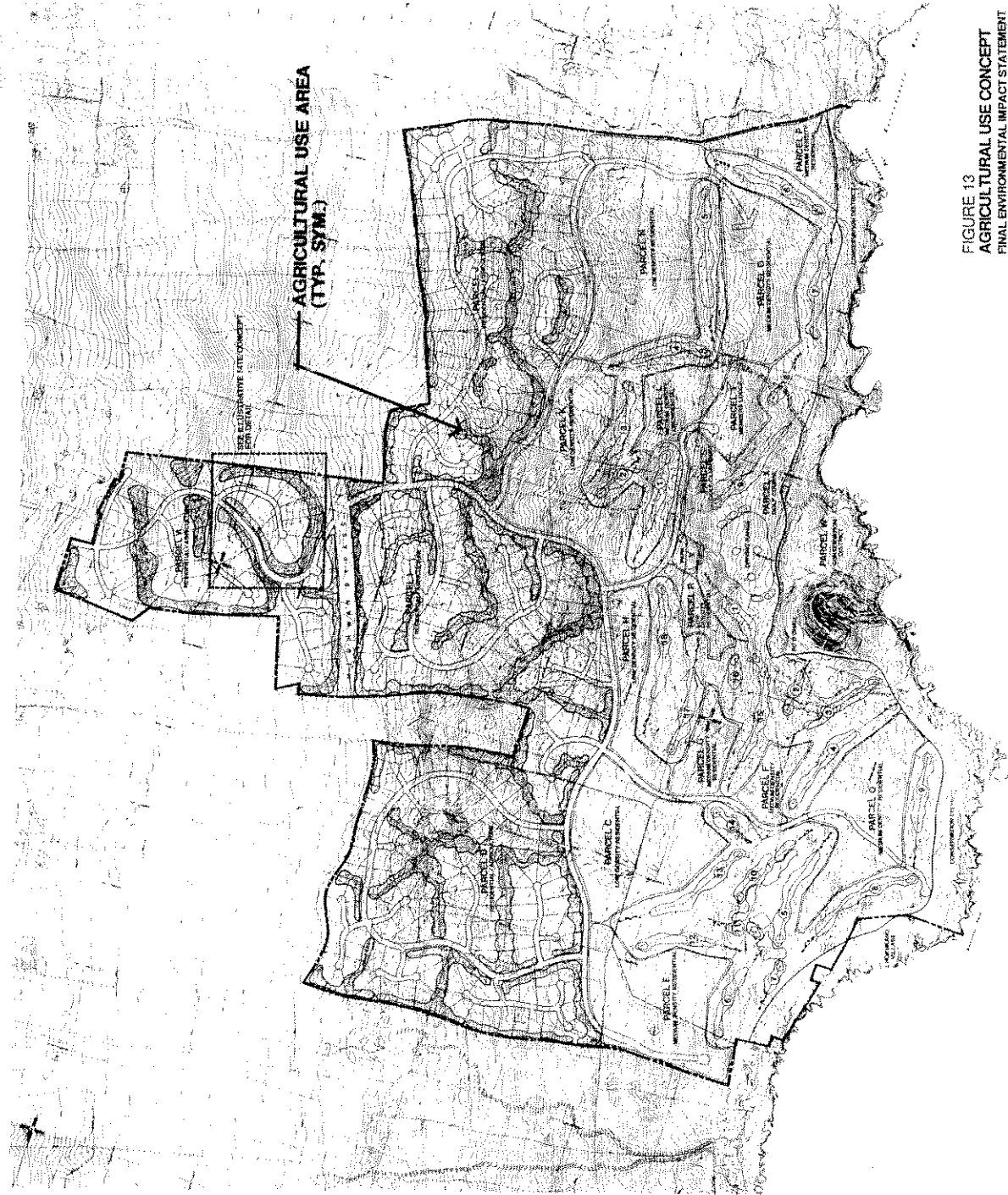
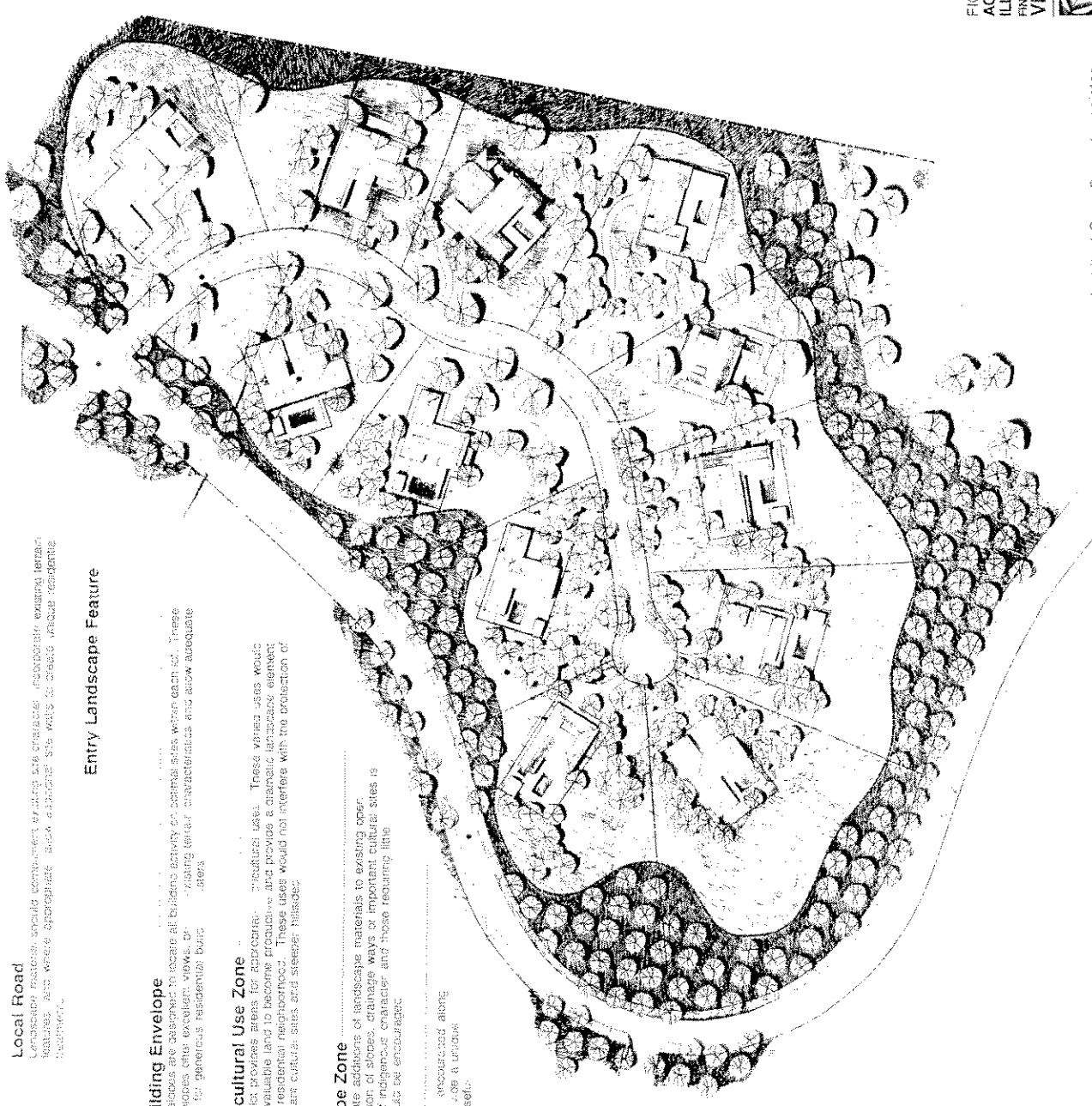


FIGURE 13  
 AGRICULTURAL USE CONCEPT  
 FINAL ENVIRONMENTAL IMPACT STATEMENT  
 VILLAGES AT HOKUKANO



Architect Gage Davis Associates





# Local Road

Landscape materials should complement existing site character, incorporate existing terrain features, and where appropriate, use a variety of site types to create a unique residential environment.

## Entry Landscape Feature

### Building Envelope

Envelopes are designed to locate all building activity on central sites within each lot. These envelopes offer excellent views of existing terrain characteristics and allow adequate area for generous residential building.

### Agricultural Use Zone

Each lot provides areas for appropriate agricultural use. These varied uses would allow valuable land to become productive and provide a dramatic landscape element to the residential neighborhood. These uses would not interfere with the protection of important cultural sites and steeply hilly areas.

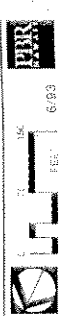
### Common Landscape Zone

This zone allows appropriate addresses of landscape materials to existing open spaces. Significant alteration of slopes, drainage ways or important cultural sites is not permitted. Materials of indigenous character and those requiring little maintenance would be encouraged.

### Collector Road

Agricultural uses should be encouraged along this road and would provide a unique landscape edge as a useful landscape feature.

FIGURE 14  
AGRICULTURE/LOT PARCEL  
ILLUSTRATIVE SITE CONCEPT  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO





Currently, the lands on the site consist generally of open kiawe scrub and mixed grasslands, and are used for marginal pasture use. There are agriculture operations nearby consisting of plumeria, papaya, macadamia, and coffee orchards. These traditional orchard crops could also be introduced into plans at Hokukano if they are determined to be appropriate to site conditions. At the same time, other products, such as organic herbs and vegetables, valuable grasses, and other flower and orchard products are being studied to determine if these offer satisfactory alternatives or complimentary products. Due to the relative proximity of residential growth, activities such as animal husbandry, game, and livestock propagation or truck farming are seen as inappropriate agricultural activities for this area. A preliminary list of potential crops is as follows:

- Acerola Cherry
- Artichoke
- Atemoya
- Avocado
- Breadfruit
- Cashew (20-30")
- Carob
- Citrus
- Cocoa
- Coffee
- Fig
- Grapes
- Guava
- Jobiticaba
- Lychee
- Macadamia
- Malabar Chestnut
- Mango (<60")
- Mangosteen
- Natal Plum (DT)
- Papaya (40-60")
- Peach Palm
- Pineapple
- Pummelo
- Rambutan

- Sapote (DT)
- Starfruit
- Surinam Cherry

In general, the slope of this portion of the property is about ten percent. Some areas, however, have steeper slopes exceeding, in some cases, twenty percent. Agricultural portions would generally not include steeper areas in order to minimize grading requirements and to protect the existing slopes and site character. Some grading activity, however, would be necessary to create deeper planting beds and to provide access for maintenance purposes. In those areas where soils are over shallow bedrock, the subsurface layers may need to be modified to provide plantable areas and suitable soil conditions.

A good quality brackish water source has been developed onsite and thus adequate water can be provided for agricultural uses, possibly through an on ground irrigation system. In general, the suitability of brackish water for crop irrigation not only depends on the quality of the water but also on the adequacy of the drainage, method of irrigation, physical properties of the soil, salt tolerance of chosen crops, and management and operation of the irrigation and drainage systems. All crops initially selected for the agricultural program are expected to be supportable within the quality parameters of the available brackish water.

One of the goals of the program would be to provide a financial structure that will benefit the growers, as well as the community and the lot owners, within the agricultural area at Hokukano. The financial structure would help to minimize the start up costs for participating growers outside of their own direct early production and maintenance costs. Strictly speaking, the land would remain as the lot owners' property and an easement or leasing arrangement would be created to allow other persons to engage in agricultural operations on designated parcels. Provisions for management of these parcels would likely be the responsibility of the homeowners' association.

Market conditions would be examined to ensure there is a demand for good exotic fruit producers and products from Hawaii. Some could be provided by contacting local marketing "cooperatives" or the farm bureau and utilizing their expertise and resources. Fruit pricing and available labor would be carefully studied to help select crops best suited for this area.

Thus, the agricultural program envisioned for the Villages at Hokukano is intended to offer local farmers and growers opportunities for agricultural experimentation and employment and expand

the local agricultural land inventory. It would also, due to its modest scale, provide an effective marketing and distribution network between producer and consumer, helping to provide opportunities for economically competitive and sustainable agriculture. At the same time, the agricultural areas could provide a well maintained landscape and open space element within the large lot subdivision. In sum, the program offers advantages to owners/residents, growers, and farmers alike, while demonstrating an appropriate blending of residential and agricultural uses.

#### 4.1.3 Groundwater and Hydrology

##### Existing Conditions

Domestic water supply along the Kona coast is derived from two sources: direct rainfall catchment and the basal groundwater lens. At the higher elevations above 1,500 feet, the rainfall is normally adequate to furnish a limited catchment supply, however, groundwater provides the only reliable water supply. There are no perennial streams in the project area.

A complete assessment of the existing hydrological conditions in the area of the project site was conducted by Waimea Water Services and is contained within Appendix II-5. Initial hydrological studies (Bowles, 1992) projected that the groundwater recharge for the study area (bounded by the ocean, the 5,000 foot elevation, and lines drawn parallel to the district boundary, one mile to the south and 2.75 miles to the north) may total approximately 60 MGD (million gallons per day). This recharge percolates downward into the high level water, mauka of the project area, into the basal lens at sea level, and then to the sea. Fresh groundwater floats on the underlying salt water at a ratio of about 1 to 40, so that for every one foot of fresh water head (water level of the lens above sea level) there is approximately 40 feet of fresh water below the sea level. The equation is modified by tidal and recharge fluctuations, which produce a thick brackish or transition zone between the fresh water and salt water. The head increases upward away from the shore (inland) at rates normally from one to two feet per mile.

Since 1990, discoveries of high level groundwater have been made in the area mauka of Mamalahoa Highway. High level groundwater has been found in several wells scattered from Kalaoa in North Kona to Kealahakua Bay in South Kona with water levels in excess of the 350 foot elevation verified by pumping wells at Keei and above Higashihara Park at Honalo. At the observation well mauka of Kona Hospital, a water level of over 490 feet has been reported. A well is presently under construction at Kona Hospital.



Based on the initial estimated recharge, the seaward flow of groundwater through the property was calculated to be approximately 11 mgd per mile of shoreline. Recent discoveries made at the onsite exploration well at the 810 foot elevation, however, indicate that this groundwater flow may have been overestimated. Based on estimates from the water level at the exploration well (3.8 feet) and on preliminary water quality data which shows total chlorides of about 340 mg/l, the groundwater flow through the property to the sea is estimated to be in the range of 4 to 6 MGD . The estimated groundwater flow and quality, however, appears to be more than adequate to support the irrigation water needs of the project.

Drilling of the exploration well has suggested the existence of a major hydrogeologic boundary between the Hokukano exploration well at an elevation of 810 feet and the Department of Water Supply (DWS) production well at 1,780 foot elevation near Kona Hospital. Based on the water quality and water level data, it appears that the majority of the groundwater recharge is diverted away from the subject property. The high water level differential between the two wells in a distance of 1.5 miles indicates a geologic structure(s) of relatively low permeability.

Recent offshore bottom surveys along the Kona coast (J.G. Moore, et. al, 1989) have indicated that massive submarine landslides are in evidence along the Kona coast. With the completion of the Hokukano well and the DWS Kealakekua well in 1992, it now appears that not only does onshore faulting exist, more than likely these faults in some way impede or divert the groundwater flow.

There is also a possibility that the high level groundwater, which is present at the wells mauka of Mamalahoa Highway, extends makai of the highway at the upper elevations of the project. On the project lands, the best site for a potable well would be at an elevation of 1,200 feet or approximately 1.75 miles from the shore. At this location, the basal water level should stand at an elevation in excess of 4 feet above sea level. A more precise determination, however, can only be made following completion of the Kealakekua Well and other wells planned in the area.

#### Potential Impacts

As indicated from Table 3, the average daily water demand for the full development is projected to be 643,000 GPD (gallons per day) of potable water and 1,773,000 GPD of irrigation water. In

Table 3  
Estimated Average Daily Water Demands at Buildout

<u>Potable Water</u>	<u>Units (Average)</u>	<u>Total</u>
1440 Housing Units	400 GPD*	576,000 GPD
1 Golf Club House	20,000 GPD	20,000 GPD
1 Golf Maintenance Building	2,000 GPD	2,000 GPD
1 Sewage Treatment Building	5,000 GPD	5,000 GPD
100 Lodge Units	400 GPD*	40,000 GPD
	<b>Subtotal</b>	<b>643,000 GPD</b>
<u>Irrigation Water</u>		
150 acres - Golf Course Use	6,000 GPAD**	900,000 GPD
20 acres - Common Landscape	4,000 GPAD	80,000 GPD
75 acres - Agricultural	2,000 GPAD***	150,000 GPD
	<b>Subtotal</b>	<b>1,130,000 GPD</b>
<b>TOTAL WATER DEMAND (DAILY)</b>		<b>1,773,000 GPD</b>
Treated Effluent (70% Estimated Recovery)		450,000 GPD
Total Irrigation Water Demand		1,130,000 GPD
Irrigation Water Demand if Effluent Used		680,000 GPD

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gpm: gallons per minute  
 gpd: gallons per day  
 gpad: gallons per acre daily  
 \* County Design Standard  
 \*\* 30% higher during growing in  
 \*\*\* Assuming drip irrigation crops

Source: Evaluation of Water Resources for Hokukano Project prepared by Waimea Water Services (12/92)

that the project is planned to use treated effluent as a supplemental source of irrigation water for the proposed golf course providing an estimated 450,000 GPD, the total irrigation water requirements from groundwater sources is estimated to be approximately 680,000 GPD. The maximum daily potable water demand is estimated to be 964,500 GPD, which is based on the average daily demand multiplied by 1.5. This figure would also be used to determine the installed pumping capacity for potable wells.

Onsite golf course irrigation wells are expected to produce water with chlorides ranging from 250 to 1,000 mg/l. Water quality will be effected primarily by the elevation of well sites. The water quality from the exploration well located at the 810 foot elevation produced about 340 mg/l chloride water. As noted, wastewater treatment plant effluent is also planned as a source of irrigation water for the proposed project as the salinity of the effluent is generally low enough to be used for irrigation. As proposed, the treated effluent would be from a treatment plant located onsite or from a regional development wastewater plan, whereby processed effluent would be transmitted back to the project site for use. Potential impacts to the groundwater hydrology of the project area could result from increased withdrawal of water resources or through the introduction of potential contaminants in the form of treated effluent used for irrigation and/or fertilizer or biocides used on the golf course and landscaped areas leaching to the groundwater supply.

Impacts to the groundwater resources are not anticipated as the proposed irrigation well at the 810 foot elevation is the only permitted or planned well in the general area, makai of Mamalahoa Highway, as recorded with the State Water Commission or County. The adequacy of the ground water resources to meet the brackish water requirements has been established through an Evaluation of Water Resources, prepared by Waimea Water Services (Appendix II-5). Use of the onsite brackish water source would not impact the availability of potable water resources in the area as there is a considerable distance (approximately 1.5 miles) and geological separation, as noted above, between the onsite brackish well and existing and planned County potable well sources located mauka of Mamalahoa Highway.

The potable water requirements for the proposed project are to be provided through the County Water System. The developer has water commitments from the County under the Kealahou Water Source Agreement equivalent to 499 units, which is sufficient to meet the requirements of the initial phase of development. The developer has secured additional well site options from the adjoining property owners should additional well sites be required. Those sources developed with

the County as stand alone wells would be turned over to the County for operation and would use the DWS transmission lines to transmit water to the project site. Should additional well sources be required either onsite or in the general area, the location and sizing of wells would be regulated through State well permitting procedures to insure that the proposed well development does not adversely impact existing or planned regional water sources.

Significant impact to the groundwater resources due to the use of treated effluent for golf course irrigation and/or the use of fertilizers and biocides are similarly not expected, as described in section 4.2.3 below.

#### Mitigation Measures

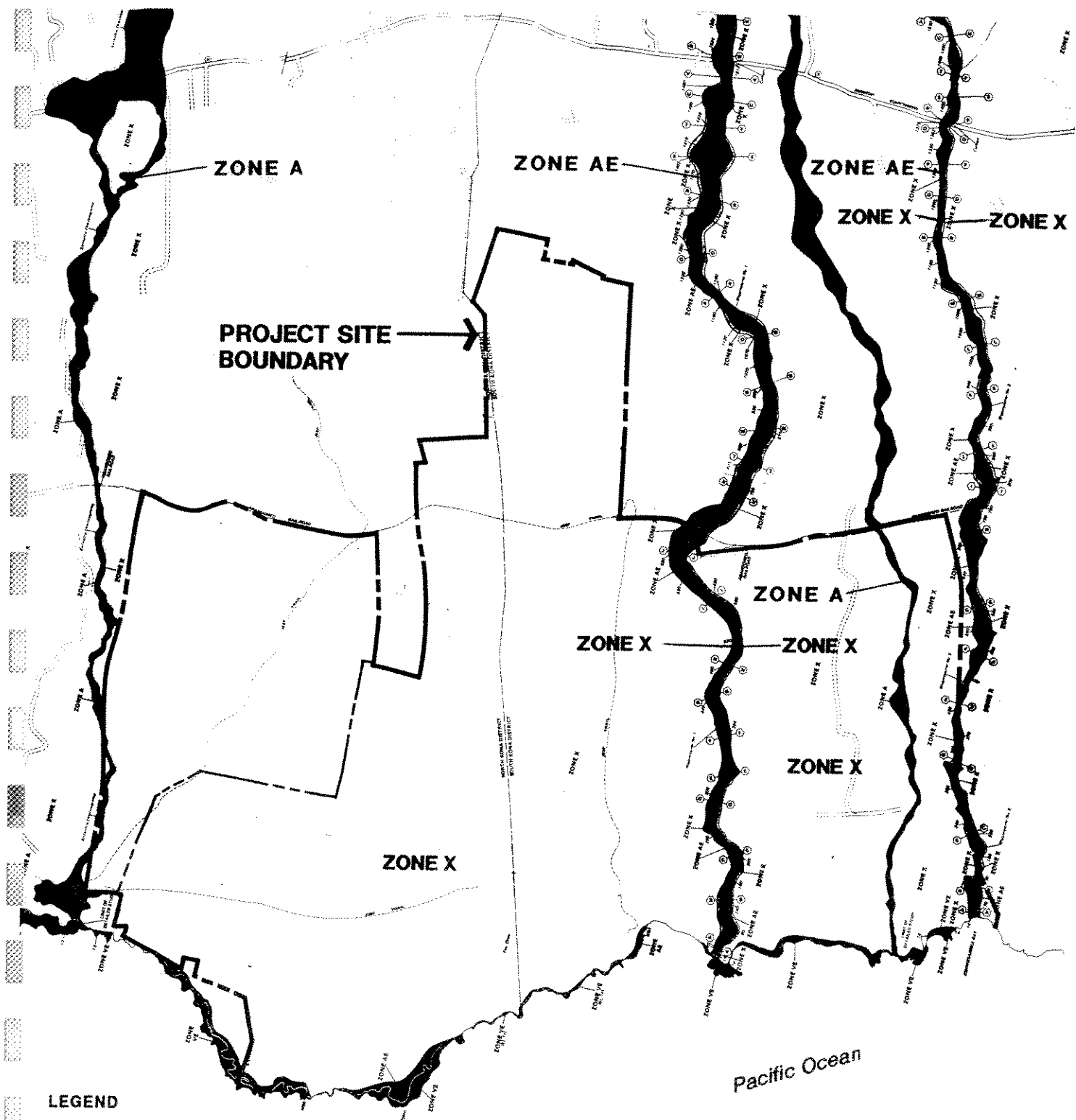
Development of the onsite brackish water system and increased usage of potable water from the County water system is not expected to have any adverse impact on the potable or groundwater resources of the area due to the predicted usage requirements versus the projected quantity available in the basal water resource. Any future well development will need to meet the State DLNR well permitting requirements. In compliance with DLNR, Division of Water Resource Management permitting requirements, brackish water sources developed onsite will require ongoing monitoring and should significant changes to water quality parameters occur, appropriate mitigation measure, including altering or reduction of pumpage rates, would be required.

#### 4.1.4 Drainage and Stormwater Runoff

##### Existing Conditions

Four drainageways touch or cross the project site. The Flood Insurance Rate Map (Figure 15) shows Flood Zone A running along the northern property line and another Zone A traversing the project site near the southern property line. Flood Zone AE traverses the site midway into the southern half of the property and another Zone AE runs along the southern property line. Zone A is defined as areas within the 100 year flood plain where no base flood elevation has been determined and Zone AE is the same, except that the base flood elevation has been determined to be at a specific elevation. Portions of the coastline are also designated with the AE and VE Zones, however, the proposed development would occur significantly inland of these coastal areas so as not to be impacted.





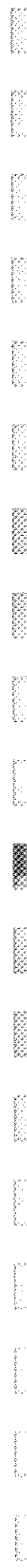
#### LEGEND

- ZONE A** 100 YEAR FLOOD PLAIN  
BASE FLOOD ELEVATION UNDETERMINED
- ZONE AE** 100 YEAR FLOOD AREA  
BASE FLOOD ELEVATION DETERMINED
- ZONE X** AREAS OF 500 YEAR FLOOD; 100 YEAR FLOOD  
WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT  
OR WITH DRAINAGE AREAS LESS THAN 1 MILE;  
AND AREAS PROTECTED BY LEVEES FROM  
100 YEAR FLOOD. (ASSOCIATED WITH FLOODWAYS.)
- ZONE X** AREAS DETERMINED TO BE OUTSIDE  
500 YEAR FLOOD PLAIN.

source: Federal Emergency Management Agency;  
FLOOD INSURANCE RATE MAP-HAWAII COUNTY, HAWAII;  
revised Sept. 16, 1988.

**FIGURE 15**  
**FLOOD INSURANCE RATE MAP**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT**  
**VILLAGES AT HOKUKANO**





### Potential Impacts

The two drainageways situated within the interior of the site traverse the proposed residential development and golf course and discharge into the ocean. In compliance with County of Hawaii flood zone regulations, plans will ensure that habitable structures are placed outside flood zones or that necessary improvements are made to accommodate development. The most significant impact on existing drainage characteristics will result from the creation of impervious surfaces, primarily parking areas and roadways.

The onsite drainage system will consist primarily of golf course retention/infiltration basins and drywells to dispose of runoff generated from roads. Siltation basins will be constructed, as required, to control runoff water quality, and may be incorporated into the golf course. Runoff generated from rainfall on the golf course may be retained and used to supplement the treated effluent and brackish water used to irrigate the golf course. The golf course runoff will be collected by bowl shaped fairways combined with a drainage tile system that will direct the runoff into the irrigation holding ponds for reuse on the golf course. Roadway and parking area runoff will generally be disposed of through injection wells designed according to Department of Health standards and regulations.

The proposed development and drainage improvements are not expected to impact storm flows within the existing drainageway, as surface runoff will be limited to preconstruction volumes and no offsite drainage improvements are anticipated.

### Mitigation Measures

The proposed project is not expected to result in significant adverse impacts to drainage and storm water runoff. To assure that groundwater and nearshore marine water quality is maintained, stormwater runoff generated onsite as a result of the proposed project will be disposed of onsite. As noted above, onsite surface water runoff will be allowed to percolate into the soils of the project site and, if required, sand filters would be used to assist in removing any contaminants that may be present in the surface water runoff. Given the lack of expected adverse impacts, additional mitigation measures are not warranted. The drainage structures and system will be designed, constructed, and operated in compliance with applicable State and County rules and regulations.



#### 4.1.5 Natural Hazards

##### Existing Conditions

Those natural hazards which could have the greatest potential impact upon the physical character of the subject property, aside from storms and strong winds, are volcanic eruptions and earthquakes. Tsunamis are not considered to be a potential threat because the proposed development is planned inland of the coastal area and not within the coastal hazard zones, designated as the “VE” zone by the FEMA Flood Insurance Rate Map.

The proposed project is located on the western slope of Mauna Loa volcano, which rises to a height of 13,679 feet above sea level. The project site is located about 22 miles west of Mokuaweoweo Crater, the volcano’s summit, on a prehistoric lava flow, which is estimated to be more than 4,000 years old. According to the United States Geological Survey, Mauna Loa has erupted thirty-two times since 1832. Seven of those eruptions have occurred in the southwest rift zone, that area of the volcano with the greatest potential exposure to the South Kona area. Of those seven eruptions, the closest to the project site occurred in 1950 when a lava flow from the southwest rift zone reached the sea about eight miles south of Kealahou Bay.

Hazards associated with eruptions can be categorized in four types: lava flows, tephra falls, pyroclastic surges, and volcanic gasses. Volcanic hazard zones have been established for the entire Island of Hawaii, including the South Kona region (Mulleneaux, et.al., 1987). The area surrounding the project site is designated as lava flow Hazard Zone 3 (with Zone 1 being the highest and Zone 9 being the lowest risk), and is characterized by lava coverage of about 5 percent in the past 40 years, and 20 percent during historic times.

Tephra consists of volcanic ash and coarser fragments produced by lava fountaining or explosive eruptions. The project area is located in Tephra Hazard Zone 2. Hazard zones for volcanic gases are the same as for tephra. The project site is located in Volcanic Gas Hazard Zone 2. No threat from pyroclastic surges, which are clouds of ash, rock fragments, and gas that move at high speeds outward from a source vent, has been identified for the project area. Pyroclastic surges are presently associated only adjacent to Kilauea Caldera, although they could conceivably be initiated at other places where groundwater or sea water interact with magma.

The Island of Hawaii experiences thousands of earthquakes every year, usually associated with volcanic activity or the movement of magma at shallow depths. Earthquakes endanger people and property by shaking structures and generating ground fractures, settling, and landslides. Sudden subsidence along the shoreline associated with an earthquake can also generate a tsunami. The two most severe earthquakes during historical times occurred in 1868 and 1975. The magnitudes of both quakes exceeded 7 on the open-ended Richter scale and resulted in local major damage in the Ka'u and Kilauea areas respectively. Both events generated a tsunami, with the 1975 quake creating a tsunami that sank boats in Keauhou Bay.

The most likely threat to the North and South Kona regions would come from a large earthquake (magnitude of 6 or greater) occurring at Mauna Loa or Kilauea. The Kealakekua Fault line is about 1.5 miles from the project site at its closest point along the shore, at which point it extends off shore. In 1951, an earthquake occurred about one mile offshore of the project area caused by movement on the fault. In 1983, a landslide at Kealakekua Bay occurred shortly after a magnitude 6.6 earthquake occurred at a depth of seven miles, approximately midway between Kilauea and Mauna Loa. The most recent large earthquake on Kilauea's south flank occurred in June 1989, with a magnitude of 6.1. This quake, however, caused much less damage than the aforementioned 1975 event.

#### Potential Impacts

Natural hazards, such as lava flows and earthquakes, could have a direct impact on the proposed project. Based on information developed by the United States Geological Survey (USGS) and published in its Professional Paper 1350 (1987), the likelihood of volcanic eruption at Mauna Loa is remote; one to three percent of the land surface in Lava Flow Zone 3 has been covered by lava during historic times. An eruption at Mauna Loa could also result in thin layers of tephra impacting the project site. Volcanic gases from an eruption might also impact the project site. However, both of these latter occurrences would depend in great part on the size of the eruption, associated fountaining of lava, and wind direction.

Buildings, including residential structures, as well as roadways, sewer, and water lines could be damaged by an earthquake of sufficient magnitude. Landslides triggered by earthquakes are a possibility in the project area, although they would likely occur on the face of the coastal ridge north of Pu'u Ohau rather than on the proposed development area, which would be significantly inland (minimum of 300 feet) from the coast.

## Mitigation Measures

The impact of lava flows upon the project site can only be mitigated with the intention of protecting life. The protection of property from lava inundation has proven to be relatively ineffective on a regional scale. Therefore, mitigation of lava flow hazards is limited to the provision of adequate evacuation routes and a civil defense warning system designed to provide area residents with as much advance notice of a threatening lava flow as possible.

Mitigation of hazards associated with earthquakes include adherence to County building codes and standards in order to minimize potential damage to structures. All buildings and structures within the proposed project would be designed and constructed in compliance with applicable building codes and standards.

### 4.1.6 Air Quality

#### Existing Conditions

Existing air quality in the vicinity of the project is mostly affected by emissions from natural, agricultural, and/or vehicular sources. The dominant factor for the past several years has been the volcanic haze (vog) from Kilauea volcano which eventually drifts into the Kona and Kohala areas more than fifty miles away. Other natural sources of air pollution that may affect the air quality of the site include the ocean, plants, and wind blown dust. Mamalahoa Highway, located mauka of the project site, is a major arterial roadway. Prevailing onshore winds during the daytime tend to carry emissions from motor vehicles traversing this roadway away from the project site.

Very little air quality monitoring data from the State Department of Health is available for the Kona area. Based on what little data is available, it appears likely that both State and National ambient air quality standards are currently being met despite the persistent vog.

#### Potential Impacts

Based on an Air Quality Study prepared for this project by B.D. Neal & Associates (Appendix I-5), it was concluded that proper implementation of the project would not exceed State or Federal air quality standards, although there are certain minor impacts that may be realized. Short term impacts from fugitive dust will likely occur during project construction phases. To a lesser extent,

exhaust emissions from stationary and mobile construction equipment, from the disruption of traffic, and from workers' vehicles may also affect air quality during the period of construction.

After construction, depending on the volume of traffic generated and the capacity of area roadways, long term impacts on air quality could potentially occur indirectly as a result of emissions emanating from vehicular traffic coming to and from the development. Access to the project will be accomplished primarily via Mamalahoa Highway, a proposed new bypass road, and the extension of Haleki'i Street. To assess the impact of emissions from these vehicles, an air quality modeling study was undertaken to estimate current maximum ambient concentrations of carbon monoxide along roadways leading to and from the project area and to predict future levels of air pollution both with and without the proposed project. Based on the modeling results, present carbon monoxide concentrations were estimated to be well within both State and National ambient air quality standards. Future scenarios studied included the years 2005 and 2010 both with and without the project. The results of these studies indicated that project traffic through these stages of development would have only a slight negative impact at intersections along the bypass road and would result in improved air quality near the intersection of Haleki'i Street and Mamalahoa Highway. With or without the project, all locations in the area would comply with the National standards. Although there is the potential exceeding the more stringent State standards for carbon monoxide at some point in the future near the bypass/Kuakini Highway intersection, the proposed project would contribute little to the problem. Because the State standards are set at such stringent levels, it is likely that they are currently exceeded at many locations in the State that have even moderate traffic volumes.

Depending on the demand levels, long term impacts on air quality are also possible due to indirect emissions associated with the development's electrical power and solid waste disposal requirements. Quantitative estimates of these potential impacts were not made, but based on the estimated emission rates involved and the relative changes in demands, the attendant impacts are expected to be small. The promotion of energy conservation and recycling programs within the proposed development could serve to reduce any impacts.

Pesticides will be used to maintain golf course grasses. If applied during low wind conditions using proper application techniques, contamination of nearby, downwind areas by airborne drift should not be a problem.

### Mitigation Measures

Due to the minimal air quality impacts from projected project related traffic, no measures are recommended to mitigate these emissions other than the roadway improvements recommended by the traffic consultant.

State air pollution control regulations require that there be no visible fugitive dust emissions at the property line. Hence, an effective dust control plan must be implemented to ensure compliance with State regulations. Fugitive dust emissions can be controlled to a large extent by watering active work areas, keeping adjacent paved roads clean, covering open bodied trucks, and use of wind screens. Other dust control measures could include limiting the area that can be disturbed at any given time and/or mulching or chemically stabilizing inactive areas that have been worked. Paving and landscaping of project areas as early as practical in the construction schedule will also reduce dust emissions. Exhaust emission impacts from construction related equipment can be mitigated to some extent by moving construction equipment and workers to and from the project site during off peak traffic hours.

Although pesticides used on the golf course, if properly applied, should not pose a problem to downwind areas, measures which would provide an added level of protection include:

- Use of shrouded spray equipment fitted with computerized flow controllers;
- Maintaining a buffer distance of at least 100 feet between target spray areas and populated locations; and
- Planting of vegetation screens along populated areas of the golf course perimeter to provide added measures of protection.

#### 4.1.7 Noise Quality

### Existing Conditions

The proposed project site is currently exposed to low noise levels of less than 39 dBA, typical of quiet rural and remote pasture areas. The dominant noise sources include wind, birds, and surf.

The only nearby noise sensitive area is the Kona Scenic Subdivision, which currently experiences a background noise level of approximately 41 dBA, typical of quiet residential neighborhoods.

#### Potential Impacts

According to a Noise Impact Assessment prepared for the Villages at Hokuano by Darby & Associates (Appendix I-6), traffic noise increases along Haleki'i Street due to project generated traffic should offer minimal impact to noise sensitive locations along Haleki'i Street. Traffic noise levels along Mamalahoa Highway, due to the development of the project, are predicted to decrease and, thus, offer no noise impact to noise sensitive locations along Mamalahoa Highway. The traffic noise level decrease along Mamalahoa Highway is attributed to the following:

- The proposed State bypass road will divert traffic from Mamalahoa Highway to the bypass road, thus decreasing the traffic volume on Mamalahoa Highway; and
- The project's proposed lengthening of Haleki'i Street to intersect with the bypass road will divert some local Haleki'i traffic currently using Mamalahoa Highway to the bypass road, thus again decreasing the traffic volume on Mamalahoa Highway.

The dominant noise source during project construction will probably be earth moving equipment, such as bulldozers and diesel powered trucks. Any noise impact from such activity on the existing Kona Scenic Subdivision residential area should, however, be relatively short term. Blasting, if required, could also have noise impacts. However, with the appropriate blast design techniques, the noise from blasting can be controlled within acceptable limits at the closest noise sensitive areas.

According to the Noise Impact Assessment, some of the proposed residential areas closest to the proposed State bypass road may be exposed to future hourly Leq (equivalent continuous noise level) noise levels of greater than the FHWA recommended limit of 67 dBA if less than 50 feet from the bypass road. If residential setbacks from the bypass road of 50 feet or more cannot be achieved, other noise mitigation measures should be implemented to conform with FHWA traffic noise exposure guidelines.

Noise associated with the operation of the proposed golf clubhouse may impact the closest proposed homes if not properly mitigated. Additionally, equipment associated with the grounds

maintenance of the proposed 27-hole golf course may impact nearby homes within the project, however, such activities generally take place during the daytime and are usually of short duration. Therefore, they should not be considered objectionable.

Due to the distance from Keahole Airport, noise from airport activities should not impact the proposed development. Occasional high altitude flyovers of such aircraft as single engine planes and helicopters may be audible at times. However, flyovers should be infrequent and, therefore, their impacts to the proposed development should be minimal.

#### Mitigation Measures

Given the relatively low noise conditions present on the property, projected noise levels are expected to increase onsite during the short term grading and construction phases. Long term impacts to noise quality in the area would come from increased traffic, golf course maintenance equipment, public address equipment, and the sounds of people talking. It is expected, however, that the noise from these sources would be less than the noise generated by construction activity. However, construction noise would occur generally for short periods during daytime periods and would not be significant, provided appropriate noise control measures are incorporated with the operation of construction equipment. Proposed residential areas should be planned with appropriate buffer areas from the proposed highway bypass that may transect the property in order to mitigate traffic generated noise impacts from this source. Once golf course construction is complete, vehicular noise would generally be distributed evenly throughout the day and limited to daylight and early evening hours with respect to golf course operations. Since long term impacts to noise quality in the area are expected to be minimal and far removed from existing developed areas, mitigation measures beyond the planning and construction phases do not appear warranted.

#### 4.1.8 Visual Attributes

##### Existing Conditions

The existing site characteristics are shown in Figures 16 through 19. The lower portions include large areas of rolling terrain with exposed pahoe-hoe lava flows and some top soil in the flatter areas between ridges. Vegetation, comprised of keawe, koa haole, grasses, and brush, extends from the coastal area up to the 800 foot elevation (MSL). Above 800 feet to the upper boundary at the

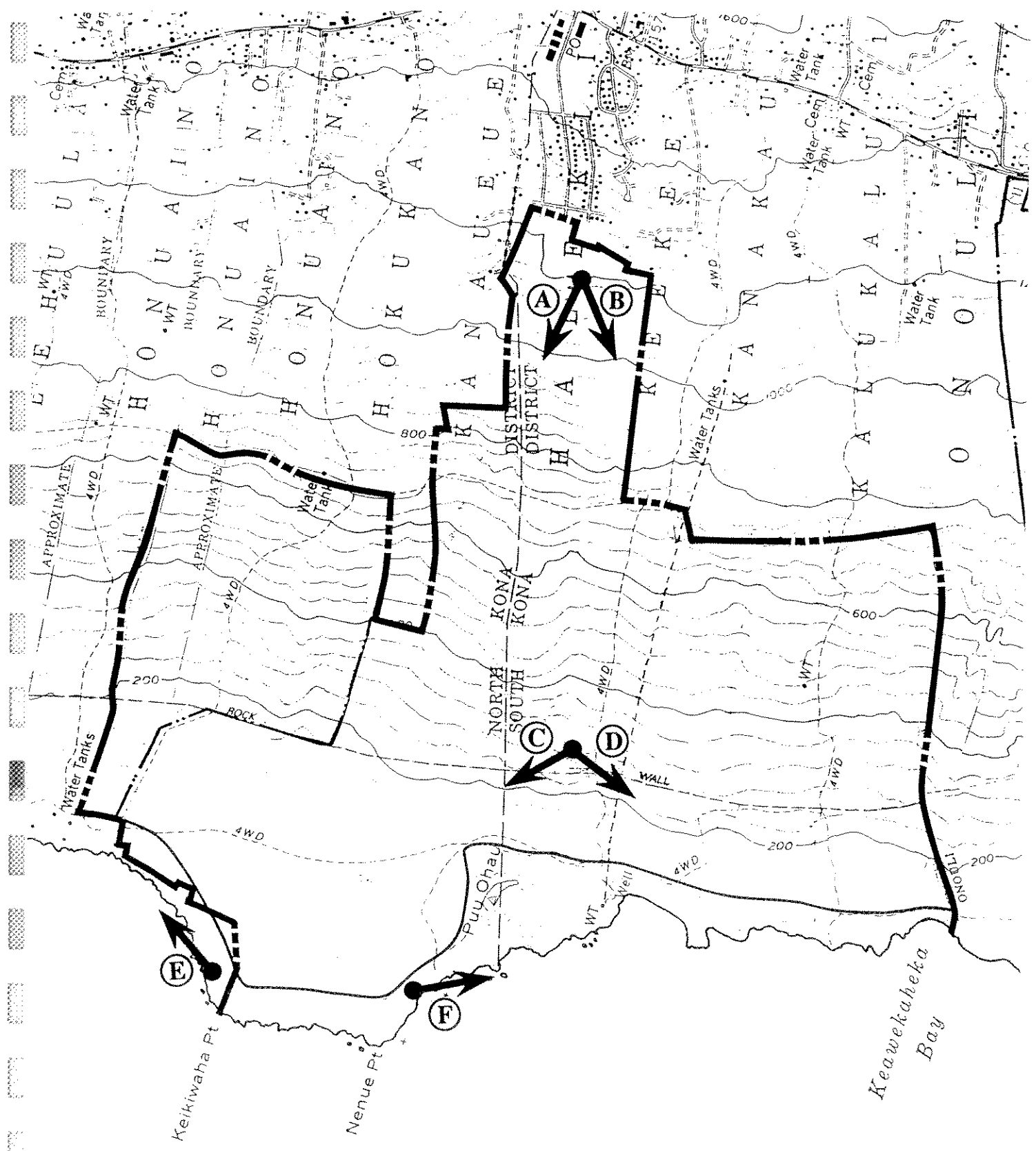
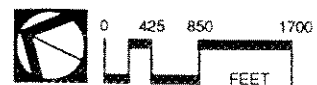
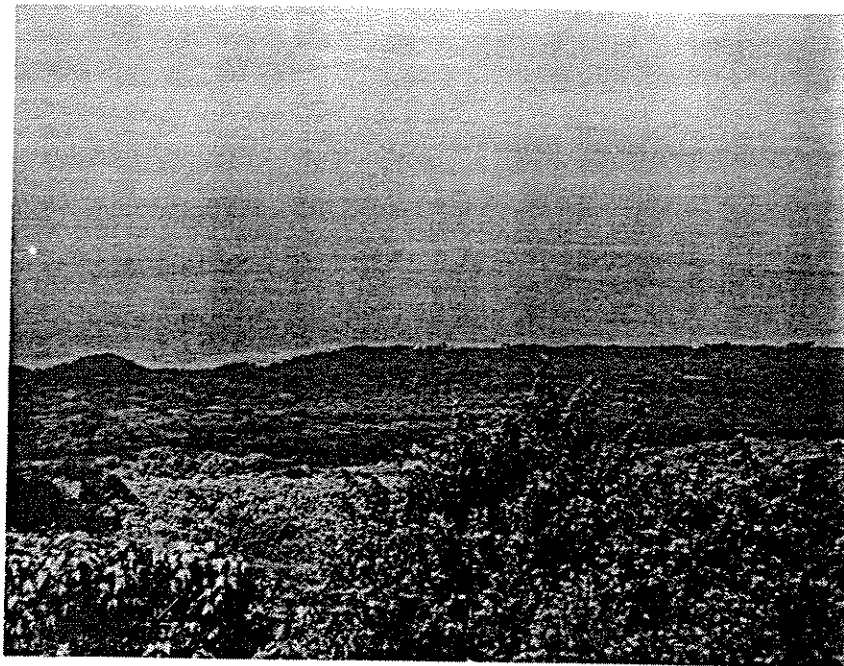


FIGURE 16  
 VISUAL KEY MAP  
 FINAL ENVIRONMENTAL IMPACT STATEMENT  
 VILLAGES AT HOKUKANO

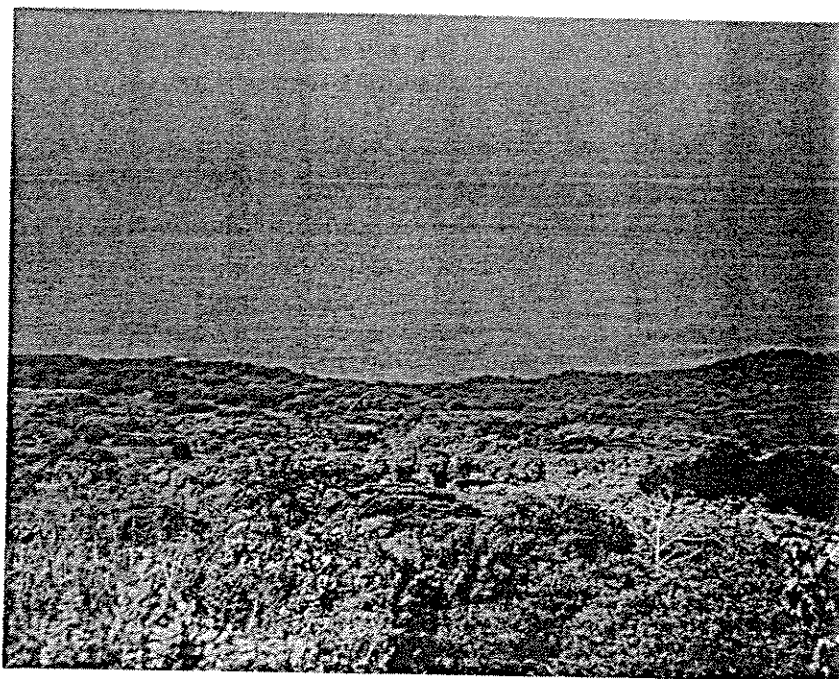








Ⓐ Looking from the top of the property towards Pu'u Ohau (Red Hill).



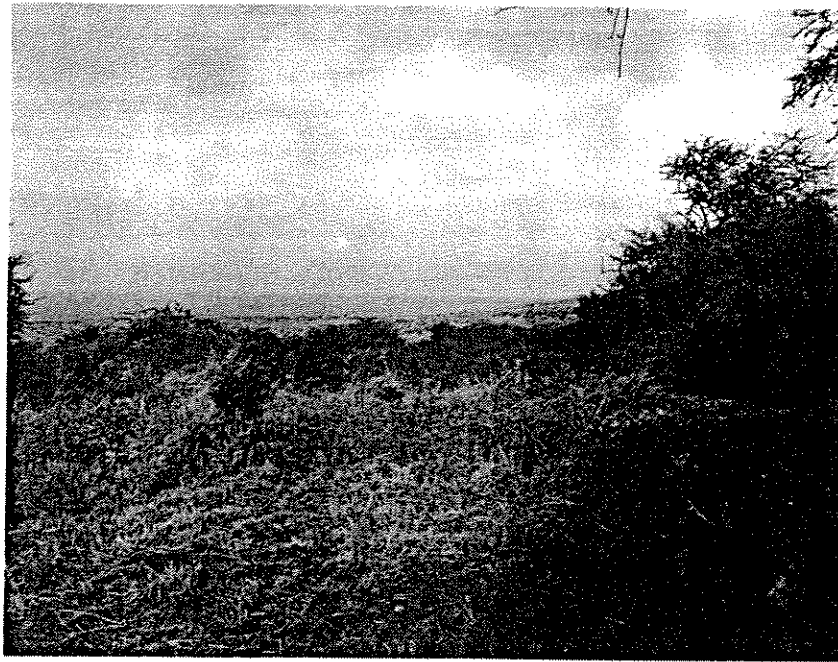
Ⓑ View to the Southwest from the top of the property.

FIGURE 17  
SITE PHOTOS A & B  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
**VILLAGES AT HOKUKANO**

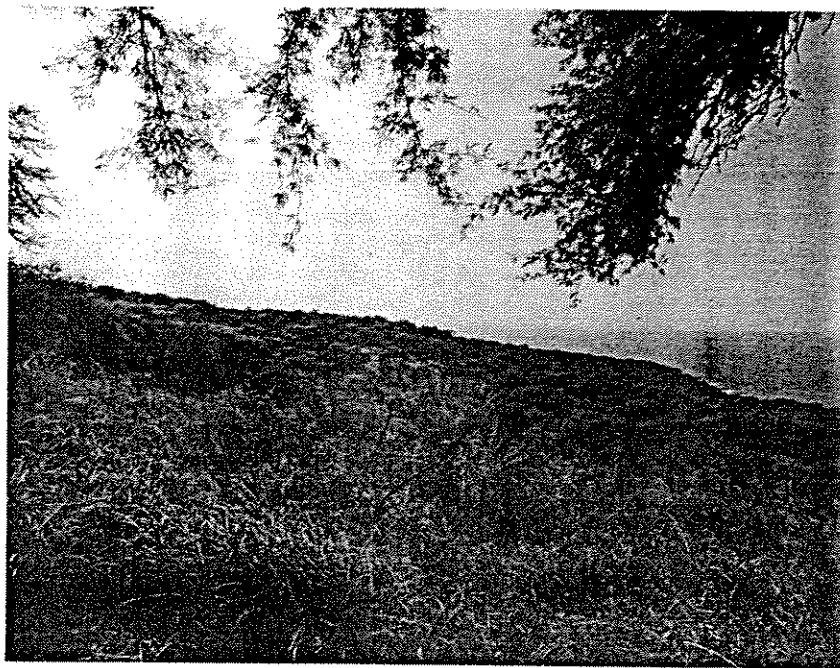
NO SCALE







③ View Northwest from the middle of the property at Kuakini wall.



④ View South from the middle of the property at Kuakini wall.

FIGURE 18  
 SITE PHOTOS C & D  
 FINAL ENVIRONMENTAL IMPACT STATEMENT  
**VILLAGES AT HOKUKANO**

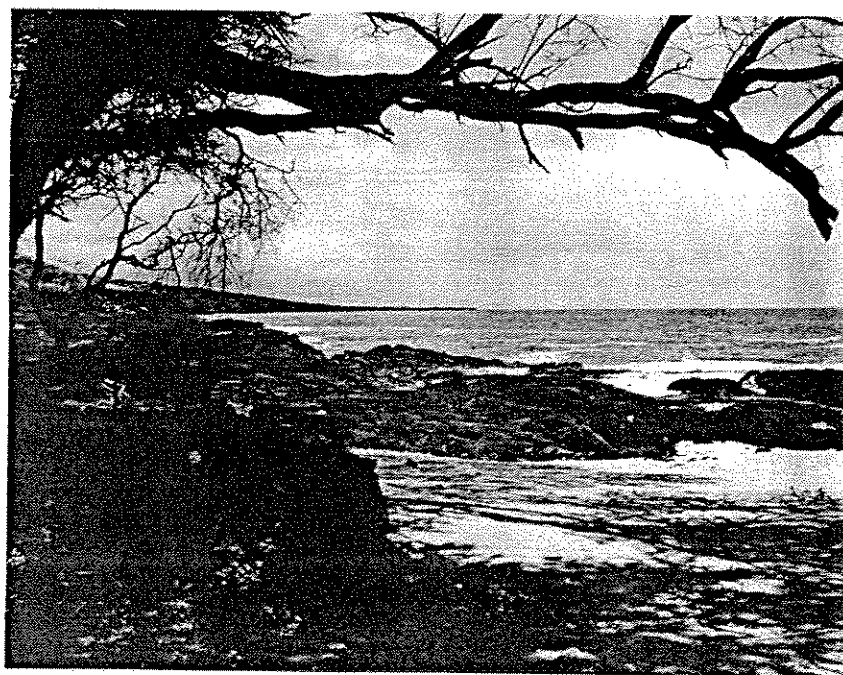
NO SCALE







Ⓔ View North along the coast near the  
"Hokukano Village" site.



Ⓕ View South along the coast at "Coconut beach".

FIGURE 19  
SITE PHOTOS E & F  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
**VILLAGES AT HOKUKANO**

NO SCALE





1,240 foot elevation, large kukui and monkey pod trees are found, with typical guinea grass and buffel grass understory. Pu'u Ohau, a prominent land feature located midway near the coast, rises to an elevation of approximately 230 feet. Along the shore is found a rocky coastline with occasional pockets of sand found in the area north of Pu'u Ohau, with steep and occasionally undermined cliffs along the shore, south of the Pu'u. Views of the project site are presently available from limited portions of Mamalahoa Highway, primarily from the southeast beyond the town of Kealahakua, and from portions of the existing residential neighborhoods that are directly mauka of the project site, primarily the Kona Scenic Subdivision. The project site is also visible to those accessing the property along the coast.

### Potential Impacts

In the short term, the visual character of the area will be affected by the presence and operation of construction equipment. The heavy construction involved with site preparation and infrastructure development will extend for about two years. The housing construction will be phased over a period of 30 years or more, beginning in 1995.

Construction activities will create some adverse effects on the views of the project site. Construction of the access road and highway improvements, portions of the golf course, residential structures and support facilities may be visible from limited portions of Mamalahoa Highway. Vegetation clearing and grading involved with construction will be visible from surrounding properties, as will the construction of buildings and the installation of utilities. Because the development will be phased, future users of the site will also be exposed to views of construction activities. Some of the construction activities may also be visible from coast and offshore ocean locations.

The most important near term changes in the views of the project will be the construction of the access road, the golf course fairways, golf clubhouse, lodge, and associated buildings. Many of these features will be visible from the proposed bypass road. Cleared vegetation, bared soils in graded areas, and stored construction equipment will be evident during much of the construction period. Buildings and exposed soil and rock surfaces will be visible until the landscape plantings have been established.

Long term visual effects will result from the proposed project when it is completed. Replacing the barren landscape in many areas will be a low density residential development planned around a golf



course and open areas. Because of topographic conditions and existing vegetation, few structures will be visible from most locations along the coast.

### Mitigation Measures

Although the potential impact from the proposed project would have a negligible impact on existing views to the shore or mauka from the shoreline, the development will alter the existing natural character of the property. Several measures have been proposed by the developer to enhance the visual characteristics of the proposed project. These include:

- Use of landscaping and architectural style designed to blend the buildings with the visual character of the site;
- Building of the golf course and lodge will be low profile in nature and designed to fit with the existing topography with little alteration to the natural terrain;
- Implementing architectural standards and design guides as part of the CC&R's for the residential neighborhoods in order to maintain a visual cohesion throughout the community and to present a more pleasing visual harmony with the existing natural conditions;
- Maintaining the coastal area (State Conservation District) primarily as a natural open space;
- Providing for a generally low density planned development integrated with generous open space elements in order to achieve a low density rural character that is consistent with the surrounding area;
- Controlling residential development by designating building envelopes within each lot and controlling the landscape improvements that can occur within the lots; and
- Providing opportunities for selected agricultural activities (primarily orchard and ornamental crops) to occur on portions of the larger one to three acre lots.

Additionally, the proposed golf clubhouse and lodge buildings have been planned to fit with the existing land forms and are of a low profile, so as not to impact views to the shore from surrounding areas or from the proposed highway bypass as it traverses the project site. Taken as a whole and combined with sensitive site planning, these measures can ensure that the resulting development presents a minimal impact to the existing visual character of the property.

## 4.2 NATURAL ENVIRONMENT

### 4.2.1 Terrestrial Flora

#### Existing Conditions

A botanical survey report of the entire 1,540 acre project site was prepared by Evangeline Funk, Ph.D., in November, 1991 (Appendix I-1). The survey described the composition of the vegetation cover and mapped the vegetation types. It also determined that there were no proposed or listed threatened or endangered plant species. At least 98 percent of the area's vegetation was examined. Within the property, four major vegetation types were identified. From the seacoast up to nearly the 700 foot elevation, the prosopis tree with a mixed grass understory is common. Within the central part of the property, koa haole is the second most common vegetation, with a prosopis scrub. Within this area were found three wiliwili trees and the only native plant species, consisting of a colony of Euphorb and 'Akoko (*Chamaesyce celastroides*), in an area mauka of Pu'u Ohau at the 470 foot elevation. Within this colony was also found a single Maiapilo or Hawaiian Caper (*Capparis sandwichiana* DC), which thrives in dry, hot locations and has been used as a landscape plant in other sites on the Kona coast. From the 850 foot elevation to about the 1,100 foot elevation, kukui scrub is common. Above this elevation to the mauka boundary are typically found the lantana scrub. Within this area are also found several fruit trees, including mango, avocado, guava, and papaya. In the upper elevations, especially in the southern portion, are found large monkey pod trees, which were planted to provide shade for the cattle.

#### Potential Impacts

Impacts to the existing flora would result from preparation of the project site for the development of the golf course, golf clubhouse, lodge, residential units, and supporting infrastructure. Grading, cut and fill work, and similar construction activities will impact existing plant cover.

It is anticipated that portions of the site would be left intact where feasible, especially within the Conservation District along the shoreline, in natural buffer areas around the golf course, and in open space areas throughout the residential neighborhoods. Potential impacts to the vegetation of the site will be significant in that much of the existing vegetation will be lost. However, as noted below, the potential adverse impacts will be largely mitigated. Of some concern is the small community of native plants, including the single Capparis. Although none of the plants are considered threatened or endangered, the plants should be preserved if possible, as continued development of the Kona coast will diminish their populations and range in the future.

#### Mitigation Measures

To offset the loss of existing vegetation, the use of native plant material for landscaping in and around the golf course will be considered, wherever practicable. The native species, such as the Euphorbs, Wiliwili trees, and the single Capparis, would be preserved or propagated and used in the landscaping plan to the furthest extent practical. Many of the Prosopis trees could also be saved and moved to places where they will provide quick shade.

#### 4.2.2 Terrestrial Fauna

##### Existing Conditions

According to the Survey of Avifauna and Feral Mammals at Hokukano by Philip L. Bruner dated October 16, 1991 (Appendix I-2), the existing fauna typically consists of introduced species that are transient in nature. These include the mongoose, cardinal, barred dove, spotted dove, myna bird, golden plover, and house sparrow. Feral dogs, cats, pigs, and rodents are also known to the area. No endemic species were found on the property. Additionally, no unique wildlife habitat was found on this property. The limited number of migratory shorebirds recorded on the site was attributed to the lack of suitable habitat. Endemic birds, such as the short-eared owl or Pueo and Hawaiian Hawk or I'o may forage in this region, however, none were found on or near the project site.

##### Potential Impacts

The proposed development will cause the disruption of wildlife use of the site. During construction, most birds and mammals will probably migrate to undisturbed areas within the site or

along the coast. Once the project is completed, the more formal open landscape and water features of the golf course portion will contribute to increased habitat diversity necessary for the fauna which are present or frequent the area. In some instances, the greater diversity in plant materials and water features may actually increase the available habitat for several species, primarily the Golden Plover and Ruddy Turnstone. No threatened or endangered wildlife species will be affected by the project, as none occur on the property.

The controlled use of fertilizers and pesticides in golf course maintenance is seen as presenting little or no hazard to birds frequenting the grassed areas or ponds associated with the golf course (Murdoch and Green, 1991). Fertilizers are relatively non-toxic unless ingested in large amounts, and all herbicides and fungicides used in golf course maintenance in Hawaii are of low to moderate toxicity. The only chemicals used in Hawaiian golf course maintenance which are highly toxic to birds are the organic phosphate insecticides, especially chloropyrifos. However, chloropyrifos is strongly absorbed on to the thatch layer of turf and moves little from the site of application.

Because of the absorption of organic phosphate insecticides on organic layers in turf and their rapid breakdown, there is little chance of their movement from grassed areas into the retention ponds associated with the proposed golf course. Label instructions strictly prohibit their direct applications to streams and ponds. In addition, other insecticides with reduced toxicity can be substituted for chloropyrifos with little loss of effectiveness.

#### Mitigation Measures

No significant impact is expected to occur to any wildlife species on the property; however, several measures are recommended to minimize effects on wildlife during project development.

- **Revegetation of cleared areas:** Extensive ornamental and native landscape vegetation species can be planted as buffers and perimeter areas. These landscaped areas will again serve as habitat areas for some faunal species.
- **Pesticide controls:** Use of pesticides should be controlled on the site with special care to avoid any impacts on wildlife. Only those pesticides which are approved for golf courses should be applied. Application should be supervised by the golf course superintendent. (Measures related to limiting the application and managing the use of pesticides is covered in detail in the following section.)

#### 4.2.3 Nearshore Marine Environment

##### Existing Conditions

A Quantitative Assessment of the Marine Communities and Water Quality by Richard E. Brock, Ph.D., was completed in April 1992 (Appendix I-3). In general, the marine communities resident to the waters fronting the Villages at Hokukano are diverse and the fish communities do not show the declines in abundance that have been encountered in many other Hawaiian coastal settings in recent years. No unusual marine species or communities were noted in the study area.

No threatened or endangered species were encountered within the study area, however, several humpback whales were noted well offshore of the site during the March 1992 field effort. Despite not seeing green turtles (a threatened species), it is expected that turtles must, at a minimum, pass through the waters fronting the project site.

In the study area, 24 sites were established to quantitatively assess water quality characteristics. One of the sampled sites was a brackish water pool, the remaining stations sampled marine waters. Based on this analysis, the waters fronting the project site were found to be typical of well-flushed, underdeveloped West Hawaii coastal settings.

##### Potential Impacts

An analysis of potential impact to marine communities with the development of the Villages at Hokukano suggests that sedimentation during the construction phase of the project may pose potential for negative impacts. However, given the porous nature of the substratum and relatively low rainfall characteristics of the project site, if prudent construction techniques are used (i.e., removing vegetation only as immediately needed, use of temporary settlement basins, etc.), the potential impact to the marine communities due to sedimentation can be largely mitigated during the construction phase.

Long term water quality studies by Brock and Norris, 1988, carried out along the West Hawaii coast at Waikoloa, monitored the changes to the groundwater chemistry for dissolved nutrients, pesticides and herbicides. These changes involved increases in the concentration of inorganic nutrients. Pesticides and/or herbicides were not detected in water, sediments or organisms. Additionally, the changes in the inorganic nutrients all fell within the range of concentrations

encountered at other localities on the West Hawaii coast that have no surrounding development (i.e., completely natural systems). Further, the studies were unable to detect any quantifiable change in the aquatic biota resident to the Waikoloa area. This apparent insensitivity of the aquatic biota to these changes is probably related to: 1) the presence of numerous herbivores controlling algal growth; 2) high dilution and advection rates of incoming high nutrient groundwater; and 3) a probable preadaptation of these organisms to waters with highly variable nutrient concentrations. These data suggest that if a similar elevation of nutrient levels were to occur following the proposed development, there should be a similar lack of response by the marine communities to this input. Despite considerable efforts during the quantitative assessment, no anchialine ponds, which are common along the West Hawaii coast, were located on the project site. There is a strong likelihood, however, that anchialine species are present within isolated wells or caves near the shore.

Upon development of the proposed project, it is planned that the public will have increased access to the ocean shoreline by way of a public access road to be provided by the developer leading to a greater pressure on marine resources. This increased pressure could lead to a decrease in the abundance of fish and desirable invertebrates such as lobster and squid. Additionally, some people are inclined to litter and leave wastes behind, befouling the shoreline area and marine environment.

#### Mitigation Measures

Several measures are being considered by the developer as part of the golf course planning, design, and operation to mitigate, to the furthest extent practical, the potential for nutrients or chemicals associated with the golf course maintenance from impacting groundwater or coastal waters fronting the proposed project. These measures include:

- Implementing an Integrated Golf Course Management Program (Appendix I-7) aimed at minimizing the use of chemicals for golf course maintenance and ensuring safe handling and storage of all chemicals;
- Adopting Hawaii proven biorational pest control methods when appropriate;
- Engineering the golf course with a bowl-shaped fairway construction and with a subsurface drainage system designed to collect stormwater runoff or excess irrigation and conducting this to irrigation ponds for reuse on the course;

- Incorporating a “Reduced Turf” golf course design, which reduces fairway areas and requirements for water, fertilizers and chemicals; and
- Implementing a Water Quality Monitoring and Mitigation Program (Appendix I-4) to ensure ongoing monitoring of soil and coastal water conditions for chemicals used in golf course and landscaping and, if indicated, implementing appropriate mitigation measures.

The Integrated Golf Course Management Program (IGCMP) mentioned above is a comprehensive program intended to coordinate the “best management practices” related to the major aspects of golf course management. Best management practices (BMP) are specific modern measures within the construction and management fields intended to encourage a greater sensitivity to the environment. Relating to golf course development, that focus is intended to produce high quality turfgrass, which is essential to the maintenance of a premium golf course while reducing any negative threats to the environment, especially with reference to water quality. Briefly, the IGCMP covers the following areas of golf course construction and operations:

- Golf course construction
  - General design approach
  - Clearing and grading
  - Construction time frame
  - Erosion and sedimentation control
  - Construction noise
- Golf course turfgrass management
  - Turfgrass management areas
  - Management and personnel
    - Upper level management
    - Golf course superintendent
    - Supporting staff
  - Limitations to culturing turfgrass
  - Major turfgrass management tools
    - Integrated pest management
    - Turfgrass pesticides

- Biological controls
  - Turfgrass fertilizers
  - Turfgrass irrigation
  - Golf course maintenance facility
- Environmental monitoring
  - Water quality monitoring

In part, the plan contemplates selection of disease resistant turf grasses and the use of certain soil types in suitable quantities to properly absorb nutrients and water. It also involves timing the application of fertilizer and pesticides to prevent rainfall and irrigation water from leaching chemicals to the underlying bedrock formation and groundwater.

Chemicals that may be used for golf course maintenance are not expected to have any adverse impact on groundwater resources given the depth of the underlying brackish aquifer and the natural filtering properties of the soils characteristic of the site. However, the application procedures of the IGCMP will augment the overall precautionary measures contemplated in the plan. One of the goals of the golf course maintenance and management program is to limit the application of chemicals to the minimum required to maintain a healthy landscaped environment. In this way, the potential for over application and leaching of chemicals through the soil column is reduced or, perhaps, virtually eliminated.

The developer proposes the use of lined drainage channels consisting of a tile system designed to collect excess runoff and infiltration. Generally, fairways would be topographically shaped to collect rainfall and irrigation runoff into the tile system and transferred to retention ponds for reuse as irrigation water. This type of water management system will also incorporate a golf course design concept known as "Reduced Turf" to attain a two-fold objective: reduction of water consumption and reduction of chemical applications. Reduced Turf design is often used in desert climates where water is at a premium. It strives to reduce the amount of fairway acreage by retaining the natural land form and vegetation in the area between the tee boxes and the fairways. By design, the overall irrigation area and the amount of fertilizer and pesticide application necessary to maintain the turf is reduced.

In order to ensure that the groundwater quality is monitored for pesticides, fertilizers, and other potential contaminants as part of the IGCMP, the applicant proposes to establish a comprehensive



water quality monitoring program and mitigation plan. In this plan, groundwater will be sampled on a regular basis for potential contaminants. The goal of the plan will be to ensure that primary and secondary lines of control have been successful in protecting water quality. A secondary goal will be to mitigate any problems the monitoring has detected. The success of the monitoring will depend in part on:

- Establishing a water sampling plan according to the requirements of the Department of Health and established protocol;
- Implementing a routine sampling plan designed specifically for the site using modern, accepted technologies, including wells, lysimeters, and other appropriate devices;
- Utilizing appropriate analytical techniques with established protocol by qualified laboratory personnel;
- Establishing a reliable, valid background index of water quality, including the documentation of concentrations of dissolved solids, chlorides, nitrate, phosphorus, and other compounds, as mandated by the Department of Health;
- Accurately comparing background indices with collected data in a timely fashion; and
- Reporting valid results and conclusions or recommendations in an expedient manner.

In the monitoring plan, drainage water samples from an underground collection system and/or lysimeters will be analyzed for contaminants according to established protocol. Lysimeter wells will be located strategically in association with fairways and greens at the upper and lower elevations of the golf course. Analysis of this water will give the first indication of quality change because contaminants should be most concentrated in drainage water. The next analysis point would be water from the groundwater, while the final monitoring points would be coastal water.

In order to be successful, a most important aspect of monitoring will be to establish a valid, reliable background index of water quality for all water sources. That index is what all subsequent analysis will be compared to. It will be equally important to obtain representative samples and conduct analyses according to an established, reliable protocol.

The primary purpose of mitigation would be to prevent the sustained contamination of ground or marine waters by changing management practices. The proposed development will adhere to a water quality monitoring and mitigation plan (Appendix I-4) which delineates the procedures for monitoring, reporting, and implementation of appropriate mitigation measures should significant changes to baseline conditions be detected. By using monitoring in this fashion, a change in water quality attributable to management activities can be readily identified and mitigated.

#### 4.3 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

An investigation of archaeological and historic features was conducted on the project site by Cultural Surveys Hawaii (CSH), during the period from August 20, 1991, to January 17, 1992. The survey was conducted to identify and evaluate historic and archaeological resources on properties known as the Villages of Hokukano, and was designed to meet the requirements of the DLNR State Historic Preservation Development Review Process. The quality of significance was evaluated utilizing criteria considerations established by both the Hawaii and National Registers of Historic Places.

Section 7 of Chapter 6E, HRS, established a State historic preservation program to preserve, restore and maintain historic properties in Hawaii in a spirit of stewardship and trusteeship for future generations. The DLNR-HSPD keeps an inventory of known sites in the State of Hawaii, and has the responsibility to serve as the technical and administrative point of contact for all historic preservation issues within the State. For this survey, the developer has submitted all of the inventory forms and the survey report to the DLNR-HSPD for their review and approval. In doing so, the DLNR-HSPD may request additional information to be added to the forms or report and may recommend future action to the developer regarding the treatment of potential historic resources.

##### 4.3.1 Historical Background of the Project Area

The Hokukano project area has gone through a number of different phases of occupation and land use. Prehistorically, settlement was focused mainly along the coast in village like clusters. There are no precise population estimates for the prehistoric period in the Kona region. The population for the shoreline area between Keauhou and Ka'awaloa in 1825 was estimated at approximately 3,400 people. A missionary census in 1836 recorded approximately 1,000 people (including children) living between Honalo and Hokukano. The majority of the village clusters within the

project area are situated in areas where access to the ocean is easily obtained. There are permanent habitation sites mauka of the coastal region but they are scattered and situated mainly along the edges of the lava flow that bisects the project area. The majority of the upland areas of the project area, prehistorically, appear to have been utilized for agriculture, as evidenced by the remnants of the Kona Field System. Common agricultural crops cultivated prehistorically and during the early historic period include: within the coastal zone (0 to 500 feet MSL) coconuts, sweet potatoes, and wauke (paper mulberry); and within the upper elevations of the project area (500 to 1000 feet MSL) crops probably consisted mainly of breadfruit, with wauke and sweet potato planted in between the breadfruit.

During the early historic period the project area still had a substantial population situated along the coast with agricultural practices continuing in the upland areas of the project. In the mid-1800's habitation was still situated mainly along the coastal region. A school was opened in the village at Nawawa Bay where, according to Fornander, in 1866 the student population consisted of 71 regular students and 76 students altogether. Rev. Paris also mentions a church at Nawawa, in 1844, that had 44 church members. The Land Commission Award (LCA) Testimony and Register information reflects the coastal habitation and upland agriculture. The general pattern of kuleana (LCA) awards was multiple parcels with a house lot at the coast and one or more parcels inland for subsistence crops. In 1854 a survey description map for Grant 1651 indicated 16 houses in Hokukano Village.

At the end of the 19th century the population within the project area began to decline as families began to move upland along the Mamalahoa highway corridor. The economy of the area was shifting from a subsistence based economy to a market based and export economy. This accounted for the shift of families from the coastal region to the upland area along the new highway corridor. The decline in population was also a reflection of the numerous epidemics that were sweeping through the native populations at this time. This decline continued into the early 20th century, at which point the project area was completely abandoned as a habitation area.

Dr. G. Trousseau and Henry Weeks were two well known foreigners who lived within the project area during the end of the 1800's. Dr. G. Trousseau was a Frenchman from a very prestigious family in France. He came to the islands in the 1870's and was appointed to the Board of Health and as the king's personal physician by King Lunalilo. Trousseau engaged in other ventures including sheep ranching in Keauhou, sugar cane in Hamakua, and ostriches on Oahu. The foundation and well of the Trousseau house is still present along the northern coast just outside of

the project area at Hokukano village. After the house was abandoned it was utilized as a "honey house" for a beekeeping operation associated with ranching concerns (Greenwell). Henry Weeks was employed to haul wood for the Greenwell store. He lived in and worked out of Hokukano Village like Dr. Trousseau.

In conjunction with the decline of the population of the project area there was an increase in cattle ranching in the later half of the 1800's. Other ventures that were attempted within the project area or just mauka of the project area include sheep ranching, beekeeping, sugar cane, and coffee. Additional crops that may have been cultivated within the project area include oranges and pineapple. Cattle ranching has been the main focus of the project area for approximately the last 100 years.

#### 4.3.2 Existing Conditions and Methodology

In order to research the historic and archaeological background of the project area, contacts were made with locally knowledgeable persons and resource organizations, such as the Kona Historical Society, historic maps and archives, and public and university libraries. Additionally, site records were reviewed and useful information was obtained from Land Commission Award documents.

For the archaeological study, CSH staff reviewed archaeological survey and site records on file from DLNR-HSPD. CSH also examined aerial photographs, and relevant archaeological publications and reports. This research revealed that approximately 200 acres of the project area were previously investigated by Paul H. Rosendahl, Inc., during an investigation of Pu'u Ehu Estates (Kaschko 1984). Upon review of that document by the DLNR-HSPD, it was determined that because "Hokukano Flats", a section of the Pu'u Ehu Estates project area, had been subjected to an inventory level survey, there was no need for further investigation of that particular area during the present study. However, sites outside of the "Hokukano Flats" area which had been previously described were resurveyed and are described in detail in the present survey (Dr. Ross Cordy, personal communication 1991).

For the archaeological field survey, CSH staff completed a 100 percent pedestrian survey of the project site to determine whether historic properties were present and, if so, to establish their nature and locations. The field archaeologist examined the project area using parallel pedestrian transects spaced at no more than 30 meters apart. Utilizing the pedestrian survey, all archaeological sites were located, described, and mapped. Field documentation included photographs and drawings to

scale of the majority of the sites. In accordance with DLNR-HSPD, all sites were assigned State site numbers, and interpretive evaluations including the archaeological significance and recommended treatment of each site was documented and is shown in Table 1 in Appendix III-1.

An important aspect of the survey was to provide functional interpretations and to apply an initial assessment of significance. The functional interpretations were established on the basis of structural characteristics and in some cases associated artifacts, in conjunction with external correlations with other archaeological studies and interpretations in the general region. Additionally, limited subsurface testing was performed to provide important information regarding the likely function of the sites and chronological information. All collected artifacts and midden underwent laboratory analysis to assess age with dating results. Artifacts collected from the site were placed for temporary curation until a location is chosen for permanent curation by the landowner in agreement with the DLNR-HSPD.

The initial significance evaluations were based on criteria established by both the Hawaii and the National Register. To be significant, an historic property shall possess integrity of location, design, setting, materials, workmanship, feeling, and association, and shall meet one or more of the following criterion:

- a) Be associated with events that have made an important contribution to the broad patterns of our history;
- b) Be associated with the lives of persons important in our past;
- c) Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value;
- d) Have yielded, or be likely to yield, information important for research on prehistory or history;
- e) Have an important traditional cultural contribution or value to the native Hawaiian people or to other ethnic groups of the State.

Once appropriate procedures have been followed to identify and gather sufficient inventory information to make an initial assessment regarding a properties significance, the report was

prepared and submitted to DLNR-HSPD for their “consensus determination”, and at this writing, remains under review. The complete report of the archaeological study, which includes general background information, archival research, analysis, site descriptions, and significance evaluations, and selected site maps is included as Appendix III-1.

#### 4.3.3 Archaeological and Historic Findings

During the inventory survey, 807 structural and nonstructural features were identified within the project area and were subsequently organized into 473 sites. The matrix evaluation of the resources surveyed for the Villages at Hokukano is shown in Table 1 of Appendix III-1. From this analysis, 179 sites were recommended for preservation, and of those 179, 17 were recommended for selective preservation. By way of preservation within the project area, the following general recommendations were presented by the consulting archaeologist:

- Preservation of all burial sites. Those sites listed as probable burials should be favored for preservation if burials are found during testing.
- Preservation of all heiaus and sites listed as probable heiaus.
- Preservation of all major lava tube sites, including all tubes containing burials.
- Preservation of selected examples of multi-component habitation sites mauka of the Conservation Area.
- Selective preservation, i.e., preservation of portions of the Great Wall of Kuakini, the distinguishable portions of the King’s Trail, the railway bed, and the ahupua’a boundary walls.
- Recommended treatment of sites may change as a result of further study through data recovery. For example, burials may be uncovered during excavations. In this case, preservation would be the favored alternative. Information on functional associations may also be generated in data recovery, which could change the presently recommended treatment.

- Preservation treatment should be in accordance with a Preservation Plan submitted to the DLNR-HSPD and Hawaii County for review and approval. The plans should have two components: short term preservation and long term preservation.

Two hundred eighty-nine sites are recommended for data recovery. Limited subsurface testing was conducted at nine probable and possible burial sites, one agricultural mound complex and within two of the lava tube systems.

Evidence of features associated with the Kona Field System was also present, primarily the rectangular walled fields formed by Kua'iwi walls (walls tending in the mauka/makai direction), which are intersected at various points by walls cross-cutting the slopes. What is presently referred to as the Kona Field System was observed on the early voyages of Captain James Cook and Captain George Vancouver, and has been described as agricultural fields which parallel long and low mounded walls running upslope intersected in places by shorter cross-slope field walls following natural contours. The grid pattern of fields are typically very narrow and greatly elongated rectangles oriented on an axis that is both northeast-southwest and sea-mountain. Evidence indicates that land productivity greatly increases further inland, and suggests that substantial agricultural endeavor took place at higher elevations.

Other features associated with the walled fields consist of intermittent mound concentrations, terraces, and modified outcrops. The survey report notes that although the Kona Field System extended above the 900 foot elevation beyond the mauka boundary of the project area, various historic and modern land modifications, including "chain dragging", bulldozing and stone clearing associated with ranching activities, sugar cane cultivation, and urban activity have apparently destroyed much of the evidence of the field system in this area.

Fourteen sites in the project area are interpreted to be possible heiau or shrine structures, considered as such based on size, presence of formally structured surface areas, elevated surfaces (suggesting altars), and internal features. One major heiau located in the project area is of particular importance. Based on Reverend William Ellis' accounts in Polynesian Resources Hawaii, this heiau is locally known as Ukanipo, and is described by Ellis as follows:

"On top of a high mountain, in the neighborhood, stood the remains of an old heiau, dedicated to Ukanipo, a shark, to which, we were informed, all the people

along the coast, for a considerable distance, used to repair, at stated times, with abundant offerings.” (Ellis 1825: 129-130)

Also of note is the presence of several lava tubes that functioned primarily as burial sites, although some functioned as habitation sites and for refuge during times of war. Almost half of the lava tubes contained some external and/or internal modifications, in particular, refuge related features consisting of surface pavements and walls to conceal the entrance or limit accessibility. In a few, several petroglyph figures are also present, including numerous human forms, a dog, centipede, and possibly a turtle. Remnants of Hokukano Village, a prehistoric Hawaiian fishing village, are located along the coast (within the Conservation District), but outside the project boundaries, on State property.

#### 4.3.4 Potential Impacts

Direct impacts to archaeological features located within the project boundaries would primarily be a loss of the features due to excavation and construction, however, the proposed project facilities have been carefully sited to avoid significant archaeological sites and features.

The initial inventory assessment proposes that the appropriate treatment for 179 significant historic sites is preservation, and that 289 sites are recommended for data recovery. The preparation of acceptable detailed treatment (mitigation) plans must be submitted and approved by DLNR-HSPD and the Division’s Island Burial Councils must also approve proposed burial treatments. The proposed treatments will be addressed in the preparation of an historic preservation plan which includes buffers and both interim and long term protection measures. It is considered that once the Division agrees in writing with the plan, that the project would result in a “no adverse effect” to the significant historic sites.

#### 4.3.5 Mitigation Measures

Mitigation of significant historic sites generally takes one of two forms: 1) preservation, or 2) data recovery. Preservation is accomplished either through site protection as is or through the development of an interpretation program. Those sites that are recommended for selected preservation include the Kuakini Wall, distinguishable portions of the King’s Trail, the railroad bed, and the ahupua’a boundary walls. With regard to the King’s Trail, in conformance with the recommendations of the consulting archaeologist, the developer plans to preserve the trail in place,



with slight modifications, as necessary. In those areas where there is no evidence of the trail, the developer proposes to reestablish it in the general area where it was once located based on existing map information, historical references, and compatibility with proposed land use. At points where the recreated trail intersects the project roads, appropriate signage and alternate pavement treatment can be used to provide continuity through the project site. It is noted that although “King’s Trail” is the common name used for this trail, it is perhaps more properly referred to as either Ala Loa (Long Trail) or Ala Aupuni (Government Road).

In data recovery, sites have a reasonable amount of their significant information recovered through documentation. Many of the indirect impacts to the significant sites to be preserved can be mitigated to a great degree by access control related to the proposed trail system, which would provide access to the more durable and appropriate sites, as part of an overall interpretive program.

To mitigate potential impacts to the historical/archaeological resources of the project area, the recommendations of the consulting archaeologist which are subject to the approval of the DLNR-HSPD will be followed by the developer. With regard to the possible burials identified within the project area, if they are not preserved “as is”, it is required that the procedures of Section 43 of Chapter 6e (Historic Preservation, HRS) be followed. Buildings, roads, infrastructure, and the proposed golf course have been planned to avoid all sites noted for preservation, including appropriate buffer zones. The specific treatment for trails and other features that are designated for preservation would be determined as part of the regulatory approval process, in conjunction with the recommendations of the DLNR-HSPD, Hawaii Island Burial Council, the State Na Ala Hele Trails Advisory Group, and other resource groups. The Mitigation Program for archaeological sites, including plans for site preservation, will require approval by the County Planning Department, in consultation with the DLNR-HSPD prior to issuance of a grading permit for any portion of the proposed development. The developer and consulting archaeologist have been and will continue to work together with local historians, resource persons, and community groups in gaining a full appreciation of the historical and archaeological resources of the project area. It is the developer’s intent to incorporate these features into the proposed project through historic parks and interpretive programs, linked with an extensive pedestrian trail system. A further description of the trail system is contained in Section 4.7.4, in reference to proposed provisions for shoreline access.

#### 4.4 SOCIO-ECONOMIC FACTORS

This section presents baseline data on population and housing, the social and economic conditions, and employment patterns in the North and South Kona districts. Information on local residents' values and lifestyles is also presented in this section.

##### 4.4.1 Existing Conditions

###### Population

The project area is considered rural in character, with an estimated 1990 population of 7,658 people in South Kona with an average of 22.8 persons per square mile. Approximately 2,595 people live in Captain Cook, 2,373 people live in Honaunau-Napo'opo'o, and about 1,453 live in the community of Kealahou, with 208 of the people living in that portion of Kealahou lying in the North Kona district.

Population growth in the district has slowed since the 1970-80 growth rate of 4 percent, to 2.9 percent during the decade from 1980-90 (DBED Statistical Report, May 1991). The moderate growth which has occurred in the district has been attributed to some extent to the urban and resort growth in North Kona (HCGP, 1989, p. 50). Kealahou's population between 1980 and 1990, on the other hand, maintained an annual growth rate of 4 percent resulting in a 1990 population of 1,453. That portion of Kealahou within the South Kona district constitutes approximately 16 percent of its total district population, and the portion of Kealahou within the North Kona district comprises .9 percent of the total district population (extrapolated from 1990 Census of Population and Housing, Summary Population and Housing Characteristics, Hawaii 1990).

Demographic characteristics of the South Kona District (County of Hawaii Data Book, December 1991) show that the median age of residents (34.6 years) and the average number of people per household (2.94) was close to countywide figures (34.3 years and 2.86 people per household) in 1990. A larger portion of South Kona district residents are Hawaiian (24 percent compared to 19 percent in the county), as well as a Asian or Pacific Islander (approximately 65 percent in South Kona district compared to 57 percent in the county). Forty-six percent of the county population is white, as compared with 39 percent in the South Kona District.

## Housing

The total stock of housing on the Island of Hawaii has greatly increased in the past two decades, from almost 19,000 in 1970 to almost 50,000 in 1990. Despite this marked growth in housing, there still exists a housing shortage in West Hawaii. The tightness of the present housing market is demonstrated by a rental vacancy rate of only 3.4 percent in the project area in 1990. The inadequate supply is due to high land costs, the presence of many resort and high-priced market units, and pent-up demand for affordable housing. High prices and a lack of available units help to explain why there appears to be widespread overcrowding and house sharing in West Hawaii. In 1985 there were 1,971 dwelling units in the South Kona District, with 1,846 being single family units, 30 duplex, 80 apartment/condo units, and 15 other units. In 1980, 53 percent of occupancy was in fee, and 47 percent was in rental (HCGP, 1989, p. 50).

The demand for housing has been influenced by several factors. Among them is the trend of decreasing household sizes at National, State, and County levels. These changes are being driven by the aging population, the change in lifestyle, and a variety of other socio-economic reasons. Other factors affecting housing in the North and South Kona districts include economic cycles, inflation, and financing. Of particular importance in the project area is the second home and vacation market.

## Employment

In 1990, the civilian labor force of South Kona amounted to 4,263 persons, of which 4,129 were employed. The unemployment rate averaged 3.1 percent according to 1991 data from the State Department of Labor and Industrial Relations. However, the more recent downturn of the economy has resulted in a significant reduction of construction, tourism, and agricultural activities. According to a conversation with the State Department of Labor & Industrial Relations, the summer 1992 unemployment rate for the Island of Hawaii was estimated at 7.3 percent, as compared to an islandwide average of 3.8 percent in 1990.

## Property Taxes

Both market forces within the study area and government decisions applied Countywide can raise property taxes. Future taxes cannot be predicted with certainty, because they depend on decisions of elected officials as well as market forces. A residential development could conceivably affect the

assessment of nearby properties, either by providing amenities to some immediately adjacent properties or by making the area more valuable to potential buyers, leading to higher market prices.

### Socio-Economic Issues and Concerns

Since acquiring the property in 1985, the developer has actively sought the input of community groups and individuals, in part, to assess the perceived social impacts of the project. For example, the developer has met with community leaders, organizations, and neighbors to discuss the project. Several hundred individuals have toured the project site and attended four widely advertised public informational meetings. This process of public involvement and interaction has identified major issues and concerns related to the proposed project. Many of these have been previously discussed in the various technical studies and this EIS, but have been summarized below in the context of social impact. These issues and concerns can be grouped into five general categories as follows:

#### (1) General Social Concerns

- Rural Character/Lifestyle

Many residents reside in the area because they value the rural character of the region and want to be sure that new development will not jeopardize this lifestyle. The proposed project and planned densities are intended to maintain a low density, open space character that would blend with the rural character of the surrounding area. Design guidelines for residences are also intended to achieve a compatibility and blending with the character of the surrounding area. Consequently, persons moving into the project will also desire a rural lifestyle and the amenities offered by the project.

- Social Interaction

Because the proposed project will involve the construction of expensive housing, concerns were expressed that the development would represent more of an exclusive residential enclave and the positive aspects of the development would be enjoyed only by new residents. This distinction between upper and lower incomes is a characteristic of a dynamic economy, yet the opportunity to interact between income groups also exists. Opportunities for greater community interaction can be reinforced by encouraging local employment through job training programs, by improved opportunities for public use of

the ocean park and trail systems, and mutual support of community activities. Participation in schools, churches, businesses, and other interrelated activities will encourage interaction, as well.

- Visual

Although there is no direct socio-economic impact associated with visual alterations to the property, some expressed concern that the property will simply look better if it remains undeveloped. Generally, the property is only seen from the ocean. Once developed, the low density character and enforced design guidelines can even provide a positive visual impact to the project. The natural buffer area along the coast (coastal park) will also provide a pleasant view from the ocean or shore.

- Cultural and Religious Practices

An issue voiced by those in the Hawaiian community is the protection of native Hawaiian rights for the exercise of traditional cultural practices on the property (gathering rights and access to religious sites). Such cultural practices have historically been restricted on the property due to cattle and ranching operations. By improving access to the shoreline and to culturally significant archaeological sites, such practices can be supported and enhanced. The proposed development does not appear to impinge upon such practices that presently occur on the property.

## (2) Infrastructure

- Public Infrastructure

One of the most frequently voiced concerns centered on the existing traffic conditions along Mamalahoa Highway. Many individuals expressed support for the proposed bypass road, but also expressed concern regarding the timing of construction in relationship to the proposed development. The potential impacts to residents who might be affected by the proposed alignment was also a concern.

In addressing these concerns, the developer has held public meetings and met with organizations, businesses, agency representatives, and concerned individuals in planning

the proposed bypass road alignment in a manner which does not impact existing residences in the area and is of mutual benefit to all concerned. The developer proposes a construction schedule that would provide access to the project before new homes are occupied.

Additional questions centered on how the project would impact the availability of water and utility services to the area residents. Many questioned whether the project would negatively impact the limited power and water service to area residents. The infrastructure improvements (roads, water, and power) in general will be phased to provide facility improvements in sequence with project related demands. The proposed improvements to regional water and power systems are expected to have additional benefits to the community in upgrading the existing system in relation to area demands.

- Community Services

The issue of additional demands on community facilities and services (schools, parks, hospitals, etc.) as a result of the project, was also expressed. The economic and fiscal analysis has shown that the benefit to the community in additional tax revenues, as a result of the project, far outstrip the projected government expenditures on both the State and County level. Also, the project development buildout is projected to occur over a greater than 30 year period, allowing sufficient time to plan facility improvements in a manner that meets the projected needs of the area. The project is also expected to have a positive impact on recreational facilities in providing additional recreational opportunities in the area (hiking, fishing, swimming, snorkeling, etc.).

- Housing

Some commented that the proposed project, in providing a residential development aimed at the upper end of the market, would do little to address the need for affordable housing for local residents. The availability of housing would be improved directly in two ways. First, over the life of the project, the number of available housing units in the community will increase by approximately 1,550 units, thereby decreasing the demand on the existing housing supply. Secondly, any required affordable units (subsidized by the sale of market units) will be provided to persons who economically qualify in accordance with applicable State and County affordable housing programs. As described in the market

study, there is a significant demand for housing units in all price ranges in West Hawaii. If market units are not developed by the private sector, the price of existing homes would rise as the demand outstrips the supply.

### (3) Archaeological Resources

- Cultural Heritage/Significance

Those knowledgeable of the property point to the cultural and historical significance of this area, as evidenced by the number and type of archaeological and historical features on the site. Several expressed concern as to how these features would be preserved and the integrity of related sites would be protected. To ensure that the proposed plan does not significantly impact the cultural heritage and significance of the property, an extensive archaeological inventory was prepared. This inventory was used in the design process to integrate sites into the plan without the destruction of significant sites, and to ensure even the preservation of many sites (nearly 70 percent of those inventoried) that were not considered as significant. Consequently, most sites will be preserved by the project. Input from local resource persons and historians has also been and will continue to be sought in obtaining a more complete understanding of the historical and cultural significance of the area.

### (4) Public Shoreline Access

Because the land has been in ranching for the past 100 years or more, access to the shoreline through the property has been limited. The developer's proposed improvements to shoreline access, including an extensive trail system, were largely supported, though concerns were expressed that improved public access to the shoreline not be to the detriment of the quality and character of the shoreline area. Several expressed the need for a managed system of public access. The developer has proposed a management program for the coastal area, coordinated with the State DLNR, to ensure that increased use and accessibility does not adversely affect the area's resources and natural character.

## (5) Environmental Impacts

Several residents spoke of the importance of protecting the environment and questioned whether there would be potential impacts to coastal waters from construction activities or from chemicals used on the golf course, agricultural areas, or home landscaping. There is a perception that golf courses, in particular, serve as potential sources of pollution via chemical runoff or seepage to the coastal waters. Although long term studies conducted of resort and golf course developments in Hawaii do not support this premise, there is a concern that protective measures are needed to avoid the potential threat to the ocean environment. In addressing these concerns, the developer has proposed an integrated system of design and management controls aimed at minimizing the potential environmental threats and protecting coastal water quality. A program of water quality monitoring and mitigation is also planned to ensure that potential impacts would be readily detected and, once identified, appropriate corrective measures taken.

### 4.4.2 Probable Impacts

#### Population

Preliminary population projections by the County of Hawaii Planning Department show that population in the South Kona district will increase by about 3,000 persons by the year 2010 to a total of over 10,600, representing an increase of about 40 percent. This annualizes to approximately 20 percent per year, which is less than the percent changes for each previous decade (47.7 percent for 1970-80 and 29.5 percent for 1980-90) (DBED County and District Trends in Hawaii, 1990). Because of the many influences inherent in real estate purchases, it is difficult to predict what the racial mix of the projected population will be, and what influence the proposed project will have on that mix. The Market Assessment for the Villages at Hokukano (Appendix IV-1) indicated that the majority of lot buyers at Hokukano (40 percent) are expected to be from the U.S. mainland, of which three-quarters could be from the U.S. West Coast. Hawaii residents are expected to represent about 30 percent of the lot purchasers at Hokukano, and foreign purchasers are estimated to represent 30 percent of the buyer market.

Population impacts, both direct and indirect, were developed by KPMG Peat Marwick as part of their Economic and Fiscal Impact Report (Appendix IV-2). The onsite population impacts of the proposed project can be considered to be the result of three sources:



- Daily Visitors
  - Daytime visitors (including local players) would be those using the golf course or other recreational facilities, non-golfing guests of the members, users of shoreline access facilities, and visitors and residents who dine at the clubhouse restaurant. The average daily visitor population is projected to reach 40 persons in 1997 and increase to 140 persons in 2029.
- Resident Population
  - The total daily resident population will be about 1,670 persons by the year 2029 when completion of 1,440 residential units are assumed to be sold. The resident population is anticipated to be small in 1997, less than 50 residents, but increasing in later years as home construction progresses.
- Employees
  - Direct operational and construction employees would add to the onsite population on a daily basis although most are expected to commute from the general North and South Kona areas. The total number of onsite employees directly involved in facilities construction or operations is estimated to average 330 full time equivalent workers per year, beginning at 190 employees in 1997 and reaching its peak in 2008.

Therefore, the total project population will consist of approximately 2,110 daily residents and visitors (54 percent full time residents, 26 percent part time residents, 15 percent employees and 7 percent guests and visitors). One hundred-eighty onsite operational employees are expected at stabilization. As noted, the above population and employment projections are based on data provided by KPMG Peat Marwick as part of an Economic and Fiscal Impact Study contained within Appendix IV-2.

### Housing

Development of the Villages at Hokukano could impact West Hawaii's housing situation in several ways. Temporary housing may be needed to house workers brought in to the island during project

construction. Operational employment at the community could trigger new housing demand to accommodate in-migrant employees and their dependents which could be expected to seek permanent housing in the area. Direct operational employees will generate a need for about 70 additional homes, 47 of which will be needed to meet the demand for new in-migrant households. However, construction employment is temporary and usually does not generate the long term housing demand associated with operational employment. In-migrating construction workers could be expected to seek short to medium term rental units in the general market. Temporary housing for in-migrant construction employees will need to accommodate, on the average, between 140 and 150 workers and their dependents, with up to 180 workers and their dependents during heavier construction periods. That translates to a need for 30 rental units to house the in-migrant population associated with construction activities. At the peak construction employment levels, as many as 140 rental units may be required.

As pointed out in the employment section, most construction and operational employment is expected to be filled by the resident population commuting from North and South Kona. Additional temporary and permanent housing demand generated by the project should not be significant. Conditions of the development approval, however, will require monitoring of this demand and supply of housing stock as the project progresses to ensure future housing needs are met.

The project will be expected to provide provisions for affordable housing meeting the State and County affordable housing requirements. In providing additional housing which can add to the County's primary housing market and affordable housing, the overall impact to regional housing conditions as a result of the proposed project is generally positive and, therefore, additional mitigation measures are not warranted.

### Employment

Initial projections show that the proposed development will sustain construction employment over an extensive period for the construction of new facilities and homes. Employment in the operation and support of those facilities will provide permanent full time jobs for area residents. Employment effects may also be classified as being direct, indirect, or induced.

- Direct construction employment

- Employment supported directly by the construction of the facilities includes onsite laborers, operatives and craftsmen, as well as the professional, managerial, sales and clerical workers whose usual place of employment may be elsewhere on the island or in the State. Direct construction employment will be sustained over the more than 30 year project buildout period. Beginning with the initial infrastructure and golf course development, it will phase into the construction of custom built homes.

The total number of direct construction employment was calculated by multiplying the projected number of full time equivalent (FTE) positions generated per year and the projected buildout period of 30 years, its product equaling the number of "person years". The heaviest employment period will be over the earlier stages of the project where major portions of infrastructure, lot development, golf course, clubhouse, lodge, and housing construction will be underway. However, home construction, lot development, and remaining infrastructure development will continue throughout the entire buildout period. The total number directly involved in the various facets of facilities construction is estimated at 4,860 person years over the buildout period. This number equates to an average of 140 FTE direct construction workers per year.

- Indirect and induced construction employment
  - Direct employment of construction workers will stimulate additional employment on the island and elsewhere in the State. Based upon data from Department of Business, Economic Development & Tourism, it is estimated that 1.79 other full time jobs are created for every full time job in the construction industry. Based on this multiplier, 8,700 person years involving indirect and induced jobs supported by direct construction employment will be generated. This equates to an average of about 30 FTE jobs per year on the Big Island and 80 FTE jobs per year elsewhere in the State from direct and induced construction related jobs.

The above numbers indicate that on average, a total of 250 FTE positions annually could be generated from construction activities.

- Direct operational employment

- Direct operational employment would occur at the golf course, clubhouse, members' lodge, and related facilities and through support and maintenance of the residential component of the project that would involve jobs to service over 1,670 residents of the project. It is anticipated that approximately 330 FTE positions will be generated through the golf course/clubhouse operations and facilities administration.
- Indirect and induced operational employment
  - Facility operations at the Villages at Hokukano would also indirectly generate employment elsewhere in the State and County. Based upon employment multipliers from DBED, approximately 110 indirect and induced employment positions can be expected from direct operational employment.

Overall, a total of 330 FTE operational employment positions will be possible at stabilization, adding positively to the local economy with job opportunities for those who live in the area.

#### Property Taxes

The project is expected to have little impact on residential land values in the surrounding communities of North and South Kona. Property assessments are generally estimated on the basis of properties sold in the same neighborhood and not on the value of homes within adjacent developments, especially if the amenities are not shared. Assessors generally do not assume that the value of new properties automatically carries over to existing ones, nor do they compute the value of residential property on the basis of other properties in the area. Instead, value is estimated on the basis of sales of properties similar in type (e.g., residential), location and amenities.

Recent studies of the value impacts of golf course development and upscale single family residential areas support the finding that value impacts of the project will be limited. Golf and exclusive residential projects were found to have little effect on existing residential areas (Locations, Inc., 1988 and 1989, and Community Resources, Inc., 1988 and 1989b). The two approaches reach similar findings from different analytical starting points. The Locations, Inc., studies dealt with areas such as TMK zones. These studies used quantitative data only. The Community Resources, Inc., studies dealt with both communities and smaller areas and combined quantitative data with expert assessments.

The proposed project is expected to generate significant positive fiscal benefits for the County and State of Hawaii. These fiscal impacts have been evaluated by comparing tax revenues and operating expenditures that are normally borne by the State and County governments. Increased County government revenues would be primarily in the form of real property taxes generated by the improved property. Revenues to the State government would be composed primarily of excise taxes, personal income taxes generated by new employees, and sales tax. New visitors and residents attracted by the project would necessitate expenditures of State and County public resources. In-migrant residents would incur public costs in terms of public safety, maintenance of highways, recreational facilities, health services, education, public welfare, and other government functions. Net revenues, however, are expected to increase at both the State and County levels overall.

#### 4.5.1 Government Revenues

New real property tax revenues to the County government are expected to reach \$9.8 million as compared to the current property tax of \$10,000. About 77 percent of the new County property tax revenue would be from improved single family lots. Additional non-real property tax collections related to fuel, utility, motor vehicle, and other sources attributable to visitor and in-migrant residents could generate another \$260,000 per year.

The State will also realize new tax revenues from visitors, residents, and employees. Approximately \$2 million might be attributable to general excise taxes on direct and indirect visitor spending and on transient accommodations tax on single family rentals and the members' lodge. A major portion will come from high income in-migrant residents who will be moving to the community and paying State income taxes as well as general excise, employment, and specific taxes. Personal income from direct employment in construction and operations could approach \$10.53 million. It is estimated that about \$1.16 million would be derived through construction and \$1.95 million through operational sources. Overall, an additional \$13.64 million in new State revenues are projected.

#### 4.5.2 Revenue/Expenditure Analysis

Based on past Hawaii County expenditures for visitor and resident populations, the new service population would require \$1.2 million in total expenditures. This means that new County revenues will far exceed new County expenditures, providing about \$8.6 million in net additional revenues. The ratio of new County revenues to new expenditures is 8.2 to 1.

The State's per capita government expenditure is estimated at \$3,900 per resident and \$1,220 per visitor. Applying these factors to the new service population of visitors, community residents, and in-migrant employees, total expenditures of over \$4.9 million are expected. Again, State revenues collected are projected to be far greater than that expended to provide for the new service population, yielding net additional revenues of \$8.7 million. The ratio of new State revenues to new expenditures is 2.8 to 1. Future tax revenues that will be collected by the County and the State are expected to offset the costs of providing public services for the proposed community. As such, no additional mitigation measures are considered necessary with respect to government expenditures.

#### 4.6 INFRASTRUCTURE AND PUBLIC FACILITIES

##### 4.6.1 Traffic Circulation

##### Existing Roadway Conditions

Access to the project site is currently provided from Haleki'i Street, an 80 foot right-of-way that links the site with Mamalahoa Highway. In the vicinity of the proposed project, Mamalahoa Highway is a two lane arterial roadway that is generally aligned in the north-south direction, providing regional access between the areas of Kailua-Kona and Ka'u. The lanes are generally ten feet wide with unpaved shoulders. The posted speed limit for the area is 30 miles per hour (mph).

Haleki'i Street is a two-lane local roadway serving the post office, commercial businesses, and the Kona Scenic Subdivision. Haleki'i Street is generally aligned in the east-west direction. Haleki'i Street is approximately 34 feet wide with two foot gutters and sidewalks on both sides. Parking is permitted on both sides of the street. On its mauka end, Haleki'i Street intersects with Mamalahoa Highway, forming the stop controlled stem of the "T" intersection. Dedicated left and right turn

lanes, as well as an acceleration lane, are provided. The posted speed limit on Haleki'i is 25 miles per hour.

### Existing Traffic Conditions

A Traffic Impact Study was prepared by Parsons Brinckerhoff Quade & Douglas (PBQD) (Appendix II-1) in which existing and future roadway conditions along Mamalahoa Highway in the vicinity of the project were evaluated to determine the traffic impacts of the proposed development. The description of existing conditions is based on peak hour traffic turning movement counts and field observations taken along Mamalahoa Highway at its intersection with Haleki'i Street. The counts, taken on June 25, 1992, were adjusted to reflect traffic volumes during the school year for the morning peak hour.

Intersection capacities usually control overall roadway capacities. Traffic conditions were, therefore, evaluated at the Mamalahoa Highway/Haleki'i Street intersection using the methodologies for unsignalized intersections. Segments of Mamalahoa Highway, north and south of the Haleki'i Street intersection, were also analyzed.

Roadway and intersection operations are typically expressed as a qualitative measure known as Level of Service (LOS). These levels of service are expressed as letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. The unsignalized intersection capacity analyses revealed that the left turn movement from Haleki'i Street onto Mamalahoa Highway operates at LOS E during both the morning and evening peak hours. The right turn movement operates at LOS A during the morning peak hours and LOS B during the evening peak hours. The left turn movement from Mamalahoa Highway to Haleki'i Street operates at LOS A during both the morning and evening peak hours. Roadway capacity analyses on segments north and south of Haleki'i Street reveal that Mamalahoa Highway presently operates at LOS E during both the morning and evening peak hours on segments north and south of Haleki'i Street.

Traffic signal warrants were also evaluated at the Mamalahoa Highway/Haleki'i Street intersection, following criteria outlined in the Manual on Uniform Control Devices (MUTCD). These nationally accepted traffic signal warrants have been established to aid in identifying locations that justify traffic signalization. A review of traffic signal warrants at the Mamalahoa Highway/Haleki'i Street intersection for existing 1992 conditions indicated that existing traffic volumes marginally meet the

peak hour volume traffic signal warrant during the evening peak hour at the Mamalahoa Highway/Haleki'i Street intersection.

The Hawaii County General Plan shows a north-south highway alignment which crosses the project site in the upper portion at approximately the 800 foot elevation (Figure 20). The alignment has been studied by the State Department of Transportation (DOT) for a proposed highway. This highway is to be designed to accommodate four lanes of traffic within a minimum 150 foot right-of-way. The proposed basic design criteria recommendations include a design speed of 60 miles per hour, partial access control, and a principal rural arterial highway classification. The exact location of the proposed State highway alignment has not been finalized.

#### Future Traffic Without the Project

The Traffic Impact Assessment conducted by PBQD indicates that, without the proposed project or roadway improvements, Mamalahoa Highway would reach capacity conditions by the year 2005. Future traffic conditions, however, will be affected by the proposed Mamalahoa Highway bypass that would traverse the mauka portion of the site. As shown in Figure 20, the proposed alignment would begin north of Honalo and terminate at about the Napo'opo'o Road intersection by tying back into the existing highway. The proposed bypass has been planned to divert a portion of the through traffic from Mamalahoa Highway to relieve the current congestion at peak times in the villages, at Konawaena School, and at the Kona Hospital. When the bypass is completed, most of the project traffic is anticipated to use this alternative with the exception of those needing to frequent area businesses along Mamalahoa Highway.

#### Future Traffic With the Proposed Development Plan

The Traffic Impact Study forecasts that, with the proposed project, the proposed bypass road will reduce volumes along Mamalahoa Highway, therefore improving operating conditions at the existing Haleki'i Street/Mamalahoa Highway intersection. The Traffic Impact Study further projects that if forecasted conditions are realized, improving the bypass road to a four lane road is recommended by the year 2005, and signalization of the Haleki'i bypass highway intersection may be warranted pending the phasing of the development to facilitate left turn movements. All approaches to the bypass road/Haleki'i Street intersection are recommended to have separate through and turn lanes.







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With the construction of the proposed project, the applicant expects to participate with the State and other landowners in the planning, design, and construction of the highway bypass.

### Analysis of Impacts

Traffic conditions with the proposed development were analyzed for the years 2005 and 2010. As there are no long range traffic volume forecasts beyond the year 2010, assumptions were also made regarding traffic volume increases in the year 2034, when the proposed development is expected to reach buildout.

The analysis of traffic conditions in the year 2005, when Phase I of the proposed development is expected to be completed, assumes that the bypass road will be fully constructed as a two lane facility, and access to the project site would be provided through the cross intersection of the bypass road and Haleki'i Street. It is also assumed that this intersection will have separate through and turn lanes on each approach. This analysis indicates that Mamalahoa Highway, north of Haleki'i street, would operate at LOS C during both morning and evening peak hours. South of Haleki'i Street, Mamalahoa Highway would operate at LOS D during morning peak hours and LOS C during evening peak hours. At the bypass road/Haleki'i Street intersection, unsignalized intersection analyses reveal that eastbound left turn movement from Haleki'i Street onto the bypass road southbound would operate at LOS E during the morning peak hour and LOS F during the evening peak hour. All other movements at the intersection would operate at LOS B or better during both the morning and evening peak hours.

Using MUTCD criteria, traffic volume analysis at the bypass road/Haleki'i Street intersections indicates that the project peak hour traffic volumes will marginally meet the peak hour volume traffic signal warrant during the morning peak hour and would meet the warrant during evening peak hours. However, signalization of this intersection would result in an under capacity operation during both morning and evening peak hours. The roadway capacity analysis performed for a two lane segment of the bypass road south of Kuakini Highway reveals that the bypass road would operate at LOS E during both morning and evening peak hours for the year 2005. However, both the bypass road/Kuakini and bypass road/Mamalahoa Highway intersections would operate under capacity with the project traffic as signalized intersections.

The proposed development will include additional single family residential dwellings by the year 2010; therefore, analysis was also conducted for the year 2010 to assess traffic impacts, again

assuming that the bypass road remains a two lane facility. Roadway capacity analysis conducted reveals that, both north and south of Haleki'i Street, Mamalahoa Highway would operate at LOS D during the morning and evening peak hours. At the unsignalized Mamalahoa Highway/Haleki'i Street intersection, left turn movement from Haleki'i Street would operate at LOS D during the morning peak hour and LOS C during the evening peak hour. Unsignalized intersection capacity analysis performed at the bypass road/Haleki'i Street intersection reveals that the eastbound left turn movement from Haleki'i Street onto the bypass road would operate at LOS F during both the morning and evening peak hours. Westbound left turn movement from Haleki'i Street would operate at LOS F during both morning and evening peak hours, as well. However, if signalized, this intersection would operate under capacity during both morning and evening peak hours.

Signalized intersection capacity analysis reveals that the bypass road/Kuakini Highway intersection would operate near capacity during the morning peak hour and under capacity during the evening peak hour, while the bypass road/Mamalahoa Highway intersection would operate under capacity during both the morning and evening peak hours. The bypass road north and south of Kuakini Highway would operate at LOS E during both the morning and evening peak hours.

As mentioned earlier, long range traffic volume forecasts are not available beyond the year 2032, when expected project buildout would occur. However, it can generally be assumed that as the North and South Kona areas reach development buildout, overall increases in regional traffic will taper off with relatively low annual growth. Assuming this occurs, the additional external trips generated by later phases of development at the Villages at Hokuano, can be accommodated by the reserve capacity of a four lane bypass road.

### Mitigation Measures

The project will be developed in phases to provide facility improvements that are commensurate with increased traffic generated by project development, thereby reducing the potential for adverse impacts to traffic conditions in the project vicinity. Furthermore, the applicant intends to participate in construction of the new highway bypass to divert a portion of the through traffic from Mamalahoa Highway, relieving current congestion at peak times in the village, at Konawaena School, and Kona Hospital. This bypass would increase capacity and reduce congestion through the Mamalahoa Highway corridor by providing an alternative route between Kamehameha III Road/Kuakini Highway and the City of Refuge Road. The completion of the bypass road would also improve operations at the Mamalahoa Highway/Haleki'i Street intersection. Additional traffic

generated by the buildout of the Villages at Hokuano between the years of 2010 and 2034 is expected to be accommodated by the reserve capacity of the proposed four lane bypass road.

The project roadways will be designed according to County of Hawaii subdivision standards and will meet County dedicable roadway criteria to the extent possible. The roadways will be laid out to facilitate grading, utility, and lot design. Particular care will be exercised in the roadway layout in order to preserve significant archaeological and historical features and to minimize potential impacts to natural topographic conditions.

The main collector roads will be constructed within 60 foot right-of-ways. While meeting County standards for paving and right-of-way width, the developer will explore with the County roadway features designed to maintain the rural character of the area and aesthetic theme of the development. The minor streets will also be designed using County of Hawaii paving design criteria and will generally be constructed within 50 foot right-of-ways.

#### 4.6.2 Water Source

##### Existing Conditions

The nearest County water line in the vicinity of the project site is an 8" line in Haleki'i Street, which is adjacent to and east of the proposed development. This 8" line is fed by another 8" line along Mamalahoa Highway. The closest existing storage tank is the .25 million gallon Haleki'i Tank located mauka of Mamalahoa Highway. The availability of potable water to the project site is presently limited due to a lack of County infrastructure, however, the DWS is currently developing additional wells in the area. An exploratory well constructed mauka of Mamalahoa Highway in the vicinity of Kona Hospital verified the presence of high water levels (exceeding 490 feet) at this location, indicating a sizeable groundwater resource.

##### Potential Impacts

The project has water commitments from the County under the Kealahou Water Source Agreement, equivalent to 499 units. These commitments are sufficient to meet the initial phase of development. Additional water sources will be needed to address the maximum daily demand of the full development. Based on previous agreements by other developers with the DWS, those sources would be developed together with the County of Hawaii as stand alone wells. The wells

would be turned over to the County for operation and would use DOW transmission lines to transmit the water to the project site. The developer has secured additional well site options from adjoining property owners as potential well sites, should additional sources be required to meet the full project demand for potable water beyond those shown.

#### Mitigation Measures

The DWS applies a maximum daily water demand factor of 600 GPD per unit for residential domestic consumption. Using this guideline and actual water consumption rates of other golf related facilities (clubhouse, lodge, etc.), it is estimated that the project will require approximately 964,500 GPD of potable water. In addition to domestic consumption, the water system must be sized to accommodate fire flow ranging from 500 GPD to 2,000 GPD, depending on the use and construction type.

It is anticipated that one or more potable water reservoirs will be required to serve the development. It is the developer's intention to design the water system to be dedicable to the DWS, if practical. The location of an adequate and reliable water source, along with the general transmission, storage, and distribution system requirements, will need to be identified at the time of rezoning and subdivision approvals. In order to ensure that the water system will be acceptable to the County, the storage tanks and water lines must be sized to meet domestic consumption guidelines and fire flow requirements.

Irrigation water for agricultural and golf course uses is planned to be developed and distributed in a separate system from the potable water supply. Separate wells, storage facilities, and distribution lines will be required to supply the irrigation water. Overall water supply considerations are addressed in the Groundwater and Hydrology section of this EIS (Section 4.1.3).

#### 4.6.3 Wastewater Treatment and Disposal

##### Existing Conditions

At the present time, the project site is not serviced by a municipal wastewater treatment system. Because the property is vacant and was historically used only for grazing, no private sewage disposal system exists, such as cesspools or septic tanks. Homes in the vicinity of the project site are serviced by cesspools, as the nearest existing sewage treatment plant is the Heeia plant in

Keauhou which does not provide service to the Captain Cook or Kealahou areas. There are no known plans to extend this plant to provide service in these areas.

### Potential Impacts

A preliminary engineering study prepared by R.M. Towill Corp. (Appendix II-4) indicates that the proposed Villages at Hokukano project will generate an average of 532,800 GPD of wastewater, with a maximum flow of 1,918,080 GPD upon buildout. The composition of this wastewater is expected to be within normal range for residential and some commercial (golf clubhouse and lodge) sources.

The developer is currently examining two alternatives for the treatment of wastewater. The first is to develop an onsite wastewater management system that would consist of a collection and treatment plant with disposal of effluent from golf course irrigation. The collection system would include gravity sewer lines ranging in size from eight to twenty-one inches, three pump stations, and a force main ranging from six to ten inches. The treatment plant would consist of a sequencing batch reactor (SBR) facility and a tertiary treatment, which should achieve Class A reclaimed effluent for use as irrigation water in accordance with DOH guidelines. The SBR is the preferred system of choice because of its ability to be installed in increments; thus, it can be flexibly constructed in concurrence with the various phases of the project's development.

It is estimated that 100 percent of the Class A reclaimed water can be utilized to irrigate the golf course. The difference between the estimated sewage generation rate and the effluent necessary for golf course irrigation can be made up by using fresh, brackish, or non-potable water. Effluent holding ponds would be impervious and periodically monitored for leakage into the subsurface.

The second alternative that the developer is currently investigating involves a collection system onsite with treatment offsite at the existing Heeia Wastewater Treatment Plant (HWWTP). The collection system would be similar to that contained within the first alternative, however, this alternative would require offsite sewage system improvements, which would consist of approximately 24,000 linear feet of pipe, five additional pump stations, for a total of eight, and a force main. The HWWTP has a capacity of 7.2 MGD, and is currently treating 0.4 MGD. The additional effluent to be generated by the proposed development at buildout does not appear to substantially diminish the capacity of the HWWTP, especially when taking into consideration that the project is designed in increments such that buildout will not occur until 2034.



The feasibility of this alternative is dependent upon availability of the transmission line alignment and excess capacity in the future at the HWWTP. Other factors to be taken into consideration with this alternative include: obtaining agreements with Kamehameha Development Corp. (HWWTP); financial obligations, such as land acquisition costs, facilities charges and cost sharing assessments; and the availability of easements that would provide access to the transmission system and the force main. It is possible that construction of the bypass road, as discussed in the previous section, could reduce the amount of service roads necessary to provide access to the sewer transmission lines. Construction of the wastewater treatment facility is not anticipated to result in any adverse impacts to the environment, provided the facility is properly operated with appropriate safeguards and emergency generating capacity in the case of power outages.

#### Mitigation Measures

If the first alternative is chosen, the design, construction, and operation of the wastewater treatment plant will conform with all applicable State and County health and sanitation standards. The system, to include all gravity sewer lines, pump stations, force main, and the sequencing batch reactor (SBR) facility, would all be carefully sited to minimize visual and acoustic impacts. Furthermore, the placement of these will be closely coordinated with the consulting archaeologist to avoid disturbing any archaeological sites.

Design of the wastewater treatment plant could incorporate emergency response methods to deal with possible equipment failure, such as emergency standby generators. The combination of qualified operators, programmed preventative maintenance, and planned onsite availability of critical spare parts will also minimize the potential for adverse impacts due to equipment failure. Preventative maintenance by skilled wastewater treatment plant operators is recognized as essential to avoid equipment failure and, as such, will be an integral part of the system's upkeep and management. The wastewater treatment plant would not have an ocean outfall system to bypass sewage to the ocean, as the developer recognizes that this is an inappropriate emergency method.

Should the second alternative be implemented, the collection system and transmission lines will comply with all State and County health standards, and offsite improvements will be carefully examined to ensure that the issues of property ownership, existing land usage and development, archaeological sites, and easement availability are all addressed.

#### 4.6.4 Solid Waste Disposal

##### Existing Conditions

Solid waste from the communities surrounding the project area is collected by the County from both the Napo'opo'o and Keauhou Transfer Stations, and transported by truck to the County landfill at Kealakehe, just north of Kailua-Kona. As this landfill is near capacity, a new landfill at Puuanahulu is anticipated to open in September of 1993. As an interim measure to extend the life expectancy of the Kealakehe landfill, the County Wastewater/Solid Waste Division is backhauling waste from the Kohala District to the Hilo landfill.

##### Probable Impacts

Applying the refuse generation rate of six pounds per capita per day used in the West Hawaii Sanitary Landfill EIS, 1992, the buildout population of the project would generate approximately six to seven tons per day. Based on the incremental development of the project and the scheduled opening of the new landfill, sufficient waste disposal capacity should be available to accommodate the project. The proposed site is also anticipated to accommodate a greenwaste composting facility and other solid waste recycling and reuse facilities.

Once the golf course construction has been completed, it is anticipated that a minimum of solid waste, primarily associated with the restaurant, snack bar, and office operations, would be generated. These, in addition to the residentially generated waste, would be collected and disposed of by a private contractor.

##### Mitigation Measures

Green waste from the golf course operation is planned to be composted or otherwise disposed onsite, thus reducing the volume of solid waste to be landfilled. A solid waste disposal plan will contemplate onsite use and disposal of lawn and landscape trimmings. It is noted that the new West Hawaii landfill will also accommodate a green waste composting facility with the capacity to include other solid waste recycling and reuse facilities onsite, as appropriate. The developer will also investigate the possibility of establishing a recycling program, perhaps in concert with the surrounding community, in an effort to reduce solid waste volumes.

#### 4.6.5 Power and Communication

##### Existing Conditions

Electrical and telephone service is provided by Hawaii Electric Light Company (HELCO) and Hawaiian Telephone Company (HTCO). A 69 KV transmission line is located along Mamalahoa Highway and links the Captain Cook substation to the electrical generating facility near Keahole Airport. Both HTCO and HELCO anticipate that normal power and communication services can be provided to the project site from existing and planned facilities.

##### Probable Impacts

HELCO anticipates that a substation will be required to serve the project. Substation installation will require that existing 69 KV lines along Mamalahoa Highway must be extended to a 62,500 square foot lot substation site, which could be located along Mamalahoa Highway. The onsite electrical and communication systems will be underground facilities with the exception of the 69 KV electric lines from Mamalahoa Highway to the proposed substation site.

At the current projected buildout rate, Villages at Hokuano would take over 38 years before reaching its maximum electrical load forecast of 13 MW. The gradually increasing demand should be offset by the incremental development of power supply, given the limited number of homes that will be built each year. An incremental load forecast was prepared on the assumption that one-fourth of the total homes built each year will be on large acreage lots and that the remaining homes will be on lots of less than one acre. It also assumes that the golf course and lodge will be fully operational. The projection, found in the Preliminary Electrical and Communication System Analysis prepared in November, 1992, by Ronald N. S. Ho & Associates, Inc. (Appendix II-2), shows that maximum demand would be approximately 5 MW by the year 2008, increase to 8.3 MW by the year 2020, and begin leveling off to 11.5 MW by the year 2032. By this time, about 200 lots would remain unbuilt, based on the buildout schedule provided by KPMG Peat Marwick.

By the year 2011, HELCO plans to deliver a total generating capacity of 350 MW and anticipates a demand of 305 MW, including the proposed project, providing a 13 percent surplus in generating capacity over peak demand, thereby assuring an adequate amount of electrical supply to meet the project's needs. Recent information provided by HELCO shows current generating capacity at 181 MW and a present peak demand of 151 MW. By 1999, HELCO plans to have the proposed 56

MW combustion turbine at the Keahole generating station at full capacity, expects to have the 25 MW geothermal plant on line and an initial phase of 20 MW operating at the West Hawaii combustion turbine station. These capacity additions, offset by the planned retirements of older stations, will raise net generating capacity to 244 MW. The forecasted peak demand of 203 MW will provide a seventeen percent surplus in generating capacity over demand in 1999.

The offsite improvements necessary to serve the development should not have any adverse impacts, as these are maintained on an ongoing basis by the respective utility companies, and should cause them no undue hardship. Some impacts to ambient air quality are anticipated, however, according to a study conducted by B. D. Neal & Associates (Appendix I-5), the attendant impacts are expected to be negligible.

#### Mitigation Measures

The Electrical and Communication System Analysis indicates that onsite facilities for the utility systems should have minimal impact on the environment. Noise, aesthetic considerations, safety hazards, and loading impacts will be within normally applied guidelines. Energy efficient and conservation measures to reduce the maximum electrical demand will be considered for implementation into the project where feasible. These will include power factor corrections, the use of energy efficient pumps, and scheduling certain types of loads to run during off peak hours whenever practical. Further efforts to minimize energy consumption may include implementation of select items from the "Hawaiian Design Strategies for Energy Efficient Architecture" published by the Energy Division of the State of Hawaii Department of Business, Economic Development and Tourism. Energy conservation measures that should be considered and evaluated based on the potential for live cycle costs savings include:

- a) Siting buildings to minimize the heat loads and to effectively utilize natural breezes for indoor and outdoor living and recreational spaces.
- b) Use of high-efficiency light sources and ballasts for indoor and outdoor lighting purposes.
- c) Use of high-efficiency refrigerators, washers and dryers, and ranges.
- d) Use of high-efficiency air conditioners.

- e) Use of heat pump, waste heating recovery, and solar water heating systems.
- f) Use of occupant sensing or time switch type light and air conditioner controls.

## 4.7 PUBLIC SERVICES

### 4.7.1 Police and Fire Protection

#### Existing Conditions

The project area police and fire services are provided by facilities located in Captain Cook, less than three miles from the project area. At present, these facilities are adequate to serve existing area requirements. The police station is a substation of the main facility located just north of Kailua-Kona at Kealahou. The fire station is staffed by 18 personnel divided into three shifts providing 24 hour coverage. Equipment consists of a 1,500 gallons per minute (GPM) pumper carrying 1,000 gallons of water, a mini-pumper 4X4 carrying 300 gallons of water, and an ambulance.

#### Probable Impacts

Although the proposed project may result in increased criminal activity associated with growth, as well as an increase in requests for police services, it is expected that these will be relatively insignificant and not cause an increase in County police manpower requirements. The project is expected to employ its own security service, which will be increased as the project is developed. As the resident population increases in the project area, the need for additional County police personnel will require evaluation in the context of a County Police Department needs assessment.

The development of the project and related facilities could lead to an increased demand for fire protection service and facilities. However, given the location of the existing fire station and the fact that all new facilities would be constructed in accordance with the County Fire Code, it is expected that any increased demand can be accommodated by existing fire protection services and facilities.

### Mitigation Measures

The lack of expected adverse impacts on the present County and private police and fire protection services indicates that mitigation measures are not warranted. As noted above, the property will be policed by a security force that will be increased as development proceeds to sufficiently meet the needs of the project area. Per the County Building Code, all facilities would be designed to meet all applicable code requirements, thereby providing adequate fire protection and access for fire and emergency equipment.

#### 4.7.2 Schools

### Existing Conditions

The South Kona district is served by the Konawaena Elementary School and High School, both in Kealahou. A new elementary school is also being planned for the general area, although the location is not known at this time.

### Probable Impacts

The number of school children associated with the project is expected to be low due to the second home and retirement home emphasis of the project, and the relatively high anticipated age of permanent residents. The State Department of Education (DOE) has made its own assessment of potential school age children generated by the project. Based on an assumption of an average of 1,440 single and multi-family residential units to be built on the project site, the State DOE estimates that 298 students would be added to the local school system. This would include approximately 155 students in kindergarten through grade five, 58 in grades six through eight, and 85 in grades nine through twelve. This estimate is based on historic student enrollment rates of similar developments within the State. Although this appears to present a significant impact to the educational resources of the area, the project at buildout is expected to occur over a 30 year period, allowing sufficient time for the State DOE to accommodate any increase in school population as a result of the proposed project.

### Mitigation Measures

A portion of the State tax revenues generated by this project will be allocated to education, which should defray additional operating expenses (KPMG Peat Marwick, 1993). The actual number of residential units built and the number of children attending school will be determined at a later stage in the project planning. The developer has discussed with the State DOE their plans for public school facilities in the area and will continue to coordinate with the State DOE in order to assure that adequate public school services are provided to project residents.

#### 4.7.3 Medical Facilities

### Existing Conditions

The State operated Kona Hospital in Kealahou is located about one half mile mauka of the project site. Although the hospital is licensed for 54 acute care beds, only about 40 are normally available for acute care because of staffing and other limitations. However, according to the West Hawaii Regional Health Center Task Force Report of October, 1989, the State Department of Health is committed to renovate the Kona Hospital "without delay" at the cost of \$6 million.

A twenty-four hour emergency ambulance service is located in Captain Cook in conjunction with the Captain Cook Fire Station. Current response time to the project site is estimated to be approximately five to ten minutes.

### Probable Impacts

The proposed project could add to the demand on emergency health care services due to the added population, however, existing conditions indicate that the health care facilities in West Hawaii require upgrading with or without the proposed project. Residents and visitors to the proposed project would be able to seek emergency care at Kona Hospital, and as noted previously, an emergency ambulance service is available to the project area.

### Mitigation Measures

As indicated within Section 4.5 and Appendix IV-2, the tax revenues generated by the project should more than cover the cost of additional emergency health care and hospital services attributable to the proposed development (KPMG Peat Marwick).

#### 4.7.4 Recreational Facilities

The project site is approximately seven miles from Kealahou Bay Historic Park, formerly known as Napo'opo'o Beach Park, which is operated by the State. Recreational activities at this park include snorkeling, swimming, hiking, and sightseeing. Facilities at the park include a picnic area, pavilion, and restrooms. Also in the general region are Ho'okena and Miloli'i County Beach Parks which provide picnic, camping, swimming, and snorkeling areas. Additionally, the 180 acre Pu'uhonua O' Honaunau National Park, within which lies the historic "City of Refuge", is located approximately nine miles south of the project site.

### Probable Impacts

In that the proposed development plan provides for recreational amenities such as the 27-hole golf course, coastal and internal hiking trails, ocean and neighborhood related amenities, and the anticipated emphasis toward second and retirement homes, the impact to local recreational facilities is expected to be minimal. The project would, however, provide opportunities for public access to golf and public use of onsite amenities, thereby adding to the range of recreational activities for residents of the area.

### Mitigation Measures

Overall, the project is expected to have a positive effect on the availability of recreational opportunities in West Hawaii through the provision of improved public access to the shoreline area and availability of project related recreational activities to the public. The developer has proposed to manage the shoreline area as a passive coastal park available for public use, as described below.



## Shoreline Use Concept

The shoreline use concept, as shown within Figure 21, would connect the shoreline area with other portions of the development through an extensive trail system extending over several miles in length. The trail system would not only provide access to the shoreline area, but would also provide access to other historic and archaeological sites, such as the King's Trail, Kuakini Wall, heiaus, platforms, enclosures, and other sites.

For the King's Trail, the developer intends to restore this in place where the trail exists, and in areas where the trail cannot be found, the intent is to rebuild the trail in the general area it was once located, with some routing movements to achieve compatibility with the proposed development uses. In all, there would be several miles of looping trails for the enjoyment of the general public, as well as residents of the project. Also, portions of the Ala Kahakai ("Trail by the Sea"), which is being studied for inclusion in the National Trail System, could be included as part of this trail system where it traverses the property.

The primary focus of the trail system would be in the area between Pu'u Ohau and the northern property boundary. The shoreline conditions in this area provide the best opportunities to access the ocean. There are open areas where it would be suitable for children to play, families to picnic and other areas suitable for individuals to hike or explore archaeological sites as part of an archaeological and historical interpretive program. The areas south of Pu'u Ohau consist of palis ranging from twenty to eighty feet in height with vertical or concave cliffs, providing very unsafe conditions along the top. This coastal portion would be generally unsafe for family activities, however, there is a primitive trail along the southern portion of the shoreline that would be made available to the public, although this would remain unimproved with signage indicating that the trail may prove hazardous.

The developer proposes to build the shoreline trail, the archaeological and interpretive trails, and the ocean park in phases over a ten to fifteen year period, although the specific details of the phasing plan would need to be developed and refined as part of the regulatory approval process. Initial improvements would include road access leading to shoreline access and parking areas, which would be open with the golf course club opening. Once improvements are made, these areas are planned to be managed and maintained as a responsibility of a community homeowners'

# **Pu'u Ohau**

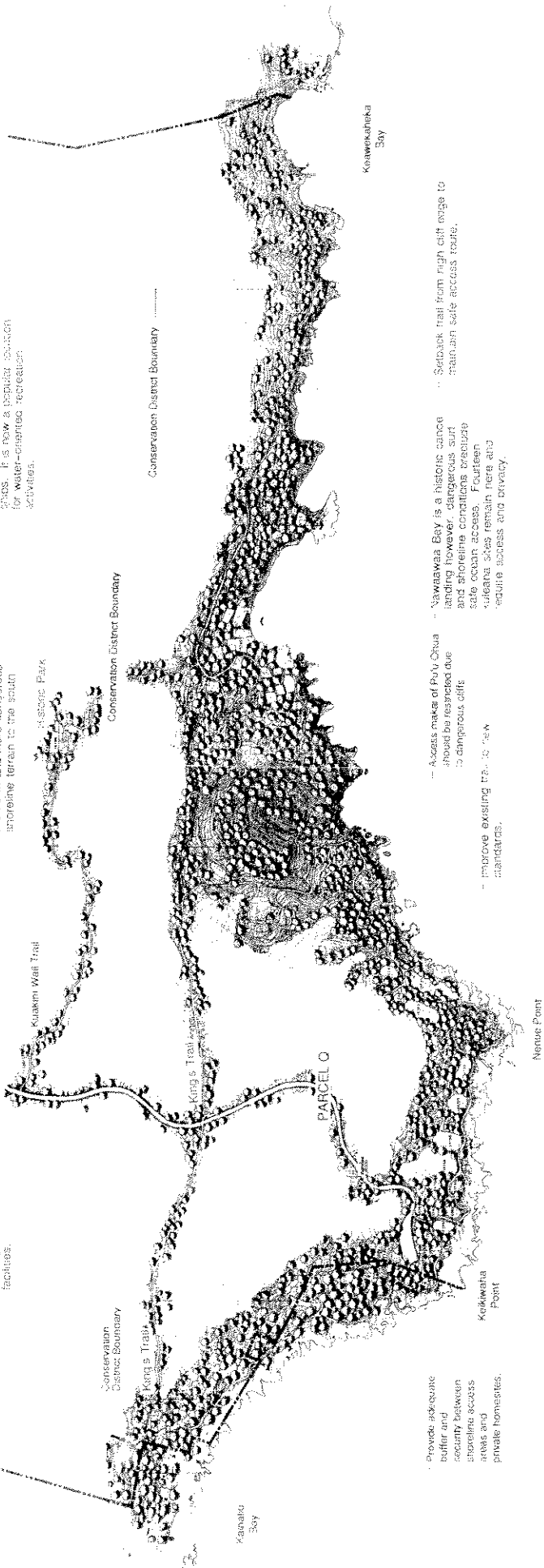
Significant historic and modern shoreline provides navigational point of reference to bidders. Extensive archaeological and cultural sites remain here. Primary access should stay inland of where immediate access to King's Trail is available. This shoreline undeveloped area between the transition point between the shoreline areas to the north and more developed shoreline terrain to the south.

# **Hokukano Village**

Historic village site on flat, sandy terrain with heavy vegetation cover and fair ocean access. Shoreline access facilities to include pedestrian drop-off, vehicle parking, restrooms and picnic facilities.

# **Kalukalu Landing**

This point was previously used to transfer agricultural products to ships. It is now a popular location for water-oriented recreation activities.



Provides adequate buffer and security between shoreline access areas and private homesites.

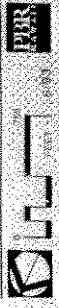
Trail follows natural vegetative edge and allows view access to major scenic vista.

Access made of Pu'u Ohau should be restricted due to dangerous cliffs. Improve existing trail to new standards.

Waiwae Bay is a historic canoe landing however, dangerous surf and shoreline conditions reduce safe ocean access. Fourteen waiwae sites remain here and require access and privacy.

Setback trail from high cliff edge to maintain safe access route.

FIGURE 21  
SHORELINE USE CONCEPT  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO



Architect: Gage Davis Associates



association or other non-profit entity, established by the developer. Again, in preparing a management plan for this area, the management criteria for this area will need to be developed in consultation with appropriate government agencies, citizen experts, and consulting professionals. Included within the Conservation District is a prehistoric fishing village known as Hokukano Village in a portion along the northern part of the shoreline that is owned by the State. The developer proposes to request a Conservation Easement that would allow this area to be included within the park system under the same management plan as the rest of the shoreline and Conservation park area. In sum, the overall shoreline use concept is aimed at providing a managed park system that will enhance the value of this area as a recreational educational resource available to the residents of the proposed development, as well as the general public.



## **5.0 RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA**

The applicable governmental land use plans, policies and controls affecting the proposed project include Chapter 205, HRS, Land Use Commission Rules (Chapter 15-15 Hawaii Administrative Rules), the Hawaii State Plan and State Functional Plans for Agriculture, Conservation Lands, Employment, Energy, Health, Historic Preservation, Housing, Human Resources, Recreation, Tourism, Transportation and Water Resources Development; Hawaii Coastal Zone Management Program, Hawaii County Special Management Area (SMA), Hawaii County General Plan and Hawaii County Zoning. Additionally, the West Hawaii Regional Plan and Kona Regional Plan are applicable to the proposed project. The project's relationship to these plans, policies and controls is described in the sections that follow. Following receipt of all necessary permits and approvals, the proposed project would be consistent with the above noted plans and land use controls.

### **5.1 STATE LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA**

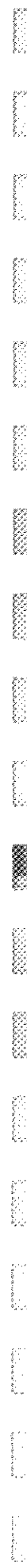
#### **5.1.1 CHAPTER 205, HRS, Land Use Commission Rules**

As shown in Figure 22, approximately 1,400 acres of the project lands are designated Agriculture by the State Land Use Commission (SLUC). For the project to move forward, a land use district boundary amendment petition will be submitted to the State Land Use Commission, to redesignate approximately 863 acres of the Agricultural District lands for Low and Medium Density Urban uses. This will allow development of the proposed members' lodge and a predominantly single family residential development in neighborhoods ranging in density from 2 to 4.7 units per acre.

##### **5.1.1.1 Section 205-17, HRS**

Section 205-17, HRS, sets forth the following decision making criteria for reclassification of District boundaries by the SLUC:

- (1) The extent to which the proposed reclassification conforms to the applicable goals, objectives and policies of the Hawaii State Plan and related to the applicable priority guidelines of the Hawaii State Plan and the adopted functional plans;









- (2) The extent to which the proposed reclassification conforms to the applicable district standards; and
- (3) The impact of the proposed reclassification on the following areas of State concern:
  - (a) Preservation or maintenance of important natural systems or habitats;
  - (b) Maintenance of valued cultural, historical or natural resources;
  - (c) Maintenance of other natural resources relevant to Hawaii's economy, including but not limited to, agricultural resources;
  - (d) Commitment of State funds and resources;
  - (e) Provision for employment opportunities and economic development;
  - (f) Provision for housing opportunities for all income groups and gap groups.

The subject matter of these criteria are addressed below and also in Section 4 regarding probable impacts on the environment. Based on these discussions, the project meets the criteria contained in Section 205-17, HRS.

#### 5.1.1.2 Section 205-2, HRS, Land Use Commission Rules

The SLUC District Regulations require that the application for a boundary amendment show that it is "reasonable, not violative of Section 205-2 and consistent with the Interim Statewide Land Use Guideline Policies." The consistency of the proposed district designation with Section 205-2, HRS, and with the State Interim Land Use Guideline Policies are discussed below.

The proposed amendment to the State Land Use district boundaries is consistent with the basic standards for determining boundaries that are set forth in Section 205-2, HRS. Relevant standards from this section include the following:

### Conservation District

Conservation shall include areas necessary for:

- (1) Protecting watersheds and water resources;
- (2) Preserving scenic and historic areas; and
- (3) Providing park lands, wilderness and beach reserves; conserving endemic plants, fish and wildlife; preventing floods and soil erosion; forestry; open space areas whose existing openness, natural condition or present state of use, if retained, would enhance the present or potential value of abutting or surrounding communities, or would maintain or enhance the conservation of natural or scenic resources; areas of value for recreational purposes; other related activities; and other permitted uses not detrimental to a multiple use conservation concept.

Response: The proposed use of the Conservation lands will incorporate shoreline access and hiking trails featuring historic and cultural interpretive sites. Shoreline access parking for public use will also be provided. Trail improvements will generally replicate and improve the existing trail system with as little impact to existing natural conditions as practical. A management plan for the use of the shoreline area will also be developed in conjunction with a future Conservation District Use Application to the Board of Land and Natural Resources. In conformance with the intent of the Conservation District, the proposed use would maintain and enhance the conservation of the natural and scenic resources of this area, and would increase its value for public recreational purposes.

### Agricultural District

"Agriculture districts shall include activities or uses characterized by the

- (1) Cultivation of crops, orchards, forage and forestry;
- (2) Farming activities or uses related to animal husbandry, aquaculture, game and fish propagation;

- (3) Aquaculture, which means the production of aquatic plant and animal life for food and fiber within ponds or other bodies of water;
- (4) Wind generated energy production for public, private and commercial use;
- (5) Services and uses accessory to the above activities including but not limited to living quarters or dwellings, mills, storage facilities, processing facilities and roadside stands for the sale of products grown on the premises;
- (6) Wind machines and wind farms;
- (7) Agricultural parks;
- (8) Open area recreational facilities including golf courses and golf driving ranges, provided that they are not located within agricultural district lands with soil classified by the land study bureau's detailed land classification as overall (master) productivity rating class A or B; and
- (9) These districts may include areas which are not used for, or which are not suited to, agricultural and ancillary activities by reason of topography, soils, and other related characteristics.

Response: The Agricultural District land that is proposed for Urban designation is generally unsuited for the cultivation of crops, orchards, forage or forestry. The land is classified D230 and E289 under the Land Study Bureau Detailed Land Classification System and is characterized as rocky and unsuitable for mechanical cultivation. The land is suitable for seasonal grazing purposes but this use is limited due to the lack of improved irrigation facilities and precipitation. Similarly, the land is not suitable for wind generated energy uses due to the general lack of sustainable winds required for the production of electrical energy. The land may be suitable for agricultural parks, however, there does not appear to be a lack of better suited agricultural land in the North and South Kona districts. The land is not particularly well suited to aquaculture activities given the lack of basic infrastructural services and the availability of those services at Keahole Point in North Kona. With the exception of

seasonal grazing, the topography and physiography of the land does not lend itself to agricultural activities. A portion of the land proposed for the Urban designation is classified by the State Department of Agriculture ALISH classification as "Other Important Agricultural Lands". However, this classification is based primarily on the U.S. Department of Agriculture Soil Conservation Service soil classifications for this area and does not take into consideration important site related factors that are essential to productive agricultural practice, including the availability of supporting infrastructure, compatibility with surrounding uses, size, location and configuration of the area, drainage considerations, proximity to support services or market related questions. As described previously in Section 4.1.2, the proposed development would include an agricultural program to provide opportunities for agricultural activities on the property, especially within those areas that are to remain within the Agricultural district. Although the subject lands are only marginally suited for agricultural use, through careful planning and by introducing the needed site preparation, infrastructure and capital, the proposed development can provide for sustainable agricultural uses on lands that would otherwise remain largely unproductive.

#### 5.1.2 Hawaii State Plan (Revised 1989)

The Hawaii State Plan (Chapter 226, HRS, as amended and approved June 8, 1989), establishes a set of goals, objectives and policies that are to serve as long-range guidelines for the growth and development of the State. The Plan is divided into three parts: Part I (Overall Theme, Goals, Objectives and Policies); Part II (Planning, Coordination and Implementation); and Part III (Priority Guidelines). Part II elements of the State Plan pertain primarily to the administrative structure and implementation process of the Plan. As such, comments regarding the applicability of this part to the proposed project are not appropriate. The following sections of the Hawaii State Plan are directly applicable to the proposed project:

##### 5.1.2.1 Part I: Overall Theme, Goals, Objectives and Policies

The Hawaii State Plan lists three "Overall Themes" relating to: (1) individual and family self-sufficiency; (2) social and economic mobility; and (3) community or social well-being [Section 226-3 (1-3)]. These themes are viewed as "basic functions of society" and goals toward which

government must strive. To guarantee the elements of choice and mobility embodied in the three themes, three goals were formulated [Section 226-4 (1-3)]:

- (1) A strong, viable economy, characterized by stability, diversity and growth that enables 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.

Response: The proposed project would contribute to the attainment of the three goals. The project would provide direct and indirect short and long term employment opportunities for the present and future residents of North and South Kona and West Hawaii; the proposed project would generate increased State and County tax revenues; the project would contribute to the stability, diversity and growth of local and regional economies; and the archaeological, historic and natural site features would be protected. Key elements of the proposed project relative to the above noted goals are that the proposed project would provide additional employment, recreational and cultural opportunities for existing and future residents of North and South Kona and West Hawaii; that it would provide these opportunities in a planned setting wherein design, operation and maintenance and environmental protection provisions can be effectively, efficiently and economically controlled; that it would provide these opportunities close to existing and planned developments such that travel times are minimized and yet would be sufficiently separated from planned or existing residential developments such that the activities within the proposed project are not a nuisance to nearby residential communities or other related activities. By providing recreational, educational and cultural opportunities within a planned setting, the proposed project would enhance the sense of community responsibility and participation.

Specific objectives, policies and priority directions of the State Plan most relevant to the proposed project are discussed below. Those objectives and policies that are not listed below are those not applicable to the proposed project.

**226-5: Objectives and Policies for Population**

Objective: (a) To guide population growth to be consistent with the achievement of the physical, economic and social objectives of the State.

Policies: (b)(1) Manage population growth Statewide in a manner that provides increased opportunities for Hawaii's people to pursue their physical, social and economic aspirations while recognizing the unique needs of each County.

(b)(2) Encourage an increase in economic activities and employment opportunities on the Neighbor Islands consistent with community needs and desires.

(b)(3) Promote increased opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the State.

(b)(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.

Response: Rapidly increasing population levels in the West Hawaii area are presently a concern to both State and County planners because of the present lack of affordable housing, limited public facilities and services and increased demands on those facilities and services. The proposed project will have an effect on these factors, but that effect would be less than that which would occur should the project area remain undeveloped. That is, the proposed project will provide the economic means by which other elements of the overall County General Plan can be implemented. Without an income generating product, implementation of the County General Plan elements relating to housing, infrastructure, development and other employment opportunities becomes questionable. The Villages at Hokuano project is expected to provide long term economic and employment opportunities for businesses servicing and providing equipment and supplies for the golf club.

members' lodge and residential units. The development of the project and residential neighborhoods is also expected to contribute to the overall growth of the North and South Kona area in a manner that is consistent with the communities's desire and need as demonstrated in the goals and policies of the County General Plan. As previously indicated in this EIS, marketing studies indicate a definite market for both the project and related facilities, including the residential and agricultural lots, thereby indicating resultant positive primary and secondary employment and economic opportunities for socioeconomic growth and development of the area. Additionally, the planned development can be coordinated with pertinent State and County agencies such that the proposed project would contribute to the enhancement of existing infrastructure in a manner to meet the growing needs of the surrounding area.

**226-6: Objectives and Policies for the Economy - General**

Objective: (a)(1) To increase and diversify employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawaii's people.

(a)(2) A steadily growing and diversified economic base that is not overly dependent on a few industries.

Policies: (b)(2) Promote Hawaii as an attractive market for environmentally and socially sound investment activities that benefit Hawaii's people.

(b)(4) Expand existing markets and penetrate new markets for Hawaii's products and services.

(b)(6) Strive to achieve a level of construction activity responsive to, and consistent with, State growth objectives.

(b)(9) Foster greater cooperation and coordination between the public and private sectors in developing Hawaii's employment and economic growth opportunities.



(b)(10) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.

(b)(11) Maintain acceptable working conditions and standards for Hawaii's workers.

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

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

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

Response:

As a master planned residential community with associated recreational amenities, the project would add an environmentally and socially sound investment amenity to the marketing and promotion of Hawaii. Further, the project would expand an existing market and penetrate a new market for Hawaii's products and services. The proposed project would provide continued construction activity in the West Hawaii area that would closely follow construction of other West Hawaii projects, thereby ensuring local construction workers continued employment, as well as provide employment opportunities for other types of construction trades. Given the present land use designations for the project site, the proposed project is consistent with State growth objectives. The proposed project would provide increased employment, income and job opportunities for Big Island residents, thereby leading to improved living standards for those residents. The development of the proposed project would also increase the opportunities to enhance the working conditions of the businesses that would service the project, increase the opportunities for businesses having favorable financial multiplier effects and provide a climate conducive to the expansion of existing businesses and the creation of new business.

**226-10: Objectives and Policies for the Economy - Potential Growth Activities**

**Objective:** (a) Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objectives of development and expansion of potential growth activities that serve to increase and diversify Hawaii's economic base.

**Policies:** (b)(1) Facilitate investment and employment in economic activities that have the potential for growth such as diversified agriculture, aquaculture, apparel and textile manufacturing, film and television production and energy and marine-related industries.

(b)(2) Expand Hawaii's capacity to attract and service international programs and activities that generate employment for Hawaii's people.

(b)(3) Enhance and promote Hawaii's role as a center for international relations, trade, finance, services, technology, education, culture, and the arts.

(b)(5) Promote Hawaii's geographic, environmental, social, and technological advantages to attract new economic activities into the State.

(b)(6) Provide public incentives and encourage private initiative to attract new industries that best support Hawaii's social, economic, physical, and environmental objectives.

**Response:** The proposed project would assist in the achievement of the above State objective and policies by providing facilities that directly promote the growth of diversified agriculture; encourages existing business to expand and provide the impetus for the creation of new businesses related to golf and real estate activities centered around the project; assist in enhancing and promoting Hawaii's role as a center for international and domestic relations, trade, finance, services and technology, and promote the State's geographic, environmental, social and technological advantages, especially given the project's location relative to the internationally known recreational facilities and sport fishing grounds off West Hawaii; and

granting of the requested permits and future zoning requests would represent the extent of public incentives required to encourage the private interests to construct homes and utilize planned facilities, thereby supporting the State's social, economic, physical and environmental objectives.

**226-11: Objectives and Policies for the Physical Environment - Land Based, Shoreline and Marine Resources**

Objectives: (a) Planning for the State's physical environment with regard to land-based, shoreline and marine resources shall be directed towards the achievement of the following objectives:

(a)(1) Prudent use of Hawaii's land-based, shoreline, and marine resources.

(a)(2) Effective protection of Hawaii's unique and fragile environmental resources.

Policies: (b)(1) Exercise an overall conservation ethic in the use of Hawaii's resources.

(b)(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.

(b)(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

(b)(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.

(b)(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.

(b)(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.

(b)(8) Pursue compatible relationships among activities, facilities, and natural resources.

(b)(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational and scientific purposes.

Response: The demonstrated policy of Oceanside 1250, developers of the proposed Villages at Hokukano, is to exercise a strong overall conservation ethic in the planning of all its projects. This has been demonstrated in the care and planning that has occurred with regard to the natural and historical/cultural resources found within the project boundaries and with previous projects. This same ethic would be continued with the development of the proposed project to ensure compatibility between the project-associated activities, and the natural resources and ecological systems that would be affected by the proposed project. As indicated previously in this EIS, the planning and design of the project has taken into account the physical attributes of the property and surrounding areas. Further, it is the intention of the developer to manage the natural resources and environs of the project area such that beneficial and multiple uses are encouraged as to not cause damage to those resources. Granting of the requested permit and land use actions provides an additional public incentive for encouraging private actions to protect significant natural resources from degradation or unnecessary depletion. This, together with a desire to provide a desirable and marketable residential product, will encourage the developer to pursue compatible relationships among the activities, facilities and natural resources of the area. The proposed project would also promote increased accessibility and prudent use of inland and shoreline areas for public recreational and educational purposes. Plans for the proposed Villages at Hokukano project are being developed and prepared in conjunction with extensive environmental studies of the site as well as extensive public input. This EIS documents the process by which these environmental considerations have been integrated into the planning process. Although no threatened or endangered species of plants, animals or potentially threatened or candidate species were encountered through these studies, any native species would be respected through appropriate site planning considerations. Similarly, significant archaeological/historical features within the project boundaries would be preserved and protected in compliance with applicable Federal, State and County rules and regulations and implementation of a community, developer, State, and County prepared and approved mitigation plan.

**226-12      Objectives and Policies for the Physical Environment - Scenic, Natural Beauty and Historic Resources**

Objective:      (a) 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:      (b)(1) Promote the preservation and restoration of significant natural and historic resources.

(b)(2) Provide incentives to maintain and enhance historic, cultural and scenic amenities.

(b)(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.

(b)(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.

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

Response:      The proposed Villages at Hokukano project was conceived based on the unique attributes of the site and has thus been planned and designed to maintain and/or enhance the natural features of the site. As discussed previously, significant historical, cultural and archaeological sites will be protected; building pads have been planned and sited to maintain the primary vistas to the mountains and ocean as well as to avoid significant archaeological sites. The low density, golf course and landscaped character of the project site, as well as the integration of significant open space elements, would provide a means for the development to accommodate and be complemented by the surrounding land and ocean environment.

**226-13 Objectives and Policies for the Physical Environment - Land, Air and Water Quality**

Objectives: (a) Planning for the State's physical environment with regard to land, air and water quality shall be directed towards achievement of the following objectives:

(a)(1) Maintenance and pursuit of improved quality in Hawaii's land, air and water resources.

(a)(2) Greater awareness and appreciation of Hawaii's environmental resources.

Policies: (b)(1) Foster educational activities that promote a better understanding of Hawaii's environmental resources.

(b)(2) Promote the proper management of Hawaii's land and water resources.

(b)(3) Promote effective measures to achieve desired quality in Hawaii's surface, ground and coastal waters.

(b)(8) Foster recognition of the importance and value of land, air and water resources to Hawaii's people, their cultures and visitors.

Response: An important element of the proposed project is the construction of an historic park interpretive program and trail system to convey the rich history of the area, thereby providing an educational experience regarding the importance of the area's land and water resources. The proposed project has been designed and would be constructed in such a manner that the land and water resources of the area can be managed in an environmentally compatible and beneficial manner and foster the recognition of the importance and value of the area's land, air, and water resources to Hawaii's people, their cultures, and visitors.

**226-19 Objectives and Policies for Socio-Cultural Advancement - Housing**

Objectives: (a) Planning for the State's socio-cultural advancement with regard to housing shall be directed towards achievement of the following objectives:

(a)(2) The orderly development of residential areas sensitive to community needs and other land uses.

Policies: (b)(1) Effectively accommodate the housing needs of Hawaii's people.

(b)(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services and other concerns of existing communities and surrounding areas.

(b)(7) Foster a variety of lifestyles traditional to Hawaii through the design and maintenance of neighborhoods that reflect the cultures and values of the community.

Response: The proposed development has been planned and designed to lend itself towards fostering a sense of community and cohesiveness. This planning, as noted previously, has actively involved the surrounding Kealahou community. It is the intent of the proposed development to create a character that reflects the values that are traditional to Hawaii in general and specifically to the region through an appreciation and respect for the beauty of the land. Development of another large-scale resort hotel in the area would add undue burdens on the public facilities and services of the area and not be in keeping with the lower density or rural character desired by existing communities. Through the development of the proposed project, and meeting the requirements for affordable housing that would accompany land use approvals, the project will also provide a range of housing options for Hawaii residents.

## **226-23 Objectives and Policies for Socio-Cultural Advancement - Leisure**

Objective: (a) Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.

- Policies:
- (b)(1) Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities - oriented programs and activities.
  - (b)(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic and recreational needs of all diverse and special groups effectively and efficiently.
  - (b)(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities and improved facility design and maintenance.
  - (b)(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.
  - (b)(5) Ensure opportunities for everyone to use and enjoy Hawaii's recreational resources.
  - (b)(10) Assure adequate access to significant natural and cultural resources in public ownership.

Response: The project would provide a new array of recreational opportunities that would be integrated into the community. The project includes provisions for open spaces, public shoreline access, public access to the project facilities, educational displays and facilities and continued access to significant historical and cultural sites. In addition, opportunities for community activities would be available. As such, a wide range of recreational facilities and opportunities would be made available to the residents of North and South Kona regions, as well as residents of the overall West Hawaii area.

#### 5.1.2.2 Part II: Planning, Coordinating and Implementation

As indicated previously, this part of the Hawaii State Plan pertains to the administrative structure and implementation process of the Plan. As such, comments are not deemed appropriate.



#### 5.1.2.3 Part III: Priority Guidelines

The purpose of this part of the Plan is to establish overall priority guidelines to address areas of Statewide concern. The Plan notes (Section 226-102) that the State shall strive to improve the quality of life for Hawaii's present and future population through the pursuit of desirable courses of action in five major areas of Statewide concern which merit priority attention: economic development, population growth and land resource management, affordable housing, crime and criminal justice and quality education. The priority guidelines applicable to the proposed project are discussed below:

#### **226-103 Economic Priority Guidelines**

(a) Priority guidelines to stimulate economic growth and encourage business expansion and development to provide needed jobs for Hawaii's people and achieve a stable and diversified economy:

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

(a)(8) Provide public incentives and encourage private initiative to develop and attract industries which promise long term growth potentials and which have the following characteristics:

(a)(8)(A) An industry that can take advantage of Hawaii's unique location and available physical and human resources.

(a)(8)(B) A clean industry that would have minimal adverse impacts on Hawaii's environment.

(a)(8)(D) An industry that would provide reasonable income and steady employment.

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

(b) Priority guidelines to promote the economic health and quality of the visitor industry:

(b)(1) Promote visitor satisfaction by fostering an environment which enhances the Aloha Spirit and minimizes inconveniences to Hawaii's residents and visitors.

(b)(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.

(b)(3) Support appropriate capital improvements to enhance the quality of existing resort destination areas and provide incentives to encourage investment in upgrading, repair and maintenance of visitor facilities.

(b)(4) Encourage visitor industry practices and activities which respect, preserve and enhance Hawaii's significant natural, scenic, historic and cultural resources.

(b)(7) Maintain and encourage a more favorable resort investment climate consistent with the objectives of this chapter.

(f) Priority guidelines for energy use and development:

(f)(3) Provide incentives to encourage the use of energy conserving technology in residential, industrial and other buildings.

Response: The proposed Villages at Hokukano project would assist in meeting the above stated guidelines by allowing private investment in a facility that would assist in expanding existing businesses as well as provide the impetus for new businesses to be created to serve an expanded real estate market; assist in the development of an industry that can take advantage of Hawaii's location and available physical and human resources; encourage expansion of a clean industry that would have minimal adverse impacts on Hawaii's environment; assist an industry that provides a reasonable income and steady employment; and provide the market for and stimulus needed to increase vocational training in an area where growth is desired and

feasible. With regard to promoting the economic health, the proposed project would provide an ideal resident oriented area while allowing the development of the businesses that would serve the project and residents of the project; and allow the expenditure of private capital to upgrade and improve the quality of facilities in an area where they are now lacking. The proposed project would also aid in the attainment of the energy related guidelines through the energy conservation measures that would be taken during the design, construction and operation of lodge and golf club facilities and encouraged in the design and construction of individual homes.

#### **226-104      Population Growth and Land Resources Priority Guidelines**

(a) Priority guidelines to effect desired Statewide growth and distribution:

(a)(1) Encourage planning and resource management to insure population growth rates throughout the State that are consistent with available and planned resource capacities and reflect the needs and desires of Hawaii's people.

(a)(2) Manage a growth rate for Hawaii's economy that will parallel future employment needs for Hawaii's people.

(a)(4) Encourage major State and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.

(b) Priority guidelines for regional growth distribution and land resource utilization:

(b)(6) Seek participation from the private sector for the cost of building infrastructure and utilities and maintaining open spaces.

(b)(12) Utilize Hawaii's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands and other limited resources for future generations.

(b)(13) Protect and enhance Hawaii's shoreline, open spaces and scenic resources.

Response: The project would comply with and assist in the achievement of the above stated population growth and land resources priority guidelines and objectives. The proposed project would provide the means by which Oceanside 1250 would make available investment capital for the members' lodge, golf course, clubhouse and house lots, and meet County and State affordable housing conditions. As such, growth would continue to be focused in an existing urban area. Further, the project would maintain the open space character of the area; would be designed to protect and enhance the shoreline and coastal resources of the area; and provide additional recreational opportunities to the public. The proposed development would provide employment opportunities paralleling future employment needs; encourage private investment on a neighbor island; and profitably use suitable lands for urban uses. Infrastructural components required by and for the project would be provided by the developer at no cost to the State or County.

#### 5.1.3 State Functional Plans

The Hawaii State Plan directs the appropriate State agencies to prepare functional plans for their respective program areas. There are twelve State Functional Plans that serve as the primary implementing vehicle for the goals, objectives and policies of the Hawaii State Plan. The following sections of the listed State Functional Plans are directly applicable to the proposed project:

##### 5.1.3.1 State Agriculture Functional Plan (1985)

The project site has relatively little soil cover, although pockets of soil are found throughout the site. The majority of the land is designated as Class C, D, and E, with only a small portion designated as Class B. From an agronomic perspective, these soils are generally moderately to poorly suited for agricultural use. The entire project site is designated Orchards, Open Space and Extensive Agriculture by the County General Plan. No area of the project site has been rated as "Prime" or "Unique" by the ALISH system. Consequently, the majority of the implementing actions of the State Agriculture Functional Plan do not apply either directly or indirectly to the

proposed project. Those that do apply are related to non-cultivation activities such as grazing, for which there is no present or forecast shortage of lands in West Hawaii.

#### 5.1.3.2 State Conservation Lands Functional Plan (1984)

There are several implementing actions in the State Conservation Lands Functional Plan that are relevant to the proposed project. This functional plan addresses more than officially designated Conservation District lands in that it establishes a conservation ethic that the State should strive to attain and maintain.

### **Management of Natural Resources**

Objective: A. Effective protection and prudent use of Hawaii's unique, fragile and significant environmental and natural resources.

Policies: A(1) Exercise an overall conservation ethic in the use of Hawaii's resources by protecting, preserving and conserving the critical and significant natural resources of the State of Hawaii and controlling use of hazardous areas.

A(1)(c) Review the various rules and regulations and permit systems applicable to Conservation District lands for possible simplification and/or consolidation for effective and efficient management controls and compliance with the Coastal Zone Management program.

A(1)(d) Provide for effective enforcement of rules and regulations and permit system applicable to the Conservation District.

A(1)(d) Review applications for use of Conservation lands to control impacts on natural and cultural resources.

Response: In compliance with the Coastal Zone Management Program regulations, a Special Management Area permit will be requested from the County Planning Department. The proposed project does not plan any use of the State Land Use Conservation District land other than the provision of access trails and interpretive improvements associated with important archaeological sites. This EIS will allow extensive

review by governmental agencies and the general public with regard to the potential impacts on natural and cultural resources and the controls (mitigating measures) proposed to minimize potential adverse impacts. Additionally, any improvements within the State Conservation District will require approval from the Board of Land & Natural Resources through the Conservation District Use application processing, allowing further scrutiny of the potential impacts and proposed mitigating measures from proposed uses of this area.

### **Protection of Endangered Species**

Objective: B. Protection of rare or endangered species and habitats native to Hawaii.

Policies: B(1) Protect and preserve habitats of rare and endangered wildlife.

B(2) Protect and preserve unique native plant species.

Response: As noted previously, based on the studies conducted specifically for the project, there are no threatened or endangered species of plants or animals found within the project boundaries. However, to preserve examples of the native and introduced vegetation onsite, the landscaped areas will include the use of appropriate species that are presently found onsite. The native species such as the Euphorbs, Wiliwili trees and Capparis are planned to be preserved or propagated and used in the landscaping plan to the furthest extent practical.

### **Management of Open Space, Watersheds and Natural Areas**

Objective: C. Effective protection and management of Hawaii's open space, watersheds and natural areas.

Policies: C(3) Protect and manage the lands with historic or natural resources value.

C(3)(a) Establish criteria and evaluate and prioritize areas of private lands with historic or natural resources value for possible acquisition by public or private agencies.

C(3)(b) Acquire and maintain historic sites for park and other purposes.

C(4) Provide opportunities and facilities to meet public needs for a wide range of recreational and educational activities within Conservation lands.

C(4)(a) Where possible, make available areas of unique biota or geology for public appreciation and enjoyment.

C(4)(c) Maintain scenic and natural open space areas as part of a Statewide system of parks.

Response: To determine the extent and nature of historic and cultural resources within the project boundaries, an archaeological survey of the project site was conducted. The survey was performed in compliance with guidelines established by the State Department of Land and Natural Resources, Historic Sites Section and guidelines developed by the Advisory Council on Historic Preservation. Within the petition area, 471 sites and complexes were identified. Of this total, 180 of these were recommended for preservation, 18 sites are recommended for selected preservation, and 268 sites are recommended for data recovery. The developer intends to incorporate as many of these features as possible into the proposed project through historic parks and interpretive programs, linked with an extensive pedestrian trail system. As part of this effort, the Kuakini Wall will be protected and the King's Trail (Ala Loa or Ala Aupuni) will be restored in areas where it is currently dilapidated. Similarly, as noted previously, the natural resources of the area, especially the shoreline area, will be preserved, maintained and managed as a passive ocean park area for the enjoyment of residents and visitors.

#### 5.1.3.3 State Education Functional Plan (1989)

The State Education Functional Plan reflects the Department of Education's strategies to address the policies and priority guidelines of the Hawaii State Plan and the goals of the Board of Education and the concerns of the Education Functional Plan Advisory Committee. As such, it serves as a mechanism for implementing the Hawaii State Plan as it relates to the directions of the Board of Education and the programs of the Department. All of the actions are to be undertaken by the Department of Education and hence, they are not applicable to the proposed project.

#### 5.1.3.4 State Higher Education Functional Plan (1984)

There are no objectives, policies or implementing actions in this functional plan that are directly applicable to the proposed project.

#### 5.1.3.5 State Employment Functional Plan (1989)

The State Employment Functional Plan, the preparation of which was coordinated by the Department of Labor and Industrial Relations, lists four major issue areas under which specific objectives have been defined. These issue areas and objectives are as follows:

##### **Issue I: Education and Preparation Services for Employment**

Objectives: I.A Improve the qualifications of entry level workers and their transition to employment.

I.B Develop and deliver education, training and related services to ensure and maintain a quality and competitive workforce.

##### **Issue II: Job Placement**

Objective: II.A Improve labor exchange.

##### **Issue III: Quality of Work Life**

Objective: III.A Improve the quality of life for workers and families.

##### **Issue IV. Employment Planning Information and Coordination**

Objective: IV.A Improve planning of economic development, employment and training activities.



Under each of the above listed objectives are defined policies to implement the objectives. The implementation actions are primarily the responsibility of the Department of Labor and Industrial Relations (DLIR) with assistance from other agencies and groups.

Response: The proposed project is generally in concert with the objectives of the State Employment Functional Plan in that new jobs will be created and/or others, such as in construction, will be continued for a period of time. By providing additional employment opportunities in several areas the proposed project would be one more element of the North and South Kona and West Hawaii environment assisting in the improvement of the quality of life for workers and families. As noted in Section 4.4, the proposed project, at completion of build-out, is expected to generate about 330 jobs, including onsite and offsite positions.

#### 5.1.3.6 State Energy Functional Plan (1984)

The State Energy Functional Plan's most relevant objective is that of the promotion of energy efficient design. This relates to both overall land use planning and to specific building design and equipment selection decisions. While specific building designs have not been completed, the proposed project will adhere to energy conservation standards whenever possible. Elements of energy conservation that may be incorporated into the project include the use of passive design principals, which reduce the need for air conditioning and lighting, use of solar energy for water heating and heat recovery for air conditioning purposes, and the use of energy conservation lighting systems.

#### 5.1.3.7 State Health Functional Plan (1989)

The State Health Functional Plan identifies four major priority issue areas on which the plan focuses. These are (1) preventive health; (2) access to health care; (3) environmental protection; and (4) internal administrative issues. Of these four, the environmental protection issue is the most relevant to the proposed project.

Objective: Environmental programs to protect and enhance the environment. Continued development of new environmental protection and health services programs to protect, monitor and enhance the quality of life in Hawaii.

Policy: Air, land and water quality programs. The Department of Health (DOH) will develop and implement new programs to prevent degradation and enhance the quality of Hawaii's air, land and water.

The objective and policy of the DOH will be implemented through programs that will include development and implementation of a comprehensive air toxic control program; development and implementation of a comprehensive solid and hazardous waste management program; development and implementation of a comprehensive recreational water quality monitoring strategy; development and implementation of a non-point source pollution program to protect recreational and other surface waters; development and implementation of an indoor air pollution control program; and development and implementation of a groundwater protection program including groundwater monitoring, safe drinking water and underground injection control. These actions, in concert with existing duties and responsibilities of the DOH, form the primary environmental protection elements of the department.

Response: The proposed project will be in compliance with applicable DOH rules and regulations as well as those established by Hawaii County. A complete marine survey, including water quality analysis, of the area that may be impacted by the proposed project has been performed and forms the basis of a part of this EIS (see Section 4.2.3). In addition, applicable DOH permit/approval requirements will be complied with. The proposed project will comply with all necessary requirements related to the DOH permitting procedures.

#### 5.1.3.8 State Historic Preservation Functional Plan (1984)

The objectives, policies and implementing actions of the State Historic Preservation Plan are directed toward State agencies, primarily the DLNR-HSPD. The archaeological resources at the project site will be surveyed and evaluated by DLNR-HSPD. The developer, with approval from the County Planning Department and the DLNR-HSPD, will implement the mitigation measures recommended by the consulting archaeologist for any sites that requires additional investigation and/or protection. All proposed improvements have been sited to avoid significant archaeological sites. The more durable and appropriate sites would be included as part of an historic interpretive program. The applicant plans to maintain and preserve the significant archaeological sites and

features found within the project boundaries for the education and enjoyment of the residents and visitors to the project area.

#### 5.1.3.9 State Housing Functional Plan (1989)

The State Housing Functional Plan, prepared by the State Housing Finance and Development Corporation, addresses six major areas of concern: (1) increasing home ownership; (2) expanding rental housing opportunities; (3) expanding rental housing opportunities for the elderly and other special need groups; (4) preserving housing stock; (5) designating and acquiring land that is suitable for residential development; and (6) establishing and maintaining a housing information system. The plan assumes the use of existing programs at both the State and County levels to attain the goals of the Hawaii State Plan. The majority of the objectives, policies and implementing actions of the State Housing Functional Plan apply to the government sector. With regard to the provision of employee housing, Oceanside 1250 is continuing to discuss with the County and State methods of satisfying its affordable housing requirements for the entire planned development. In addition to meeting the provisions for affordable housing, in providing up to 1,440 homes, which would be suitable as primary residences, the proposed project will add significantly to the County's housing supply, lessening the market demands on lower priced homes. These homes would be priced for the intended market, safe, sanitary, liveable, and located in a suitable environment that accommodates the needs and desires of families and individuals who would reside in these homes.

#### 5.1.3.10 State Human Services Functional Plan (1989)

The State Human Services Functional Plan identifies elderly care, children and family support, self-sufficiency and service delivery improvements as priority issues. The objectives, policies and implementing actions of the plan are directed toward State and County agencies for accomplishment. In general, the proposed project is in concert with the basic philosophy of the Human Services Functional Plan in that it will assist, through the provision of employment opportunities, families in achieving economic and social self-sufficiency.

#### 5.1.3.11 State Recreation Functional Plan (1984)

The objectives, policies and implementing actions of the State Recreation Functional Plan are oriented toward improving public recreation opportunities both now and in the future. The following objectives and policies of the plan are relevant to the proposed project.

##### **Land Use Planning**

Objective: A. Achieve a pattern of land and water resources usage which is compatible with community values, physical resources, recreation potential and recreation uses which support comprehensive public land use policies.

Policies: A(2) Ensure that intended uses for a site respect community values and are compatible with the area's physical resources and recreation potential.

A(3) Emphasize the scenic and open space qualities of physical resources and recreation areas.

Response: The proposed project is favored in part by nearby communities over much larger facilities that could be planned for the project site. The general feeling of the communities that would be most affected by the project is that, as planned and discussed in this EIS, the project is the correct scale for the area. The proposed project is not only compatible with the area's physical resources but enhances the area's recreation potential and will assist in the realization of that potential. Further, the proposed project emphasizes the scenic and open space qualities of the physical resources and recreation characteristics of the area.

##### **Conservation and Resource Management**

Objective: B. Establish a system of maintaining natural and cultural resources for present and future generations, and of managing recreation and other uses in accordance with sound conservation principles.

Policy: B(1) Exercise an overall conservation ethic in the use of Hawaii's resources.

Response: Throughout the development of the plans for the project area, Oceanside 1250 has sought the community's input, especially with regard to the cultural and shoreline scenic resources, which would enhance the physical, cultural and recreational characteristics of the area. The programs that will be developed and implemented will be designed to preserve the valuable shoreline and cultural resources of the project site and area for the use and enjoyment of visitors and residents. The proposed project will continue to follow the conservation ethic that has been established, as demonstrated through the involvement of the communities with regard to the maintenance of the coastal and cultural resources of the project site and area.

### **Recreational Facilities and Programs**

**Objective:** C. Provide a comprehensive range of opportunities which fulfill the needs of all recreation groups effectively and efficiently.

**Policy:** C(1) Maintain an adequate supply of recreation facilities and programs which fulfill the needs of all recreation groups.

Response: The proposed project will assist in implementing the above stated objective and policy by providing a facility that will allow groups to pursue and enjoy their recreational needs. The provision of the project and associated facilities will be accomplished by private investment, thereby allowing public funds to be available for other recreation oriented programs.

**Objective:** D. Assure the provision of adequate public access to lands and waters with public recreation value.

**Policies:** D(2) Promote the securing of public access to resources with recreational value.

D(3) Ensure that the community feels safe and comfortable in accessing to public recreation lands.

Response: The proposed project includes provisions for public access to the shoreline and to those lands that have public recreation value. Further, the proposed project, acting

in concert with previously established public recreational facilities in the West Hawaii area, will ensure that facilities for both residents and visitors are enhanced.

#### 5.1.3.12 State Transportation Functional Plan (1984)

The overall objective of the State Transportation Functional Plan is to provide for the efficient, safe and convenient movement of people and goods. The developer will continue to work with the State Department of Transportation, as well as with the County and community, in its planning for the proposed highway bypass road. As noted in Section 4.6, which specifically addresses those elements that are applicable to the State Transportation Functional Plan, the applicant intends to participate in construction of a new highway bypass to divert a portion of the through traffic from Mamalahoa Highway to relieve current congestion at peak times in the village, at Konawaena School and Kona Hospital. This bypass would increase capacity and reduce congestion through the Mamalahoa Highway corridor by providing an alternative route between Kamehameha III Road/Kuakini Highway and the City of Refuge Road. The completion of the highway bypass would also improve operations at the Mamalahoa Highway/Haleki'i Street intersection.

#### 5.1.3.13 State Water Resources Development Functional Plan (1984)

This functional plan primarily affects governmental operations. The purpose of the plan is to set forth specific water-related objectives, policies, programs and projects to guide State and County governments in implementing the broader objectives, policies and priority guidelines of the Hawaii State Plan. In essence, the plan presents guidelines for the regulation of the development and use of water to assure adequate supplies in the future; development of water resources to meet municipal, agriculture and industrial requirements and the reduction of flood damage; and preservation of water-related ecological, recreational and aesthetic values and the quality of water resources. With regard to the development and use of water to assure adequate supplies in the future, the proposed project includes provisions to develop potable and non-potable supplies in compliance with appropriate State Department of Health and Land and Natural Resources, Water Resources Development Commission rules and regulations. Non-potable sources would be used for golf course and landscaped area irrigation. Within this context, the proposed project is in concert with the State Water Resources Development Functional Plan.

#### 5.1.4 Coastal Zone Management Act (Chapter 205-A, HRS)

The objectives of the Hawaii Coastal Zone Management (CZM) Program, as set forth in Chapter 205A, HRS, include the protection and maintenance of valuable coastal resources. The proposed project conforms to applicable CZM program objectives as indicated below.

##### 5.1.4.1 Recreational Resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policies: 1.b. Provide adequate, accessible and diverse recreational opportunities in the coastal zone management area by:

i. Protecting coastal resources uniquely suited for recreation activities that cannot be provided in other areas;

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

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

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

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

Response: At present, access to the shoreline in the project area is limited due to the lack of appropriate access, roadways, and parking. Development of the site for the proposed uses will provide the public with vehicular and pedestrian access to coastal resources by way of a designated roadway and trail system. Provisions in the access plan will protect the shoreline resources, as well as historically

significant sites. Public parking facilities and use of existing pedestrian paths along the shoreline area, will further enhance public access to the area.

5.1.4.2 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: 2.a. Identify and analyze significant archaeological resources;

2.b. Maximize information retention through preservation of remains and artifacts or salvage operations; and

2.c. Support State goals for protection, restoration, interpretation and display of historic resources.

Response: A full archaeological inventory survey of the 1,540 acre property was conducted by CSH. As a result of the Archaeological Inventory Survey, historic sites have been identified. As applicable, their documentation, protection, and restoration are incorporated as part of the plans for the proposed development. In accordance with the recommendations of the consulting archaeologist and other community resource persons, important sites will be preserved. Where appropriate, selected sites will be restored and incorporated as part of an overall interpretive program integrated with a pedestrian trail network. Where recommended, signage will be provided explaining the significance of the site and its relationship to the history of the area. Additionally, a historic park will be established within the project and incorporated as part of the interpretive program providing information on the native Hawaiian and modern history of this area.

5.1.4.3 Scenic and Open Space Resources

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



Policies: 3.b. Insure 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.

3.c. Preserve, maintain, and where desirable, improve and restore shoreline open space and scenic resources.

Response: The proposed development will protect, maintain, or improve the quality of coastal, scenic, and open space resources. The Villages at Hokukano development is not planned to encroach upon shoreline or conservation areas. In addition, the golf course, infrastructure and related facilities will be designed to take advantage of the natural contours of the land and minimize adverse effects on the environment. The golf course, open space and landscaped areas, coupled with the low density of the project, will ensure that the area's open space and scenic resources are maintained. With regard to maintaining scenic views, the proposed facilities would retain a low profile to maintain coastal views from mauka areas. Planned facilities are located such that views along the coast would not be obstructed. Coastal open space itself and landscaping will be incorporated into the project design to ensure the smooth visual integration of the project and makai views. All building facility designs will conform to County zoning and building regulations.

#### 5.1.4.4 Coastal Ecosystems

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

Policies: 4.a. Improve the technical basis for natural resource management;

4.b. Preserve valuable coastal ecosystems of significant biological or economic importance.

Response: To assure that groundwater and nearshore marine water quality is maintained, standard engineering and design precautions and adherence to State, County and Federal standards will be followed in the design of the drainage system, including meeting State NPDES permitting requirements. Construction specifications will

provide plans and describe techniques to mitigate soil erosion and control sediment in accordance with County requirements. Design techniques will minimize required grading and the potential for soil erosion by the establishment of onsite retention basins. Retention basins or water features will be incorporated to ensure that surface water is allowed to remain on the property long enough to reduce its velocity thereby controlling erosion. Water held by the retention basins may also be reused for golf course irrigation purposes. Surface water runoff to existing drainageways will be limited to pre-construction volumes. As noted, other mitigation measures have been incorporated as part of the golf course planning, design, and operation to mitigate, to the furthest extent practical, the potential for nutrients or chemicals associated with the golf course maintenance from impacting groundwater or coastal waters. These measures include:

- Incorporating a “Reduced Turf” golf course design, which reduces turf areas and subsequent requirements for water, fertilizers, and chemicals;
- Engineering the golf course with a bowl-shaped fairway construction and with a drainage system designed to collect stormwater runoff or irrigation water passing through the soil layer and conducting this to the irrigation pond for reuse on the course;
- Implementing an Integrated Golf Course Management Program (IGCMP) aimed at minimizing the use of chemicals for golf course maintenance and ensuring safe handling and storage of all chemicals;
- Adopting proven biorational pest control methods when appropriate; and
- Implementing a Water Quality Monitoring and Mitigation Program to ensure ongoing monitoring of soil and coastal waters for chemicals used in golf course maintenance and, if indicated, implementing appropriate mitigation measures.

Collectively, these measures represent the state of the art in environmentally sensitive golf course design and management and are proposed as part of the development to ensure protection of the coastal ecosystems. Additionally, as a basis for the proposed Water Quality Monitoring and Mitigation Program, a

Quantitative Assessment of the Marine Communities and Water Quality was conducted for the coastal waters fronting the project site, thus providing a strong technical basis for the ongoing monitoring of the coastal marine environment.

#### 5.1.4.5 Economic Uses

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

**Policies:** 5.b. Insure that coastal dependent development such as harbors and ports, 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.

5.c. Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long term growth at such areas, and permit coastal dependent development outside presently designated areas when:

ii. Adverse environmental effects are minimized.

**Response:** The proposed development is significantly removed so as not to impact the surrounding communities, however, it is appropriately located so as to make efficient use of existing infrastructure and public facilities. Additionally, the project site has the desired scenic and climatic environment to support a residential/recreational development as proposed. As noted previously, careful planning and design for the proposed project will minimize any potential adverse social, visual and environmental impacts.

#### 5.1.4.6 Coastal Hazards

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

Policies: 6.b. Control development in areas subject to storm wave, tsunami, flood, erosion and subsidence.

6.c. Ensure that developments comply with the requirements of the Federal Flood Insurance Program.

Response: All habitable structures within the proposed development are located significantly inland so as to be outside areas of potential tsunami, high storm or wave action. Public access to the shoreline areas needs to be managed so as to control access during times of high wave action or tsunami danger. No significant development or habitable structures will be located in any of the flood hazard zones or drainageways. Additionally, The governmental agency and public review of this EIS along with the various permits required for the proposed project ensure that adequate governmental controls on the project are being applied. The proposed project will be designed and constructed in compliance with all applicable Federal, State and County environmental protection, design and building standards and regulations, including the Federal Flood Insurance Program.

#### 5.1.4.7 Managing Development

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

Policies: 7.a. Effectively utilize and implement existing law to the maximum extent possible in managing present and future coastal zone development.

7.b. Facilitate timely processing of application for development permits and resolve overlapping or conflicting permit requirements.

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

Response: This EIS has been prepared in compliance with existing State and County environmental rules (Chapter 343, HRS, and Chapter 200, Department of Health,

Environmental Impact Rules). It will be used as the environmental documentation required to apply for the required permits. Further, Oceanside 1250 has been meeting with appropriate State and County agency personnel as well as affected and interested community groups and individuals to communicate the plans for the project and to solicit their comments for incorporation into the planning process and this EIS. Public review of the EIS also assures adequate public and governmental agency review of the project.

## 5.2 HAWAII COUNTY PLANS AND CONTROLS

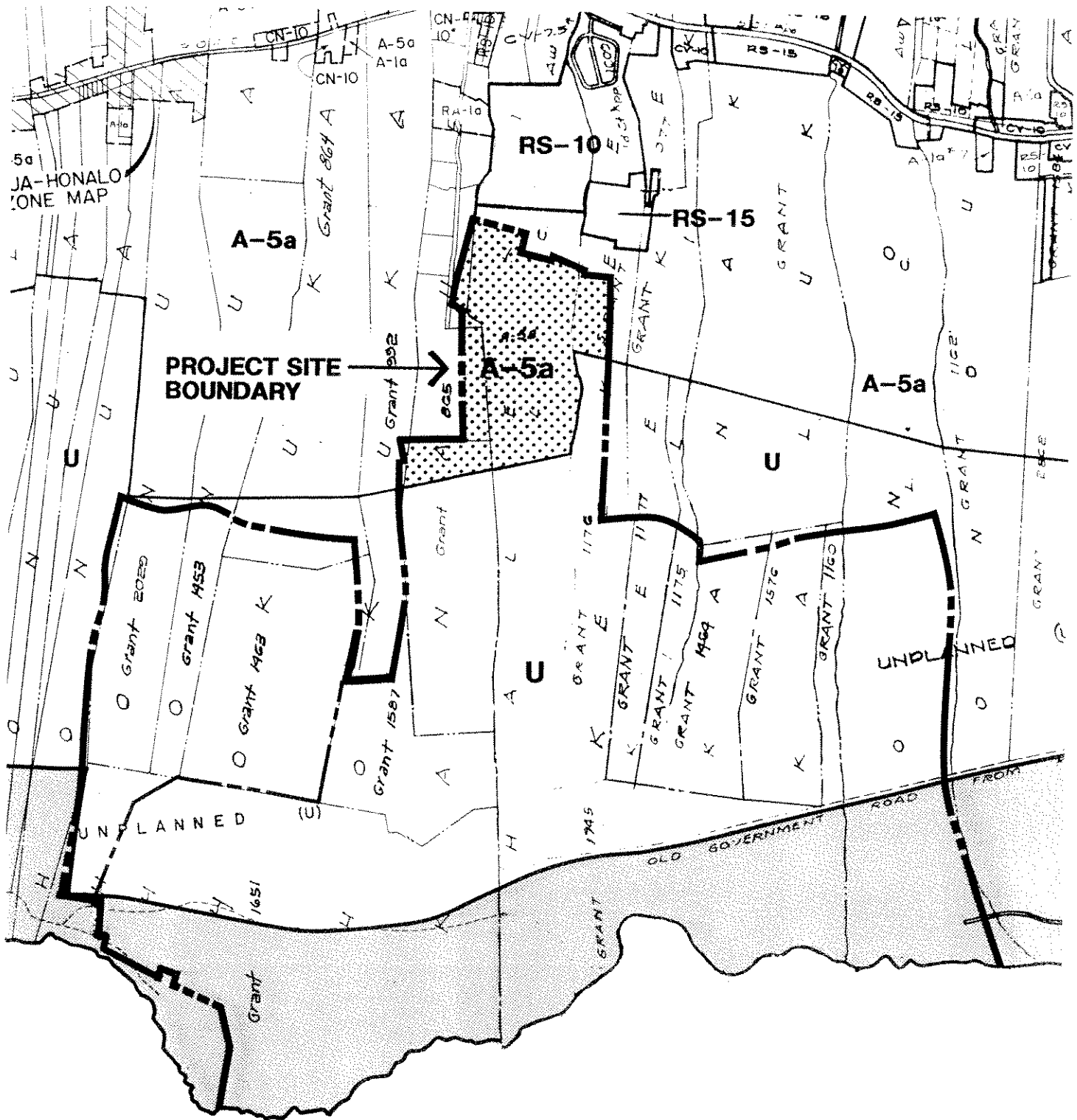
### 5.2.1 Hawaii County Special Management Area

Approximately 415 acres falls within the "Special Management Area" (SMA) as defined by the Hawaii County Planning Commission under the provisions of Chapter 205A, HRS, and the County's Rule 9, Special Management Area (Figure 23). As such, an SMA permit application was filed with the Hawaii County Planning Commission for the proposed project. That permit application will be supported in part by this EIS. In essence, County objectives and policies regarding the Special Management Area mirror the State objectives and policies as discussed in the preceding section (5.1.4). County SMA guidelines relevant to the proposed project are as follows:




#### **Guidelines A.1, 2, 3,4 and 5**

These guidelines seek to minimize alterations to any body of water; impose restrictions on public access to tidal and submerged lands and beaches; interfere with or detract from the line-of-sight toward the sea; and minimize adverse effects on water quality and wildlife habitats.

Response: Although the proposed project would not affect the offshore area, the project is intended to expand and enhance the recreational opportunities available to the residents of the area as well as visitors to the lodge. The visual character of the proposed project is expected to be positive and assist in maintaining the open space character of the site. Views inland from the shoreline and views seaward from the highway are not expected to be adversely affected.



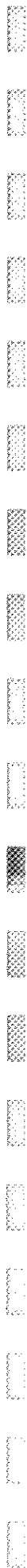
# **LEGEND**

-  SPECIAL MANAGEMENT AREA
-  UNPLANNED ZONE
-  A-5a ZONE

**FIGURE 23**  
**EXISTING COUNTY ZONING/SMA**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT**  
**VILLAGES AT HOKUKANO**

source: County of Hawaii; NORTH KONA ZONE MAP, SECT. 7.02, effective May 24, 1967  
 (last revision Jun 25, 1991); SOUTH KONA ZONE MAP, SECT. 7.03,  
 effective MAY 24, 1967 (last revision May 22, 1991).





### **Guidelines B.1, 2 and 3**

These guidelines seek to minimize potential adverse environmental impacts; assure that projects are consistent with State objectives and policies; and assure that projects are consistent with the County General Plan.

Response: The proposed project is not expected to result in any adverse impacts that cannot be mitigated. The project is consistent with applicable provisions of the State's coastal zone management objectives and policies as indicated in the preceding section and the project will be subject to County regulatory approvals, including a General Plan Amendment Petition, to ensure consistency with the Hawaii County General Plan.

### **Guidelines C.1, 2, 3, 4, 5 and 6**

These guidelines seek to assure adequate public access to publicly owned beaches, recreation areas and natural reserves; reserve public recreation areas and wildlife preserves; and provide liquid and solid waste treatment, disposition and management that will minimize adverse effects on Special Management Area resources.

Response: As indicated previously, the proposed project includes provisions for public access to the shoreline; would provide additional recreational opportunities for the residents and visitors to the project area; and includes provisions to restore and preserve the archaeological/historical resources of the project area. Liquid and solid wastes will be treated, disposed of and managed in compliance with applicable Federal, State and County rules and regulations. Liquid wastes will be treated and disposed of in the wastewater treatment and disposal system to be developed as part of the project. Solid wastes would be collected and disposed of at approved County sanitary landfill sites.

#### **5.2.2 Hawaii County General Plan**

The Hawaii County General Plan is the policy document for the long-range comprehensive development of the Island of Hawaii and provides direction for balanced growth of the County. The Plan contains goals, policies and standards concerning thirteen functional areas as well as a series of land use maps referred to as General Plan Land Use Pattern Allocation Guide (LUPAG)

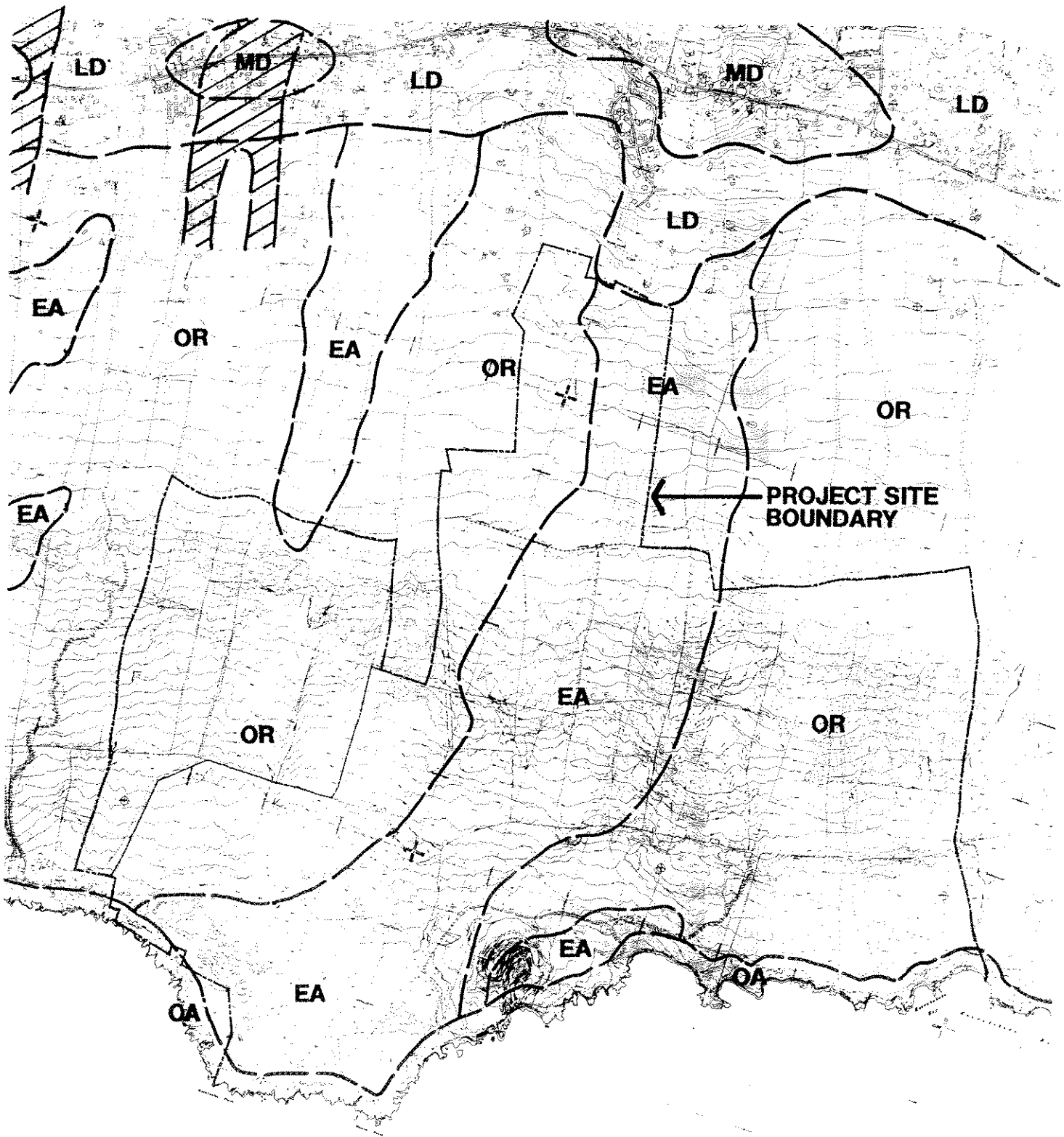


Maps. The present LUPAG Map designations for the property are a mixture of Orchard, Open Space and Extensive Agricultural (Figure 24). As part of the anticipated regulatory applications, a petition will be submitted to the County seeking Medium Density Urban (MDU), Low Density Urban (LDU), and Open Area (OA) designations for approximately 763 acres of the project area, which would allow for the proposed low and medium density residential developments, recreational amenities, and associated commercial uses, such as the members' lodge and golf clubhouse. The area of the anticipated General Plan and State Land Use Petition areas is shown in Figure 25.

The relevant goals, policies and standards of the functional areas are discussed below.

#### 5.2.2.1 Economic

- 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 in 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.

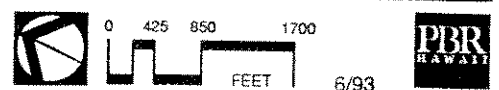


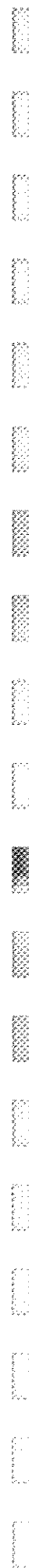
# **LEGEND**

- MDU** MEDIUM DENSITY URBAN
- LDU** LOW DENSITY URBAN
- OR** ORCHARDS
- EA** EXTENSIVE AGRICULTURE
- OA** OPEN AREA
- FLOOD PLAIN**
- GENERAL PLAN BOUNDARY**

source: Planning Dept., County of Hawaii;  
County of Hawaii General Plan; adopted Nov. 1989.

**FIGURE 24**  
**COUNTY GENERAL PLAN**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT**  
**VILLAGES AT HOKUKANO**

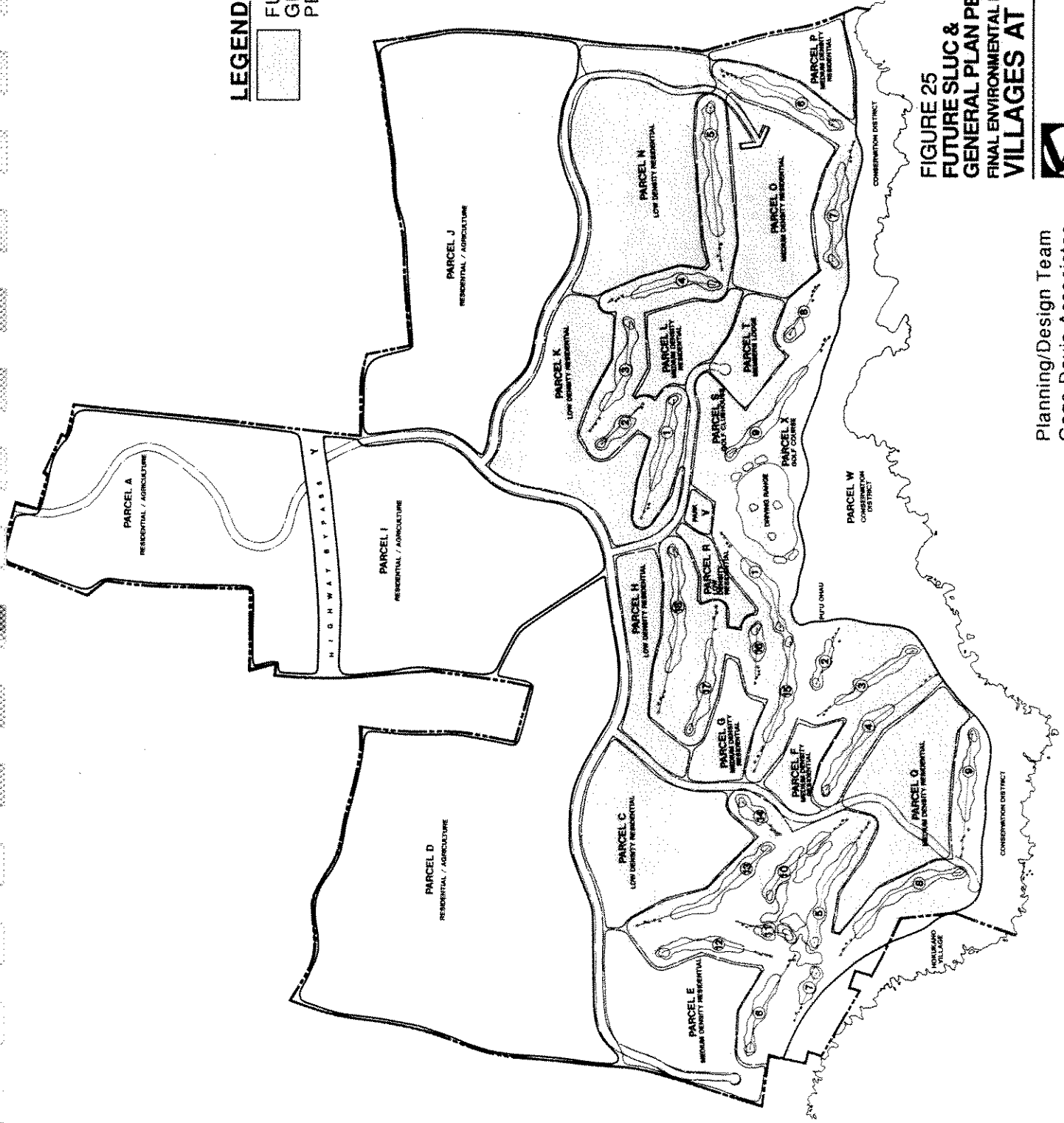




# LEGEND



FUTURE SLUC &  
GENERAL PLAN  
PETITION AREA



**FIGURE 25**  
**FUTURE SLUC &**  
**GENERAL PLAN PETITION AREA**  
**FINAL ENVIRONMENTAL IMPACT STATEMENT**  
**VILLAGES AT HOKUKANO**

Planning/Design Team  
Gage Davis Associates  
PBR HAWAII



NO SCALE

6/93





- 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 shall require a study of the significant social and physical impact of large developments prior to approval.
- The County of Hawaii shall strive for diversification of its economy by strengthening existing industries and attracting new endeavors.
- The County shall encourage the expansion of the fishing industry, various forms of aquaculture, and other fresh and ocean water based activities.

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.
- New industries which provide favorable benefit-cost relationships to the people of the County should be encouraged. Benefit-cost relationships as used here include more than fiscal considerations.

Response:

The proposed project will increase the availability and variety of job opportunities for local residents, resulting in higher employment and improvement of the quality of life for local residents. By working with the community to identify pertinent issues, using sensible planning principles, and developing needed support facilities and infrastructure in an orderly fashion, the proposed project will minimize any potential adverse effects on the physical and social environment of the area and help expand the variety and quality of services available to the community. The proposed development will provide continued employment for those in the construction and real estate industry and other jobs needed for the operation and maintenance of the such related facilities as the golf clubhouse, infrastructure, restaurants, and golf course. Also, consistent with the County General Plan's economic policy of encouraging ocean based activities, ocean recreational activities

such as ocean fishing will be provided to project residents and to the public. The economic and fiscal studies conducted for the preparation of this EIS have indicated that the proposed project will have a positive effect on the local economy by providing direct and indirect employment opportunities and bringing increased State and County tax revenues. Additionally, because the proposed project is generally residential, rather than tied to the visitor industry, it will be less susceptible to the cyclical trends of the economy and thus will provide for greater economic stability to the region and Island's economy.

#### 5.2.2.2 Energy

- Goals:
- Strive towards energy self-sufficiency for Hawaii County.
  - Establish the Big Island as a demonstration community for the development and use of natural energy resources.
- Policies:
- The County shall strive to educate the public on new energy technologies and foster attitudes and activities conducive to energy conservation.
  - The County shall strive to assure a sufficient supply of energy to support present and future demands.
  - The County shall provide incentives which will encourage the use of new energy sources and promote energy conservation.
- Standard:
- New power plants shall incorporate devices which minimize pollution.
- Response:
- To the extent possible, the engineering design of the lodge and associated facilities will utilize appropriate technologies to ensure efficient use of energy. Opportunities to conserve energy in the areas of water heating, lighting, air conditioning, refrigeration and others, as appropriate, will be encouraged in all residential development, including passive design techniques aimed at reducing mechanical air conditioning and lighting requirements.

#### 5.2.2.3 Environmental Quality

Goal:

- Maintain and, if feasible, improve the existing environmental quality of the island.

Policies:

- The County of Hawaii shall take positive action to further maintain the quality of the environment for residents both in the present and in the future.

- Encourage the concept of recycling agricultural and municipal waste material.

Standards:

- Pollution shall be prevented, abated, and controlled at levels which will protect and preserve the public health and well-being, through the enforcement of appropriate Federal, State and County standards.

- Environmental quality controls are to be incorporated either as standards in appropriate ordinances or as conditions of approval.

- Federal and State environmental regulations shall be adhered to.

Response: The applicant will endeavor to maintain or improve environmental quality, will comply with all Federal, State, and County environmental rules and regulations, and will mitigate potential adverse impacts to the greatest extent practical. Applicable pollution control measures will be employed. Additionally, in concurrence with a Marine Water Quality Monitoring Plan prepared for the project, coastal marine waters will continue to be monitored on an ongoing basis to detect any significant impacts to water quality. In the area of recycling, treatment plant effluents will be used to irrigate the golf course rather than being discharged to groundwaters or coastal marine waters. It is also very likely that landscape and golf course cuttings will be composted onsite, thus reducing the stream of solid waste.

#### 5.2.2.4 Flood Control and Drainage

Goals:

- Protect human life.
- Prevent damage to man-made improvements.



- Control pollution.
- Prevent damage from inundation.
- Reduce surface water and sediment runoff.

Policies:

- The County shall promote participation in the Soil and Water Conservation Districts' conservation programs for developments on agricultural and conservation lands.
- All development-generated runoff shall be disposed of in a manner acceptable to the Department of Public Works.
- It is the responsibility of both the government and the private sector to maintain and improve existing drainage systems and to construct new drainage facilities.

Standards:

- "Storm Drainage Standards," County of Hawaii, October, 1970, and as revised.
- Applicable standards and regulations of Chapter 27, "Flood Control," of the Hawaii County Code.
- Applicable standards and regulations of the Federal Emergency Management Agency (FEMA).
- Applicable standards and regulations of Chapter 10, "Erosion and Sedimentation Control," of the Hawaii County Code.

Response:

The proposed development areas described within this application occur significantly inland so as not to be subject to potential threat from strong wave action or tsunami. Although two minor flood zones, associated with drainageways, do impact the project site, the development plan will insure that habitable structures are placed outside these zones or that necessary improvements are made to accommodate development. Standard engineering and design precautions and

adherence to State and County design standards will be followed in the design of the drainage system. Additionally, construction specifications, in accordance with County requirements, will provide plans and describe techniques to mitigate the potential for erosion and to control sedimentation. To further ensure that erosion control is maintained, a marine water quality monitoring program, as previously noted, has been implemented along the shoreline area to identify impacts, should they occur.

#### 5.2.2.5 Historic Sites

- Goals:
- Protect and enhance the sites, buildings and objects of significant historical and cultural importance to Hawaii.
  - Access to significant historic sites, buildings and objects of public interest should be made available.

- Policies:
- Agencies and organizations, either public or private, pursuing knowledge about historic sites should keep the public apprised of projects.
  - The County of Hawaii shall require both public and private developers of land to provide a historical survey prior to the clearing or development of land when there are indications that the land under consideration has historical significance.
  - Public access to significant historic sites and objects shall be acquired.
  - The County of Hawaii shall encourage the restoration of significant sites on private lands.
  - Signs explaining historic sites, buildings and objects shall be in keeping with the character of the area or the cultural aspects of the feature.

#### Standards:

The evaluation of the importance of specific historic sites is necessary for future action. The following standards establish a framework for evaluating sites.

- Importance in the life or activities of a major historic person.
- Associated with a major group or organization in the history of the island or community.
- Associated with a major historic event (cultural, economic, military, social, or political).
- Associated with a major recurring event in the history of the community (such as annual celebrations).
- Associated with a past or continuing institution which has contributed substantially to the life of the community.
- Unique example of a particular style or period.
- One of the few of its age remaining.
- Original materials and/or workmanship which can be valued in themselves.
- Sites with a preponderance of original materials in context and complexes rather than single isolated sites unless they are of great significance.
- Sites of traditional and cultural significance.

Response: A full archaeological inventory survey of the property was conducted by CSH. Historic sites have been identified, and their documentation, protection, and restoration, where appropriate, are incorporated as part of the plans for the proposed development. In accordance with the recommendations of the consulting archaeologist and other community resource persons, important sites will be preserved and, where appropriate, restored and incorporated as part of an overall interpretive program integrated with a pedestrian trail network. Public access to important historic sites will be provided, as appropriate. Where recommended, signage will be provided explaining the significance of the site and its relationship

to the history of the area. Additionally, an historic park will be established within the project site and incorporated as part of an interpretive program providing information on the native Hawaiian and modern history of this area.

#### 5.2.2.6 Natural Beauty

- Goals:
- Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.
  - Protect scenic vistas and view planes from becoming obstructed.
  - Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.

- Policies:
- Increase public pedestrian access opportunities to scenic places and vistas.
  - Access easement to public or private lands which have natural or scenic value shall be provided or acquired for the public.
  - Standard criteria for natural and scenic beauty shall be developed as part of design plans.
  - The County shall consider structural setback from major thoroughfares and highways and shall establish development and design guidelines to protect important view planes.

#### Standards:

The following standards provide guidelines for designating sites and vistas of extraordinary natural beauty which shall be protected.

- Distinctive and identifiable landforms distinguished as landmarks, e.g., Mauna Kea, Waipio Valley.
- Coastline areas of striking contrast, e.g., Laupahoehoe Point.

- Vistas of distinctive features.
- Natural or native vegetation which makes a particular area attractive.
- Areas which are harmoniously developed and enhanced by man so as to appear natural.

Response: The project proposes to maintain, as well as emphasize, the rural character of the area through the integration of a low density development with generous open space elements. Throughout the project, these homes will be subject to architectural standards calling for softly contrasting colors and shapes to enhance its visual integrity with the surrounding area. Public access to the shore with provision for public parking will be provided within the property allowing greater access to scenic views within the development site. The public access would be provided through a public shoreline trail system integrated with the archaeological interpretive program. Views to the shore and to Pu'u Ohau from surrounding residential areas and views to the mountains from the shore will not be obstructed.

#### 5.2.2.7 Natural Resources and Shoreline

- Goals:
- Protect and conserve the natural resources of the County of Hawaii from undue exploitation, encroachment and damage.
  - Provide opportunities for the public to fulfill recreational, economic, and educational needs without despoiling or endangering natural resources.
  - Protect and promote the prudent use of Hawaii's unique, fragile and significant environmental and natural resources.
  - Protect rare or endangered species and habitats native to Hawaii.
  - Protect and effectively manage Hawaii's open space, watersheds and natural areas.

- Ensure that alterations to existing land forms and vegetation, except crops, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation, or failure in the event of earthquake.

Policies:

- The County of Hawaii should require users of natural resources to conduct their activities in a manner that avoids or minimizes adverse effects on the environment.
- The shoreline of the Island of Hawaii shall be maintained for recreational, educational, and/or scientific uses in a manner that is protective of resources and is of the maximum benefit to the general public.
- The shoreline shall be protected from the encroachment of man-made improvements and structures.
- Encourage the use of native plants for screening and landscaping.

Standards:

The following shall be considered for the protection and conservation of natural resources.

- Areas necessary for the protection and propagation of specified endangered native wildlife, and conservation for natural ecosystems of endemic plants, fish and wildlife.
- Lands necessary for the preservation of forests, park lands, wilderness and beach areas.
- Lands with a general slope of 20% or more which provide open space amenities or possess unusual scenic qualities.
- Lands necessary for the protection of watersheds, water sources and water supplies.

- Lands with topographic, locational, soils, climate or other environmental factors that may not be normally adaptable or required for urban, rural, agricultural or public use.
- The Coastal Zone and Special Management Area as defined by statute and in accordance with the adopted objectives and guidelines.

Response: The development of the Villages at Hokukano will maintain or improve the quality of coastal, scenic, and open space resources. The proposed project does not impact the shoreline or conservation areas, other than providing for improved shoreline access. A botanical survey of the property identified no endangered or threatened species on site. Native plants species found on site, such as euphorbs, wiliwili, and capparis would be incorporated in the landscaping plan to the extent practical. In addition, many of the prosopis trees found on site would also be saved and moved to places where they can provide quick shade.

#### 5.2.2.8 Housing

- Goals:
- Attain safe, sanitary, and livable housing for the residents of the County of Hawaii.
  - Attain a diversity of socio-economic housing mix throughout the different parts of the County.
  - Maintain a housing supply which allows for a variety of choice.
  - Develop better places to live in Hawaii County by creating viable communities with decent housing and suitable living environments for our people.
  - Improve and maintain the quality and affordability of the existing housing stock.
  - Seek sufficient production of new affordable rental and fee-simple housing in the County in a variety of sizes to satisfactorily accommodate the needs and desires of families or individuals.

- Ensure that housing is available to all persons, regardless of age, sex, marital status, ethnic background and income.
- The cornerstone of the County's housing programs and activities shall continue to be the encouragement and expansion of appropriate home ownership opportunities for our residents.

Policies:

- The County shall encourage a volume of construction and rehabilitation of housing sufficient to meet growth needs and correct existing deficiencies.
- The County shall protect residential property values from depreciating influences.

Standards:

Housing standards shall consist of and comply with:

- Housing Code
- Building Code
- Electrical Code
- Plumbing Code
- Zoning Code
- Subdivision Code
- Standards of the single family and multiple residential land use element.

Response:

The proposed project will provide as many as 1,440 additional residential units, which can add to the County's primary housing market. The project would also be expected to provide provisions for affordable housing, meeting State and County



affordable housing requirements. As a result, the project will have an overall positive impact to regional housing conditions, especially with regard to meeting the goals of the County General Plan.

#### 5.2.2.9 Public Facilities

Public facilities are separated into four groups in the General Plan: education, protective services, health and sanitation, and government operations. The goals, policies and standards provided pertain to provision of facilities by government agencies and, in the area of health and sanitation, by government and private entities. The following pertain to health and sanitation.

- Goal:
- Encourage the provision of public facilities that effectively service community needs and seek ways of improving public service through better and more functional facilities which are in keeping with the environmental and aesthetic concerns of the community.
- Policy:
- The County should encourage the development of new or improvement of existing health care facilities to serve the needs of Hamakua, North and South Kohala, and North and South Kona.
- Standards:
- Sanitary landfill sites for refuse disposal shall be established in accordance with the needs of communities and shall be landscaped. Appropriately designed and cost effective transfer station sites shall be located in areas of convenience and easy access to the public.
- Response:
- The proposed development will serve to increase tax revenues to the State and County and thereby support the goal of expanded protection, health services and sanitation installations servicing the community. Protection services may be supplemented with private security, thereby reducing the potential demand for these services. Water service for this development will be provided through the County water system where water commitments are sufficient to satisfy the project potable water requirements. The developer's contribution through water development assessments will help to upgrade the existing system's infrastructure to the benefit of the surrounding community. Additionally, the developer's contribution to roadway improvements, including the Mamalahoa Highway Bypass and the

Mamalahoa Highway/Haleki'i Street intersection will help to improve current traffic conditions in the immediate area and surrounding villages.

#### 5.2.2.10 Public Utilities

- Goals:
- Ensure that adequate, efficient and dependable public utility services will be available to users.
  - Maximize efficiency and economy in the provision of public utility services.
  - To have public utility facilities which are designed to fit into their surroundings or concealed from public view.
- Policies:
- Public utility facilities shall be designed so as to complement adjacent land uses and shall be operated so as to minimize pollution or disturbance.
  - Provide utilities and service facilities which minimize total cost to the public and effectively service the needs of the community.
  - Utility facilities shall be designed to minimize conflict with the natural environment and natural resources.

The Public Facilities functional group is subdivided into five subgroups: water, telephone, electricity, gas and sewer. Specific policies and standards within those areas are as follows.

#### **Water**

- Policies:
- All water systems shall be built to Department of Water Supply standards.
  - Improve and replace inadequate systems.
  - Water sources shall be adequately protected to prevent depletion and contamination from natural and man-made occurrences or events.

- The fire prevention systems shall be coordinated with water distribution systems in order to ensure water supplies for fire protection purposes.

Standard: • Water systems shall meet the requirements of the Department of Water Supply and the Subdivision Control Code.

## **Telephone**

Policy: • The County shall encourage underground lines where they are economically and technically feasible.

Standard: • In the development and placement of telephone facilities, such as lines, poles and substations, the design of the facilities shall consider the existing environment, and scenic view and vistas shall be considered and preserved where possible.

## **Electricity**

Policies: • Power distribution shall be placed underground when and where feasible. The County shall encourage developers of new urban areas to place utilities underground.

- Route selection for high voltage transmission lines should include consideration for setbacks from major thoroughfares and residential areas.

- Safety standards for power systems shall conform to safety standards as established by appropriate regulatory authority.

Standards: • There shall be a minimization of obstruction of scenic views and vistas by electrical facilities.

- Facilities such as substations shall be aesthetically pleasing.

## **Gas**

Policy: • Gas storage facilities shall be located so as to minimize danger to commercial and residential areas.

Standard: • The County's ordinances shall reflect appropriate safety standards for gas facilities.

## **Sewer**

Policies: • The "Sewerage Study for All Urban and Urbanizing Areas of the County of Hawaii, State of Hawaii," December 1970 and the "Water Quality Management Plan for the County of Hawaii," December 1980, shall be used as guides for the general planning of sewerage disposal systems.

- Private systems shall be installed by land developers for major resort and other developments along shorelines and sensitive higher inland areas, except where connection to nearby treatment facilities is feasible and compatible with the County's long-range plans, and in conformance with State and County requirements.

- Schemes for wastewater reclamation and reuse for irrigation shall be utilized where feasible and needed.

Standards: • Incorporate sewage works standards proposed in the "Sewerage Study for All Urban and Urbanizing Areas of the County of Hawaii" and the "Water Quality Management Plan for the County of Hawaii."

- Sewerage systems shall be designed for the particular area, depending on topography, geology, density of population, costs, and other considerations of the specific area.

Response: Infrastructure systems will be constructed to support the proposed development, including roadways, wastewater, potable water, drainage, communications and electrical systems. Use of underground utilities will enhance the physical

appearance of the project while also improving the system safety and reliability. The facilities will conform to current standards as to efficiency and quality.

#### 5.2.2.11 Recreation

Goals:

- Provide a wide variety of recreational opportunities for the residents and visitors of the County.

- Maintain the natural beauty of recreation areas.

- Provide a diversity of environments for active and passive pursuits.

Policies:

- Recreational facilities in the County shall reflect the natural, historic, and cultural character of the area.

- The use of land adjoining recreation areas shall be compatible with community values, physical resources and recreational potential.

- Public access to the shoreline shall be provided in accordance with an adopted program of the County of Hawaii.

Response: The proposed project will provide increased recreational opportunities, which include an 27-hole golf course and ocean related activities to be available to the public. In addition, the public shall be provided improved access to the shore and to significant scenic and historical sites located within the State Conservation District lands through the provision of public parking and a pedestrian access trail system. Several scientific surveys and studies of the environment at Hokukano have been made to accurately identify the existing natural resources of the site. Based on these studies, development plans have been prepared to minimize potential impacts to the site's natural resources and important archaeological sites and, to the greatest extent practical to protect and conserve them.

#### 5.2.2.12 Transportation

Goal: • Provide a transportation system whereby people and goods can move efficiently, safely, comfortably and economically.

Policy: • The improvement of transportation service shall be encouraged.

Standard: • Transportation systems shall meet the requirements of the State DOT and the County of Hawaii.

Response: Traffic impacts related to the overall Hokuano development have been thoroughly analyzed and described in the traffic analysis performed specifically for the proposed project by Parsons Brinckerhoff Quade & Douglas. (See Appendices, Section II-1). The results of this analysis indicate that the future traffic conditions will be positively affected by the proposed construction of the Mamalahoa Highway bypass that would traverse the mauka portion of the project site. The proposed bypass divert much of the through traffic from Mamalahoa Highway, thereby relieving the current congestion that occurs during the peak hours in the villages of Kealahou, Kainaliu and Honalo, and improving operating conditions at the existing Haleki'i Street/Mamalahoa Highway intersection. The applicant expects to participate with the State and other land owners in the construction of the highway bypass. In this manner, the proposed project could serve as the catalyst for construction of the bypass, allowing the highway to be built more efficiently and sooner than might otherwise be possible. The necessary intersection improvements, in accordance with the State DOT requirements will be provided at the existing Mamalahoa Highway/Haleki'i Street intersection and at future intersections with the highway bypass, if warranted.

#### 5.2.2.13 Land Use

Goals: • Designate and allocate land uses in appropriate proportions and mix and in keeping with the social, cultural, and physical environments of the County.

• Protect and encourage the intensive utilization of the County's important agricultural lands.

- Protect and preserve forest, water, natural and scientific reserves and open areas.
- Policies:
- Zone urban and rural types of uses in areas with ease of access to community services and employment centers and with adequate public utilities and facilities.
  - Promote and encourage the rehabilitation and use of urban and rural areas which are serviced by basic community facilities and utilities.
  - Allocate appropriate requested zoning in accordance with the existing or projected needs of neighborhood, community, region and County.
  - The County shall encourage the development and maintenance of communities meeting the needs of its residents in balance with the physical and social environment.
- Standard:
- The designated land uses will be delineated on the General Plan Land Use Pattern Allocation Guide Map.

Eight types of land uses are addressed individually. Relevant goals, policies and standards are summarized and discussed below.

### **Agriculture**

- Goal:
- Identify, protect and maintain important agricultural lands on the Island of Hawaii .
- Policies:
- Zoning shall protect and maintain important agricultural lands from urban encroachment. New approaches to preserve important agricultural land shall be implemented by the County.
  - Agriculture land shall be used as one form of open space or as green belt.

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

## **Commercial Development**

- Goals:
- Provide for commercial developments that maximize convenience to users.
  - Provide commercial developments that complement the overall pattern of transportation and land usage within the island's regions, communities and neighborhoods.
- Policies:
- In an effort to assist existing commercial developments, urban renewal rehabilitation, and/or redevelopment programs shall be undertaken in cooperation with communities, businesses and government agencies. The key to the success of these kinds of programs is active and sustained participation from communities and businesses.
  - Commercial facilities shall be developed in areas adequately served by necessary services, such as water, utilities, sewers, and transportation systems. Should such services not be available, the development of more intensive uses should be in concert with a localized program of public and private capital improvements to meet the expected increased needs.
  - Distribution of commercial areas shall be such as to best meet the demands of neighborhood, community and regional needs.
  - Existing strip development shall be converted to more appropriate uses when and where it is feasible.
  - The development of commercial facilities should be designed to fit into the locale with minimal intrusion while providing the desired services. Appropriate infrastructure and design concerns shall be incorporated into the review of such developments.



- Applicable ordinances shall be reviewed and amended as necessary to include considerations for urban design, aesthetic quality and the protection of amenities in adjacent areas through landscaping, open space and buffer areas.

#### Standards:

There are three types of shopping centers:

- Neighborhood centers

Provide: Convenience goods, e.g., foods, drugs, and personal services

Major Shops: Supermarket and/or drug store

Number of Shops: 5 to 15

Acreage: 5 to 10 acres

Approximate Market: 3,000 people

- Community Centers

Provide: Convenience goods, plus "soft line" items, such as clothing, and "hard line" items, such as hardware and small appliances

Major Shops: Variety or junior department store

Number of Shops: 20 to 40

Acreage: 10 to 30 acres

Approximate Market: 15,000 people

- Regional Centers

Provide: Full range of merchandise and services

Major Shops: Full size department store

Number of shops: 40

Approximate market: 50,000 people

- Commercial development shall be located in areas adequately served by transportation, utilities and other amenities. Commercial developments shall

provide for adequate internal circulation amongst commercial facilities in the area.

- Off street parking and loading facilities shall be provided.
- Commercial development shall maintain or improve the quality of the present environment through the consideration of visual, access, landscaping and other design elements in their development.
- Preference shall be given to commercial lands with a reasonably level topography.

### **Industrial**

Industrial development is not a part of the present proposal.

### **Multiple Residential**

- Goals:
- To provide for multiple residential developments that maximize convenience for its occupants.
  - To provide for suitable living environments which accommodate the physical, social and economic needs of the island residents.

- Policies:
- Appropriately zoned lands shall be allocated as the demand for multiple residential dwellings increases. These areas shall be allocated with respect to places of employment, shopping facilities, education, recreational, and cultural facilities, and public facilities and utilities.
  - The County shall incorporate reasonable flexibility in the design of residential sites, buildings and related facilities to achieve a diversity of socio-economic housing mix and innovative means of meeting the market requirements.
  - The rehabilitation and/or utilization of multiple residential areas shall be encouraged.

- To assure the use of multiple residential zoned areas and to curb speculation and resale of undeveloped lots only, the County may impose incremental and conditional zoning which shall be based on performance requirements.
- Applicable codes and ordinances shall be reviewed and amended as necessary to include consideration for urban design, and aesthetic quality through landscaping, open space, and buffer areas.

Standards:

- Areas shall be located in such a manner that traffic generated by high density development will not be required to travel through areas of lesser density en route to principal community facilities.
- Areas shall be protected from incompatible uses by transition zones.
- Provide adequate access to arterial streets, shopping facilities, schools, employment centers, and other services.
- Development shall not be permitted in natural hazard areas unless proper onsite improvements are provided.
- Development shall be located in areas where public utilities can be economically provided at a level adequate to meet the demand for the concentrated service.
- Recreational areas and/or facilities shall be considered in multiple residential development.

### **Single Family Residential**

Goals:

- To maximize choices of single family residential lots and/or housing for residents of the County.
- To ensure compatible uses within and adjacent to single family residential zoned uses.

- Policies:
- Rural-style residential-agricultural developments, such as new small scale rural communities or extensions of existing rural communities, shall be encouraged in appropriate locations.
  - The County shall incorporate reasonable flexibility in codes and ordinances to achieve a diversity of socio-economic housing mix and to permit aesthetic balance between single family residential structures and open spaces.
- Standards:
- There shall be a transitional area between single family residential areas and incompatible uses.
  - Major traffic routes shall not be located through single family residential areas.
  - Areas shall have basic improvements and amenities necessary for immediate use.
  - Areas shall be limited to low density and medium density residential uses.

## **Resort**

Resort development is not a part of the present proposal.

## **Open Space**

- Goal:
- Provide and protect open space for the social, environmental, and economic well-being of the County of Hawaii and its residents.
- Policy:
- Open space in the County of Hawaii shall reflect and be in keeping with the goals, policies, and standards set forth in the other elements of the General Plan.

## **Public Lands**

- Goal:
- Utilize publicly owned lands in the best public interest and to the extent possible, to the maximum benefit for the greatest number of people.

Policy:           •   Encourage uses of public lands which will satisfy specific public needs, such as housing, recreation, open space and education.

Response:       The scale and design of the proposed development is in keeping with the social, cultural and physical environment. Most of the land will be in the form of open space, either golf course natural open space areas, landscaped areas, or small scale agriculture. The rural style residential agricultural lots will be a significant feature of the project, providing benefits in the areas of agriculture, single family residences and an open space buffer. As described previously, the applicant plans to provide opportunities for commercial agricultural activities within the agriculturally zoned areas by providing the access, infrastructure and site preparation necessary to support agricultural activities in an ongoing and sustainable manner. Public access to the shoreline and the State Conservation District will be maintained and improved. Parking will be provided along with passive and educational types of recreation activities.

Section 5 of the General Plan provides "Courses of Action" for the districts of the Island. Those relevant to the proposed development include the following:

### **Economic**

- The County shall assist the further development of agriculture by protecting important agricultural land for urbanization, by providing necessary resources, such as water, and through other assistance.

### **Flood Control and Drainage**

- Drainage recommendations proposed by the South Kona Flood Hazard Analysis for the Kealahkekua, Napo'opo'o and Honaunau areas shall be implemented. These consist of diversions and catchments to collect and transport water and reduce peak flows from upper watershed areas through the urban area. The practice of proper soil conservation measures and the improvement of existing drainage features complement these proposals.

- Establish and maintain appropriate vegetative cover in high rainfall, sediment and debris producing areas.

## **Housing**

- Since the lands in this district are sloped, the County shall encourage the use of innovative types of housing developments, such as cluster and planned unit developments, which take advantage of topographic conditions.
- Aid and encourage the development of a wide variety of housing for this area to attain a diversity of socio-economic housing mix.

## **Public Facilities**

This area is provided for by government agencies.

## **Public Utilities**

- Pursue groundwater source investigation, exploration and development in areas that would provide for anticipated growth and that would provide for efficient and economic system operation

## **Recreation**

- Expand and/or develop recreational facilities in existing and urbanizing communities.
- Encourage the development of the coastal area for public recreational use.

## **Transportation**

- Improve present Kona-Ka'u road.

## **Land Use**

- (a) Agriculture

- Assist in the provision of water in agricultural areas.

(e) Single Family Residential

- The County shall encourage the concentration of residential structures to avoid strip residential development.
- Due to the geologic and topographic conditions, the County shall encourage the use of more innovative types of housing developments, such as zones of mix and cluster and planned unit developments.

Response: The proposed project includes planned provisions that would encourage and support intensive agricultural activity in areas that otherwise would remain in intermittent grazing use. Proper soil conservation measures and improvements to existing drainage areas, where necessary, are proposed as a component of the planned development. Although the area is subject to relatively low rainfall and erosion, appropriate precautions for protecting disturbed areas, such as watering and prompt revegetation, are also proposed. The use of cluster and planned unit developments that take advantage of topographic conditions are being considered as part of the planning and design of the planned residential areas. The project would also be expected to provide provisions for affordable housing, meeting State and County affordable housing requirements. These provisions, in conjunction with the proposed residential developments, would add significantly to the variety of housing available for this area. Additionally, the project has explored the water resources that are available onsite and has worked with the County Department of Water Supply to provide for the anticipated water demands for both potable and irrigation uses. In concert with recreation related goals of the County General Plan, the project will increase the recreational opportunities available to the public by providing for a passive ocean park with provisions for public shoreline access, and parking, hiking trails and an interpretive program related to the archaeological resources of the area. Lastly, the developer's participation in providing for the planned highway bypass road will contribute in a meaningful way towards meeting the General Plan "Course of Action" of improving the Kona to Ka'u Road.

### 5.2.3 West Hawaii Regional Plan

The West Hawaii Regional Plan (Office of State Planning, 1989), was prepared because of the State's interest in formulating and implementing a plan for West Hawaii that would (1) coordinate State activities in the region in order to respond more effectively to emerging needs and critical problems, (2) address areas of State concern, (3) coordinate the capital improvements program within a regional planning framework and (4) provide guidance in the State land use decision-making process. The plan addresses critical topical issues which require State attention in order to most effectively meet the region's present and emerging needs. The West Hawaii Regional Plan is meant to complement the County General Plan and Community Development Plans. The plan's focus, however, is in planning for the proposed resort developments in the North Kona and North and South Kohala Districts of the Big Island. In that the proposed project does not include a resort component, the recommendations of the plan are not directly applicable to the proposed action.

### 5.2.4 Hawaii County Zoning

The present County zoning designation of the subject property is A-5a and Unplanned. The developer has applied for a Change of Zone from Hawaii County to allow for the first phase of a low density residential/agricultural development. In the second phase of development, another Change of Zone application will be submitted to the County Planning Department to allow for the single family residential and lodge uses following State Land Use and County General Plan approvals.

## 5.3 CHAPTER 343 (HRS)

Section 343-5(a) of Chapter 343, HRS, states that except as otherwise provided, an environmental assessment shall be required for eight (8) different types of actions that utilize State lands and/or monies, propose actions in Conservation District Lands, require an applicant initiated amendment to the County General Plan. Accordingly, the following actions, which are to be accomplished in both Phase I and Phase II of the proposed development, will trigger the requirement of an environmental impact statement, pursuant to Chapter 343.

- An amendment to the County General Plan from Extensive Agriculture and Orchards to Medium and Low Density Urban on a  $\pm$  763 acre portion of the project site;



- The development of shoreline access and hiking trails possibly within the Conservation District; and
- The restoration and improvement of the King's Trail (Ala Loa or Ala Aupuni), a State owned historic trail constituting use of State lands.

## 6.0 CONTEXTUAL ISSUES

### 6.1 RELATIONSHIP BETWEEN SHORT TERM ISSUES AND MAINTENANCE OF LONG TERM PRODUCTIVITY

As discussed in the previous sections of this document, the subject property is largely vacant with portions being used for grazing purposes. No other short term uses of the property that may have potential negative long term consequences have been identified. Potential long term impacts from the current use, primarily as a result of the exposed areas from grazing activities, continued erosion of soils and the impacts to the marine ecosystem from non-point runoff, including cattle wastes, are unknown and unquantifiable without the benefit of long term environmental studies. As discussed in Section 3, the alternatives to the proposed project would include retaining the project area in its current use. This would present a less than optimum use of the land. The proposed facilities, including the members' lodge, golf course and residential units, would result in a significant social and economic benefit to the community in the form of increased job opportunities and increased tax revenues. Direct full and part time employment opportunities and temporary construction employment will be generated by the project and these in turn will impart multiple benefits to the island and regional economy. The public revenues from excise, personal and real property taxes are expected to far exceed and offset any expenses associated with the expansion of public services or public facilities needed to meet both the project development and indirect population growth.

With regard to the long term impacts to the environment from the proposed development, the subject property possesses the locational and physical attributes, including ocean and mountain views, proximity to the coast, appropriate slope characteristics and a relatively dry and mild climate, which are ideally suited for the proposed use. The studies performed for this EIS have also indicated that the proposed project is compatible with and will enhance the existing natural environment.

The proposed residential/recreational community, as planned, will be of the same high quality as other projects undertaken by the developer, such as the Desert Highland and Desert Mountain projects in Scottsdale, Arizona, both of which are noted for their sensitivity to the environment and quality of design. Other long term benefits include the productive use of the property in a manner in which the low density rural character of the region would be maintained through careful site planning and integration of significant open space elements. The open space of the coastal area.

comprising the area within the State Conservation District and vistas to the ocean and mountains, would be retained for the long term benefit of residents and visitors to the area. Increased recreational and economic opportunities for all socio-economic levels would also be provided, along with increased community services and facilities.

## 6.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The development of the proposed project and resultant construction of the 27-hole golf course, golf clubhouse, members' lodge, residential units and supporting facilities would result in the irreversible and irretrievable commitment of certain natural and fiscal resources. Major resource commitments include the land on which the proposed project is located and the money, construction materials, manpower and energy required for the project's completion. The impacts represented by the commitment of these resources, however, should be weighed against the positive socio-economic benefits that could be derived from the project versus the consequences of either taking no action or pursuing another less beneficial use of the property.

## 6.3 OFFSETTING CONSIDERATIONS OF GOVERNMENTAL POLICIES

There are inherent conflicts in the goals and objectives of the land use plans, policies and controls, and the proposed project's relationship to various policies must be reconciled against those plan elements which most appropriately apply. As indicated in Section 5, the proposed project would be consistent with the applicable Hawaii County General Plan goals, policies and standards following adoption of the proposed General Plan Amendment and rezoning required for the proposed project. As also indicated in Section 5, the proposed project is consistent with the applicable Hawaii State Plan and various functional plans, as well as the objectives and policies of the Hawaii Coastal Zone Management Program (Chapter 205A, HRS). Significant adverse effects are not expected to result from the proposed project. There may be some minor impacts, but these are thought to be offset by the benefits accruing from the project. State and County plans have encouraged quality residential developments on the Island of Hawaii, especially when these have been planned in concert with community goals, as expressed within the County General Plan.

Regional infrastructure required to support the project are present or planned. Additions that may be required would largely be provided by the developer or funded through increased tax revenues that the project would generate. The project development is consistent with governmental policies calling for increased access to the shoreline and increased recreational facilities and opportunities.

The analysis of direct, indirect and induced County revenues versus County expenditures generated by the proposed project, as shown in Section 4, indicates that the benefit cost ratio would be favorable and range from 10.4 to 8.2, and State revenue to expenditure ratio would range from 8.9 to 2.8. The State might expect to net approximately \$8.69 million, and the County may expect to net approximately \$8.67 million in additional annual revenues at the project completion (in 1992 dollars). While the above analysis does not quantify the environmental costs, the adverse environmental impacts of the proposed project are relatively minor, while the potential positive environmental and social impacts appear to be significant. The current sedimentation and erosion of soils would be arrested through the landscaping and maintenance of open space areas, and the coastal area monitored on a continual basis. Public access to the shoreline would be improved and managed in a manner that would protect the historical and archaeological sites in this area and overuse of the coastal resources. Historical and archaeological sites would be protected and incorporated into the development plan, thereby adding to the cultural resources of the County and State and needed employment, economic and housing opportunities would be provided. Generally, as discussed in Section 5, the plan is consistent with relevant government plans and policies. It would fulfill the goals of the Hawaii County General Plan, which call for economic growth that maintains the desired physical environment that meets the needs of Hawaii's people.

#### 6.4 UNRESOLVED ISSUES

During the past years, the project developers and their representatives have conducted numerous meetings and site tours with groups and individuals, met with agency representatives both on and offsite, and conducted several public informational meetings in order to identify and address to the extent practical the issues and concerns pertaining to the proposed development. All the issues raised have been addressed in this EIS, although some may be considered as unresolved at present. These issues are listed below, along with a brief discussion as to the process for their eventual resolution. In most cases, these issues relate to the development of further plan details that are unavailable at this time but are planned as part of the planning and regulatory approval process. The developer will continue to work with residents of the area, organizations and pertinent County and State agencies to resolve these issues.

##### Issue #1: Alignment and Timing of the Highway Bypass

The State has proposed a bypass road to relieve traffic congestion within the towns of Kealahou, Honalo and Kainaliu, however, this item is far down on the State DOT's priority list, indicating

that it will likely be some time before the proposed bypass would receive significant attention. The developer has proposed a privately funded alternative, which, although shorter in length, would accomplish much the same objectives as the State's proposal. As proposed, the highway bypass road would be designed and built by the developer with the review, inspection and approval of the State DOT. In addition, there would be a contribution agreement required of future developments in the area to fund their fair share of the proposed bypass, thereby returning a portion of the cost advanced by the initial developers. Several meetings have taken place with property and business owners, agency representatives and developers regarding the proposed bypass concept. Although a precise alignment, intersection configuration and timing for construction have not been determined at this time, the initial proposal put forth by Oceanside 1250 has received a favorable response by the State DOT, other developers, and surrounding landowners. The proposal offers the prospect of constructing the much needed bypass in a shorter time and at no expense to the State. The developer will continue to work with the State DOT, developers and landowners in the area, the business community, as well as other interested citizens to implement their proposal of construction of the highway segment. The specific alignment and design details will follow receipt of the requisite regulatory approvals related to the Villages at Hokukano, and further engineering design.

#### Issue #2: Affordable Housing

The proposed residential community does not include an onsite affordable housing component. The developer fully intends to comply with the affordable housing requirements that are in place at the time of land use approvals. Both the County and the State are reassessing the affordable housing requirements, which are conditioned as part of land use approvals. The developer has investigated options for integrating the affordable housing as part of the proposed development using the State's current guidelines, however, in order to make the project financially viable, the resulting density would not have allowed for a sensitive treatment of the land, nor would it have allowed the developer to retain the rural character, which would be in keeping with the area. It is felt that affordable housing would best be located in another location where it would better fit with the urban fabric and be in proximity to the necessary supporting public services and facilities.

#### Issue #3: Potable Water

Oceanside 1250 has completed a test well onsite that has shown to be a suitable source of brackish water for meeting the landscaping and golf course irrigation requirements for the proposed project.

(No brackish water will be used in combination with treated effluent to meet the irrigation needs of the project). The well has shown to be of sufficient quality and quantity to meet the project requirements for brackish water. The developer also has commitments from the County for 499 units of potable water from the County water system, which is sufficient to meet the requirements of the first phase of development (367 lots and golf club use). Additionally, the owner has secured agreements to develop other sources of water in the area. From initial indications from the County and State's exploratory wells in the area, there appears to be an ample source of high level water for potable uses, especially in the areas above the 1,200 foot elevation. The developer plans to secure additional water development agreements from the County for the subsequent phases of development, or develop additional well sources in the area through previous water development agreements. The specific sources that would meet these future requirements are unknown at this time; it would be premature, however, for the developer to acquire any further water commitments from the County or to develop additional water sources prior to receipt of initial land use approvals.

#### Issue #4: Site Preservation Measures

A complete archaeological survey was conducted by Cultural Surveys Hawaii for the 1,540 acre parcel (Appendices III-1 and III-2). Based on the field reconnaissance, limited data recovery and subsurface testing, initial significance determinations and treatment recommendations were provided. The survey report was submitted in February 1993 to the DLNR-HSPD for review and approval. Although the property has been thoroughly surveyed for the presence of archaeological or historical features and sites have been identified and evaluated as to their potential historic or cultural significance, the specific measures for site preservation and appropriate buffer treatment will be determined at a later point in the approval process through discussions with the DLNR-HSPD, the Hawaii Island Burial Council and the County of Hawaii Planning Department. The applicant will continue to work closely with local historians and cultural specialists, as well as representatives from DLNR-HSPD in gaining a full appreciation of the archaeological features that are present on the site and in preparing a comprehensive plan for site protection, preservation and interpretive development.

#### Issue #5: Historic Trails and Roads

An initial investigation of historic trails in the project area has shown reference with historic grant documents to a "public road" that traverses the site in the north/south directions. In some

instances, map references to this public road appear to generally align with the existing trails and portions of the "King's Trail". Although the King's Trail is only evident in select portions and the public road is never referred to as the King's Trail, it is not known at this time whether the King's Trail and the aforementioned public road are one and the same or whether the earlier reference to this trail as a public road would place this portion under the State's ownership. A final determination on this matter can only follow further archival research and discussions with the State. As with the other historic trails and sites that may be present on the property, the measures for protection and treatment will be determined as part of the regulatory approval process.

## **7.0 PARTIES CONSULTED AND THOSE WHO PARTICIPATED IN THE PREPARATION OF THE EIS**

### **7.1 CONSULTED PARTIES IN PREPARATION OF THE DRAFT EIS**

The notice of the availability of the EIS Preparation Notice and Environmental Assessment for the Villages at Hokukano was published in the OEQC Bulletin by the Office of Environmental Quality Control on April 8 and 23, 1993. In addition to holding a series of community informational meetings in Kona, Kealahakua and Napo'opo'o, representatives of the applicant have personally met with a wide variety of public agencies, community organizations, elected officials and private citizens. The agencies, organizations and individuals consulted about the project are listed below. Those who commented on the Environmental Assessment in writing are listed on Table 4. Copies of their correspondence and responses thereto are reproduced at the end of this section.

#### **7.1.1 Agencies Consulted**

- County of Hawaii Department of Planning
- County of Hawaii Department of Public Works
- County of Hawaii Department of Water Supply
- Office of State Planning
- State of Hawaii Department of Education
- State of Hawaii Department of Land & Natural Resources
- State Historic Preservation Division, Department of Land & Natural Resources
- State of Hawaii Department of Transportation
- State Land Use Commission
- U.S. Department of Agriculture, Soil Conservation Service

#### **7.1.2 Business & Community Groups Consulted**

- AFL-CIO Local 368
- Agriculture Development & Coordination Committee



- American Lung Association
- Amy Greenwell Botanical Gardens
- Big Island Traffic Safety Council
- Carpenter's Union - Local 745
- Conservation Council
- County Mauka Rotary Club
- Discovery Charters
- Exchange Club of Kona
- Greater Kona Community Council Office
- Hawaiian Civic Club
- Hawaii Island Environmental Council
- Hawaii Leeward Planning Conference
- Japanese Civic Associations
- Junior Golf
- Kainaliu Business and Professional Association
- Ka Lahui Hawaii
- Keauhou Visitor Center
- King Kam Divers
- Kiwanis
- Kona Board of Realtors
- Kona Coast Divers
- Kona Conservation Group
- Kona Farmers Coop
- Kona Historical Society
- Kona Kai Farms
- Kona Lions Club

- Kona Outdoor Circle
- Kona Regional Senior Center
- Kona Surf Resort
- Kona Traffic Safety Committee
- Kona Traffic Safety Council
- Konawaena Elementary School
- Konawaena High School
- Lions
- Mauka Rotary Club
- Protect Kahoolawe Ohana
- Public Access Shoreline Hawaii
- RC & D Forestry
- Rotary Club
- Sierra Club - Moku Loa Group (East Hawaii)
- Sierra Club - West Hawaii Group
- West Hawaii Committee

#### 7.1.3 Citizens

- Deborah Chang
- Lois Tyler

### 7.2 CONSULTED PARTIES IN PREPARATION OF THE FINAL EIS

The Draft EIS for the Villages at Hokukano was distributed to all required agencies and organizations indicated within the Draft EIS Distribution List, Guidebook for the Hawaii State Environmental Review Process, prepared by the Office of Environmental Quality Control. Additionally, copies of the Draft EIS were also submitted to many community groups, organizations and individuals who expressed interest in participating in the Draft EIS review process. Those who received a Draft EIS are listed in Table 5.

**Table 4**  
**Comments Received on the Environmental Assessment/  
Environmental Impact Statement Preparation Notice**

<u>Name/Organization</u>	<u>Date</u>
Deborah Chang	5/7/93
Office of Environmental Quality Control	3/23/93*
Lois Tyler	No date

\*No substantive comment nor response

## **Table 5**

### **Draft EIS Distribution List**

#### Federal Agencies

- United States Environmental Protection Agency, Regional Division
- United States Army Directorate of Facilities Engineer
- Department of the Navy, Naval Base, Pearl Harbor
- Soil Conservation Service
- United States Army Corps of Engineers
- United States Coast Guard
- United States Fish & Wildlife Service
- United States Geological Survey

#### State Agencies

- Office of Environmental Quality Control
- Department of Agriculture
- Department of Accounting & General Services
- Department of Defense
- Department of Health
- Department of Land & Natural Resources
- Department of Land & Natural Resources Historic Preservation Office
- Department of Land & Natural Resources Forestry & Wildlife
- Na Ala Hele
- Department of Business, Economic Development and Tourism
- Department of Business, Economic Development and Tourism, Library
- Department of Business, Economic Development and Tourism, Energy Office
- Housing Finance & Development Corporation
- Department of Transportation
- State Archives
- Office of State Planning
- Department of Human Services

#### County Agencies

- Planning Department
- Department of Parks & Recreation
- Department of Public Works
- Department of Research & Development
- Department of Water Supply

#### University of Hawaii

- Environmental Center
- Water Resources Research Center
- University Sea Grant Extension

#### News Media

- Honolulu Star Bulletin
- Honolulu Advertiser
- Sun Press
- Hawaii Tribune Herald
- West Hawaii Today

### Libraries

- University of Hawaii, Hamilton Library
- University of Hawaii at Hilo Campus Library
- Legislative Reference Bureau
- State Main Library
- Kaimuki Regional Library
- Kaneohe Regional Library
- Pearl City Regional Library
- Hilo Regional Library
- Kahalui Regional Library
- Kauai Regional Library
- Holualoa Library
- Kailua-Kona Library
- Kealahou Library

### Non-Governmental Agencies, Community Organizations & Individuals

- American Lung Association
- Hawaiian Electric Company
- Office of Hawaii Affairs
- Agriculture Development & Coordination Committee
- Big Island Traffic Safety Council
- Carpenter's Union Local 745
- Conservation Council
- County Mauka Rotary Club
- Exchange Club of Kona
- Hawaii Island Environmental Council
- Hawaii Leeward Planning Conference
- Kainaliu Business & Professional Association
- Kona Board of Realtors
- Kona Farmer's Coop
- Kona Historical Society
- Kona Traffic Safety Committee
- Sierra Club Moku Loa Group
- Sierra Club West Hawaii Group
- West Hawaii Committee
- Deborah Chang
- Lois Tyler
- The Ocean Recreational Council of Hawaii (TORCH)
- Schutte Fleming Wright, Attorneys at Law
- Michael Matsukawa, Esq.
- Councilman Keola Childs
- Napo'opo'o Village Council
- Ka Lahui Hawaii Moku o Hawaii
- Kona Conservation Group

The notice of the availability of the Draft EIS for the Villages at Hokukano was published in the OEQC Bulletin by the Office of Environmental Quality Control on June 23, July 8, and July 23, 1993. The agencies, organizations and individuals who participated in the Draft EIS review by written correspondence are listed in Table 6. Additionally, copies of their correspondence and responses thereto are reproduced at the end of this section.

**Table 6**  
**Comments Received on the Draft EIS**

<u>Name/Organization</u>	<u>Date</u>
Department of the Interior	8/25/93*
Department of Transportation	8/16/93
Ka Lahui Hawai'i Moku o Hawai'i	8/13/93
Wilmot B. Boone, M.D.	8/12/93
Napo'opo'o Village Council, Inc.	8/12/93
Charles Young	8/12/93
Office of State Planning	8/10/93
Department of Health	8/10/93
Jerry Rothstein	8/7/93
Kona Conservation Group	8/7/93
Valerie Rounsfull	8/7/93
Ka Ohana O Ka Lae	8/6/93
Department of Budget & Finance, HFDC	8/6/93
University of Hawaii Environmental Center	8/6/93
Deborah Chang	8/6/93
Maryna Allan	8/6/93
County of Hawaii Planning Department	8/5/93
Department of Land & Natural Resources	8/5/93
Office of Environmental Quality Control	8/4/93*
Board of Agriculture	8/2/93
Shanti Devi	8/1/93
Na Ala Hele	7/30/93
Department of the Navy	7/29/93*
Department of Business, Economic Development & Tourism	7/28/93
State Land Use Commission	7/19/93
Department of Accounting & General Services	7/13/93*
United States Department of Agriculture	7/7/93
Department of Business, Economic Development & Tourism (Energy Division)	6/30/93
Rebecca Layton	No date

\*No substantive comment

Alcha Virginia Goldstein:

5-7-93

Please send me a copy of the Draft EIS for the Hokuano Villages Project when it is ready. Deborah Chang P.O. Box 3226 Lihue, HI, 96766-6226.

In the EIS I am requesting a full description of proposed "improvements" and changes to all historic trails and a map showing proposed trail networks. Also I would appreciate an explanation/justification for use of the term, "King's Trail." Eg., is that the correct name for the trail involved? Mahalo, Deborah C. Chang





LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

June 8, 1993

Ms. Deborah L. Chang  
P.O.Box 3226  
Lihue, Kauai 96766-6226

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO**

Dear Ms. Chang:

Thank you for your letter of May 7, 1993 to Virginia Goldstein in which you request a copy of the Draft Environmental Impact Statement (DEIS) and request that a full description of the proposed improvements and changes to all historic trails, including a map showing the proposed network, be included in the DEIS. A general description of the proposed trail network is included with the discussion on historical and archaeological resources in Section 4.3 of the DEIS and a map exhibit of the proposed trail network is included within the discussion on the shoreline trail system in Section 4.7.4. With regard to the existing trails, the following description from the Archaeological Inventory Survey prepared by Cultural Surveys Hawaii is provided:

“One major trail is located within the project. It is known as the King’s Trail and is still discernable along the northern half of the project area. The trail runs from the northern boundary at approximately 20 feet a.m.s.l. to the mauka side of Pu’u Ohau. The trail then turns mauka and runs roughly parallel with the “Great Wall of Kuakini” until the southern project boundary where it continues into the ahupua’a of Keopuka. The portion of the trail mauka of Pu’u Ohau to the south boundary was not observable on the ground; however, its location was obtained on historic maps. The portion of the trail that is distinguishable on the ground follows the general route of the Greenwell Road (reportedly built by the Greenwell Family), which at one time connected Keauhou Bay to the north and Kealakekua Bay settlement at Kaawaloa to the South.”

As part of the proposed improvements for the King’s Trail, in those portions where the trail exists, Oceanside 1250 proposes to preserve the trail in place, with slight modifications, as necessary. In those areas where there is no evidence of the trail, the developer proposes to reestablish the trail in the general area where it was once located based upon existing map information, historical references, and compatibility with the proposed land use plan.

With regard to other trail improvements, the developer has proposed a trail network linking sites of archaeological and historic significance as part of the interpretive program. The trail network would also provide access to the shoreline area. The proposed trail network and site improvements are conceptual at this point. The details of the trail improvements would be prepared as part of

Ms. Deborah Chang  
June 8, 1993  
Page Two

further archaeological work, in conjunction with the regulatory approval process. Recommendations for site preservation and interpretive development will be developed by the consulting archaeologist in conjunction with the recommendations of the Department of Land & Natural Resources Historic Preservation Program (DLNR-HPP), the State Na Ala Hele Trails Advisory Group, and other pertinent agencies, historical organizations, resource professionals and interested community members. The mitigation program for archaeological sites, which will include plans for site preservation, will require approval by the County Planning Department in consultation with the DLNR-HPP prior to issuance of grading permits for any portion of the proposed project.

With reference to the use of the term "King's Trail" or "Cart Trail", as it is sometimes referred, this name has been used commonly by all those who have been involved with the project, including the archaeologist, as noted above. There is, however, a Hawaiian name for the trail, which we believe is correct, that being Ala la loa. There are other map references that refer to a "Public Road" or "Old Government Road" in the same general alignment as the King's Trail. This is assumed to be the same as the Greenwell Road referred to above. Should you know of other references, we would appreciate any information you might be able to provide us.

Again, I thank you for your inquiries. Should you have any further questions, please do not hesitate to contact either myself (961-3333) or Mr. Richard Frye, Project Manager at Oceanside 1250 (326-2966).

Sincerely,

A handwritten signature in black ink, appearing to read "James Leonard", with a large, stylized initial "J" and a long horizontal flourish extending to the right.

JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein  
R. Frye  
B. Kudo  
L. Tanimoto  
G. Leslie  
D. Hulse

JOHN WAIHEE  
GOVERNOR



BRIAN J. J. CHOY  
Director

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185

March 23, 1993

Ms. Virginia Goldstein, Planning Director  
County of Hawaii Planning Department  
25 Aupuni Street, Room 109  
Hilo, Hawaii 96720-4252

Attention: Mr. Daryn Arai

Dear Ms. Goldstein:

SUBJECT: EIS PREPARATION NOTICE (EISPN) FOR THE VILLAGES AT HOKUKANO,  
NORTH & SOUTH KONA, HAWAII

We have completed our review of the subject document and have a few comments to offer.

When submitting the Draft EIS for this project, please describe the impacts and mitigation measures in regard to the risks of earthquake and volcanic eruptions in the area, if any.

Please consider printing the Draft EIS on both sides of the paper to cut down on paper and postage costs.

If you have any questions, please call Margaret Wilson at 586-4185. Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read "Brian J.J. Choy".

Brian J.J. Choy  
Director

c: Scott A. Shiigi, PBR Hawaii  
Richard Frye, Oceanside 1250

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

SUBJECT: EISEN: Oceanside 1250, Villages at Hukukano

Dear Mr. Frye:

Thank you for giving me this opportunity to contribute to the EIS process by accepting my concerns about the proposed project. I believe that the following concerns should be disclosed and thoroughly discussed in the draft EIS, and the cumulative effects projected for five, ten, and twenty years.

1. Effect of the project on Kealahou Bay:

A. What effect will chemicals carried by currents have on the Kealahou Bay Marine Reserve's unique sealife?

B. What effect will the silt from construction activity have on the shoreline at the project site, which is considered to be a significant diving area?

C. Since at least SOME of the chemicals to be used on the 27-hole private golf course and 1,440 homesites will get into the ocean and flow around nearby Keawekahou Point and into Kealahou Bay, a full disclosure and discussion is needed regarding:

(1) the estimated and possible damage to coral and other marine life in Kealahou Bay. (Cite Doty Report.)

(2) the effect on the tourist economy, since glass bottom boats, swimmers, and snorkelers use this bay.

(3) the effect on the resident school of spinner dolphins. Reputable scientists should be consulted.

(4) the impact of degradation of the bay on the status and designations of the bay as a marine life conservation area; Hawaii state's second underwater park; the nation's ninth best swimming area, according to a national survey reported in USA Today recently; and the home of endangered species such as the Hawksbill turtle.

2. Transportation/circulation: (Section 2.11 in EISEN)

A. Figure 6 shows the highway bypass as it is planned within the project site, but it does not show how it connects outside the project to the north or to the south. These must be shown so that the community, especially residents near this proposed bypass, will be able to assess its impact on them.

3. Historical/archaeological and cultural sites:

A. The Kona Field System must be disclosed and its significance thoroughly discussed. (See studies by Marion Kelly and others.)

B. Hawaiian groups such as the Burial Council, Ka Lanui, and others should be consulted for their expertise in evaluating cultural sites. A golf course designer's idea of preservation of sites by designing golf course features around them may not agree with Hawaiians' ideas of preservation as including the maintenance of the INTEGRITY of the sites. The question that arises is whether a development of this type is even compatible with historic preservation.

4. Economic and social impacts:

A. What are the benefits of this project to the community? How many people will benefit? Will Hawaiians, for example, benefit from this development? How? How many? In what way(s)?

B. What will be the cumulative effect of the approval of this project? Will this smooth the way for approval for similar projects planned for Kona: at Opihihale, at Kealahakua Bay, above the Kealahakua Ranch Center, and one near the Kona Hospital?

C. What will be the cumulative effect of having a private golf club and high-priced homes in this relatively rural community? If these five projects are approved, what is the optimum number of private golf course-high priced home enclaves for Kona? What studies are there that may guide planners?

D. How much of an impact will this development have on residents' shoreline activities, which are so much a part of daily living, especially for the Hawaiians? What are the provisions for access to and along the shoreline for residents?

E. What effect will this development have on population growth in Kona in five years? ten? twenty?

F. What are all the public costs anticipated by the new residents and golfers of this project?

G. What will be the effect of this project on residents' property taxes?

H. How stable is the fiscal backing for this project, considering the recent failure of the Riviera resort in Ka'u?

I. The Hawaiian sovereignty movement and the environmental movement agree on the idea of living in harmony with the land that our lives depend on. Ecotourism is being encouraged more and more. An artificially manicured golf course with very high-priced homes and an exclusive golf club house seem to be a contradiction to both of these movements.

5. Fauna: The EISFN states in Section 3.9 that "the greater diversity in plant materials and water features may actually increase the available habitat for several species, primarily the Golden Plover and Ruddy Turnstone." Might not the effects of chemicals as well as increased human activity

reduce their numbers or eliminate them altogether rather than increase them? What is the basis for this assertion?

5. Geologic:

A. A discussion is needed on the tsunami zone, flood plain, lava tubes, and caves in the area and their consideration for minimum effect to the proposed project. The Civil Defense Director should certainly have input in this discussion.

B. The Kealahou Fault:

Where is the Kealahou Fault Line in relation to this project? Input is needed from experts if the proximity warrants such consideration. What are the probable and possible effects on different factors such as injection wells and sewage treatment facilities?

7. Water:

What are the water needs of this development? Where is the water to come from? What is the capacity of the present water sources and anticipated needs for this project? At a time when residents are already being told periodically not to water their plants and to conserve water in various ways, they see the golf courses being watered lavishly. Will this project require more sacrifice on the part of residents?

8. Sewers and waste:

What provisions are being made for the waste from this project? At what public costs? What is the public cost for "connecting to the STP at Kaaunou" as suggested in the EISPN? What measures will be taken to INSURE that the shoreline, and especially Kealahou Bay, will not be adversely affected by any waste from this project? Is the developer willing to agree to the terms of the Valdez Principles that the polluter will pay?

The concerns raised above are submitted with the hope that they will assist in the preparation of the draft EIS.

Sincerely,

LOIS TYLER  
Resident, taxpayer

cc: Richard Frye, Project Manager, Oceanside 1250  
✓ James Leonard, PBR Hawaii, Inc.  
Brian Choy, Director, DEQC



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

June 8, 1993

Ms. Lois Tyler  
P.O. Box 1001  
Captain Cook, HI 96704

**SUBJECT: COMMENTS TO ENVIRONMENTAL IMPACT STATEMENT  
NOTICE OF PREPARATION (EISPN)  
VILLAGES AT HOKUKANO**

Dear Ms. Tyler:

Thank you for your letter regarding the Environmental Impact Statement Preparation Notice (EISPN) for the Villages at Hokukano expressing your concerns about the project. For the most part, your questions have been addressed within the various sections of the Draft Environmental Impact Statement (DEIS), but to answer your specific questions, I'll address them individually as they are listed in your letter.

- 1) The effects on Kealakekua Bay:
  - a) The effects of chemicals carried by currents on the sea life at Kealakekua Bay.
  - b) The effects of silt runoff from construction activities to the shoreline area fronting the project site.
  - c) (1-4) Discussion of the potential impacts on coral, marine life, commercial and public uses in the bay and potential impacts on the Bay's status as a marine life conservation area.

Response: A discussion of the potential impacts to the marine environment as a result of the proposed development is found in Section 4.2.3 of the DEIS. In general, we do not expect the proposed project to negatively impact the coastal waters fronting the project site, and therefore, no negative impacts to marine life or use of any other waters, including Kealakekua Bay, either directly or indirectly, are anticipated. We have heard from a few people who expressed concern that chemicals used in the maintenance of the golf course might leach down through the soil and eventually find their way to the coastal waters, impacting the marine ecosystem. There have been several studies performed on coastal golf courses in Hawaii from which there has been no indication that the golf courses have had an adverse impact to ground or nearshore water quality.

Richard E. Brock, Ph.D., the marine biologist who performed the marine water quality studies for the waters fronting the Villages at Hokukano, has been monitoring the anchialine (brackish and tidal) ponds and coastal waters fronting the Waikoloa Resort for the past eight years. The scientific monitoring program taking place at Waikoloa under the

auspices of the University of Hawaii at Manoa has shown that although nutrient levels do fluctuate, they remain well within the levels found in other natural conditions along undeveloped portions of the West Hawaii coast. The program also found no discernible impact to the marine biota in either the ponds or the coastal waters fronting the Waikoloa Resort. From Dr. Brock's analysis of coastal waters fronting the Villages at Hokuano, his assessment is that there is little or no potential threat to the marine community as a result of the proposed development. However, to ensure that any potential threat to the marine environment is minimized to the greatest extent practical, Oceanside 1250 has proposed the following measures as part of the design of the golf course:

- Engineering the golf course with a bowl-shaped fairway construction and with a subsurface drainage system designed to collect stormwater runoff or irrigation water passing through the soil layer and conducting this to the irrigation pond for reuse on the course;
- Incorporating a "Reduced Turf" golf course design, which reduces fairway areas and requirements for water, fertilizers and chemicals;
- Implementing an Integrated Golf Course Management Program aimed at minimizing the use of chemicals for golf course maintenance and ensuring safe handling and storage of all chemicals;
- Adopting Hawaii proven bio-rational pest control methods when appropriate; and
- Implementing a Water Quality Monitoring and Mitigation Program to ensure monitoring of soil and coastal water conditions for chemicals used in golf course landscaping and, if indicated, implementing appropriate mitigation measures.

Taken collectively, these represent the state of the art in environmentally sensitive golf course design and management. Part of this effort, as indicated, includes an ongoing monitoring program, not only of the irrigation water as it passes through the soil layer, but also of the ground and coastal waters. Should any significant change to water chemistry be detected at any of these points, corrective measures can be taken prior to there being any adverse impact to the marine environment. Correspondingly then, since negative impacts to the marine waters fronting the project are not anticipated, those areas further removed from the project site, such as Kealakekua Bay, would likewise be unaffected.

2) Transportation/Circulation:

a) The DEIS should show the highway bypass alignment, including where it connects to Mamalahoa Highway to the north and south of the project.

Response: A full discussion of the planned bypass road, including a map showing the proposed alignment and connection points to Mamalahoa Highway, is included within Section 4.6.1 of the DEIS. I have also included this exhibit for your reference. In summary, the developer has proposed a shorter alignment than that which was originally proposed by the State. In the 1970's, the State Department of Transportation proposed a highway bypass for a portion of Mamalahoa Highway that would have departed the



highway just south of the Kamehameha III intersection and continued south to a point well beyond Honaunau. The developer's proposed alignment would be similar to the State's except the northernmost intersection would be moved southward along Mamalahoa Highway to the area between Pu'uloa Subdivision and Higashihara Park. The developer's proposed alignment would run between Higashihara Park and Pu'uloa Subdivision, reach the State's alignment at the 800 foot elevation and then follow the State's alignment through the Villages at Hokukano land where it would begin to curve in a mauka direction to intersect Mamalahoa Highway near the current intersection with Napo'opo'o Road. As part of the construction of the proposed highway bypass, intersection improvements would be made at Napo'opo'o Road in order to eliminate the dangerous curve and intersection conditions that presently exist.

As proposed, the developer, together with other major landowners, would combine efforts and funds toward the construction of the shorter version of the proposed bypass highway. The highway would be designed and built by the developers with the approval, inspection and some participation by the Department of Transportation (DOT). Additionally, there would be a contribution agreement that would require future developments in the area to pay their fair portion of the proposed bypass, thereby returning a portion of the cost to the initial developers.

It is felt that, through private sector efforts, including those of Oceanside 1250, the highway bypass can be built in a relatively short period compared to the length of time it would take if done by the State DOT, considering its position on the priority list and the State's more complicated processing requirements.

Although the proposed alignment and improvements are conceptual at this time, in reviewing this proposal with the DOT, other developers, landowners, business owners, and interested citizens and organizations, the developer has received a favorable response. It is felt that this proposal offers the potential of providing a less expensive highway, built in a shorter time and providing much needed relief to traffic conditions along this portion of Mamalahoa Highway.

3) Historical, Archaeological and Cultural Sites:

- a) Disclosure of the Kona Field System.
- b) Hawaiian groups, such as the Hawaii Island Burial Council, Ka Lahui, and others should be consulted in the evaluation of cultural sites in that the golf course designer's ideas for site preservation may not agree with that of the Hawaiians.

Response: First, allow me to clarify that the golf course designer does not determine which sites are preserved or the eventual treatment for these sites. These requirements are determined by others then the designer works to make the golf course compatible with these constraints. Over the past few years, the developer has gone to great lengths to seek input from the Hawaiian community on the significance of the archaeological and historic sites that are on the property. At this point, what has been completed has been an Archaeological Inventory Survey, prepared by Cultural Surveys Hawaii. This report provides a background history on the property and settlement patterns, and describes the features that were found through the survey, including the remnants of the Kona Field

System, and further provides preliminary recommendations as to the level of importance and treatments for each site. This report has been submitted to the Department of Land & Natural Resources Historic Preservation Program (DLNR-HPP) for review and approval. Following DLNR approval, plans for site preservation will be prepared as part of further archaeological work, which will occur in conjunction with the regulatory approval process. Recommendations for site preservation and interpretive development will then be developed by the consulting archaeologist in conjunction with DLNR-HPP, the State Na Ala Hele Trails Advisory Group and other pertinent agencies, historical organizations and resource professionals. The Archaeological Mitigation Program for archaeological sites will include plans for site preservation and will require approval by the County Planning Department in consultation with DLNR-HPP prior to issuance of grading permits for any portion of the project. The routing and design of the proposed golf course will be adjusted accordingly to accommodate those sites that are to be preserved and where necessary, provide adequate buffer areas. In this manner, the golf course development can be extremely sensitive to the goals of archaeological site preservation.

4) Economic and Social Impacts:

- a) What are the benefits of the project to the community?
- b) What will the cumulative effect of this project in combination with other proposed projects in the area be?
- c) What will the cumulative effect of having a private golf club and high-priced homes in this relatively rural community be?
- d) How much impact will this development have on shoreline activities, especially that of Hawaiians, and what are the provisions for access to and along the shoreline for residents?
- e) What effect will this development have on population growth in Kona over the next five to twenty years?
- f) What are the public costs as a result of the residents and golfers who will utilize this project?
- g) What will the effect of this project on residents' property taxes be?
- h) How stable is the fiscal backing for this project?
- i) Is an artificially manicured golf course with high-priced homes, an exclusive golf clubhouse a contradiction to the goals of living in harmony with the land or moving toward the direction of more ecotourism, as expressed by the environmental and Hawaiian sovereignty movements?

Response: Based upon the Economic and Fiscal Impact Report prepared for this project, the economic impacts to the community are expected to be positive. It is estimated that the new property tax revenues to the County from the proposed project are expected to reach approximately \$10 million, as compared to the current property tax of \$10,000 and

approximately \$13.6 million in new State revenues. These revenues would far exceed the projected State and County expenditures in providing public services to project residents and guests, such that the ratio of new tax revenues to new expenditures would be 8.2 to 1 for the County, and approximately 2.8 to 1 on the State level. The additional benefits to the community would include contributions to the area's infrastructure improvements, such as the County's water system and roads; provisions for public access to the shoreline that were previously unavailable; the enhancement of archaeological resources on the property that will be accessible to the public through an extensive trail system combined with a historical and archaeological interpretive program; the provision of jobs that are expected to be filled in large part by local residents; and the development of the highway bypass road.

Regarding potential impacts to the regional population, projections by the Department of Planning & Economic Development indicate that, between the years 1980 and 1990, the populations for North and South Kona increased by 62.1% and 29.5%, respectively. Preliminary projections by the County of Hawaii show that population in the South Kona district is expected to increase by about 40% by the year 2010, from 7,658 in 1990 to over 10,600. In North Kona, the population is projected to increase approximately 136%, from 22,284 in 1990 to 52,620 by the year 2010.

The population impacts are reflective of those attracted to the State by the Villages at Hukukano project, as well as those employees who move to Hawaii to fill job positions. According to projections by KPMG Peat Marwick, the in-migrant population to the County as a result of the project is estimated to be 1,530 persons at buildout. This is expected to be comprised of a relatively small portion of the projected growth of each district. Regarding the cumulative effect this may have with other developments, several other projects have been proposed in the general area, all of which are at various stages of planning and regulatory approval. It would be somewhat misleading to assume that all projects will be approved and built as planned. In order to address the potential impacts to public services, utilities and infrastructure, State and County planning for area-wide infrastructure and public service requirements are typically coordinated with projected developments, as these projects are reviewed by the respective agencies at various stages of the regulatory process.

Regarding the concern about the project's fitting with the rural character of the area, this concern has been expressed by many and has been a primary objective in the planning of this project. We take this to mean that if the project were viewed either from the ocean or from the mauka area, it would appear low in density and generally single family in nature. Accordingly, the project is proposed as a low density development with generous open space elements and an overall density of no greater than one unit per acre. Design guidelines and controls on homes and buildings are also planned so as to maintain a soft contrast between the buildings and surrounding areas. Additionally, with the development of the proposed highway bypass, the rerouting of non-village traffic will help return some of the rural feel to the village areas themselves.

With regard to the potential impact to taxes of surrounding areas, based on our discussions with tax assessors and officials with the County Real Property Tax Office, because the amenities of the proposed project would be available to those who own lots and not to the surrounding properties, the assessed valuation of surrounding properties should not be materially affected. For instance, the homes within the Kona Scenic Subdivision, which are directly mauka of the project site, would be assessed based on the value of homes

within that subdivision, and not the value of the homes within the project site. The value of these homes, not having direct access to the amenities of the project, should not be affected.

Regarding the financial stability of the backers of this project, the project is backed by Japan Airlines, which has experienced a steady growth over the past few years and is the 15th largest Japanese owned company in Hawaii based on revenues. This contrasts with other Japanese firms that may have invested in Hawaii properties and whose values were based on unrealized projected land values, and which are now experiencing financial problems as a result of the tightening of credit and devaluation of land prices. Although the project has yet to seek construction financing, the developer believes that they shall be able to do so when it becomes necessary. Financing is generally obtained after approvals are in place, prior to construction and sales. The developer has recently obtained financing for another project similar to this one in Santa Fe, New Mexico during a period that has been one of the most difficult times to obtain financing in modern history.

The ideal of living in harmony with the land is an admirable one, although it may mean different things to different people. The developers of the Villages at Hokukano strongly believe in an environmentally sensitive approach to all development. The general partner for Oceanside 1250, Mr. Lyle Anderson, has a proven track record of award winning projects in Arizona and New Mexico, which are noted for their environmental sensitive approach to development. These include projects such as Desert Highlands and Desert Mountain in Scottsdale, Arizona. This project will likely include higher priced homes and a golf course, but that does not mean that it cannot be environmentally friendly; on the contrary, it can afford the developer greater flexibility to fit the project to the site and implement effective environmental management and monitoring programs that may not be possible with a more affordable oriented residential subdivision. In an effort to further the sensitivity and awareness of the unique characteristics of this property to potential residents, the developer plans to impart information about the rich history of the property and its relationship to the surrounding area. The developer also plans to maintain the coastal area (the area inside the State Conservation District), comprising approximately 140 acres along the coast, as a natural ocean park and recreation area for both the protection of the shoreline and community and property owner enjoyment. This is envisioned to remain essentially a natural environment, with selective cleaning and trimming to accommodate public access, hiking, etc. and enjoyment of the shoreline area. The developer proposes a trail system not only within the Conservation District, but also in some of the mauka lands to provide managed access to other historic and prehistoric archaeological sites, such as the King's Trail, the Kuakini Wall, heiaus, platforms, enclosures, and the like. These types of measures could be seen as being very much in line with the ecotourism approach to development. However, ecotourism is a term that generally relates to resort developments, as opposed to a residential community, which is proposed for this property.

5) Fauna:

- a) Might the effects of chemicals, as well as increased human activity, reduce the number of available species, such as the golden plover and ruddy turnstone, or eliminate them all together, rather than increase them? What is the basis of the assertion within the EISP that the greater diversity in plant material and water features may increase the available habitat for these species?

Response: The statement in the EISPN regarding the increase to the habitat for species such as the golden plover and ruddy turnstone was based on an assessment of biological resources from the consulting biologist, Evangeline Funk, Ph.D. As discussed within Section 4.2.1 of the DEIS, the use of fertilizers and pesticides on the golf course is expected to present little or no hazard to birds frequenting the grass areas or ponds associated with the golf course (Murdoch & Green, 1991). Fertilizers are relatively non-toxic unless ingested in large amounts and the use of flowable fertilizers can prevent the potential of birds ingesting fertilizer granules applied to the turfgrass. Herbicides and fungicides pose little danger to life forms other than weeds and fungi, respectively.

As mentioned, there are several measures proposed by the developer aimed at minimizing the use of insecticides used on the golf course and encouraging the use of alternative measures for pest control. According to the golf course agronomist, William Lee Berndt, Ph.D., the environmental conditions at Hokukano are such that insect infestation should be relatively rare, allowing the use of insecticides on the golf course to be kept to a minimum. Also, the Integrated Pest Management component of the Integrated Golf Course Management Program, mentioned previously, is specifically designed to achieve pest control in an ecologically sound manner and to reduce reliance on pesticides. This is achieved through a program of monitoring for pests and treating infested areas on an as-needed, controlled manner, as opposed to a scheduled and broad basis. Alternate treatment strategies, such as biological pest control measures, are also considered. In this manner, the potential threat to birds frequenting the golf course due to chemical applications is minimized, to the furthest extent practical.

6) Geologic Considerations:

- a) A discussion is needed on the tsunami zone, flood plane, lava tubes and caves in the area and their consideration in the planning of the proposed project. The Civil Defense Director should have input in this discussion.
- b) Where is the Kealakekua Fault Line in relationship to this project? Input is needed from experts if the proximity warrants such consideration.
- c) What are the potential effects on different factors, such as injection wells and sewage treatment facilities?

Response: A discussion of the tsunami zones, flood planes, lava tubes and other geological considerations is contained within the DEIS and these factors have been considered in the planning of the proposed project. The Villages at Hokukano development will be set back from the shoreline and will therefore be outside the zone of potential tsunami inundation, as delineated on the Federal Emergency Management Agency Flood Insurance Rate Maps. The developer has also met with the National Tsunami Director regarding the proposed project. The Hawaii County Civil Defense Agency, as a reviewing agency, will be involved in the review of the project as plans are developed throughout the EIS and regulatory process. The Kealakekua Fault is situated approximately 1.5 miles from the project site, where it extends offshore. Because the residential development is planned considerably inland, the threat from earthquake generated tidal waves, such as those that occurred in 1975 and 1989, does not pose a significant danger. With regard to

potential impacts to injection wells and the planned sewage system, these will be designed according to State and County standards. According to the civil engineer, the seismic activity needed to cause significant damage to these elements would have to be of such magnitude as to cause severe damage to other infrastructure and buildings, both onsite and in the surrounding area. Section 4.1.5 of the DEIS discusses the various natural hazards and their potential impacts to the proposed project.

7) Water:

- a) What are the water needs of the development? Where is the water to come from? What is the capacity of the present water sources and anticipated needs for this project? Will this project require addition sacrifice on the part of area residents because of competing demands for water?

Response: The irrigation water to be used for the golf course would come from a brackish water source onsite, combined with treated effluent from the wastewater treatment plant. Development of a brackish well onsite should have no impact on potable water resources in the area. The County water sources are generally located mauka of Mamalahoa Highway, where significant high level potable water resources have been discovered. In the area of Kona Hospital, a County test well has verified the presence of a substantial water resource, with the water level occurring at an elevation of over 490 feet above sea level. Based on the hydrological calculations provided by the project's hydrological consultant, there are indications of considerable potable water resources in the area. Any potential shortage of potable water would appear to be more a problem of a lack of infrastructure (wells, tanks, pumps and transmission lines) than a lack of water resources.

The average daily water demand for the full development is projected to be approximately 643,000 gallons of potable water, and 1,777,000 gallons of irrigation water. The developer has commitments from the Department of Water Supply sufficient to meet the first phase of development and expects to work with the County to develop additional resources in the area to meet the full project requirements. The developer's contribution to water development in this area will not only meet the project requirements, but will also assist the County in developing the much needed infrastructure to meet other public requirements in the region.

8) Sewers and Waste:

- a) What provisions are being made for waste from this project and at what public cost?
- b) What is the public cost for connecting to the Sewage Treatment Plant (STP) at Keauhou, as suggested in the EISPN?
- c) What measures will be taken to ensure that the shoreline, and especially Kealahou Bay, will not be adversely affected by any waste from this project?
- d) Is the developer willing to agree to the terms of the Valdez Principle, that the polluter will pay?

Ms. Lois Tyler  
June 8, 1993  
Page 9

Response: The wastewater to be generated by the project would be handled by one of two means: either through a wastewater treatment plant built onsite or through a transmission line to the recently completed wastewater treatment plant at Keauhou. In either instance, the treated effluent is intended to be reused as an irrigation source on the golf course. Treated effluent used for irrigation purposes would need to meet the Department of Health's (DOH) standards for reclaimed water and the developer would be required to establish a DOH approved irrigation plan and groundwater monitoring system. The facilities would be constructed at the developer's cost, at no cost to the County or State. If a wastewater treatment plant is built onsite, it would be built with provisions for emergency standby generation to ensure that the plant operates, even in the case of a power outage. In terms of ensuring that there will be no impact to Kealahou Bay, the coastal monitoring program mentioned previously will ensure that there are no impacts to the waters fronting the project, which in turn ensure that there are no direct or indirect impacts elsewhere. We are not familiar with the terms of the Valdez Principle.

In closing, let me say that you've raised some excellent questions that are certainly helpful in the EIS process. By addressing your questions, hopefully we have answered some questions that others might have. Thank you for your efforts.

Should you have any further questions, please do not hesitate to contact either myself (961-3333) or Mr. Richard Frye, Project Manager of Oceanside 1250 (326-2966).

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein  
R. Frye  
B. Kudo  
L. Tanimoto  
D. Hulse



# United States Department of the Interior



GEOLOGICAL SURVEY  
WATER RESOURCES DIVISION  
677 Ala Moana Blvd., Suite 415  
Honolulu, Hawaii 96813

August 25, 1993

Ms. Virginia Goldstein  
Planning Director  
County of Hawaii Planning Department  
25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

Subject: Villages at Hokukano, Draft Environmental Impact Statement  
(DEIS), North and South Kona, Hawaii

We are in receipt of the subject DEIS. We regret that due to prior commitments, we were unable to review the subject DEIS by the August 7th deadline.

We are returning the DEIS to your office for your future use.

Sincerely,

William Meyer  
District Chief

Enclosure

cc: State of Hawaii  
Office of Environmental Quality Control  
220 South King Street  
Fourth Floor  
Honolulu, Hawaii 96813

Mr. Richard Frye, Project Manager  
Oceanside 1250  
74-5620A Palani Road, Suite 200  
Kailua-Kona, HI 96740

Mr. James Leonard, Managing Director  
PBR Hawaii  
101 Aupuni Street, Suite 310  
Hilo, Hawaii 96720





LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. William Meyer, District Chief  
United States Department of the Interior  
Geological Survey  
Water Resources Division  
677 Ala Moana Boulevard, Suite 415  
Honolulu, Hawaii 96813

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Meyer:

Thank you for your letter of August 25, 1993 concerning the subject project. We appreciate your review of the Draft Environmental Impact Statement (EIS).

Should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R.T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter, and this response, will be appended to the Final EIS.

Sincerely,

A handwritten signature in black ink, reading 'James M. Leonard', is written over a horizontal line.

JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

JOHN WAIHEE  
GOVERNOR



**STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION**

869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

REX D. JOHNSON  
DIRECTOR

DEPUTY DIRECTORS  
JOYCE T. OMINE  
AL PANG  
KANANI HOLT  
CALVIN M. TSUDA

IN REPLY REFER TO:  
STP 8.5403

August 16, 1993

Ms. Virginia Goldstein, Director  
Planning Department  
County of Hawaii  
25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

Subject: Draft Environmental Impact Statement  
Villages at Hokukano; TMK: 8-1-4:03 por;  
7-9-12:03, 04 por, 05 por, 11; 7-9-6:01;  
North & South Kona

We have the following comments on the proposed Villages at Hokukano development:

1. A revised traffic study reflective of the following should be submitted for our review:
  - a. It is uncertain that the Bypass Road would be in place to accommodate the various phases of this project. The evaluation and recommendations should therefore be expanded to reflect the traffic conditions and improvements necessary if the Bypass Road were not built.
  - b. The forecast should be revised to reflect other major developments in the area and also upstream in Kailua-Kona. In light of the developmental projects planned in West Hawaii, the growth factor of 3% is overly conservative. The Hawaii long-range highway plan did not reflect many of these planned projects.
  - c. The location of the connector road between Mamalahoa Highway and the proposed Bypass Road has not yet been determined. Since we desire to restrict access to the Bypass Road, Halekii Street may be the only connector provided in this vicinity. Halekii Street should be reevaluated accordingly, with appropriate recommendations for Halekii Street and its intersections with Mamalahoa Highway and the Bypass Road. (i.e., Traffic projections for Halekii Street would have to be adjusted.)

August 16, 1993

In this regard, the construction of double left-turn lanes at the Halekii Street/Bypass Road intersection should be considered. Sufficient right-of-way should be reserved for this purpose.

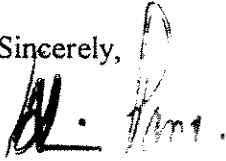
- d. A project of this magnitude will have regional impacts. The report should address this and recommend appropriate roadway mitigation measures.
2. Sufficient right-of-way should be reserved through the development for the proposed Bypass Road, and dedicated to the State at the appropriate time.
3. The proposed development relies solely on the existing Mamalahoa Highway and the proposed Hawaii Belt Road to accommodate the north/south traffic. The developer should coordinate with adjacent developers and owners to design an internal roadway system with stub end roads that would eventually connect with adjacent properties. A map of the overall system of proposed roadways should be provided.
4. The traffic study states that the DOT is reviewing its 1980 study of the Bypass Road and that planning funds have been appropriate for an update of the report. This statement is incorrect and misleading as we have yet to begin our review of the 1980 study and available funds are not sufficient to update the study.
5. The needs of bicyclists and pedestrians should be addressed.
6. The developer should be responsible for all required on site and access improvements, including the improvements to Halekii Street and its intersections with Mamalahoa Highway and the Bypass Road. Additionally, the developer should be required to participate in the funding and construction of other local and regional transportation improvements.
7. No direct surface water runoff will be allowed onto our state highway. Specific measures should be provided to control runoff during construction and after buildout.
8. All plans for construction work within our State highway rights-of-way must be submitted for our review and approval. Specific mitigative measures should be provided for the heavy truck traffic that will be generated during the construction of the golf course and development of the project.

Ms. Virginia Goldstein  
Page 3  
August 16, 1993

STP 8.5403

We appreciate the opportunity to provide comments.

Sincerely,



*for* Rex D. Johnson  
Director of Transportation

c: OEQC  
Mr. Richard Frye - Oceanside 1250  
Mr. James Leonard - PBR Hawaii



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Rex D. Johnson, Director of Transportation  
State of Hawaii Department of Transportation  
869 Punchbowl Street  
Honolulu, Hawaii 96813-5097

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Johnson:

Thank you for your comments of August 16, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

1) Revisions to the traffic study

- a) "It is uncertain that the bypass road would be in place to accommodate the various phases of this project. The evaluation and recommendations should therefore be expanded to reflect the traffic conditions and improvements necessary if the bypass road were not built."

Response: Based on the input from the project traffic engineer, Parsons Brinckerhoff Quade & Douglas (PBQD), their analysis reveals that the existing two-lane Mamalahoa Highway currently experiences near or at capacity conditions requiring two additional lanes of capacity through the corridor. Widening Mamalahoa Highway to a four-lane roadway does not appear to be a feasible alternative due to existing residential and commercial development along the highway and the limited available right-of-way. For this reason, the only reasonable alternative appears to be the construction of the bypass road. If the bypass road could not be built, then alternatively a portion of it could be built to at least serve the proposed development. A second alternative is to build an extension of Ali'i Drive from its current southern terminus to the proposed project's northern boundary.

- b) "The forecast should be revised to reflect other major developments in the area and also upstream in Kailua-Kona. In light of the development projects planned in West Hawaii, the growth factor of 3% is overly conservative. The Hawaii Long Range Highway Plan did not reflect many of these planned projects."

Response: By "major developments in the area and also upstream in Kailua-Kona", we assume that you are referring to developments such as the Villages of Lai Opua, Queen Liliuokalani Trust Expansion, and University Lands. These projects affect the regional distribution of traffic but will not necessarily result in higher traffic volumes travelling along Mamalahoa Highway towards South Kona. Furthermore, using a higher background growth rate would result in less net project related impacts. If anything, the need for the bypass road would be accelerated.

- c) "The location of the connector road between Mamalahoa Highway and the proposed bypass road has not yet been determined. Since we desire to restrict access to the bypass road, Haleki'i Street may be the only connector provided in this vicinity. Haleki'i Street should be reevaluated accordingly, with appropriate recommendations for Haleki'i Street and its intersection with Mamalahoa Highway and the bypass road. In this regard, the construction of double left-turn lanes at the Haleki'i Street/bypass road intersection should be considered. Sufficient right-of-way should be reserved for this purpose."

Response: The analysis of the Haleki'i Street/Mamalahoa Highway intersection conducted by PBQD does account for the redistribution of traffic from Mamalahoa Highway to the bypass road and is therefore appropriate. Based on the forecast traffic volumes at the Haleki'i Street/bypass road intersection presented in the January 1993 Traffic Impact Study for the Villages at Hokukano, the construction of dual left-turn lanes does not appear to be warranted. The distribution of traffic on the bypass road is dependant on the number and location of the connector roads provided. Evaluation of the need for dual left-turn lanes at Haleki'i Street would be appropriate when SDOT has identified the number or location of the connector roads.

- d) "A project of this magnitude will have regional impacts. The report should address this and recommend appropriate roadway mitigation measures."

Response: The developer has been working with the SDOT to coordinate the development of the proposed bypass road in meeting the regional demand for additional highway capacity. Regional impacts by the proposed project will be slowly introduced over a relatively long period of time. Full development of the project and its ultimate impacts will occur beyond normal traffic planning horizons (greater than 20 years).

- 2) "Sufficient right-of-way should be reserved through the development for the proposed bypass road, and dedicated to the State at the appropriate time."

Response: A sufficient right-of-way within the project site will be reserved for the proposed bypass road and dedicated to the State at the appropriate time.

- 3) "The proposed development relies solely on the existing Mamalahoa Highway and the proposed Hawaii Belt Road to accommodate the north/south traffic. The developer should coordinate with adjacent developers and owners to design an internal roadway system with stub end roads that would eventually connect with adjacent properties. A map of the overall system of proposed roadways should be provided."

Response: The proposed development plan provides for connections to the northern and southern boundaries from the primary lateral roadway. The lateral roadway is aligned and sized to connect with an extension of Ali'i Drive, if desired and appropriate. The developer will continue to coordinate the development plans with the SDOT as they are refined to ensure that such plans are in concert with the State plans for regional roadway improvements. It should also be noted that the County of Hawaii has the authority through the subdivision approval process to require developers to provide stub-out roadways that could be connected into a comprehensive circulation system.

- 4) "The traffic study states that the DOT is reviewing its 1980 study of the bypass road and that planning funds have been appropriated for an update of the report. This statement is incorrect and misleading as we have yet to begin our review of the 1980 study and available funds are not sufficient to update the study."

Response: The statement regarding the bypass road contained within the traffic study was based on information received from SDOT over a year ago. It is our current understanding based on more recent discussions and your comment letter that sufficient funds to conduct an updated planning study have not been appropriated and additional funds are currently being requested.

- 5) "The needs of bicyclists and pedestrians should be addressed."

Response: Provisions for bicyclists and pedestrians along the bypass road, which are consistent with the SDOT requirements for highways of this type, will be provided.

- 6) "The developer should be responsible for all required onsite and access improvements, including the improvements to Haleki'i Street and its intersections with Mamalahoa Highway and the bypass road. Additionally, the developer should be required to participate in the funding and construction of other local and regional transportation improvements."

Response: The developer anticipates being responsible for all required onsite and access improvements and would participate in the funding of construction and other local and regional transportation improvements unless otherwise agreed upon with the SDOT.

- 7) "No direct surface water runoff will be allowed onto our State highway. Specific measures should be provided to control runoff during construction and after buildout."

Response: Consistent with SDOT policy, the project drainage system will be planned such that no direct surface water runoff will impact the State highway, both during and after construction of the proposed development.

- 8) "All plans for construction work within our State highway rights-of-way must be submitted for our review and approval. Specific mitigative measures should be provided for the heavy truck traffic that will be generated during the construction of the golf course and development of the project."

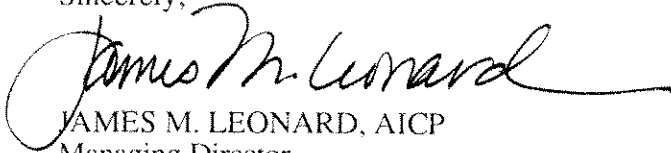
Response: All plans for construction within the State highway rights-of-way will be submitted for review and approval. Mitigation measures will be implemented to avoid heavy

Mr. Rex D. Johnson  
September 10, 1993  
Page 4

truck traffic during the construction of the proposed development, especially during times of peak traffic volumes.

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



District of North Kona  
Post Office Box 4551  
Kailua-Kona, Hawai'i 96745

# **KA LAHUI HAWAI'I**

## **Moku o Hawai'i**

District of South Kona  
Post Office Box 891  
Honaunau, Hawai'i 96726

August 13, 1993

Virginia Goldstein, Director  
Planning Department  
County of Hawai'i  
25 Aupuni Street  
Hilo, Hawai'i 96720

RE: Villages at Hukukano  
Draft Environmental Impact Statement

Dear Ms. Goldstein:

Thank you for this opportunity to respond to Oceanside 1250's Draft EIS regarding the construction of a resort and residential project at Hukukano.

### **INTRODUCTION**

Ka Lahui Hawai'i is a native initiative created in 1987 to establish self-governance and self-determination for the native people of Hawai'i. In its Constitution, Ka Lahui declares that native Hawaiians are the traditional occupants and guardians of the land, water, sea, minerals and all other natural resources of Hawai'i and that native Hawaiians have inhabited and occupied the Hawaiian archipelago and exercised traditional, religious and access rights since time immemorial to sustain and maintain the native culture and primordial interests of these islands. In its pursuit of building a nation upon established traditions, Ka Lahui's Constitution protects native Hawaiians' customary and traditional rights to access, cultivate, propagate and harvest anywhere in the Hawaiian archipelago for personal, subsistence, religious and cultural purposes.

Ka Lahui's Constitution was created by native Hawaiians who believe that the culture of ancient Hawai'i was developed upon the fundamental law that everything in the universe has life and that all life forms have integral connections to one another, man to man, man to nature, man to the spirit world. To disturb the complex interrelationship and interdependence of these life forms meant to bring severe imbalance to the entire life system and disorder to the physical, environmental and spiritual worlds.

Virginia Goldstein  
August 13, 1993  
Page Two

The following comments about the subject Draft EIS are based upon Ka Lahui's obligation to protect and preserve the harmony and balance that comes when the integral connections between man, nature and the spirit world are flowing freely and abundantly for all people of Hawai'i, especially native Hawaiians.

### **COMMENTS**

Overall, Oceanside 1250's Draft EIS is incomplete and vague. Some of its conclusions, particularly in the historical and archaeological section, are questionable. The methods of study and analysis of data, especially the historical and archaeological sites, seriously lack sensitivity to and respect for Hawai'i's history and its spirit. Such a void naturally casts serious doubt upon the developer's proposed treatment of the 473 historical sites located in the area and upon the developer's desire and capability to protect and preserve the integral connections between man, nature and the spirit world that bring harmony and balance for the entire community, especially to those who already have a long history of contributions to that harmony and balance. The EIS is also void of any discussion regarding native Hawaiian rights to access the area for traditional gathering purposes.

The preparers of the EIS have chosen to limit their research, analysis and recommendations to technical Western methodologies and mindsets. They have identified, evaluated and recommended treatment of several historical/archaeological sites without fully describing the criteria upon which their interpretations and recommendations are based. In this chosen process, the EIS seriously and sadly fails to acknowledge and address the significant resources the area in and around Hokukano holds for native Hawaiians which are spiritual and emotional in nature as well as the integral connections to areas surrounding the proposed project site. Shamefully few of the historical and archaeological sites are recommended for preservation. These evaluations and recommendations made by a majority of individuals foreign in their behavior and spirits to the host culture cannot possibly understand and appreciate the spiritual and emotional content of a burial site, a cave, a wall, a mound, a foot trail, a lava tube, a shelter, an enclosure, a terrace. So evident is the disconnection, the ignorance and the disregard of the preparers that they can only refer to each site by number, not by name and meaning to native Hawaiians.

The Draft itself admits that it lacks sufficient data to make many assessments and recommendations. Admissions such as "Our observations are tentative and hopefully further research can clarify this issue." clearly indicate that this EIS is an incomplete document. But even the need for further research has not prevented the preparers from proceeding to recommend the fate of 473 archaeological sites and the traditional spirit of the area. Such recommendation demonstrates enormous arrogance.

In sum, the EIS is seriously and fundamentally void of an acknowledgement of and respect for the full history and sacred aura of the area in and around Hokukano. Furthermore, full disclosure and explanation of its findings and recommended treatments of historical sites and features are absent. The report also admits that it does not have sufficient data to make assessments and recommendations. At least from the historical and archaeological standpoint, there are two major conclusions drawn by the EIS: 1) that the cultural value of the entire area is not worthy of preservation and protection, and 2) that the desecration of the sacred grounds in and around Hokukano will be minimal when compared to the financial profits to be gained by the proposed development. The total of these deficiencies, uncertainties, selective disclosures and discussions, omissions, unfinished work and conclusions therefore render the EIS unacceptable.

### **RECOMMENDATIONS**

At the very least, the EIS must expand and complete its historical and archaeological analysis to include acknowledgment and description of all aspects of ancient life in and around Hokukano before and after 1776 as well as the significance of all historical and archaeological sites on the project site in light of the foregoing acknowledgement and description of ancient life in the area. The revised Draft EIS should also address impacts on native Hawaiian gathering rights and religious practices in a manner which guarantees that practitioners will be able to exercise these rights without obstructions from modern amenities. Following the publication of an expanded Draft EIS, the public should again, as always, be solicited for comments and recommendations.

Additionally, the Big Island Burial Council must be allowed to inspect the project site, identify and evaluate historical and archaeological sites on the premises, make its own recommendations about the treatment of these historical and archaeological sites and present its assessment of the full impact the Villages at Hokukano will have upon native Hawaiians.

### **CONCLUSIONS**

Until and unless a revised Draft EIS is completed, public opinion about the expanded EIS is obtained and acted upon and the Big Island Burial Council is permitted to inspect, evaluate and assess the project site, the project should not be allowed to proceed. In fact, any decisions by the County Planning Department based solely upon the subject Draft would be grossly incompetent.


Virginia Goldstein  
August 13, 1993  
Page Four

The citizens of Ka Lahui Hawai'i and their ancestors have historically been victims of and witnesses to the irresponsible, self-serving activities of a comparatively small group of power starved, insensitive, imbalanced individuals and organizations. Native Hawaiians can no longer trust the oral and written statements of developers and their consultants for we have lost too much in the past trusting that our friends would stay true to their words. Ka Lahui Hawai'i is committed to protecting and preserving our homeland and the traditions we carry in our na'au. We therefore stand opposed to the Villages at Hokukano project not only because of legislative directives which compel our action but because our souls and our lives are inherently and inextricably bound to the 'aina of Hokukano and all that is in it. Without this 'aina, all native Hawaiians become even more seriously separated, lost and disempowered.

Thank you for this opportunity to submit this response and we look forward to the opportunity to examine and comment on the next EIS.

Aloha, a hui hou,

  
Anuheia Reimann-Giegerl  
Po'o, North Kona District

  
Maile P. David  
Land Committee Chair,  
North Kona District

/ar-g  
cc: Mililani Trask  
Clara Kakalia  
Clarence Kauahi



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Anuheia Reimann-Giegeri  
Ms. Maile P. David  
Ka Lahui Hawaii  
Moku o Hawaii  
District of North Kona  
Post Office Box 4551  
Kailua-Kona, Hawaii 96745

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Reimann-Giegeri & Ms. David:

Thank you for your comments of August 13, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at HokuKano, and the concerns of Ka Lahui Hawaii regarding the treatment of archaeological sites and protection of customary and traditional native Hawaiian rites.

As recommended in your letter, the historical record of the property will be expanded within the Final EIS. The procedures and criteria used by the consulting archaeologist for evaluating the various archaeological sites on the property will also be expanded upon within the Final EIS. While following these procedures, the resulting report may not convey the "spiritual and emotional" importance of these sites to all people, it should be noted that these procedures are based on the guidelines put forth by the Department of Land and Natural Resources, Historic Site Preservation Division (DLNR-HSPD), which the consulting archaeologist and developer are required to follow in preparation of the Archaeological Inventory Survey report.

The developer, Oceanside 1250, and consulting archaeologists have been and will continue to work together with local historians, resource persons, and community groups in gaining a full understanding and appreciation of the historical and archaeological resources within the project area. We acknowledge the presence of numerous archaeological/cultural sites on the property and will continue our efforts to preserve a majority of the sites.

Regarding the input from the Hawaii Island Burial Council, there are currently no plans to disturb, alter, or relocate any of the known burials onsite, and therefore, a presentation to the Council has not been made at this time. The developer will ask the Council to visit the site and to provide their thoughts and recommendations regarding the treatment of burial sites. Should there be any plans in the future which would impact known burials onsite, these would be submitted to the Council for their review and recommendation.

Anuhe Reimann-Giegeri & Maile P. David  
September 10, 1993  
Page 2

Regarding the protection of native gathering rights and religious practices, such cultural practices were previously restricted on the property to protect cattle and ranching operations. By improving access to the shore and to those sites of historical and cultural significance, it is believed that the project can have a positive impact in this respect. The outcome of the current litigation regarding another island project may give additional clarification to this important issue.

We hope the recent field trip helped to clarify the nature and goals of this project, and we look forward to your continued input. Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

**WILMOT B. MOONE, M.D.**  
**P.O. Box 665**  
**Kealahou, HI. 96750**

12 August 1993

Mrs. Virginia Goldstein, Managing Director  
25 Aunani Street, Hilo, Hawaii 96720

RE: Hokukano Villages Draft EIS: Interpretation and commentary  
FROM: Boone, Wilmot B. MD, Member, Napoopoo Village Council

Plans for Hokukano Villages are presented with a draft EIS which is both incomplete and erroneous. No characterization of the terrain or offshore waters are presented. No appropriate effort has been made to assess area resident interests. Shoreline and ocean factors are significantly overlooked. Impingement on the neighborhood and infrastructure is glossed over.

(1) This area shoreline is riddled with lavatubes, draining from above. Divers constantly note cold "Spring" waters in the area. Tidal flows flow up these lava tubes and volcanic strata, bringing in saltwater to salinize the freshwater meniscus, thereafter return to the ocean bearing runoff contaminated with all human effluent, including cesspools, highway and industrial seepage, variegated chemicals including agricultural seedkillers, insecticides, fertilizers, seepage of which will ultimately reach the saline meniscus and follow the tidal outflow, draining ultimately directly to the ocean, and affect those currents to Kealahou Bay.

During periods of heavy rainfall this is particularly deleterious. I have personally witnessed such discolored water outflow from lavatube. It is evidenced by increasingly deleterious effect on ocean fauna and flora. It is recognized by scientists and by those who regularly use these waters during past decades in diminished coral blooms, increased dead corals, and reduced (quite noticeably) fish and other fauna.

(2) There is absolutely no reason for the proliferation of golf courses on this Island, nor of hotels and wealthy residential complexes, which will impinge on infrastructure demands, will become costly to the tax payer, and realize, at the best, small profit to the community.

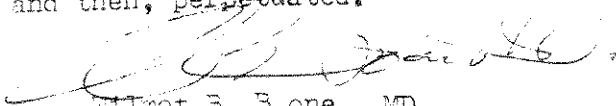
(3) Jobs created by such developments are few and attract newcomers looking for work, requiring community support and housing.

(4) A high percentage of visitors who come to enjoy watersports and to fish and enjoy a truly Hawaiian environment will be deprived of much of the scenic values derived from our coastline.

(5) Archeological sites and the Kona Field System can only be degraded, despite a limited effort at minimal preservation for few sites.

(6) No adequate way of monitoring ocean pollution is presented and as yet no such sophisticated mechanisms are effectual until damage has occurred, and then, perpetuated.

(signed)

  
Wilmot B. Boone MD



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Wilmot B. Boone, M.D.  
P.O. Box 666  
Kealahou, HI 96750

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Dr. Boone:

Thank you for your comments of August 12, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

1) Impacts to the Coastal Environment

The seaward flow of groundwater occurs constantly along the Kona coast of the Island of Hawaii. Because of the porous nature of the lava coastline, there is a substantial intrusion and mixing of seawater with the groundwater flowing seaward near the shoreline. Lava tubes may serve as a more direct path for groundwater reaching the ocean, though we understand no evidence has been found of running water within those lava tubes known to be onsite.

The premise in your letter seems to be that materials from human activities are entering the ocean via lava tubes and these materials ultimately have an impact on aquatic organisms. As stated within the Draft EIS and detailed within the Quantitative Assessment of Marine Communities and Water Quality (Appendix I-3), and the Water Quality and Marine Life Monitoring Study and Mitigation Plan (Appendix I-4), this has not been evidenced for the waters fronting the project site or for other developed areas of West Hawaii. The reports note that at Waikoloa, long term studies have not found any products from pesticides, herbicides or fungicides used at Waikoloa in the waters fronting the resort. Also, ongoing monitoring of the aquatic biota has found no change in any of the species. This suggests that there should not be a contamination problem of the coastal



groundwaters with the proposed development, especially in light of the numerous design and management controls proposed for the Hokukano golf course development.

Also, your letter states that scientists and those who regularly have used these waters during the past decades have recognized diminished coral blooms, increased dead corals and reduced fish or fauna. The study on marine communities and water quality notes that the coral community fronting the project site is subject to occasional storm surf. Because Hawaiian corals are primarily slow growing, storm waves do not have to occur with much frequency to have a very noticeable impact. The fact that storm surf is the major structuring element in Hawaiian corals has been well documented in scientific literature. The study of marine communities and water quality noted that impacts from both the January 1980 storm and Hurricane Iwa (November 1982) were still evident at the time of sampling. These storm events, as well as Hurricane Iniki, which occurred in September of 1992, have had a large impact on corals along this section of the West Hawaii coast.

With regard to the decrease in fish, this is probably related to greater use of the area in recent years, more than anything else. This relationship in the decline in fish with the increase in public use has been documented for other areas of the Kona coast. As stated in Section 4.2.3 of the Draft EIS, there is a concern that increased public use of the shoreline area as a result of improved public shoreline access may have a similar adverse impact on certain faunal species.

## 2) Impacts to Public Infrastructure and Services

Rather than "impinging on infrastructure demands" being costly to the taxpayer and bringing little profit to the community, as your letter suggests, the proposed project will have a positive impact on public services and infrastructure, primarily because tax revenues that would be generated as a result of this project are projected to far exceed the tax expenditures for such services and infrastructure on both the County and State level. Additionally, regional infrastructure systems, such as roads (in particular, participation in the Mamalahoa bypass highway), water and power would benefit from the developer's contribution to regional improvements. Other direct benefits to the community include an expanded economic base, provision of jobs and housing, expanded recreational opportunities and improved shoreline access.

## 3) Job Opportunities

It is expected that the majority of operational jobs created through the project will be filled by those in the community looking for work closer to home. The golf course, its ancillary facilities, and other project needs could support up to 180 direct positions at buildout. In general, golf courses on an acreage basis generate up to five times more jobs than agricultural industries. As noted in your letter, the jobs created by the development will attract those looking for work who require community support and housing. Based on the projections within the Economic and Fiscal Impact Assessment prepared by KPMG Peat Marwick, it is estimated that approximately 47 new homes will be needed to meet the demand for new in-migrant households. This demand, however, is expected to be exceeded in meeting the State and County provisions for affordable housing.

4) Impacts to the Scenic Value of the Coastline

The potential impacts to the open space character of this coastal area is noted within Section 4.1.8 of the Draft EIS. The project has been planned in a manner to avoid these impacts by maintaining a natural buffer area along the shoreline of approximately 300 feet, further enhanced by 300 feet or more of developed open space (the golf course), by maintaining a relatively low density residential development integrated with significant open space elements, and by implementing design controls to maintain a soft contrast between the buildings and the surrounding areas. Additionally, the project has been planned such that mauka views from the shoreline would not be obstructed by planned facilities.

5) Archeological Sites

Every effort has been made to preserve as many archaeological sites as possible. To ensure that the integrity of the heiau is maintained, an open space area has been incorporated in the conceptual plan to buffer the heiau from developed areas. Data recovery of sites identified by the project archaeologist does not mean that they will necessarily be destroyed, as most will remain untouched. We concur that the cultural sites in this area are extensive and, in some cases, interrelated and that significant sites should not be destroyed. Certainly the data recovery and study of archaeology afforded by the project will benefit historians in their quest to put together the area's historical picture.

The historical perspective of the proposed development as it relates to the historical uses of the subject properties and immediately surrounding areas is provided in Appendix III-1 and III-2 of the Draft EIS.

In accordance with State recommendations, maintenance of historic sites will consist primarily of control of encroaching vegetation, which will be provided by the homeowners' association. It is anticipated that the maintenance program will continue indefinitely. To ensure that the treatment and maintenance of archaeological/cultural sites is in accordance with State requirements, the applicant will continue to work with the Department of Land and Natural Resources. Their review of the archaeological report is currently underway.

6) Marine Water Monitoring

The monitoring program proposed for the Villages at Hokukano project includes monitoring of soils, groundwater, nearshore, and marine waters. In this manner, any presence of chemicals used for the golf course maintenance would be detected as close to the source of application as practical, and such monitoring offers the best opportunity for detection and remediation. The monitoring procedures described within the Water Quality and Marine Life Monitoring Study and Mitigation Plan (Appendix I-4) mirrors those presented by the West Hawaii Coastal Monitoring Task Force. The developer will adhere to these guidelines, which were prepared by personnel from the University of Hawaii, Natural Marine Fisheries Service, U.S. Fish and Wildlife Services, U.S. Army Corps of Engineers, Department of Health, Department of Land & Natural Resources, and the County of Hawaii Planning Department, and are considered to be the most comprehensive that have been developed to date.

Wilmot B. Boone, M.D.  
September 10, 1993  
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Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

Kapo'opo'o Village Council, Inc.  
82-6025 Manini Beach Road  
Captain Cook, Hawaii 96704

August 12, 1993

Planning Director Virginia Goldstein  
County of Hawaii  
25 August Street, Suite 103  
Hilo, Hawaii 96720

Subject: Comments to Draft E.I.S., Villages at Hukukano, June 1993.

It would be much appreciated if you could please accept these comments to the Draft E.I.S. on the Villages at Hukukano.

1. Air Quality

A. Natural emission: the D.E.I.S. mention nothing of the vog which continuously plagues West Hawaii since the past 10 years. Many residents, especially retired people and youths, have acquired respiratory problems exclusively from vog emission. By focusing on retired people to own homes on the project, could also impact West Hawaii's only overcrowded hospital. This issue should be addressed in the D.E.I.S.

2. Protection of Class AA waters and Kealahou Bay

A. In Volume II study, it states that Kealahou Bay is "about 3.7 km to the south of the southern boundary of the project site" (0.1-6-32). That would convert to only 2.3 miles away from Kealahou Bay. This should have been stated in the D.E.I.S. It is required that the D.E.I.S. be written as a self contained document which should not require the reviewer to extract information out of the supporting document. The D.E.I.S. does not include possible currents, that may contain run-offs from the project, which could enter into Kealahou Bay. It would be feasible to include possible probable impacts on Kealahou Bay, for the fact that the Southern part of the project (high density 42.5 acres with 200 units) is closest to Kealahou Bay. The Bay is a Marine Life Conservation District (MLCD), and is also registered as a National Historical Landmark. Where are the Feds? According to the newspaper article published in West Hawaii Today on August 5, 1993, Congresswoman Patsy Mink is quoted in her letter to the County Administrator, "the Class AA pristine waters of Kealahou are so precious, too fragile, too exquisite to risk. She said no. The with any sensitivity to the history, ecology or mana'o of this special place would imperil the protection battles for the sake of 18 holes of golf". In regard to such cementation from a respectable person, Kealahou Bay should be considered in a REVISED DRAFT E.I.S. for a project

that is larger than 15 miles, and only 1.5 miles away from Kealahou Bay. Possible negative impacts on Kealahou Bay could be:

- Run-off from the development, carried by currents into Kealahou Bay
- Impact on endangered marine species that are covered by Marine Mammal Protection Act of 1972. (Consult Sierra Club)

B. Note: according to the D.E.I.B. The study conducted to determine whales was on March 12, 1998, on one particular day. There is a need for further study. March is also the closing period of the whale migration. As a ninth generation descendant resident of Kealahou Bay, I find more and more sightings of whales inside and outside of Kealahou Bay as the years go by. There could be a possibility whales frequent this particular spot for a reason.

### 3. The Proposed Highway Bypass

A. Is there an alternative alignment bypass? Many residents are concerned about possible traffic impact on them. For example, landowners whose property must be purchased, exactly where is the south end connection, who will be affected?

B. Will the bypass be a "speed through" traffic, or will it have commercial businesses planned along the new bypass? What about other possible development? This should be included in the D.E.I.B.

### 4. The Cost - Benefit Ratio

A. The D.E.I.B. mentions the home buyers will mostly comprise of second home buyers and retirees, therefore requiring to obtain services all year round. This would require more than 20 - 30% of the residents to be new comers, and immigrants to the State. This development seems to cost more to the taxpayers of Hawaii than it will benefit us.

B. The average family's income in Hawaii could not possibly afford such prices on the homes listed in the project for Agriculture purposes.

### 5. Protection of Archaeology Sites

A. How does Native Hawaiian groups such as D.E.A. -Office of Hawaiian Affairs, Ka Lahui (particularly North and South Kona District), and the Big Island Burial Council feel about the sites in the area?

B. Is the golf course and residential homes recommended to be integrated with ancient Hawaiian burial sites? Can the

integrity of these Heiaus-religious temples be kept? Isn't it contradicting to preserve these sites with respect, and at the same time provide a playground for the very rich only?

D. Who are the relatives of the deceased buried there? What is the actual name of "King's Trail"? What kind of historic significance does Tokukano and the surrounding area have? Specifically, what are the impacts? How ancient is the ancient Hawaiian village? Lapakahi State Park is the only ancient Hawaiian Village preserved on this Island.

E. How long will the maintenance last, who will maintain it, and what kind of maintenance is needed for these sites during and after the project stages?

F. What is the involvement of Bishop Museum, or State Archaeologist office. All these agencies mentioned in this section should comment on the D.E.I.B.

#### 6. Agriculture

A. The anticipated buyers of these ag lots are Hawaii - 43%, Mainland - 40%, Japan and other foreign countries - 17%. How realistic are these figures?

B. The developer states that the area is "only marginally suited for agricultural purposes" (p.5), yet claims to create residential/agricultural lots in the same area. How serious is this project?

C. Run-offs from the ag lots are not shown. D.E.I.B. is vague and unclear in stating run-offs of the entire project (eg. golf course, ag lots, construction, residential). All of this combined and confined in one area could have a greater impact than the hotels in Waikoloa. The study conducted in Waikoloa showed a long range effect of run-off impacts. It would be too late if the project finishes, then to realize its not feasible for our environment. Kona Lagoon (total vacant occupancy) is a perfect example of poor resource management.

D. Is 3-A-D legal in the United States? Does County or Public Roads Maintenance use it? Is it true, that just one PUMED from 3-A-D could enough to burn our skin.

#### 7. Sewage

A. Is Heeia STP in close range? The low volume usage at the Heeia line could change, especially when other projects or other proposed developments occur.

B. If a sewage plant is built on site, what happens to the already existing residents and businesses in Kealahoukua?

8. Need for the Project

A. There are 18 golf courses on this island, 12 are public. There is already a need for more golf courses. In Japan, there is a major uproar of people opposing such developments. Also, USA Today, Aug. 13, 1993, summarized Congressman Patny Kirk's letter by stating, that a golf course is not economically feasible.

B. The O.E.I.S. claims that this project will help to alleviate the housing shortages. What is the average family (lower, lower middle, middle class citizens) income in West Hawaii. Are the residents here ready for a higher cost of living.


9. Unresolved Issues

A. All of the unresolved issues should be more clearly stated and fully discussed in REVIEW DRAFT and ALL alternatives must be FULLY DISCUSSED so reviewers have a solid basis in deciding whether all issues have been FULLY EXPLORED.

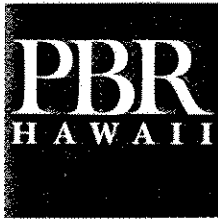
10. Consulted Parties

A. Comment on p.178: Ten Federal, State, and County offices are listed as having been consulted: NO RESPONSE. This non-involvement, for whatever reasons, minimizes the effectiveness of the E.I.S. process. The questions and comments they should have provided would have contributed to a better document and helped reviewers by identifying pertinent issues.

In my letter, only major concerns were pointed out. If there is any discrepancies, errors, or assumptions, please notify me.

Sincerely,  
  
Shane Palant-Velsen  
President

cc: PRR Hawaii  
OceanSide 1250  
1735



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Shane Palacat-Nelsen, President  
Napo'opo'o Village Council, Inc.  
62-6026 Manini Beach Road  
Captain Cook, Hawaii 96704

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Palacat-Nelsen:

Thank you for your comments of August 12, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

1) Air Quality

Air quality implications associated with volcanic eruptions are described in the Air Quality Study, Appendix I-5, pages 2, 11 and 12. As indicated in the report, current levels of sulfur dioxide generally associated with volcanic emissions do not exceed State air quality standards. After project build-out, State and Federal air quality standards will not be exceeded and should not impact older residents of the project. Additionally, those home buyers who would be attracted to this project are likely to be privately insured rather than using public health services.

2) Protection of Class AA Waters and Kealakekua Bay

Kealakekua Bay is located between 1.3 and 2.3 miles from the nearest boundary of the proposed project as depicted in Figure 2 of the Draft EIS. As indicated in Appendix I, Sections 3, 4, and 7, an elaborate system of onsite drainage improvements and retention basins will ensure that project related chemicals used within the project boundaries will not enter coastal waters. In addition, the ocean currents and natural dilution associated with over one mile of ocean water establish a significant barrier between the project and Kealakekua Bay.

Non-point pollution from runoff generated by residential land uses will be mitigated by strict adherence to design guidelines for residential landscaping and management of runoff through onsite drainage improvements and retention basins. Additionally, during construction, potential non-point pollution from runoff will be mitigated through adherence to State National Pollution Discharge and Elimination System Regulations (NPDES) and implementation of erosion and sedimentation control measures, as required by the County for grading permit approval.



To ensure that the proposed project does not impact marine waters fronting the property, the applicant will implement a water quality monitoring program in adherence to the guidelines set forth by the West Hawaii Coastal Monitoring Task Force and conditions set forth by the State Department of Health for golf course developments. In that impacts to the marine waters fronting the proposed project are not anticipated, conversely, the waters of Kealahou Bay will not be impacted. We concur that at certain times of the year whales do frequent the waters fronting Kealahou Bay.

3) Proposed Highway Bypass

- A) Individuals within the community, especially those in the area of the proposed bypass road, have been consulted either through community meetings or through personal discussions or correspondence. The proposed alignment has been planned to minimize the potential impacts to existing residents to the fullest extent practical. The proposed bypass road alignment is shown within Figure 20 of the Draft EIS. However, this alignment is only preliminary and subject to further design considerations based on community input and government review.
- B) The bypass is envisioned as a limited access highway without commercial development. Furthermore, the applicant will not support the development of commercial land uses along the highway if proposed by adjoining land owners in the future.

4) Cost Benefit Ratio

- A) Tax Revenues and Expenditures: Even with the large percentage of in-migrant residents to the County and State of Hawaii, the cost/benefit ratio of the Hukukano development is projected to be overwhelmingly positive. For the County of Hawaii, new County revenues generated from the project could be eight to ten times the new expenditures the County could incur because of the project. For the State, new State revenues generated from the Villages at Hukukano development could be three to eight times that of the new State operating expenditures.
- B) Census data indicates a 1989 median income for the County of Hawaii to be \$33,186. Adjusting for inflation, this equates to an estimated median income of \$42,325 in 1993 dollars. Because of the large lot sizes, views and amenities offered at the Villages at Hukukano, the market base lot prices would most likely appeal to Big Island residents in the upper income categories, as well as to Oahu, U.S. Mainland, and foreign purchasers. Development of the Villages at Hukukano project could potentially alleviate the island's housing shortage by allowing these high income residents and visitors who currently own homes on the Big Island to make a "trade up" purchase at Hukukano and subsequently "free up" the less expensive homes which they currently occupy. Additionally, the project would add to the region's housing supply in meeting any affordable housing requirements, as imposed by the State and County as conditions of the requisite land use approvals.

5) Protection of Archaeological Sites

- A) In a letter regarding the proposed development, Ka Lahui expressed concern regarding impacts to the exercise of traditional religious and access rights of native Hawaiians. They also recommended that the EIS contain a more complete description of the evaluation and criteria for archaeological sites, along with a description of all aspects of Hawaiian life in and around the project site before and after 1776. A copy of the letter from Ka Lahui will be enclosed within the Final EIS. As no alteration of known burial sites onsite are currently planned, the Hawaii Island Burial Council has not been formally consulted. However, should any impact, alteration or relocation of burial sites be considered, such measures will be reviewed with the Council, which serves as an advisory body to the Department of Land & Natural Resources, Historic Site Preservation Division (DLNR-HSPD). Approval of an archaeological site preservation plan from the DLNR-HSPD will be required prior to any land alteration or grading activity on the proposed development.
- B) In conducting the initial archaeological survey, the consulting archaeologist, Cultural Surveys of Hawaii, attempted to consolidate related features into site complexes, such that if a few features within a complex were deemed significant, then the whole complex was deemed significant and recommended for preservation due to its overall association. In this manner, it is felt that the integrity of sites and site complexes can and will be preserved with appropriate buffer areas according to the recommended procedures and guidelines approved by the DLNR-HSPD.
- C) In accordance with the procedures and guidelines set forth by the DLNR-HSPD, public notice will solicit information about known descendants of those burials on the property should any alteration or reinterment be proposed for such sites. As no alteration or relocation of known burial sites is planned at this time, such efforts have not been initiated. However, those individuals within the community with known descendants buried on the property have been consulted.

Other names used in reference to the King's Trail include Ala Loa and Ala Aupuni. Although test samples from the area at the Hokukano Village site have not been taken, test sampling from other areas on the property indicate that early habitation may have occurred in the period ranging from 1250 to 1430 A.D. It is likely that such habitations occurred during this same period at the Hokukano Village site, as this would be consistent with other known habitations along the Kona coast.

- D) In accordance with State recommendations, maintenance of historic sites will consist primarily of control of encroaching vegetation, which will be provided by the homeowners' association. It is anticipated that the maintenance program will continue indefinitely.
- E) To ensure that the treatment and maintenance of archaeological/cultural sites is in accordance with State requirements, the applicant will continue to work with the Department of Land and Natural Resources. Their review of the archaeological report is currently underway. The Bishop Museum is not a reviewing agency for such reports.

6) Agriculture

- A) The estimated mix of potential buyers is felt to be realistic based upon available market research (Market Assessment, Appendix IV-1 of the Draft EIS).
- B) The developer proposes to underwrite the costs of providing the necessary onsite improvements to adequately prepare the site for agricultural activity. This would include such elements as land preparation and irrigation installation. While some of these lands are considered marginally suited for agriculture, the land preparation plan would be designed to mitigate these factors and renew the lands into productive acreage. As envisioned, and depending upon which crops are selected, the program may not be self sustaining for several years after planting and, until then, the developer and subsequently the homeowners' association would contribute to the ongoing uncovered costs. Our studies indicate that these orchard crops can generate revenues in excess of the operating costs so that positive cash flow can be realized from these agricultural activities after a few years.
- C) Potential impacts from runoff generated by residential and recreational land uses will be mitigated by design guidelines for residential landscaping, management of runoff through onsite drainage improvements and retention basins, and by strict adherence to State and County rules and regulations. As noted, potential construction related impacts from runoff will be mitigated through adherence to State NPDES regulations and implementation of erosion and sedimentation control measures, as required by the County for grading permit approval. The Water Quality and Marine Life Monitoring and Mitigation Program (Appendix I-4) mentioned previously will also be implemented to further ensure the protection of coastal waters.
- D) The County does not use 2,4-D for public road maintenance, however, products which include 2,4-D are legally available for use in the United States and many other countries when applied according to label directions. According to the project's agronomy consultant, it is doubtful if the fumes from lawful chemical formulations of 2,4-D are toxic enough to burn skin. The developer will use only lawful chemicals which will only be applied by properly trained personnel under the direction of legally certified supervisors.

7) Sewage

- A) The Heeia Sewage Treatment Plant (STP) is privately owned by Kamehameha Investment Company. If the use of this facility is the preferred alternative, costs associated with connecting to the plant, sewage treatment, and disposal options will be negotiated between the applicants and the STP owners at the appropriate time in the development process. Presently, the Heeia STP has a capacity of 1.8 MGD and can be further expanded to an ultimate size of 3.6 MGD. Present usage is approximately 0.5 to 0.6 MGD.
- B) Should a STP be developed onsite, no impacts relative to existing residents and businesses in Kealahou will occur.

8) Need for the Project

- A) Although the financial feasibility of a stand alone golf course may be questionable, the Villages at Hokukano golf course is planned primarily as an amenity to the master planned, residential community. The market feasibility of the project has been clearly established through the market assessment (Appendix IV-1).
- B) Based on 1989 U.S. Census information, the distribution of families within the County of Hawaii by income is shown in the following table.

<u>Income Range</u>	<u>Number of Families</u>
Less than \$14,999	5,609 Families
\$15,000 to \$24,999	5,375 Families
\$25,000 to \$34,999	5,174 Families
\$35,000 to \$49,999	6,072 Families
\$50,000 to \$74,999	5,405 Families
\$75,000 to \$99,999	1,736 Families
\$100,000 to \$149,999	857 Families
\$150,000 and Up	426 Families

As noted previously, census data also indicates the 1989 median income to be \$33,186. Adjusting for inflation, this equates to an estimated median income of \$42,325 in 1993 dollars. Also, as stated, because of the site characteristics, views and amenities offered at the Villages at Hokukano, the lot prices would likely appeal to residents in the upper income categories.

9) Unresolved Issues

According to Chapter 343, HRS, the purpose of the EIS law is to "establish a system of environmental review which will ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations." It is not to resolve all issues, but to provide decision makers with the knowledge necessary to make informed decisions. Alternatives considered are described in Section 3 of the Draft EIS. Selection of the appropriate alternative is more appropriate during the entitlement review process.


10) Consulted Parties

We assume that the various governmental agencies referenced in your comment withheld comments on the Preparation Notice since they awaited more detailed information, as is required within the Draft EIS.

Ms. Shane Palacat-Nelsen  
September 10, 1993  
Page 6

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

County of Hawaii Planning Department  
25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720  
Attn: Ms Virginia Goldstein, Planning Director

August 12, 1993

Dear Ms. Goldstein:

I appreciate this opportunity to comment on the draft EIS recently submitted by PBR Hawaii on behalf of the developer Oceanside 1250 regarding their proposed project, the Villages at Hukukano.

The Hawaii County General Plan calls for the entire project area to be zoned conservation, agriculture, or unplanned. Any amendment to the general plan of this proportion sets a bad precedent for south Kona. As a resident of south Kona I see this development as an erosion of the rural character of south Kona and as an inroad for similar developments.

The developer has gone to great lengths to discover the cultural and historical significance of the project area and has taken unusual steps in attempting to mitigate the public's concern about the social and environmental impacts. However, the EIS is not comprehensive and is vague in certain key areas.

1) The EIS does not address the use of agricultural chemicals with respect to the proposed agricultural uses other than the golf course or their potential harming effects to the groundwater or nearby Kealahou Bay. What happens if contamination occurs?

2) The historical information is limited to only recent events and recent ownership. The archeological sites are of great significance to the families who lived and practiced their culture in the ahupuaa within the project area. It has been well established that the project area was extensively used for agriculture before the arrival of Cook and heavily populated by native Hawaiians. Have those families been allowed to provide input with respect to the significance of the sites? After all it's their sites and they do have rights to the continued use of those sites.

3) There appears to be no allowance for low or even moderate income housing.

4) What are the guaranteed direct benefits to the resident community? Are all the jobs created going to the local residents? If the increase in county revenues is realized, how much will go to benefit those immediately impacted by this development.

5) If the by pass road were to be constructed what are the foreseeable impacts and pressures for further development along that roadway. The EIS may wish to examine this in consultation with the land owners.

It is difficult to accept that while the developer emphasizes the rural and agriculture aspects of the project that the target market has any interest in agricultural pursuits. In reality the projects' appeal is to the high income bracket, offering exclusive and somewhat segregated living quarters where recreational pursuits are the main draw. What has always appealed to our south Kona residents are the natural recreational pursuits available in our district. Developments such as the one proposed are artificial and thus can only detract from the character of the district and may even lead to the destruction of the natural systems which support our lifestyle. The EIS is vague as to exactly what kind of agriculture may take place in the project area, its' economic viability or its' impact on the environment. The one to five acre farmer in south Kona is usually a MIFF, multiple income family farmer. The farm can rarely support the family thus they work at other jobs to supplement their income. It is hardly likely that a farm within the project area will be profitable and thus it may not provide any incentive for the owner to farm at all. What then?

With all due respect to the developer whose reputation for being culturally sensitive seems well established and well deserved I keep asking myself " what's in it for me" (the community). I am reminded that the purpose and ultimate goal of the development is profit. I am very concerned that there is a perceived partnership between the County and the developer in the pursuit of profit which comes out in the justification for the project as being increased county revenues. I apologize for making arguments based on ideologies but I believe it is important that the developer understand that the concerns of the citizenry are not necessarily reflected through our county agencies. I would like to suggest that the the developer work more closely with the community (pro and con) and together they make a proposal to the county. Developments as sensitive as this one should proceed from the ground up, instead some in the community feel its being forced down their throat. I know first hand how hard the community representative has been working to gain support for the project however there appear to be several additional hurdles.

In its' present form the DEIS for the proposed Villages at Hokukano does not address all the concerns with respect to the cultural, social or environmental impacts.

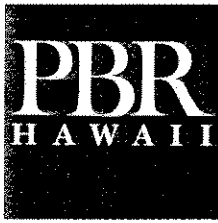
Once again I appreciate the opportunity to give comment on the proposed development at Hokukano. It is my sincere hope that the developer will consider more closely its' proposed project with respect to the needs and concerns of the immediate community.

Mahalo,

  
Charles Young

P.O. Box 505

Honaunau, HI 96726



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Charles Young  
P.O. Box 505  
Honaunau, Hawaii 96726

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Young:

Thank you for your comments of August 12, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

#### County of Hawaii General Plan

The General Plan for the County of Hawaii designates the subject property as Extensive Agriculture, Orchard, and Open Space, rather than Conservation, Agriculture, or Unplanned as stated in your correspondence. In addition, the proposed development plan requires that a General Plan Amendment be approved for only a portion of the property (approximately 763 acres of the 1,540 total acres). The remainder could retain the existing General Plan classifications.

Regarding the concern about the project's fitting with the rural character of the area, this has been a primary objective in the planning of this project. Accordingly, the project is proposed as a low density development with generous open space elements, such as the golf course, natural and landscaped buffer areas, as well as shoreline and historic park areas. Design guidelines and controls on homes and buildings are also planned so as to maintain a soft contrast between the buildings and surrounding areas. The overall gross density of the project of approximately one unit per acre would retain an overall density much lower than other existing residential developments in the area. Additionally, with the development of the proposed highway bypass, the rerouting of non-village traffic would help return some of the rural feel to the village areas themselves.

#### Use of Agricultural Chemicals

The use of pesticides in the proposed agricultural program would be controlled by all applicable regulations governing the use of such products. The utmost care would be used in the storage, loading, mixing and application of these products. It is intended that these products be used within



a fully integrated pest management program and that the use of such products would be monitored by an onsite water monitoring program. In addition, all applications would be made by personnel trained in the use of these products. The developer realizes the importance of the region's marine resources and therefore finds water pollution to be unacceptable and those practices that may endanger this resource would not be tolerated. As explained in the water monitoring and mitigation plan, if any problem should be discovered, the proper agencies would be notified and corrective actions would be implemented. Inasmuch as the area receives relatively little rainfall, the application of irrigation water and agricultural chemicals is easily controlled. In light of the proposed management and monitoring controls, no harmful effects to the groundwater or Kealahou Bay (located approximately 1.3 miles from the project boundary) are anticipated.

#### Historical Information

The historical perspective of the proposed development as it relates to the historical uses of the subject properties and immediately surrounding areas is provided in Volume II, Section III of the Draft EIS. Section 4.3 of Volume I will be expanded to include a more complete description of the historical uses of the property. The applicant has actively sought input from the Hawaiian community and from those with historical ties to the property in order to gain a fuller appreciation and understanding of the unique history of the area.

#### Affordable Housing

As noted in the Draft EIS, the proposed project, in meeting State and County requirements regarding affordable housing, is expected to have a direct positive impact on a broad spectrum of the housing market.

#### Community Benefits

Guaranteed direct benefits to the resident community will result from expansion of the community's economic base, as well as new jobs, housing, infrastructure improvements (i.e. highway bypass, water system, power substation), expanded recreational opportunities (i.e. hiking, fishing, diving), and improved shoreline access. It is expected that many of those jobs created will be filled by qualified local residents who presently commute to work and are looking for employment opportunities closer to home. Increased County revenues will be allocated by the County Council and Administration as they determine appropriate to meet regional needs and to address those areas immediately impacted by the development.

#### Potential Development Along the Bypass Highway

No commercial development is planned by this project along the proposed Mamalahou Highway bypass corridor. In addition, this highway would be a limited access roadway, as determined by the State Department of Transportation. Consequently, future land use along the bypass will be determined by State and County land use agencies and not the applicant. However, the applicant will not support the development of commercial land uses along the highway if proposed by adjoining landowners in the future.

### General Comments

While we agree that the project is primarily aimed toward the higher end of the housing market, it would be misleading to say that recreational pursuits are the "main draw" of the project. The project is responding to an existing need for housing as people come to the region for its fine climate and location qualities. Also, we do not agree that the proposed project is any more "artificial" than any other manmade structure or development in the region. On the contrary, the main elements of the project have been carefully planned to fit well with the natural terrain and cause as little disruption to the natural environment as practical. Overall, the project has been planned to maintain a low density, single family character with generous open space elements, in keeping with the relatively low density, rural character of the area. In that the developer proposes to implement design guidelines intended to blend the structures with the surrounding environment, it is felt that the development would add to rather than detract from the character of the district.

Regarding the viability of the proposed agricultural program, the proposed agricultural concept is not a traditional agribusiness venture and thus the viability parameters used for large scale farming may not apply to this proposal. Site and infrastructure preparation are expected to be completed by the developer in order to minimize typical "up-front" costs for growers, thereby providing stronger incentives for grower participation. While there is a significant amount of capital required for site preparation, our studies show orchard crops can eventually provide a positive cash flow. In addition, ongoing costs not supported by the grower program would likely be the responsibility of the developer and subsequently the homeowners' association.

It is true that the developer hopes to make a profit from the proposed development project. It is also true that without a profit, the community benefits and tax revenues generated by the project would not occur. Pointing to the positive cost benefit ratio of the proposed project, however, is not intended to imply any partnership between the County and the developer. This information is included simply to show that the new tax revenues from the project would far exceed the projected governmental expenditures. It is assumed that those from the surrounding community and the County as a whole would benefit as a result of this, not the developer or the County government.

Your comment that the developer should work more closely with the community in planning the project is well taken. In fact, the developer has gone to great lengths to involve all interested parties in the project by soliciting their comments and suggestions as early as possible in the process. Throughout the development of the land use plan the developer has involved several hundred people from the community in field trips to the property. Additionally, four advertised public meetings have been conducted by the developer and the project consultants. In this respect, the entire population of West Hawaii has been invited to participate in the process of creating this land use plan. This process of community involvement is described in Section 7.0 of the Draft EIS and will be further elaborated within the Final EIS.

Mr. Charles Young  
September 10, 1993  
Page 4

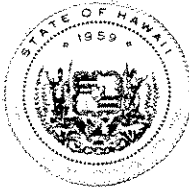
We appreciate your thoughtful comments to the Draft EIS. Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



# **OFFICE OF STATE PLANNING**

*Office of the Governor*

MAILING ADDRESS: P.O. BOX 3540, HONOLULU, HAWAII 96811-3540  
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR  
TELEPHONE: (808)587-2846, 587-2800

FAX: Director's Office 587-2848  
Planning Division 587-2824

Ref No. C-179

August 10, 1993

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

Dear Ms. Goldstein:

Subject: Villages at Hukukano, Draft Environmental Impact  
Statement

We have reviewed the subject draft environmental impact statement relative to the Coastal Zone Management (CZM) Program and have the following comments.

It is a policy of the CZM Program to promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems. We are concerned about the possible water quality impacts associated with the construction phase of the project. Disturbance of the vegetation and top soil during vegetation clearing and grading activities may result in sediment entering the nearshore waters through storm water runoff. We suggest that appropriate sediment and erosion control best management practices be established prior to commencement of any construction related grading or clearing.

In addition, we are concerned about the possibility of increased nonpoint pollution to the nearshore waters resulting from the large scale residential use proposed. Guidelines for landscaping, pesticide and herbicide use, and household cleaner disposal should be considered to reduce the potential for nonpoint source pollution from the residential areas.

The Honorable Virginia Goldstein  
Page 2  
August 10, 1993

It is a CZM objective to protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems. Increases in public access to the shoreline may increase the use of the nearshore area. We understand that the nearshore area adjacent to the project site is a pristine resource. Although we encourage public access to and along the shoreline, we are concerned that increased use may adversely affect the area's resources. The need for special management of the nearshore area should be investigated.

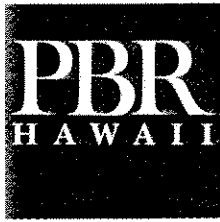
Thank you for the opportunity to comment. If there are any questions, please contact Valerie McMillan of our CZM Program.

Sincerely,

  
Harold S. Masumoto  
Director

cc: Mr. Brian J.J. Choy  
Mr. Richard Frye  
Mr. James Leonard✓

VWM/mc  
VWM#1



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Harold Masumoto, Director  
Office of State Planning  
P.O. Box 3540,  
Honolulu, Hawaii

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Masumoto:

Thank you for your comments of August 10, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

We concur that a plan to mitigate potential water quality impacts associated with the project needs to be implemented prior to construction. Consequently, the applicant will prepare an appropriate sediment and erosion control plan in accordance with all applicable State and County requirements. In addition, the Integrated Golf Course Management Plan (IGCMP) utilizing "best management practices" has been prepared and included in the Draft EIS as Appendix I-7, and all of the Department of Health's Twelve Conditions for Golf Courses will be implemented.


Non-point pollution from runoff generated by residential land uses will be mitigated by design guidelines for residential landscaping, management of runoff through on-site drainage improvements and retention basins, and by strict adherence to State and County rules and regulations. During construction, potential non-point pollution from runoff will be mitigated through adherence to State National Pollution Discharge and Elimination System regulations and implementation of erosion and sedimentation control measures as required by the County for grading permit approval. A Water Quality and Marine Life Monitoring and Mitigation Program, as detailed in Appendix I-4, will also be implemented to further ensure the protection of coastal waters.

In order to maintain and enhance the natural qualities of the Conservation District, the applicant will initiate a management program, coordinated with DLNR, to manage the uses of this area to ensure that increased use and accessibility to the shoreline area will not adversely affect the area's resources. As this management plan evolves, the CZM Program and DLNR will be consulted. As described in the Draft EIS, all necessary approvals will be in place before the proposed access improvements and trail system is implemented.

Mr. Harold Masumoto  
September 10, 1993  
Page 2

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

JOHN WAIHEE  
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH

P. O. BOX 3378  
HONOLULU, HAWAII 96801

In reply, please refer to:

August 10, 1993

93-082/epo

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

Dear Ms. Goldstein:

Subject: Request for Comments  
Draft Environmental Impact Statement (DEIS)  
Villages at Hokukano  
Kealahakua, Hawaii  
TMK: 8-1-04: por. 3,  
7-9-12: 3, por. 4, 5, & 11  
7-9-06: 1

Thank you for allowing us to review and comment on the subject document. We have the following comments to offer, in addition to our comments found in our letter dated April 28, 1993 (attached):

Drinking Water

1. The DEIS indicates that the project will include the development of new sources of potable water. However, it does not indicate where these wells will be situated. As new sources of water are developed, it will be necessary to comply with Hawaii Administrative Rules, Title 11, Chapter 20, Rules "Relating to Potable Water Systems." Section 11-20-29 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 in Section 11-20-29.
2. 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.



Ms. Virginia Goldstein  
August 10, 1993  
Page 2

3. Section 11-20-30 of Chapter 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.
4. The DEIS indicates that the proposed development will have a dual water system. The potable and nonpotable water systems must be carefully designed and operated to prevent cross-connections and backflow conditions. The two systems must be clearly labeled and physically separated by air gaps or reduced pressure principle backflow preventers to avoid contaminating the potable water supply. In addition, all nonpotable spigots and irrigated areas should be clearly labeled with warning signs to prevent the inadvertent consumption of nonpotable water.

Underground Injection Control

1. The comments as described in Department of Health's (DOH) letter dated April 28, 1993, are still applicable.
2. Based on the project's "Integrated Golf Course Management Program: The Villages at Hokuano" prepared by W. Lee Berndt, the project expresses its intent to implement an environmental monitoring program to address groundwater concerns and to aid in the management and use of chemicals. Although the commitment to implement a groundwater monitoring plan is expressed in Berndt's document, we have not seen any mention of the DOH's "Twelve (12) Conditions applicable to all new golf course development in the DEIS. Because of the lack of reference to the DOH's 12 Conditions, we would like to again recommend that the golf course development be subject to the "Twelve Conditions" (attached).

If you should have any questions, please contact William Wong, Chief, Safe Drinking Water Branch at 586-4258.

Very truly yours,



JOHN C. LEWIN, M.D.  
Director of Health

c: Safe Drinking Water Branch  
Oceanside 1250  
PBR Hawaii



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

John C. Lewin, M.D., Director of Health  
Department of Health  
State of Hawaii  
P.O.Box 3378  
Honolulu, Hawaii 96801

**SUBJECT: SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Dr. Lewin:

Thank you for your comments of August 10, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

Drinking Water

- 1) All new sources of water will comply with Hawaii Administrative Rules, Title 11, Chapter 20 Rules "Relating to Potable Water Systems", as well as Section 11-20-29. This will be noted within the Final EIS.
- 3-4) Other comments pertaining to regulatory requirements for the distribution system, including those for possible dual water system, are appreciated and will be adhered to, as appropriate.

Underground Injection Control

- 2) The proposed Integrated Golf Course Management Program, including the groundwater monitoring plan, will adhere to the State's 12 Conditions Applicable to All New Golf Course Development.

Dr. John C. Lewin  
September 10, 1993  
Page 2

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

August 7, 1993

Virginia Goldstein, Dir.  
Planning Dept.  
25 Aupuni St  
Hilo Hawaii 96720  
FAX'd

Re: Draft EIS / Hokuano Villages

Dear Ms. Goldstein,

This is in regard to (a) the proposed Hokuano Villages' 27 hole golf course, (b) dedicated ag land and (c) use of the "lodge."

(a) Amicable discussions with the applicant were held regarding state of the art golf course development and turf management. The Kahala Capitol/Cyanotech agreement regarding Kahala Capitol's proposed golf course at O'oma was discussed as the basis for developing the Hokuano golf course. The applicant appeared to be genuinely interested in making their golf course as environmentally sound as possible and agreed to study the Kahala/Cyanotech/O'oma agreement in regard to adopting it for their project.

Will the applicant agree to adopt the Kahala Capitol/Cyanotech O'oma golf course agreement as the basis for developing and managing their golf course?

If not, why not?

If some but not all, please specify which parts you can not comply with.

Do you intend to surpass any of the standards, and if so what would they be?

Please include the Kahala/Cyanotech/O'oma agreement in the final EIS.

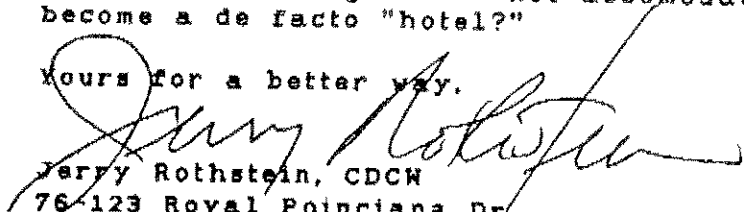
(b) Amicable discussions were also held with the applicant regarding dedicating farmable and water serviced ag land (approximately 75 acres) abutting the residential area(s) to community agriculture on a free or low cost basis. The applicant was favorably disposed to this idea and was planning on include it into the Hokuano development plan.

Has this agricultural concept been incorporated into the development plan?

If not, will it?

(c) What is the rule, condition, law etc. that will guarantee that the "members lodge" does not accomodate transient guests and in effect become a de facto "hotel?"

Yours for a better way.

  
Jerry Rothstein, CDCW  
76-123 Royal Poinciana Dr.  
Kailua-Kona Hawaii Island 96740  
329-1568 // FAX 329-7651

cc: Oceanside 1250  
PBR Hawaii  
OEQC Bulletin



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Jerry Rothstein, CDCW  
76-123 Royal Poinciana Drive  
Kailua-Kona, Hawaii 96740

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Rothstein:

Thank you for your comments of August 7, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

Villages at Hokukano 27-Hole Golf Course

The developer has reviewed the agreement as you requested. The developer shares your concern and goals relative to proper pest control and fertilization. Their sources indicate that most "biorational" approaches are either unproven in Hawaii and/or have not achieved the desirable results of providing a high quality golf turf experience. Properly managed, applied, and monitored chemicals are not hazardous. In this regard, the developer's integrated golf course management plan will prevent detrimental affects. The developer is willing to adopt reasonable, proven biorational methods if, in their reasonable judgement, the desired results are achieved. Furthermore, the developer will be proactive in the controlled testing of new biorational methods for further widespread use, if testing shows success.

The developer finds it desirable and necessary to retain total control of its golf course operations, subject to governmental policy, regulations, and law. Well intended suggestions from all parties, governmental and nongovernmental, will always be welcome, considered, and addressed. New and innovative approaches, as discussed herein, will be considered for the golf course, agricultural, and residential components of the project.

Agricultural Concept

As shown in Figures 13 and 14, the proposed development plan includes an agricultural use concept which would replace the existing scrub vegetation with crop types currently grown in the area. Among others, these may consist of plumeria, papaya, macadamia, and coffee. A wide range of other potential crops is also provided in the Draft EIS. Although the land would remain as the lot owners' property, an easement or leasing arrangement would be created to allow qualified

Mr. Jerry Rothstein  
September 10, 1993  
Page 2

farmers to engage in agricultural operations on designated parcels. Presently, the cost for farming these areas is being studied, however, it is clear that no agricultural activity would be feasible without sale of the building site to subsidize the capital expense required to initiate the agricultural operations. Our initial studies indicate that after an initial start-up period, which would be subsidized by the developer, the commercial agriculture activities proposed for this area can be self sustaining.

Members Lodge

Regarding the potential restrictions of the lodge use, such questions are perhaps best directed to the County Planning Department, which could more appropriately explain the rules and regulations pertaining to the County Code.

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

KONA CONSERVATION GROUP  
73-4504 Kohanaiki Road  
Box 10, Kailua-Kona 96740

August 7, 1993

Planning Director Virginia Goldstein  
County of Hawaii  
25 Aupuni Street, Suite 109  
Hilo, HI 96720

SUBJECT: Comments to Draft EIS, Villages at Hokukano, June 1993

Dear Ms. Goldstein:

Please accept these comments to the Draft EIS on Villages at Hokukano.

1. Protection of Class AA waters and Kealakekua Bay:

- A. The DEIS does not state how far away Kealakekua Bay is from the project site. In the Volume II study, p. I-3-52 is the statement that it is about 3.7 km away. This should have been stated in the DEIS also, as it is required that the DEIS be written as a self-contained document that does not require the reviewer to dig out of the supporting study. Isn't this only about 2.3 miles away? The DEIS should have contained detailed information about the ocean currents that could take pollutants from the project site to Kealakekua Bay, especially during a storm, and the possible negative impacts to the marine life in the bay, and subsequently to its designation as a marine life conservation area, etc. The significance of this bay needs to be disclosed and thoroughly discussed because of its proximity to the project site.
- B. Monitoring of the waters offshore appears to be inadequate:
  - (1) On p. 147, the DEIS states that "coastal marine waters will continue to be monitored on an ongoing basis to detect problems and take appropriate action. However, it does not say how often monitoring will be done. The reviewer must read in Volume II, page I-4-3, to find that it will be "carried out on a QUARTERLY BASIS and the marine life studies will be done TWICE A YEAR. Further, it states that water quality sampling will be done for only FIVE YEARS in the area WITHIN 1 KM OF THE SHORELINE only. (p. I-4-5)  
Isn't 1 km too narrow a band to sample?  
Isn't Phase I mainly the golf course construction?  
What about negative impacts from chemicals used by the residents, which will be after Phase I? High-priced home owners are known to use more chemicals than average to keep their lawns manicured. This must be monitored, especially in this sensitive location so close to Kealakekua Bay.

2. Protection of archaeological sites:

- A. What is the opinion of native Hawaiians such as members of Ka Lahui and the Big Island Burial Council on the proposal that those sites that are recommended for preservation will be "integrated" into the golf course plan? Can the integrity of the sites and site complexes be preserved under this arrangement? Isn't there a basic contradiction in the dual purposes of preserving these sites with respect and providing a playground for the very rich?

- B. What importance has been placed on the Kona Field System, which the noted archaeologist T. Stell Newman described as "the most extensive and monumental work of ancient Hawai'i." (p. III-1-76, 424, 77-82) What will be done to preserve it? To what extent will the integrity of the Kona Field System be preserved, or will only a few individual features be preserved?
- C. What does the Burial Council thank of the 289 sites recommended for resource recovery, or destruction after information is gathered from them?

3. Access to the shoreline, along the shoreline:

Although numerous statements seem to indicate that "the public shall be provided access to the shore...through the provision of public parking and a pedestrian access trail system" (p. 160), it also says that this shoreline trail system will be "managed and maintained by a community homeowners' association or other non-profit entity established by the developer..." (p. 102) This seems to say that the public access may be limited. This needs to be spelled out. Will it be public or not?

4. The highway bypass road:

- A. How realistic and feasible is the plan for the developer to pay for the cost of the highway bypass and then get back some of the cost by assessing future landowners for their portion of the cost? Has this been tried before? Here? How workable is it? What problems are involved in such a plan? Won't this encourage the establishment of a commercial strip along the highway so that these costs can be paid back to the developer? What happens if there is no development along the bypass--how will the developer regain some of those costs as anticipated?
- B. What are the alternative alignments of the bypass? Residents are concerned about the effect of this bypass on them--will their homes get moved? will they front the bypass? Where are the connection points considered for the south end? what are the possible configurations being considered? The affected residents need to know.
- C. The bypass and business in Kainaliu: Some business people I talked with in Kainaliu expressed the concern that if commercial development arises along the bypass, they will be negatively impacted a lot more than if the bypass is merely a high-speed highway. These alternatives need to be explored.
- D. The bypass and traffic: One reason being given for the bypass as a benefit to the community is that it will relieve peak-hour traffic in Kainaliu. Have alternatives been considered, such as not permitting left-hand turns during the peak hours, no parking in Kainaliu during peak hours, more off-street parking provided? Just by not allowing parking during peak hours, all four lanes would be open for moving traffic.

5. Air quality:

- A. The vog: there is no mention in the DEIS of the vog which has been prevalent in Kona for the past ten years. (p. 5, 32). It should be stated in the EIS that on most days, it is so bad that we cannot even see the horizon from this area. This nature-made pollution must be considered BEFORE we add any man-made and thus controllable pollution to the air. One must read p. I-5-5 and 14 for this information.



3. Disclosure of vog situation. It seems desirable to disclose this information in sales brochures and in deeds so that those prospective buyers with respiratory problems will be forewarned. Isn't this a requirement?

6. Agriculture:

Can the 367 lots called agricultural/residential lots really be considered as such? The developer says he plans to "add approximately 75 acres of land ...to productive agricultural use", yet the price for these lots ranges from \$460,000 to \$930,000 for the one to three-acre lots. What do agriculture experts say about the feasibility or likelihood of agriculture being seriously undertaken in this project? (p.5, IV-1-4,6,9) Further, the buyers anticipated for these lots come from Hawaii- 40%; mainland- 40%, and Japan and other foreign lands-20%. How realistic are these figures? The EIS needs to justify its assumption that agriculture can reasonably be expected on these high-priced lots.

In the water systems study (II,3-7), it says that this project consists of... and POSSIBLY AGRICULTURAL USE." So, it's iffy, isn't it?

How does the developer reconcile the statement that this area is "only marginally suited for agricultural purposes..." (p.5), yet claims to create an agricultural/residential component on the same soil? How serious is the plan? How much more chemicals might have to be used in this area compared to other places with better soil in place? This impact of chemicals used by residents on water quality must be discussed.

7. Sewage:

How far away is the Heeia STP? Is this considered as "nearby" according to the County General Plan such that connection from the project might be considered as permitted? (p.159). The developer says he might have a plant on the site or connect to Heeia's. What costs should be then assessed as a fair share for this project? Might the low volume reported be increased tremendously as other projects in that area come to fruition? What commitments does the County already have? (The DEIS seems to suggest that the volume now is so low compared to the plant's capacity that it would be allowed.) (p. 91, II-4-8).

If there is a plant onsite, what provisions have been made to prevent odor from drifting onto the subdivision that is now located below the Kealahou Post Office or onto the business area?

What about separating the gray water? (II-4-22). The definition is given but no consideration about action. The many benefits of separating gray water should be considered in a project of this size and sensitive location.

8. The cost-benefit ratio:

- A. Second home buyers and retirees:

p. 98: the residents of this development are expected to be second home buyers and retirees. These types of residents add greatly to the public costs for this project, thus lowering the benefit-to-cost ratio tremendously because second home buyers are mostly part-time residents but require services year-round and retirees require more medical care and other public services while contributing little or nothing to the State income tax revenues. They also contribute less in sales tax. These differences in the nature of these categories of residents do not appear to have been factored into the cost-benefit analysis in Section IV-2. Since more than 20 to 30% of the residents in this development are expected to be new in-migrants to the State,

1. 4

this development will cost more to the taxpayers of Hawaii than it will benefit us. This statement is made on the basis of the analysis reported in HAWAII TOURISM IMPACT PLAN, Volume II, State of Hawaii DPED, 1972, pages 53-59. This study seriously questions the feasibility of encouraging projects that specifically induce second home buyers and retirees. The EIS needs to be revised to reflect the cost-benefit ratio based on this cited study, with refinements as needed.

Statements such as "the tax revenues generated by this project should more than cover the cost of additional emergency health care and hospital services..." appear to not have a reliable basis. (p.99)

Cost of education: (p. 98)

"The number of school children...is expected to low due to the second home and retirement home emphasis of the project...the DOE estimates that 298 students would be added...the project at buildout is expected to occur over a 32 year period, allowing sufficient time for the State DOE to accommodate any increase in school population as a result of the proposed project." As a mitigation measure, the developer "has discussed with the DOE their plans...and will continue to coordinate with the DOE in order to assure that adequate public school services are provided to project residents." So, there seems to be no commitment to help defray the cost of education directly attributable to this project. The EIS needs to discuss the possibility that buyers with more children will in-migrate to this state, adding increased costs for education. Again, referring to the cost-benefit study cited above, a news article a week ago said that about \$9 million was appropriated for an elementary school in Waikoloa Village, a development that was also geared for the second home/retirement market. The EIS needs to address the projected costs and who will bear them.

10. Need for the project:

- A. Number of golf courses already on this island: 13; planned- 32. Do we really NEED more? Ka Lahui and the State Green Party both state clearly they are opposed to golf course development because of all the negative impacts.
- B. Marketing tool: (I-7-3) "The golf course will serve as a MARKETING TOOL FOR THE REAL ESTATE, INFLUENCING property buyers from ALL REGIONS OF THE WORLD." So, who will benefit from this project?
- C. Housing shortage: The DEIS claims that this project will help alleviate the housing shortage. (78,155,130)

11. Unresolved issues: all the unresolved issues should be more fully addressed in A REVISED DRAFT EIS. Alternatives must be fully discussed so that reviewers have a solid basis for reviewing the alternatives and deciding whether all issues have been fully explored.

12. For the DEIS to be legally acceptable by the County Planning Director the burden of proof is upon the developer to first show that:
- A. the cumulative effects of the chemicals proposed for use in this development will not damage the marine flora and fauna of the coastal waters, and especially nearby Kealahou Bay, and
  - B. the long-term effects of the project will be of benefit to the residents of the County and the State, economically and socially.

Only major concerns have been brought out here. If there are any errors of fact or assumption, please let me know.

Sincerely,

*Lois Tyke*  
for DOUBLAS BLAKE  
President

cc: PBR  
Oceanside 1250  
OEQC



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Douglas Blake, President  
Kona Conservation Group  
73-4504 Kohanaiki Road, Box 10  
Kailua-Kona, Hawaii 96740

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Blake:

Thank you for your comments of August 7, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

1) Protection of Class AA Waters and Kealakekua Bay

- A) Kealakekua Bay is located between 1.3 and 2.3 miles from the nearest boundary of the proposed project as depicted in Figure 2 of the Draft EIS. As indicated in Appendix I, Sections 3, 4, and 7, an elaborate system of onsite drainage improvements and retention basins will ensure that project related chemicals used within the project boundaries will not enter coastal waters. In addition, the predominantly northern ocean currents and natural dilution associated with over one mile of ocean water establish a significant barrier between the project and Kealakekua Bay. As stated within the Draft EIS and detailed within the Water Quality and Marine Life Monitoring Study and Mitigation Plan (Appendix I-4), impacts from development related activities to the coastal marine waters have not been evidenced in waters fronting other developed areas of West Hawaii. The reports note that at Waikoloa, long term studies have not found any products from pesticides, herbicides or fungicides used at Waikoloa in the waters fronting the resort. Also, ongoing monitoring of the aquatic biota has found no change in any of the species. This suggests that there should not be a contamination problem of the coastal waters with the proposed development, especially in light of the numerous design and management controls proposed for the Hokukano development.
- B) To ensure that the proposed project does not impact the water quality of coastal waters, the applicant will monitor ocean water quality for any significant changes due to development activities and, if indicated, will implement appropriate corrective measures. This monitoring plan provides for much greater protection than likely occurs from the current, unmonitored runoff associated with agricultural uses of surrounding properties. Although the monitoring procedures described within the Draft EIS were developed prior to the recommendations of the West Hawaii Coastal Monitoring Task

Force, which came out in May 1992, the proposed program mirrors those elements presented in the West Hawaii Coastal Monitoring Program Monitoring Protocols and Guidelines. The developer will adhere to these guidelines and recognizes that they represent a minimum from which we may add additional sampling sites.

Regarding the distance offshore for the monitoring sites, presumably any contaminants that would be coming from the land would have the greatest opportunity for detection at those sample sites that are directly adjacent to the shoreline or in line of the shoreline, e.g., coastal wells or monitoring wells. Sampling water close to the source of contamination offers the best opportunity for early detection and remediation. Regarding the duration of monitoring, this would be determined by the permit agency, following their review of the timeline of the project. In the absence of a timeline when the monitoring and mitigation plan was written, a five year monitoring period following complete buildout was recommended, assuming that no detrimental conditions are encountered. However, it should be realized that a longer term monitoring program may be required by the permit agencies as a part of the land use approval process. Thus, the duration of sampling has not been fully determined at this point.

Regarding the comment on the impacts from chemicals used by homeowners, we are not aware of any information as to use patterns of pesticides with respect to individual income levels. Although guidelines will be established for use of chemicals applied in residential areas, enforcement of such guidelines may not be practical inasmuch as these regulations would not apply to residential areas located directly mauka of the proposed development. It would be difficult to determine the source of the impact detected. It also seems reasonable to assume that the proposed project would not be regulated in a manner that differs from other residential areas on the Island of Hawaii.

2) Protection of Archaeological Sites

- A) In a letter regarding the proposed development, Ka Lahui expressed concern regarding impacts to the exercise of traditional religious and access rights of native Hawaiians. They also recommended that the EIS contain a more complete description of the evaluation and criteria for archaeological sites, along with a description of all aspects of Hawaiian life in and around the project site before and after 1776. A copy of the letter from Ka Lahui will be enclosed within the Final EIS. As no alteration of known burial sites onsite are currently planned, the Hawaii Island Burial Council has not been formally consulted. However, should any impact, alteration or relocation of burial sites be considered, such measures will be reviewed with the Council, which serves as an advisory body to the Department of Land & Natural Resources, Historic Site Preservation Division (DLNR-HSPD). Approval of an archaeological site preservation plan from the DLNR-HSPD will be required prior to any land alteration or grading activity on the proposed development.

In conducting the initial archaeological survey, the consulting archaeologist, Cultural Surveys of Hawaii, attempted to consolidate related features into site complexes, such that if a few features within a complex were deemed significant, then the whole complex was deemed significant and recommended for preservation due to its overall association. In this manner, it is felt that the integrity of sites and site complexes can

and will be preserved with appropriate buffer areas according to the recommended procedures and guidelines approved by the DLNR-HSPD.

- B) Much of the Kona Field System, which extends far beyond the project boundaries, will remain unchanged and better maintained within the project boundaries by the applicant than if left in its current use. As noted in the Archaeological Inventory Report (Appendix III-1), various historic and modern land modifications, including "chain dragging," bulldozing and stone clearing, associated with ranching activities, sugar cane cultivation, and urban activities have apparently destroyed much of the evidence of the Kona Field System in this area.
- C) As noted previously, no impact, alteration, or relocation of known burial sites are planned at this time. Should such measures be considered in the future, the Hawaii Island Burial Council will be consulted and their recommendations followed in development of the final site preservation plan for the proposed project.

### 3) Access to the Shoreline

In order to maintain the natural qualities of the Conservation District, the applicant will initiate a management program, coordinated with DLNR, to manage the uses of this area to ensure that increased use and accessibility to the shoreline area will not adversely affect the area's resources. As this management plan evolves, the Coastal Zone Management (CZM) Program and DLNR will be consulted. As described in the Draft EIS, all necessary approvals will be in place before the proposed access improvements and trail system are implemented. The trail system will not, however, be dedicated to the public but will be available for use by the public.

### 4) Highway Bypass Road

- A) Highway Bypass Proposal: The general proposal put forth by the developer has been discussed with the State Department of Transportation. The details for financing this project have not been finalized at this point. The developer would not support any commercial rezoning along the proposed bypass road.
- B) Alternative Alignments of the Bypass: Individuals within the community, especially those in the area of the proposed bypass road, have been consulted either through community meetings or through personal discussions or correspondence. The proposed alignment has been planned to minimize the potential impacts to existing residents to the furthest extent practical.
- C) Commercial Development Along the Bypass Road: As noted, the developer would not support any commercial rezoning along the proposed bypass road.
- D) The Bypass and Traffic: As Mamalahoa Highway currently operates at or near capacity conditions, and widening Mamalahoa Highway to a four lane road does not appear feasible due to the existing residential and commercial development along the highway and limited available right-of-way, there are few alternatives to the proposed bypass road in addressing future roadway requirements, either with or without the proposed development. Other traffic mitigation measures, as suggested, have been investigated.

however, these were found to generate multiple impacts to local traffic conditions and would not address the long term need for additional roadway capacity in the region.

5) Air Quality

- A) Air quality implications associated with volcanic eruptions are described in the Air Quality Study, Appendix I, Section 5, pages 2, 11 and 12. As indicated in the report, current levels of sulfur dioxide generally associated with volcanic emissions do not exceed State air quality standards. After project buildout, State and Federal air quality limits will not be exceeded.
- B) The project will adhere to all State and Federal requirements regarding disclosure information within sales brochures and purchase documents.

6) Agriculture

- A) Agricultural Feasibility: The developer proposes to underwrite the costs of providing the necessary onsite improvements to adequately prepare the site for agricultural activity. This would include such elements as land preparation and irrigation installation. While some of these lands are considered marginally suited for agriculture, the land preparation plan would be designed to mitigate these factors and renew lands into productive acreage. As envisioned and depending upon chosen crops, the plan may not be self sustaining until several years after planting and, until then, the developer and subsequently the homeowners' association would contribute the ongoing costs on an ongoing basis. Our studies indicate that these orchard crops can generate revenues in excess of the operating costs so that a positive cash flow can be realized by the growers.
- B) Impacts from Agricultural Chemicals: The use of chemical products in the agricultural program would be used according to all applicable regulations. The utmost care would be used in the storage, loading, mixing, and application of these products, and these activities would be performed by fully trained personnel. It is intended that these products would be part of a fully integrated pest management program, along with other biologic and physical management regimes. These products would all be monitored by an onsite water monitoring program.

7) Sewage Treatment

The Heeia Sewage Treatment Plant (STP) is privately owned by Kamehameha Investment Company. If the use of this facility is the preferred alternative, costs associated with connecting to the plant, sewage treatment, and disposal options (use of grey water) will be negotiated between the applicants and the STP owners at the appropriate time in the development process.

8) Cost-Benefit Ratio

- A) As described in Appendix IV of the Draft EIS, the fiscal impact of the proposed project is projected to produce a substantial net fiscal benefit. This is even more substantial for second-home buyers who contribute significantly in real property and sales taxes, do not generally utilize public health services, require less potable water, and generate less

liquid and solid waste than full time residents. Although police and fire protection is needed throughout the year, these costs are relatively minor when compared to the net fiscal benefits generated from the tax revenues of the second-home buyers.

The Hawaii Tourism Impact Plan cited in your comments, describes a 1972 West Hawaii development proposed by Boise Cascade with a project buildout scheduled for 1994. Although this fiscal impact analysis does describe a short-term deficit during the initial phases of development, the study concludes: "The analysis of costs and revenues generated at the State level reveals that at its completion the resort area of the Boise development should produce about 3.5 times as much revenue to the State as it will cost for State services required by the development. . . . Together, the resort and recreational village should pay their way only if the proportion of new State residents in the population is not more than 20 to 30 percent." It is important to note that in 1972, the improvements and associated costs required of developers was significantly less than currently contributed.

10) Need for the Project

- A) Although the financial feasibility of a stand alone golf course may be questionable, the Villages at Hokukano golf course is planned primarily as an amenity to the master planned, residential community. The market feasibility of the project has been clearly established through the market assessment (Appendix IV-1).
- B) Based on 1989 U.S. Census information, the distribution of families within the County of Hawaii by income is shown in the following table.

<u>Income Range</u>	<u>Number of Families</u>
Less than \$14,999	5,609 Families
\$15,000 to \$24,999	5,375 Families
\$25,000 to \$34,999	5,174 Families
\$35,000 to \$49,999	6,072 Families
\$50,000 to \$74,999	5,405 Families
\$75,000 to \$99,999	1,736 Families
\$100,000 to \$149,999	857 Families
\$150,000 and Up	426 Families

As noted previously, census data also indicates the 1989 median income to be \$33,186. Adjusting for inflation, this equates to an estimated median income of \$42,325 in 1993 dollars. Also, as stated, because of the site characteristics, views and amenities offered at the Villages at Hokukano, the lot prices would likely appeal to residents in the upper income categories.

11) Unresolved Issues

According to Chapter 343, HRS, the purpose of the EIS law is to "establish a system of environmental review which will ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations." It is not to resolve all issues, but to provide decision makers with the knowledge necessary to make informed



Mr. Douglas Blake  
September 10, 1993  
Page 6


decisions. Alternatives considered are described in Section 3 of the Draft EIS. Selection of the appropriate alternative is more appropriate during the entitlement review process.

## 12) EIS Requirements

Acceptance of the EIS does not constitute approval of project entitlements by either the State or County. According to Section 11-200-23 of Title 11, Department of Health Chapter 200 Environmental Impact Statement Rules, the EIS is acceptable if the Statement "fulfills the definition of an EIS and adequately discloses and describes all identifiable environmental impacts and satisfactorily responds to review comments." The cumulative effects on marine flora and fauna of chemicals proposed for use by the project have been extensively studied and mitigation measures proposed in Appendix I, Sections 3, 4, and 7 of the Draft EIS. Identifying beneficial impacts, socially and economically, is not a requirement of the EIS process, but have been provided in Section 4.0 and Appendix IV-1 and IV-2 of the Draft EIS.

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

8/7/93

From: Mrs. Valerie Kounsfull Fax # 324-4513  
home # 323-3637  
To: Planning Director Virginia Goldstein H 961-2-22  
K 329-4277

Concerning the Villages at HokuKano-Kealahakua, Kona,  
also the new bypass road at Napoopoo intersection.

Aloha;

We are very glad that you are putting so much effort in  
trying to hear from the people & their thoughts on this project.  
On the whole it is a reasonable project for the developing  
Kona Coast.

I'm personally concerned about my new home the  
county allowed me to build 3 yrs ago. If you can see  
where our home is we are concerned where the phase  
II bypass road connects to Napoopoo Rd. as we are  
located on the Mac. Nut Farm across from the Chevron  
Station in Keopuka. ray key map inclosed.

On page 174+5 Section 6.4 Unresolved issues.  
We went to one of the public informational meetings &  
shared with the developers where our house is located.

A letter cam from Libbie Kamisuzi after speaking  
to her at the public meeting, also inclosed.

We are very concerned because they talk about not  
having a precise alignment of road set. We are  
apposed to any road coming through our home  
or our property. we enjoy the rural county quite.  
We live in Kona because we aren't in a hurry to  
get any where.

We suggest an alternative road to access the Villages at HokuKano. Extend Alii Drive South which would displace no one that I know of. The road could then connect with the Kealahukua Road called Halekili Street, which would be a fast bypass to Keauhou, Kona Surf, Alii Dr. & take pressure off Kainaliu & Honalo.

The new owners of the Villages would save lots of time going to Alii Dr. from their location.

Please continue to keep me informed about the situation. Thank-you for your time & interest about my letter.

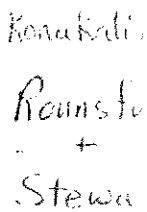
Mrs. Valerie Rounsfull

also concerned are Gary Rounsfull  
Donald Stewart  
Barbara Stewart

3/7/93

VR

4 pages to fax



3 1691		
DEPARTMENT OF TAXATION PROPERTY TECHNICAL OFFICE TAX MAPS BRANCH STATE OF KANSAS TAX MAP		
THIRD TAXATION DISTRICT		
ZONE	SEC	PLAT
8	1	07
SCALE: 1" = AS NOTED		

Kona-Kali Farm P.O. Box 876 Paipae, Calif. 96701

Copy of letter

Offices of:

LIBBIE KAMISUGI

Real Estate Consultants & Developers

November 5, 1992

Mr. & Mrs. Gary Rounsfull  
Kona Kali Farm  
P. O. Box 876  
Capt. Cook HI 96704

Dear Valarie and Gary,

Enclosed is a tax map which shows the location of your parcel, TMK (3) 8-1-07:56. At the community meeting you saw a schematic conceptual drawing with the highway alignment appearing to go through or near your property. Much is yet to be done relative to highway engineering, archaeology studies, environmental impact statements and other items before alternative routes can be laid out with any degree of reliability. At that time there will be additional public meetings, public hearings, and meetings with individuals such as yourselves to discuss alternative alignments and their potential effects.

As you know, there has been considerable public concern over several issues related to the Mamalahoa Highway. One of those issues is the safety aspect of the Napoopoo Road intersection with the Mamalahoa Highway at the blind curve. Another is the considerable amount of traffic movement and the potentially negative effects on business. A third relates to the issues of safety under the congested conditions as well as the ability for emergency vehicles to have quick ingress and egress to the Hospital. The final alignment of the proposed bypass certainly would and should be considerate of everyone's property through which it might pass. It is for these reasons that public hearings will be held and a new environmental impact statement will probably be prepared so that all of these issues and others can be properly and completely addressed.

Feel free to contact Dick Frye (808) 326-2966 at any time to further discuss the issues or receive an update on the activities relative to the proposed bypass routes.

Very Truly,



Libbie Kamisugi

cc: Dick Frye



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Valerie Rounsfull  
P.O.Box 876  
Captain Cook, Hawaii 96704

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Rounsfull:

We received a copy of your letter of August 7, 1993, to the County Planning Director concerning the above project. In that your letter references the Draft Environmental Impact Statement (EIS), we would like to address your concerns to the highway bypass road proposed by the developer, Oceanside 1250, as described within the Draft EIS.

It is true that the proposed bypass road alignment is only preliminary and subject to further design considerations, community input and governmental review. The current alignment, however, is thought to be viable and acceptable, and would not pass through your home or property. Of benefit to your property and others in your area should be the resulting decrease in traffic congestion on the Mamalahoa Highway once the bypass road is complete, as many of the vehicles passing mauka of your residence in the morning rush hour would opt for travel along the bypass road to their destinations in the Kailua, Keahole and South Kohala areas. Lessening the traffic congestion that currently exists along Mamalahoa Highway will add to the generally quiet and rural atmosphere of the homes in the area of the Mamalahoa Highway. It is also felt that the bypass will provide a much needed positive impact for access to the Konawaena School area and, more critically, allow better access to the hospital.

Ms. Valerie Rounsfull  
September 10, 1993  
Page 2

We hope that this addresses your concerns in this regard. However, should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

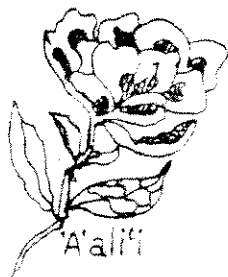
Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: G. Rounsfull  
D. Stewart  
B. Stewart  
V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

*He a'ali ku makani mai  
A'ohe makani nana e kula'i*



*I am a wind resisting A'alii  
No wind can push me over*

# *Ka 'Ohana O KaLae*

*A Ka'u Hawaiian Grassroots Organization*

P.O. Box 672 • Naalehu, Hawaii 96772

Phone: 935-1663 • 929-9529

August 6, 1993

Virginia Goldstein, Planning Director  
County of Hawai'i  
25 Aupuni St., Suite 310  
Hilo, Hawai'i 96720

Re: Response to Draft EIS: "Villages at Hokukano", a private golf club and residential development proposed near Kealahakua, Kona

Aloha, Ms. Goldstein:

As a native Hawaiian organization concerned with cultural preservation and perpetuation of traditional practices, Ka 'Ohana O KaLae finds that the Draft EIS for the so-called "Red Hill project" is inadequate and unacceptable. Given the evidence of impacts felt by native Hawaiians from innumerable similar projects, we see no reason to repeat the same problems.

Our ability to continue to exercise our Hawaiian lifestyle is impeded, for instance, when archaeological sites are deemed somehow less significant, slated for "data recovery", an extremely limited interpretation tool, and then bulldozed. The cultural (archaeological) sites in this area are extensive and inter-related; they should not be destroyed. The entire project is also clearly in the area of the Kona field system, an important cultural feature which should be slated for restoration, not for demolition. We would hope that you would be able to understand the importance of these issues, given your professional background.



p. 2

We are also concerned with the impact of chemical runoff on our island's marine ecosystem. We depend on the ocean for our food. The Draft EIS proposes the use of certain chemicals containing 2-4-D, known to have severe impacts on flora and fauna, including neurological damage in humans. This type of chemical pollution is entirely unacceptable to us. We now know the effects of these pollutants. There is no conceivable excuse for continuing to allow their use, especially near a relatively pristine bay on a fragile island.

Finally, there seems no need for this project at all. There are already more golf courses here than the island can sustain. The projected housing development would do little to ease existing need for housing on the island, but would exacerbate infrastructure and other social problems. With the great majority of lotowners expected to be from elsewhere, another impact on the community would be created.

We urge you to carefully consider the impacts of allowing such developments in South Kona, and send this project back to square one, where they learn about the value of what they have, and preserve it, rather than destroy it. Mahalo.

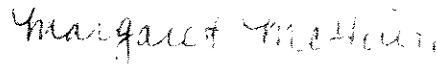
With lifelong commitment,

***Ka 'Ohana O KaLae***

Ka 'Ohana O KaLae

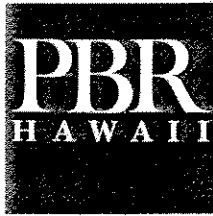


Palikapu Dedman, President



Margaret McGuire, Secretary

cc: James Leonard, PBR Hawaii



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Margaret McGuire, Secretary  
Ka 'Ohana O Ka Lae  
P.O. Box 672  
Naalehu, Hawaii 96772

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. McGuire:

Thank you for your comments of August 6, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

#### Impacts Felt by Native Hawaiians

We agree that some development projects in the past have impacted the cultural preservation and "perpetuation of traditional practices" of native Hawaiians. However, we do not believe that the proposed project is "similar" or that the same problems will be repeated. Great effort has been made to preserve as many archaeological sites as possible. Sites identified by the project archaeologist for data recovery will not necessarily be disturbed, as most will remain untouched. We concur that the cultural sites in this area are extensive and some are interrelated, and that significant sites should not be destroyed. Much of the Kona Field System, which extends far beyond the project boundaries, will remain unchanged and be better maintained within the project boundaries by the applicant than if left in its current use. As noted in the Archaeological Inventory Report (Appendix III-1), various historic and modern land modifications, including "chain dragging", bulldozing and stone clearing, associated with ranching activities, sugar cane cultivation, and urban activities have apparently destroyed much of the evidence of the Kona Field System in this area.

#### Use of Chemicals

Regarding the potential impacts of chemical runoff to the island ecosystem, we agree that this type of chemical pollution is unacceptable. In this regard, the developer will only use lawful chemicals and will be sure they are only applied by properly trained personnel in accordance with label directions. To address the potential impacts to both ground and nearshore ocean waters from sedimentation or chemical runoff, the developer has proposed several measures to ensure that these types of impacts do not occur. As described in detail within the Draft EIS, these include design

Ms. Margaret McGuire  
September 10, 1993  
Page 2

and drainage measures intended to prevent runoff from reaching the coastal waters; management procedures intended to minimize the use of chemical products and to ensure that all chemicals are applied according to applicable regulations by fully trained personnel; and monitoring procedures to ensure ongoing monitoring of surface, groundwater and coastal marine waters for chemicals being used on the golf course or landscaped areas and, if indicated, to implement appropriate corrective measures.

#### Community Benefits

Regarding the potential benefits to the community, we believe these are many, primarily the creation of jobs, expanded recreational activities, housing, and shoreline access, as well as improvements to area infrastructure, such as power, roads, sewers, and water. Rather than being a burden to the area's infrastructure, the project will have a positive impact on the regional roadway system through the creation of the proposed South Kona Bypass Road and improvements to the County water system through joint development of additional sources and water distribution systems. As noted, the project is anticipated to generate three to eight times more in new tax revenues than projected expenditures on the County level, and eight to ten times new revenues to expenditures on the State level. What this means is that, on a per resident basis, the project will generate far more in additional taxes than would be spent for public services and infrastructure improvements.

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

JOHN WAIHEE  
GOVERNOR



JOSEPH K. CONANT  
EXECUTIVE DIRECTOR

STATE OF HAWAII  
DEPARTMENT OF BUDGET AND FINANCE  
HOUSING FINANCE AND DEVELOPMENT CORPORATION

677 QUEEN STREET, SUITE 300

HONOLULU, HAWAII 96813

FAX (808) 587-0600

IN REPLY REFER TO:  
93:PPE/3802

August 6, 1993

The Honorable Virginia Goldstein  
Planning Director  
County of Hawaii Planning Department  
25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

Re: Draft EIS for the Villages at Hokukano

We have reviewed the subject draft EIS and offer the following comments.

The draft EIS does not adequately address the housing objectives and policies of the Hawaii State Plan (§226-19). For example, will the proposed project provide greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals.

Additionally, policies A(3) and B(3) of the State Housing Functional Plan seek to ensure that housing projects and projects which impact housing provide a fair share/adequate amount of affordable homeownership/rental opportunities. How will the project address these policies?

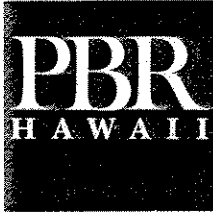
Thank you for the opportunity to comment.

Sincerely,

*for* *Sandra S. Villanueva*

JOSEPH K. CONANT  
Executive Director

c: OEQC  
Oceanside 1250  
PBR Hawaii



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Joseph K. Conant, Executive Director  
State of Hawaii  
Housing Finance and Development Corporation  
677 Queen Street, Suite #300  
Honolulu, Hawaii 96813

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Conant:

Thank you for your comments of August 6, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.


As noted in Section 5.1.2.1 of the Draft EIS, in addressing the policies on housing within the State Plan by meeting the requirements for affordable housing that would accompany land use approvals, the project would provide a range of housing options for Hawaii residents. As the County is currently reevaluating their policy with regard to affordable housing, it would be premature at this time to assess the full impact to the housing market, however, in providing up to 1,440 homes, which would be suitable as primary residences, the proposed project will add significantly to the County's housing supply, lessening the market demands on lower priced homes. These homes would be priced for the intended market, safe, sanitary, liveable, and located in a suitable environment that accommodates the needs and desires of families and individuals who would reside in these homes.

Also, in addressing the policies of the State Housing Functional Plan, as stated above, the County is reevaluating its policy on affordable housing, thus, it would be premature at this time to determine the developer's fair share or amount of affordable homes or rental opportunities as a result of the proposed project. The developer intends to meet its obligations in providing affordable housing in a manner which is consistent with State and County policies at the time of land use approvals.

Mr. Joseph K. Conant  
September 10, 1993  
Page 2

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



# University of Hawaii at Manoa

## Environmental Center

A Unit of Water Resources Research Center  
Crawford 317 • 2550 Campus Road • Honolulu, Hawaii 96822  
Telephone: (808) 956-7361

August 6, 1993  
RE:0632

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

Dear Ms. Goldstein:

### Draft Environmental Impact Statement Villages at Hokukano North & South Kona, Hawaii

The applicant proposes to construct a 27-hole golf course, golf clubhouse, private members' lodge and residential development on 1,540 acres located on the border of the North and South Kona districts at Hokukano, Hawaii. The subject property is presently used for grazing, and adjacent land uses include pasture, residence, and agricultural activities.

We have been assisted in this review by Yu-Si Fok, Civil Engineering; Henry Gee, Water Resources Research Center; Richard Green, Agronomy & Soil Science; Terry Hunt, Anthropology; and Huilin Dong, Environmental Center.

### GENERAL COMMENTS

Overall, our reviewers find this Draft EIS well-written and reasonably comprehensive. In particular, we note that the archaeological analyses were professionally conducted, and the conclusions were appropriately derived. However, we suggest that the format of the Final EIS be modified somewhat to address the following two concerns.

1. **Legibility of Figures.** The reduced size of figures, particularly those with detailed topographic contours, compresses information to such degree that the figures are effectively illegible. Discerning the relationship of the proposed layouts for golf courses with slope characteristics is virtually impossible. Figure 9 similarly is too compressed to be useful.
2. **Conservation of Paper.** Considerable savings of paper could have been achieved by single-spacing and printing the document on both sides of each page.

In addition to these general comments, our reviewers noted the following specific concerns.

### WATER QUALITY

Appendix I-7 relating to water quality is generic in nature and content, with no site specific information to assist either the client or regulators in decision making. Existing chemical practices on golf courses in Hawaii, and the availability of specific chemicals need to be further discussed. For example, ammonium nitrate is listed in Table 10, but it can't be purchased in Hawaii because of its explosive potential. There is no information about the soils, topography or climate of the site, all factors which must be understood in developing management practices. This report is no more useful than the published book which they reference: Balogh and Walker (1992) Golf Course Management and Construction: Environmental Issues. Thus, the information provided in the report is generally sound but does not contain the local information required and related analyses to be useful to decision makers. Its inclusion as an appendix appears to be little more than a self-serving justification of the developer's proposal with no material specification for site-specific environmental mitigation. As such, it appears to be dangerously close to blatant project advocacy at worst, and at best, a waste of time and paper.

The EIS has not provided sufficient information regarding storage basins relative to the Hawaii State Department of Health proposed guidelines for water reclamation. The DOH guidelines specify under A, Storage Basins, Item 6: "system storage capacity shall be sufficient to assure the retaining of the reclaimed water under adverse weather conditions, etc." What will be the impact of heavy runoff from the proposed project in conjunction with the 0.56 mgd reclaimed sewage? What are the aggregate capacities of the proposed retention ponds or storage reservoirs?

A waste water disposal plan is not included in this Draft EIS.

### WATER RESOURCES

The discussions on the water supply appear to be inadequate. Reliable sources have been identified to meet only 367 of the 1440 proposed housing units, with only vague references to potential additional sources. Until more specific information is available on either county water supply capabilities or alternative private sources, impacts on county infrastructure or community demand/supply dynamics will remain speculative, and water supply will be an unresolved issue. Contrary to the statement on page 176, lines 12-14, it is more accurate to state that it would be premature for the county to proceed with land use approvals prior to the identification of adequate, reliable water sources for the proposed project.

### SOCIO-ECONOMIC FACTORS

The proposed second phase development will include residential lots to accommodate approximately 1073 predominantly single-family residential homes. This residential lot development plan is based upon assumptions of a tight market housing supply and an increased demand for affordable housing from a growing population on the island of Hawaii. The inadequate supply of affordable housing is believed to be attributable to high land costs, the presence of many resort and high-market units, and pent-up demand for affordable housing.



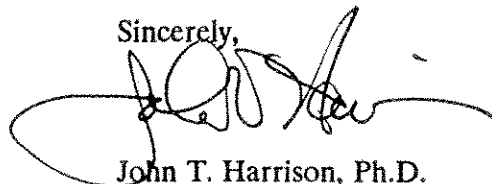
Ms. Virginia Goldstein  
August 6, 1993  
Page 3

Upon reviewing the economic and social factors, we feel that the assumed benefits of this residential plan in meeting the future demand needs to be carefully examined. Among many of our concerns are:

1. No projected housing demand in the island of Hawaii in general and in the district in particular is available in this assessment, except for the projected demand for housing units to accommodate the operational employees and the new in-migrant households. "As pointed out in the employment section, most construction and operational employment is expected to be filled by the resident population commuting from North and South Kona. Additional temporary and permanent housing demand generated by the project should not be significant. Conditions of the development approval, however, will require monitoring of this demand and supply of housing stock as the project progresses to ensure future housing needs are met (4.4 SOCIAL-ECONOMIC FACTORS, P82)."
2. The discussion on "affordable housing" needs to be substantiated. Once again, the market demand for these housing units along with their cost ranges needs to be estimated.
3. The private golf club and low density housing lots may fit well with the ambient rural environment, however, the cumulative effect of the life styles promoted and employment generated are not rural in character. The far-reaching social consequences of this project can't be completely explained by market analysis.

We are grateful for the opportunity to review this Draft EIS, and we hope our comments are helpful.

Sincerely,



John T. Harrison, Ph.D.  
Environmental Coordinator

cc: OEQC  
Oceanside  
PBR Hawaii  
Roger Fujioka  
Yu-Si Fok  
Henry Gee  
Richard Green  
Terry Hunt  
Huilin Dong



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

John T. Harrison, Ph.D., Environmental Coordinator  
University of Hawaii at Manoa  
Environmental Center, Water Resource Research Center  
Crawford 317  
2550 Campus Road  
Honolulu, Hawaii 96822

**SUBJECT: SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Dr. Harrison:

Thank you for your comments of August 6, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

General Comments

- 1) Legibility of Figures: Regarding the relationship of the proposed golf course and slope characteristics of the project site, the golf course is planned in the area of the 30 to 400 foot elevation, an area of relatively milder slopes. The golf course was planned in this area and limited to 27 holes in order to minimize the amount of land alteration required for golf course construction and to ultimately achieve a better fit to the land. The slope characteristics of the project site are shown in Figure 9 of the Draft EIS following page 32. Should you require more detail regarding the site topography in relationship to the golf course development, a full scale plan is available upon request.
- 2) Conservation of Paper: We appreciate your comment in this respect and will make every effort to conserve on paper by using double sided printing for all portions of the Final EIS.

Water Quality

- 1) With respect to your comment on the need for more site specific information within the Integrated Golf Course Management Program (Appendix I-7), the developer, in conjunction with their Integrated Pest Management (IPM) specialist, is in the process of collecting and analyzing soil samples from the site in order to serve as a basis for a preliminary screening of potential chemicals that may be used as part of the IPM program. This process will take into consideration the soils, topography and climate of the site. We agree that these are all factors that must be understood to effectively monitor chemical applications, however, such factors are typically compiled and analyzed at later stages of the IPM program development.

The Integrated Golf Course Management Program, which includes the parameters and protocols of the proposed IPM program, is intended to present a common sense approach toward managing a golf course in an environmentally sensitive manner. The fact that these procedures could be applied to "any" golf course may be true, but these should be, in order to maintain an environmentally sensitive approach to golf course development and management. This report, however, was written specifically in relationship to the golf course at the Villages at Hokukano, in referring to site specific design measures, such as special design, grading, and drainage features for the proposed golf course. These design features, combined with the proposed management practices described in the IPM program, will contribute toward an effective program aimed at protection of the groundwater and coastal environment.

Regarding the capacities of proposed retention ponds or storage reservoirs, this information was not included within the Draft EIS because the type of wastewater treatment system has yet to be determined (onsite or offsite) and the sizing of storage ponds is not known at this time. There is sufficient site flexibility to meet design criteria, as will become evident in the future stages of design and permitting. Should a sewage treatment plant (STP) be located onsite, the storage basins will be engineered to meet or exceed State and County requirements in terms of system storage capacity and wastewater disposal. Similarly, a wastewater disposal plan, as described within the State's 12 Conditions Applicable for All New Golf Course Development, is not included as this element will be prepared in a later point in the permitting process following a decision on the wastewater treatment system options. The developer will adhere to the State's 12 Conditions Applicable for All New Golf Course Development, as promulgated by the State Department of Health.

#### Water Resources

- 1) An evaluation of water resources was prepared for the Villages at Hokukano project by Waimea Water Services, and is included as Appendix II-5 of the Draft EIS. Based on the assessment of the consulting hydrologist, there are projected to be sufficient groundwater resources in the study area to meet the potable requirements of the proposed project. It is likely that the additional potable water demands beyond that for the initial phase of development will be developed in cooperation with the County Department of Water Supply, with an additional well probably located above the 1400 foot elevation. As noted in Section 4.6.2, the project has water commitments from the County under the Kealahakua Water Source agreement for 499 units, sufficient to meet the initial phase of development. The developer has had ongoing discussions and correspondence with the Department of Water Supply regarding the existing potable water commitments and coordination on development of additional sources to meet the project and regional water requirements. Per your comment, it may be more accurate to state that the identification of adequate and reliable water sources, along with the transmission, storage and distribution system requirements, will need to be identified at the time of application for rezoning and subdivision approval.

#### Socio-Economic Factors

- 1) Per your comments on the socio-economic factors, those pertaining to the project related impacts are discussed within the Draft EIS and will be elaborated upon within the Final EIS, especially with regards to the potential impacts to the island and district housing supply, and the cumulative social impacts to the rural environment.

John T. Harrison, Ph.D.  
September 10, 1993  
Page 3

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

Deborah L. Chang  
P.O. Box 3226  
Līhu'e, HI 96766-6226  
August 6, 1993

Ms. Virginia Goldstein  
Planning Director  
County of Hawaii Planning Department  
25 Aupuni St., Suite 109  
Hilo, HI 96720

Dear Ms. Goldstein:

SUBJECT: Villages at Hōkūkano, North & South Kona Districts

After reviewing the Draft Environmental Impact Statement for the above project, I have the following comments and questions:

- **Hawai'i County should give priority approval to projects that will significantly provide the kind of housing and water development needed by people who are already residents of the Big Island.**

With regards to the Big Island's housing needs, the DEIS fails to establish a need for this project. The Villages at Hokukano's overall objective "to develop a high quality residential/recreational community" (p.19) with an emphasis on second and retirement homes (p.99) will increase the already adequate (excessive?) supply of high-priced market units and contribute to the upward trend of land prices in West Hawai'i. Is that what the people of Hawai'i County need? As it is, many born and raised in Hawai'i are unable to afford their own home or even a rental. How is this project adding "significantly" to the "variety of housing available," as claimed on p. 170?

- **The term, "King's Trail," is a misnomer and should not be used to identify the major, historic thoroughfare located in the project area.**

I would appreciate being corrected if I'm wrong, but to my knowledge there are no pre-1900s maps or authoritative, historic accounts of any ancient Hawaiian trail named, "The King's Trail." It appears to be a popular, modern term without historical basis. I suggest "Alaloa," or Long Trail as an appropriate, traditional term for major prehistoric and early historic routes that were used by the general population of old Hawai'i.

- **Many ancient Hawaiian trails are owned in fee by the government of Hawai'i per the Highways Act of 1892 and any modifications to such trails must first be reviewed and approved by State of Hawai'i agencies.**

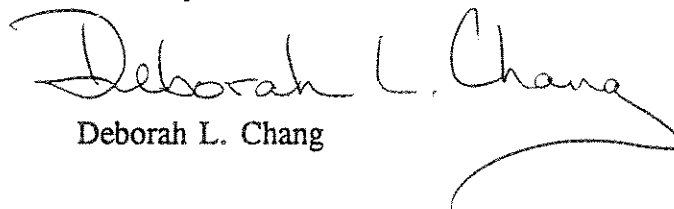
The DEIS conspicuously lacks details on proposed trail systems and how historic trails will be "improved to new standards" (Figure 21). "Some routing movements to achieve compatibility with the proposed development" (p.100) are intended for the "King's Trail." Any proposed changes of historic trail structures and routings need to be clarified and reviewed by agencies such as the Department of Land and Natural Resource's Historic Preservation Division and the Na Ala Hele Statewide Trail and Access System. Community organizations and individuals with experience in historic trail preservation should also be consulted. In addition, the "Ala Kahakai" (Trail by the Sea) which would be partially located along the project's shoreline is being studied for inclusion in the National Trails System. The Ala Kahakai should be noted in the Final EIS as a possible public trail system traversing that area. It's location would likely coincide with existing historic trails in the project area.

- **Historic site preservation is more meaningful and instructive when "significant" and "insignificant" sites are preserved in related complexes.**

Unfortunately, preservation of only those historic sites deemed "significant" can result in a disjointed hodgepodge of individual sites. When all "insignificant" sites are destroyed, we lose the opportunity to more fully understand the way of life of early Hawaiians in the subject area. Trail systems can help to connect related site complexes.

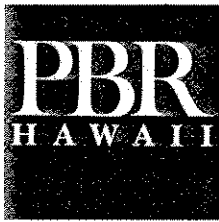
Mahalo for this opportunity to comment on the proposed project.

Sincerely,



Deborah L. Chang

cc:  
Office of Environmental Quality Control  
Oceanside 1250  
✓ PBR Hawaii  
Christina Meller  
Na Ala Hele Advisory Council



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Deborah L. Chang  
P.O. Box 3226  
Lihu'e, Hawaii 96766-6226

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Chang:

Thank you for your comments of August 6, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

County of Hawaii Policy Giving Priority to Needed Housing and Water Projects

As stated in the Draft EIS and detailed in the Market Assessment (Appendix IV-1), the proposed project would meet the projected demand for housing for a portion of the housing market. Population projections forecast a growing demand for housing in all market segments as people move to this area because of its location and climatic advantages. In meeting this demand, this project will effectively increase the available housing supply and reduce the demand for lower priced homes which are available for other, less affluent, market segments. Also, as noted in Sections 4.4.2 and 5.2 of the Draft EIS, in meeting the affordable housing requirements which are anticipated conditions of approval, the project will have a direct, positive impact on all segments of the housing market.

Historic Trail

The name "King's Trail" was used because of its common usage in reference to this trail. Your suggestion of referring to this trail as the "Ala Loa" has been made by others and is one that we would be pleased to use. However, the Department of Land & Natural Resources (DLNR) has recommended the trail be referred to as "Ala Aupuni", in conjunction with its historical reference as a "government road". It is our goal to use the most appropriate name.

Highways Act of 1892

We concur that any changes of historic trail structures and routings need to be clarified and reviewed by appropriate agencies. The applicant has initiated these discussions with Na Ala Hele and DLNR's Historic Preservation Division. Numerous community organizations and individuals have also visited the site and have seen first hand the remnants of trail systems which may have existed. The partial location of the Ala Kahakai will be noted in the Final EIS as a possible trail system traversing the area near the shoreline.

Ms. Deborah Chang  
September 10, 1993  
Page 2

Historic Site Preservation

We concur that historic preservation is more meaningful and instructive when related complexes can be preserved with both significant and insignificant sites as appropriate. In many respects we feel this has been accomplished as, during their field inventory surveys, the consulting archaeologists tried to incorporate all associated features within a single site complex. If a few features within the complex were deemed significant, the whole site complex was deemed significant due to their overall association. It should also be noted that many of the sites not slated for preservation will indeed be saved and protected through careful site planning. In addition, it is thought that nearly all sites within the coastal zone of the State Conservation District will be preserved. We feel that it is especially important to the interpretive program that related site complexes are protected, and if possible, connected by foot trails, allowing for, as you stated, "the opportunity to more fully understand the way of life of early Hawaiians in the subject area."

We thank you for your thoughts on this project. Should you have any additional questions or concerns, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



August 6, 1993

RE: The Villages at Hokuano Project

To Whom It May Concern:

I am a resident of Napoopoo Village and live very near to Kealahou Bay. I swim in the bay very frequently and enjoy the natural splendors and marine life the waters have to offer. Over the years I have noticed a decrease in coral life and fish. I can only surmise that man's intervention had something to do with that.

Fresh water enters the bay constantly from the underground lava tubes and caves. This water comes from existing water tables which lead to the ocean. Any chemicals, pesticides and fertilizers used to create proposed golf courses and developments ultimately seep into the water table as a result of rainfall permeating these soils. My concern is that our beautiful Kealahou Bay will ultimately suffer irreparable contamination, further reducing the biological diversity of these waters.

Although the proposed project is 2.3 miles away from the bay itself, currents can easily bring these pollutants to this pristine site. This is too close for comfort as far as I am concerned.

Over the past 15 years I have seen the Kohala Coast expand with its resorts and golf courses. I moved further south hoping to live in a smaller, quieter community with less development. Bringing a project of this proportion would change the small-town feeling of Kealahou just as it has changed that of Kailua-Kona. Most of the long-time residents here are just concerned with schools for their children, the community events and enjoying the shoreline and beaches. I speculate that an extremely small percentage of the local community will be able to afford the exorbitant prices of the homes in this project site. Any possible benefit to the community this new project has to offer could not possibly outweigh the damage it can cause to both the environment and the community. What we need is more low income housing, maintained state parks and playgrounds. That kind of development makes sense to me. The Hokuano project just makes money...for a few.

Sincerely,



Maryna Allan  
Napoopoo



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Maryna Allan  
P.O.Box 602  
Kealahou, Hawaii 96750

**SUBJECT: SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Allan:

Thank you for your comments of August 6, 1993, regarding the Villages at Hokukano project. This letter is in response to those comments and concerns raised in your correspondence.

Your concern regarding the potential impacts from chemicals, pesticides and fertilizer use on the proposed golf course to ground and ocean waters is a concern equally shared by the developer. The developer realizes and values the importance of the region's marine resources and therefore, finds water pollution to be unacceptable. As stated within Section 4.2.3 of the Draft Environmental Impact Statement (EIS), several measures are being proposed by the developer as part of the golf course planning, design and operation in order to mitigate, to the furthest extent practical, the potential impacts to groundwater or coastal waters fronting the proposed project from the golf course development and operation. These include:

- Implementing an Integrated Golf Course Management Program aimed at minimizing the use of chemicals for golf course maintenance and ensuring the safe handling and storage of all chemicals;
- Adopting Hawaii proven biorational pest control methods, when appropriate;
- Engineering the golf course with bowl-shaped fairway construction and with a subsurface drainage system designed to collect stormwater runoff or excess irrigation and conduct this to irrigation ponds for reuse on the golf course;
- Incorporating a "reduced turf" golf course design, which reduces fairway areas and requirements for water, fertilizers and chemicals; and
- Implementing a Water Quality Monitoring and Mitigation Program to ensure ongoing monitoring of soil, groundwater and coastal water conditions for chemicals used in the golf course and landscaping and, if indicated, implementing appropriate mitigation measures.

Ms. Maryna Allan  
September 10, 1993  
Page 2

Taken collectively, these measures represent the state of the art in developing an environmentally sensitive golf course and will ensure the protection of groundwater and coastal water fronting the proposed project from development related impacts.

Your letter also comments that a project of this proportion would change the small town feeling of Kealahou and what is needed is more low income housing, maintained State parks and playgrounds. In planning the Villages at Hukukano project, the developer had considered including affordable housing as part of the proposed project. However, as discussed in Section 3.2.4 of the Draft EIS, this alternative would have required additional market units in order to make the project financially viable. The resulting development density from this alternative was over twice that which is currently proposed and was found to be not in keeping with the rural character of the surrounding area, nor would it have allowed for a sensitive design that preserves the unique characteristics of the site. The developer fully intends to address the affordable housing requirements that may be imposed as part of the State and County land use approvals, but believes such elements should be located within a more urban setting, where the necessary density for affordable housing is more suitable.

The proposed project has been planned in a manner which would be in keeping with the rural character of the area by maintaining low density, predominantly single family neighborhoods, integrated with generous open space elements. Additionally, by contributing to the construction of the planned South Kona bypass road, this will help to alleviate traffic congestion that currently exists within the villages of Honalo, Kailua and Kealahou, thus returning a more rural ambiance to these towns.

We appreciate your thoughts and concerns regarding the proposed project. Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

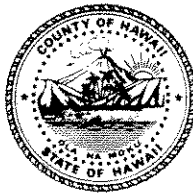
Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

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

August 5, 1993

Mr. Richard Frye, Project Manager  
Oceanside 1250  
74-5620A Palani Road, Suite 200  
Kailua-Kona, HI 96740

Dear Mr. Frye:

Draft Environmental Impact Statement (DEIS)  
Applicant: Oceanside 1250  
Request: Villages at Hokukano  
Tax Map Key: 7-9-06:1; 7-9-12:3, Pors. of 3 & 4; 8-1-04:Por. of 3

We have completed our review of the referenced document and have the following comments to offer:

**Page 11, Table 1 - Project Approvals Required.**

For approvals needed from the County of Hawaii, the following actions and its approving agencies need to be corrected or clarified:

- a. General Plan Amendments are approved only by the County Council.
- b. Special Management Area Use Permits (minor or major) are not acted upon by the County Council.
- c. Use Permits are issued by the Planning Commission.
- d. Change of Zone are approved by the County Council.
- e. Subdivision approvals are issued only by the Planning Director.

**Chapter 2.4 - Project Description (from Page 19).**

As required under Section 11-200-17(e)(7), Hawaii Administrative Rules (HAR), provide a historical perspective of the proposed development as it relates to the historical uses of the subject properties and immediately surrounding areas.

**Chapter 4.6 - Infrastructure and Public Facilities.**

Clarifying discussion is needed regarding the construction of Phase I of the proposed development and the timing of the proposed installation of the Mamalahoa Highway By-Pass. The Traffic Impact Analysis Report (TIAR) included within the DEIS analyzed states that "Roadway capacity analyses reveal that Mamalahoa Highway would operate at LOS F north and south of Halekii Street for base year 2005 conditions without the by-pass road during both AM and PM peak hours." "Construction of the by-pass road would increase capacity and reduce congestion through the Mamalahoa Highway corridor . . . .". Year 2005 has been recognized by the TIAR report as the anticipated completion date for Phase I of the development. This date would coincide with the base year conditions of LOS E for traffic along the Mamalahoa Highway **without** the proposed development and By-Pass. While we understand that timing of the By-Pass construction has not been determined (Page 164, 6.4 - Unresolved Issues), further discussion and information is necessary to address this potential conflict between the phasing of the proposed development, the construction of the proposed By-Pass, and the Year 2005 traffic conditions. We would also recommend that a discussion on interim measures to address impacts to traffic during construction of the proposed development, especially Phase I.

**Chapter 5 - Relationship of Project to Land Use Plans, Policies.**

**Section 5.2.2.1 - Economic (from Page 144)**

DEIS cites conformance with policy of General Plan that "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." However, the DEIS responds on the following page that "the proposed project is generally residential, rather than tied to the visitor industry . . . .". These statements seem to conflict with one another. Please clarify this relationship.

Mr. Richard Frye, Project Manager

Page 3

August 5, 1993

Section 5.2.2.3 - Environmental Quality (Page 146)

Typographical error - "Environmental quality controls are to be incorporated either as standards in appropriate [?] or as conditions of approval."

Section 5.2.2.13 - Land Use (Page 161)

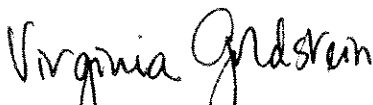
DEIS cites proposed development as complementing a policy of the General Plan to "Promote and encourage the rehabilitation and use of urban and rural areas which are serviced by basic community facilities and utilities." Please explain how the proposed development will complement this policy.

Section 5.2.2.13 - Land Use (Page 166)

DEIS cites a General Plan standard for single family residential uses that "Major traffic routes shall not be located through single-family residential areas." The DEIS refers to the proposed development as a "predominantly single-family residential and residential/agricultural lots . . .". Would this policy be appropriate given the location of the proposed Mamalahoa Highway By-Pass alignment which would traverse the project site?

Should you have any questions regarding these comments, please feel free to contact Rodney Nakano or Daryn Arai of this office at 961-8288.

Sincerely,



VIRGINIA GOLDSTEIN  
Planning Director

DSA:mjh  
LHOKUK06.DSA

xc: Mr. Brian Choy - OEQC  
: Mr. James Leonard - PBR, Hawaii  
: West Hawaii Office



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Virginia Goldstein, Planning Director  
County of Hawaii Planning Department  
25 Aupuni Street, Room 109  
Hilo, Hawaii 96720-4252

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Goldstein:

Thank you for your comments of August 5, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

#### Project Approvals Required

Table 1 on page 11 of the Draft EIS will be revised for the Final EIS, as recommended.

#### Project Description

The historical perspective of the proposed development as it relates to the historical uses of the subject properties and immediately surrounding areas is provided in Volume II, Section III of the Draft EIS. Section 4.3 of Volume I will be expanded to include a more complete description of the historical uses of the property.

#### Infrastructure and Public Facilities

Regarding the timing of the proposed bypass road in relation to the project development, the developer proposes to construct a portion of the bypass road from Kuakini Highway to the project site to serve as the project's primary accessway. This portion of the bypass road between Kuakini Highway and the Villages at Hokukano would be constructed before homes are occupied within the project site. The developer intends to use Haleki'i Street during initial construction of the project, before major construction hauling activities begin. Signalization of the Mamalahoa Highway/Haleki'i Street intersection is to be completed before start of these temporary construction activities. The developer intends to begin construction of the portion of the bypass road from Kuakini Highway to the site as a construction haul road to handle major construction hauling activities once these begin, in which case, signalization of the Kuakini Highway/bypass road intersection may be required. For approximately 6 to 8 months, construction traffic will need to

use Haleki'i Street for access to the site. During this short period, construction traffic will be relatively light. Additionally, the community will benefit from the traffic signal that is to be installed at Mamalahoa Highway/Haleki'i Street to improve traffic control problems that exist now and to prevent the project's construction traffic from adding to the problem. As other development projects are able to participate, the remainder of the proposed bypass (Haleki'i Street to Napo'opo'o Road) could be completed.

#### Relationship of Project to Land Use Plans, Policies

The proposed project, as stated in the Draft EIS, is designed as a residential development. Only the golf course could be considered as an amenity that would attract visitors (as well as local residents). As such, the project is not exclusively oriented toward promoting the visitor industry. Consequently, the General Plan policy cited in your comments does not require that every new project support the visitor industry, but that visitor related projects be developed in a manner consistent with the social, physical and economic goals of the residents of the County.

#### Environmental Quality

The typographical error referenced on page 146 will be corrected to read "Environmental quality controls are to be incorporated either as standards incorporated in appropriate ordinances or as conditions of approval."

#### Land Use (Page 161)

As described in the Draft EIS, the proposed project currently has access, water, electrical, and communication facilities adequate to accommodate the first phase of development. As Phase 2 is implemented, infrastructure improvements will be implemented by the developer to provide the necessary level of service for the land uses and densities proposed. The project would benefit by its proximity to the town of Kealahou, which is described in the County General Plan as an urban and rural center (Support Document, page 81), and the community facilities and utilities which service this area. It is also expected that the proposed project will contribute to needed improvements of existing community infrastructure and services by providing new revenues to the State and County and by contributing to regional infrastructure improvements, such as roadways, the County water system, and the electrical utility. Thus, the proposed project would compliment the policy within the County General Plan to "promote and encourage the rehabilitation and use of urban and rural areas which are serviced by basic community facilities and utilities".

#### Land Use (Page 166)


The proposed bypass highway described in the Draft EIS will not be located through single-family residential areas. The proposed residential/agricultural lots are approximately 2 to 3 acres in size with access provided by the interior roadway system. Inasmuch as similar densities are characteristic of existing residential development along the Mamalahoa Highway, the proposed densities of the project and location of the bypass highway are not inappropriate or dissimilar. No driveway access would be permitted directly onto the proposed bypass and appropriate setbacks, as buffers, will be incorporated as part of the development plans.



Ms. Virginia Goldstein  
September 10, 1993  
Page 3

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

REF:OCEA:KCK

P. O. BOX 621  
HONOLULU, HAWAII 96809

AUG 5 1993

File No.: 93-691  
DOC. ID.: 3266

AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
CONSERVATION AND  
ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

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): Villages of  
Hokukano, North and South Kona, Hawaii, TMKs: 7-9-06: 1;  
7-9-12: 3, por. 4 and 5, 11; 8-1-04: por. 3

We have reviewed the DEIS information for the subject project received by  
our Department on June 23, 1993, and have the following comments:

Commission on Water Resource Management

The Commission on Water Resource Management (CWRM) staff comments that it  
has reviewed the developer's plans for the provision of water for the  
project. CWRM believes that the irrigation of the project's golf course  
and landscaping with brackish water derived from on-site wells, would not  
reduce the quality of the underlying basal ground water beyond their  
present levels. However, CWRM is concerned with the potential for  
ground-water degradation resulting from the application of fertilizer or  
biocides and the use of wastewater effluent.

To address this concern, CWRM would recommend that approvals for this  
project be conditioned upon the developer's acceptance of the State  
Department of Health's requirements for golf course development.

Division of Land Management

The Division of Land Management (DLM) reiterates its comments contained in  
our previous letters dated May 25, 1993 and June 2, 1993, regarding the  
Special Management Area Permit (SMA 93-1), Use Permit (UP 93-2), and Zone  
Change (REZ 92-5) applications for this project (see attachments).

In addition, DLM comments that the unresolved issues relating to existing historic trails and public road rights-of-way (pages 10, 176-177) within the project area, must be resolved to the satisfaction of all State agencies prior to the issuance of the Final EIS and its publication in the Office of Environmental Quality Control (OEQC) Bulletin.

Division of Aquatic Resources

The Division of Aquatic Resources also reiterates its comments contained in our previous letters regarding this project (see attachments).

We will forward our Forestry and Wildlife and Historic Preservation Divisions' comments as they become available.

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.

Very truly yours,



KEITH W. AHUE

Attachments

cc: Richard Frye, Project Manager, Oceanside 1250  
James Leonard, Managing Director, PBR Hawaii  
Brian Choy, Director, OEQC



REF:OCEA:SKK

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621  
HONOLULU, HAWAII 96809

AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
CONSERVATION AND  
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CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

FILE NO.: 93-480  
DOC. NO.: 2790

MAY 25 1993

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

Dear Ms. Goldstein:

SUBJECT: Special Management Area (SMA 93-01) and Use Permit  
(UP 93-02) Application: Oceanside 1250 (Villages of Hukukano),  
North and South Kona, Hawaii, TMK: 7-9-12: por. 3,  
por. 5 and 11; 8-1-04: por. 3

We have reviewed the SMA and UP application information for the Villages of Hukukano golf course project transmitted by your memorandum dated February 25, 1993, and appreciate the additional time necessary to make the following comments:

Brief Description:

The applicant, Oceanside 1250, is seeking a Use Permit and SMA Permit from the County of Hawaii to develop a 27-hole golf course, clubhouse, driving range and related facilities on approximately 350 acres of Agricultural District land located along the Kona coastline, between Keahou and Kealahue Bays.

The golf course is part of the 1540-acre master planned community which would be known as the Villages of Hukukano. The applicant is also seeking a Change of Zone from A-5a and Unplanned to A-1a to allow for the creation of approximately 367 one-three acre subdivision lots. When completed, the "Villages of Hukukano" master planned community would encompass 1,440 residential lots.

Approximately 140 acres of the seaward portion of the proposed master plan area is located within the Conservation District. The Project area is presently used for grazing cattle. The proposed development will not include the Conservation District land.

00553

Division of Forestry and Wildlife

- 1) A representative from the Villages of Hokukano gave a presentation at a Na Ala Hele Advisory Council meeting on November 4, 1992. The initial impression of the council was generally favorable and appeared that the concerns of Na Ala Hele were adequately addressed. However, the Environmental Assessment (EA) will be referred to for discussion at the next Na Ala Hele meeting on April 15, 1993. A response from the council will follow.
- 2) Two notable native plant species were found during the botanical survey; *Chamaesyce celastroides* var. *amplectens* (approx. 200 individuals) and *Capparis sandwichiana* (1 individual). *Capparis sandwichiana* is a candidate 2 plant, and may be on the Federal Endangered Species list in the future. One individual was found growing among a colony of approximately 200 *Chamaesyce celastroides* var. *amplectens* plants. It would be desirable for this patch of native vegetation to remain intact.
- 3) Although no map was readily available to indicate where the plants are located, the survey did mention that these plants are growing on a rocky ridge. Unless leveling of the ridge is planned, these native plants may be included as part of the landscape plan instead of being removed. No mention of these plants is made in the Integrated Golf Course Management Program, which notes merely that clearing of vegetation will be done.
- 4) Page I-7-7 of the survey states that indigenous vegetation is a factor included in the design approach. There is no follow-up to this comment. Whether this refers to future plantings or to the indigenous plants already in place is unknown.

Division of Land Management

The Division of Land Management comments that:

- 1) The "Hokukano Village" site, identified as a portion of TMK: 8-1-04: 3, is owned by the State of Hawaii in fee simple. This area was excluded from Grant No. 1651, dated April 4, 1985 to Charles Hall and, hence, remains in government ownership.
- 2) An unlocated School Grant 10, Apana 2, adjoins the east boundary of the "Hokukano Village" site. Although this school grant remains unlocated (no modern metes and bounds survey description and survey map), the State of Hawaii claims fee simple ownership of the parcel.

- 3) A public road right-of-way traverses over and across Grant No. 1651 which the State of Hawaii or County of Hawaii has probable cause for claiming fee simple ownership. In the survey description under Civil No. 3498 (Quiet Title Action) filed in 1974 by the Greenwell family, this public road right-of-way (old government road) is encumbered as an easement. Further, this public road is not shown on the preliminary development plan and no mention of its existence is summarized anywhere in the SMA and UP application.

#### Division of Aquatic Resources

The Division of Aquatic Resources (DAR) comments that according to the applications, the planning and management of the proposed golf course is expected to include practices that are environmentally sensitive to the marine environment, that channels excess irrigation water and runoff to collecting points for reuse, minimizes fertilization and pesticide/herbicide rates, and establishes a monitoring plan.

A marine community and water quality impact assessment was performed by Dr. Richard Brock. He found water quality and marine community to be typical of well-flushed open coastal conditions of the Kona coast. Additionally, he found diverse fish populations and attributed it to the undeveloped nature of the adjacent coastline.

In a similar situation at Waikoloa, Dr. Brock observed a significant increase in inorganic compound concentrations which may have come from a golf course built near the shoreline. He noted however, that this increase did not bring about a notable change in adjacent marine communities. He attributed the increase to:

1. Large numbers of marine herbivores that controlled marine algae proliferation;
2. Well flushed open coastal area and the ocean's capacity to dilute pollutants;
3. The adaptation of marine organisms to highly variable nutrient concentrations.

Hence, Dr. Brock reasons that because environmental conditions are similar, he does not expect a similar increase in inorganics to result in a significant adverse change to the marine environment.

According to Dr. Brock, there is a monitoring and mitigation plan included in this proposed development. The monitoring plan include establishing baseline information for marine communities and water quality parameter profiles (already completed), continued year monitoring plan after construction is completed, and an action mitigation plan. The action mitigation plan would be activated when the following is detected:

1. An increase in nutrients in coastal waters;
2. A decrease or significant change in dominant marine species, or;
3. The detection of pesticides/herbicides used on the planned development.

The plan calls for changes in management until these problems are resolved.

DAR also comments that the scenario as proposed, given the area's low rainfall (35 inches per year, average) and the proposed environmentally-sensitive management practices, it is unlikely that the proposed monitoring of selected parameters will detect any significant changes in chemical constituency or marine communities. As Dr. Brock notes at Waikoloa, it is probable that even significant water quality changes may not result in observable impacts (with present monitoring technologies).

Greater impacts to the marine environment may result from the increased fishing activity encouraged through improved public access than those which result from excess nutrient and pollutant runoff produced by the development.

DAR expects decreases to selected stocks of marine food and game fish populations in this area once it is opened to the public for fishing. Creel censuring done both before and after the project, may be able to detect changes in the fish populations which result from the increased public access. This censuring may also provide data that is more reflective of the impacts to the marine environment.

Our Historic Preservation Division comments will be forwarded as they become available.

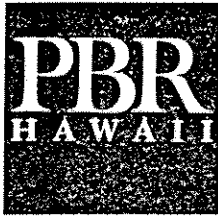
We have no other comments to offer at this time. Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa of our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,



KEITH W. AHUE



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

2003/08/10 AUG 10

August 9, 1993

Mr. Keith W. Ahue, Chairperson  
Board of Land & Natural Resources  
Department of Land & Natural Resources  
P.O.Box 621  
Honolulu, Hawaii 96809

**SUBJECT: SPECIAL MANAGEMENT AREA APPLICATION (SMA 93-1)  
USE PERMIT APPLICATION (UP 93-2)  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 05 POR, 11; 8-1-4: 03 POR**

Dear Mr. Ahue:

Thank you for your letter of May 25, 1993, in which you provide comments from various divisions of the Department of Land & Natural Resources on the subject applications. This letter is to respond to some of those comments and questions raised in your letter.

Division of Forestry & Wildlife

- 1) Regarding coordination with the Na Ala Hele Advisory Council, we attended the Na Ala Hele Advisory Council meeting of July 14, 1993, where the Draft EIS for the Villages at Hokukano project was discussed. At that meeting, Mr. Dick Frye of Oceanside 1250, reviewed with the Council, plans for the proposed project and in particular, those plans relating to the protection and enhancement of existing trails, including the King's Trail, and provisions for public shoreline access. The Council responded favorably to these plans and we understand that a letter will be forthcoming with the Council's comments to the Draft EIS.
- 2 - 3) Regarding reference to the three native species found on the site, as stated in our applications, where practical, these species will be incorporated as part of the landscape plans for the project. At this time, we have not developed our landscape plans which will be prepared during the permit process. Up to this point, we have been studying various options for plant use, with particular focus on the use of plants, such as native species, which require less water and are better suited to the site's climatic and geographic zone. I would like to point out that, as planned, approximately 50% of the site would remain in a common landscape, using in many cases the existing vegetation, which will increase the potential use of existing or relocated native species. Also, we have confirmed with our



flora consultant, Dr. Evangeline Funk, that no existing or proposed additions to the list of potentially rare, threatened, or endangered species occur within the project site. The single capparid plant, as a candidate 2 plant, could readily be preserved in place, or relocated to an alternate site. Please note, however, that this and the colony of native Euphorbs are located at the approximately 470 foot elevation and outside the petition area for the proposed golf course.

#### Division of Land Management

- 1) The Hokukano Village site, as a State owned parcel, has been specifically excluded from our metes and bounds description of the project. Oceanside 1250, however, has been working with the State Historic Preservation Office towards a mutually agreeable arrangement for the care and management of the Hokukano Village area.
- 2 - 3) Regarding the State's claim to portions of Grant 10, Apana 2, we understand is adjacent to the "Hokukano Village" site, and outside the property boundaries, however, we are currently researching this portion to determine its precise location. We will keep the Division of Land Management informed of our findings once these are received.

Regarding the public road right-of-way (Old Government Road) which crosses Grant 1651, Oceanside 1250 does not dispute the State's claim over ownership of these portions, and is currently working with the Land Management Division to ensure that the State's interest with regards to those portions of the Government Road which traverse the site, are protected. The Government Road is shown on the golf course development plans as the King's Trail, which is noted for preservation, in accordance with the recommendations of the consulting archaeologist. The King's Trail forks near the area of Pu'u Ohau, at which point the location of the trail is not evident until a point near the southern project boundary. At the point of the fork near Pu'u Ohau, another trail known as the Cart Trail departs and follows a path somewhat parallel to the shoreline. We will be working with the Division of Land Management, as well as the State Historic Preservation Office, in determining the location of the King's Trail and the procedures for its protection and enhancement.

#### Division of Aquatic Resources

We appreciate the Division's comments related to the potential impacts to the marine environment as a result of increased public access and fishing activity in this area. This is an important aspect, which will need to be considered in our ongoing monitoring of the marine environment and the proper management of the shoreline area fronting the property.

Mr. Keith Ahue  
August 9, 1993  
Page 3

Again, we appreciate your comments to the subject applications and look forward to working with your Department and pertinent agencies in fully addressing these and related issues as we move forward in the further planning of the Villages at Hokukano project.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: Virginia Goldstein, Hawaii County Planning Department  
Yutaka Takeda, JAL Research & Development  
Lyle Anderson, The Anderson Companies  
R.T. "Dick" Frye, Oceanside 1250  
Benjamin Kudo, Dwyer Imanaka Schraff & Kudo  
David Hulse, PBR HAWAII (Honolulu)



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Keith W. Ahue, Chairperson  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Ahue:

Thank you for your comments of August 5, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

Commission on Water Resource Management

The applicant will adhere to the twelve applicable Department of Health conditions regarding golf course development.

Division of Land Management

The applicant has met with representatives of the DLNR to resolve the issues relating to historic trails and public road rights-of-way. In our response to the previous comments from the DLM regarding the public road right-of-way (Government Road) which crosses Grant 1651, we stated that the developer, Oceanside 1250, does not dispute the State's claim over these portions. The developer is working with the DLM to ensure that the State's interests are protected with regard to those portions of the Government Road which traverse the site. A copy of this correspondence is attached for your reference.

Regarding the DLM's comments in resolving all issues pertaining to the public road right-of-way prior to issuance of the Final EIS, according to Chapter 343, HRS, the purpose of the EIS law is to "establish a system of environmental review which will ensure that environmental concerns are given appropriate consideration in decision making along with economic and technical considerations." It is not to resolve all issues, but to provide decision makers with the knowledge necessary to make informed decisions. Acceptance of the EIS does not constitute approval of project entitlements by either the State or County. According to Section 11-200-23 of Title 11, Department of Health Chapter 200 Environmental Impact Statement Rules, the EIS is acceptable if the Statement "fulfills the definition of an EIS and adequately discloses and describes all

Mr. Keith W. Ahue  
September 10, 1993  
Page 2

identifiable environmental impacts and satisfactorily responds to review comments." As noted previously, the developer is currently working with the DLM to ensure the State's interests are protected with regard to those portions of the "Government Road" which traverse the site.

Division of Aquatic Resources

Our August 9, 1993, response to DLNR's comments regarding the Special Management Area (SMA 93-1) Application, Use Permit (UP 93-2) Application, and Rezoning (REZ 92-5) Application is also attached for your consideration.

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

Enclosures

JOHN WAIHEE  
GOVERNOR



BRIAN J. J. CHOY  
Director

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

220 SOUTH KING STREET  
FOURTH FLOOR

HONOLULU, HAWAII 96813  
TELEPHONE (808) 686-4186

August 4, 1993

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

Dear Ms. Goldstein:

Subject: Draft Environmental Impact Statement for the Villages at  
Hokukano, County of Hawaii

Thank you for the opportunity to review the subject document. We  
do not have any comments to offer.

Sincerely,

A handwritten signature in dark ink, appearing to read "Brian J. J. Choy".

Brian J. J. Choy  
Director

BC:jt

c: Oceanside 1250  
PBR Hawaii, Inc.



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

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

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Choy:

Thank you for your letter of August 4, 1993, concerning the above project. We appreciate your review of the subject Draft Environmental Impact Statement (EIS).

Should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R.T. "Dick" Frye, Project Manager at Oceanside 1250 or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

A handwritten signature in dark ink, appearing to read "James Leonard", written over a horizontal line.

JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

JOHN WAIHEE  
Governor



YUKIO KITAGAWA  
Chairperson, Board of Agriculture


ILIMA A. PIHANAIA  
Deputy to the Chairperson

FAX: (808) 973-9613

State of Hawaii  
DEPARTMENT OF AGRICULTURE  
1428 So. King Street  
Honolulu, Hawaii 96814-2512  
August 2, 1993

Mailing Address:  
P. O. Box 22159  
Honolulu, Hawaii 96823-2159

TO: Virginia Goldstein, Director  
Planning Department  
County of Hawaii

FROM: Yukio Kitagawa, Chairperson   
Board of Agriculture

SUBJECT: Draft Environmental Impact Statement (DEIS) for the  
Villages at Hokukano  
Applicant: Oceanside 1250  
Request: Develop a master planned residential and  
recreational community  
Area: 1,540 acres Kona, Hawaii  
Tax Map Key: 7-9-06: 01  
7-9-12: 03, portion of 04, portion of  
05, portion of 11  
8-1-04: portion of 03

The Department of Agriculture (DOA) has reviewed the subject DEIS and has the following concerns.

According to the DEIS, the applicant proposes to develop a residential community with recreational facilities including a 27-hole golf course, driving range, clubhouse, hiking trails and supporting infrastructure.

References to the Agricultural Lands of Importance to the State of Hawaii (ALISH) system, the Soil Conservation Service Soil Survey, and the Land Study Bureau Detailed Land Classification are correct.

In the preliminary development plan, the developer proposes to include in the residential component approximately 367 one- to three-acre lots "with provisions to encourage agriculture" (DEIS, Section 2.4, page 19). The applicant has proposed an agricultural program concept by which "commercially viable agricultural activities that are compatible with residential uses to be integrated in the areas of the project most suited to agricultural uses" (ibid, page 23 and pages 40-45).

While our Department is encouraged by the applicant's efforts to develop an agricultural program concept to encourage agricultural activities, we have the following concerns:



(I) Land uses within the residential/agricultural lots

While the developer has proposed an agricultural program concept that "demonstrates an appropriate blending of residential and agricultural uses" (ibid, page 45) our main concern is that the proposed agricultural lots be put into bona fide agricultural use.

In the brief description of the proposed agricultural program, it appears that agricultural uses are mainly for landscaping purposes (ibid, pages 5, 23, 45, and Figure 14). From Figure 14, it appears that the distribution of lands for agricultural use within the residential/agricultural lots is not contiguous. The Agricultural Use Zone in Figure 14 appears to be confined mainly along the fringes for landscaping considerations. We believe economically viable orchard-type agriculture as suggested in the agricultural program concept (ibid, page 43-44) would require fairly large and contiguous acreage.

(II) Water Requirements

Another concern of ours is the adequacy of the estimated average daily water demands for agriculture. Table 3 (ibid, page 47) indicates that the daily water demands, assuming drip irrigation is used, would be about 2,000 gallons per acre per day. Based on our information, a typical orchard crop like papaya would require significantly more water than suggested in Table 3, with or without drip irrigation. Typically, papaya farms have an average of about 700 trees per acre which require an estimated 7 gallons of water per day per tree. This works out to approximately 4,900 gallons of water per acre per day which is 2,900 gallons more than the estimated water needs in Table 3. The precise determination of water needs would also depend on other factors like the rate of pan evaporation, the porosity of soil, and the spacing between individual trees.

It would be useful if Table 3 of the DEIS (page 47) could be accompanied by a detailed description of the calculations of the estimated average daily water demands of all the tree crops listed in the agricultural program concept (page 43-44).

(III) Management of Agricultural Opportunities

We are encouraged to see included in the agricultural program concept the provision of a financial structure to help minimize the start-up costs for farmers (ibid, page 44). We note that part of the financial plan will allow lot owners to lease land to farmers for agricultural operations at an affordable rate thereby minimizing start-up costs. However, the implementation of this



Virginia Goldstein  
August 2, 1993  
Page 3

financial plan is not fully explained. We would prefer to see a more detailed description of the proposed financial structure including the stages of implementation, the parties responsible, and the source of funding.

Another area of ambiguity in the agricultural program concept concerns the management of agricultural lots. Although it is proposed in the DEIS that the responsibility of managing the agricultural lots "would likely" be the homeowners' association (ibid, page 44), it has been our experience that the specification of management organization in a traditional agricultural subdivision is the key to the survival of the individual farm businesses. Furthermore, will there be continued support for agricultural activities and ventures if the proposed farms do not meet the homeowners' association's expectations?

We want to see assurances in the final EIS that every reasonable effort be given to establish economically viable agricultural use of the properties.

Thank you for the opportunity to comment.

c: Office of State Planning  
Office of Environmental Quality Control  
PBR Hawaii, James Leonard  
Oceanside 1250, Richard Frye



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Yukio Kitagawa, Chairperson  
Board of Agriculture  
1428 South King Street  
Honolulu, Hawaii 96814-2512

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Kitagawa:

Thank you for your comments of August 2, 1993, regarding the Draft Environmental Impact Statement (EIS) for the Villages at Hokukano. This letter is in response to those comments and concerns raised in your correspondence.

**I. Land Uses Within the Residential/Agricultural Lots**

While the agricultural concept, as described, does not fit the role of a large agribusiness operation, it is intended as a bona fide agricultural use for those delineated areas. The primary goal is to provide an appropriate agriculture operation, and while this may result in an added benefit of a desirable landscape element, landscaping is not the primary aim of the program.

Large, contiguous parcels of land may be needed to support a large agribusiness operation, however, this concept has been conceived as an alternate type of operation. The plan seeks to achieve a balance of improvements and production that is more in keeping with a very modest return on investment. As envisioned, the plan would not likely be self sustaining until several years after planting, depending on the chosen crops, and until then, the developer and homeowners' association would contribute to the ongoing, uncovered costs. Our study shows that eventually, through proper capitalization, operation management and marketing, these orchard crops can generate a positive cash flow.

**II. Water Requirements**

After further investigation of the concept, it is likely that papaya will not be used as a crop in the agricultural program because it is not as viable an orchard crop for this area as others. Orchard crops that meet the estimated water demands, as outlined in Table 3, will be considered for use in the program. You may note that most orchard crops will do well on one inch per week of drip irrigation or about 60 inches of moisture per year. Our study shows that, for the proposed crop list, water requirements would average from 1,015 gallons/acre/day for coffee to 3,021 gallons/acre/day for crops such as lychee and mango. Since it is likely that a mixture of crops will be chosen for the program, an appropriate average (2,000 gallons/acre/day) of these figures was

Mr. Yukio Kitigawa  
September 10, 1993  
Page 2

used to calculate the estimated water needs found in Table 3. You are correct in assuming that irrigation needs would also depend upon soil and climatic conditions, but it is expected that water requirements will fall within a range from 80% to 120% of onsite plan evaporation rates.

### III. Management of Agricultural Activities

The complete details of the financial plan have not been formulated at this time. It is likely that much of the ongoing costs of operation and management not supported by the growers would be handled first by the developer and subsequently by the homeowners' association. While it is too soon to detail the entire program, this management and operation organization will be specified well in advance of the start of the program.

It is felt that through the implementation of a well planned operation and management system, in combination with the necessary infrastructure and site improvements, this program will meet its objectives. It is expected that, eventually, each orchard crop can be brought to the point that revenues exceed operating costs and a positive cash flow would be provided for the growers. Natural events which are not under control of the program participants may have a negative effect on the ultimate success of the program, however, the plan will seek to mitigate these factors, if and when they should occur.

Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

August 1993

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

Re: Hokuano Villages EIS

I am writing as a resident of South Kona who objects to and opposes the proposed project on the makai lands of the former Greenwell, Paris and Wall ranches. The realtors, developers and other parties involved have obsequiously courted the local people to win favor for their project. Nevertheless, what they propose is completely out of character for the existing community and land uses of the South Kona Area. Only the extraordinary resident of Kona would be able to afford the up-scale house lots they propose to surround their 27-hole golf course with. My primary objection to their project is therefore on economic grounds. What they will contribute to this community is an influx of population to overtax the already strained infrastructure of public services.

I live in Captain Cook mauka, just below the former Sherwood Greenwell Kealahou Ranch lands. Kealahou Development Corporation, a Japan outfit, has purchased these lands and has submitted their proposal to this agency for a similar project of golf course surrounded by expensive house lots. Both of these projects propose land use below the customary minimum lot size (5 acres) for this area which is still primarily agricultural and rural. The projects these two developers propose would have a socially destructive impact on the South Kona area. Projects such as these, centered as they are on golf courses, which are resort uses, should be limited to areas such as S. Kohala and N. Kona, where county and state plans are already preparing for such uses.

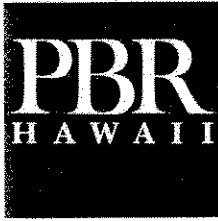
Finally, the public should be informed of the plans by these two developers to deal with the increasing traffic congestion on Mamalahoa Highway in order to gain access to their property. Will they really alleviate the situation, or only secure permission for their projects by a piecemeal "solution"?

Please consider other land uses for the ranch lands in this area in the future, uses which will be attractive to the former ranchers, which will make the beautiful lands more accessible to the public, which will not endanger our fragile ocean ecosystem or our forest watershed, and which will help people who have their roots and lives in Kona to stay here, rather than have to move out to an unknown city while strangers move in to their homeland. Please do not give your approval to Hokuano Villages, nor to Kealahou Development Corporation. Mahalo.

Sincerely,

Sharon Devi, POB 1173 Captain Cook, Hawaii 96704

*Sharon Devi*



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Shanti Devi  
P.O. Box 1273  
Captain Cook, Hawaii 96704

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Devi:

We received your letter to the County Planning Department dated August 1, 1993. Although your comments are in reference to the type of development planned at the project site rather than to the project's Draft Environmental Impact Statement (EIS), we would like to address your concerns as they relate to the Villages at Hokukano project described in the Draft EIS.

You state that the proposed project would be out of character with the existing community and proposed land uses in the South Kona area. The land uses surrounding the project site include extensive and intensive agricultural uses, with residences to the north and south and a concentration of residential and commercial uses directly mauka of the project in the town of Kealahou. Although there are some subdivisions directly mauka of the project site with lot sizes of 10,000 to 15,000 square feet, the area of the surrounding community can be characterized as a rural environment due to the significant presence of agriculture (orchard and grazing uses) interspersed with residential development, as well as village business serving the community's needs.

The proposed project has been planned in a manner that would be in keeping with the rural character of the surrounding area by maintaining low density neighborhoods integrated with the various open space elements, such as the golf course, natural and landscaped buffer areas, historic park area and a shoreline park area. Collectively, these elements will likely comprise nearly 40% of the total property area.

Additionally, of the remaining area planned for residential uses, over 60% would remain in large lots of one to three acres. This would be in the upper portion of the project site, serving as a buffer between the existing residential communities mauka of the project site and the residential neighborhoods that are planned within the project area.

Ms. Shanti Devi  
September 10, 1993  
Page 2

Your letter also stated that the project would overtax the already strained infrastructure of public services. By "public services", we assume this to mean fire, police, medical, educational and recreational facilities. As covered in Section 4.6 of the Draft EIS, the potential project related impacts to these public service facilities are not expected to be significant for the following reasons:

- 1) The revenues to the State and County generated by the proposed project are projected to far exceed the governmental expenditure for such services;
- 2) Project buildout is expected to occur over a 30 year period or greater, allowing sufficient time to coordinate with various State and County Agencies in the planning for needed public service infrastructure improvements; and
- 3) The provisions for project related recreational components are planned to meet the development related needs, and planned improvements for public access to the shoreline area are expected to enhance public recreational opportunities for the region.

Your letter also describes the Villages at Hokuano as a resort project and suggest that such uses should be allocated to the areas of South Kohala and North Kona, which are planned for such uses. The proposed project, however, would differ from the resort projects in North Kona and South Kohala. The resort areas of Keauhou, Waikoloa, Mauna Lani, and Mauna Kea, are centered on large coastal hotels and include other commercial and multi-family uses. In contrast, the proposed project is envisioned as a master planned residential community with homes which are predominantly single family in character. No commercial areas are planned as part of the project, which would benefit from its proximity to the existing commercial uses at Kealahou, Kainaliu, and Captain Cook. The proposed lodge facility would be internal to the project and is intended to support the golf course and other recreational uses of the project. The lodge would be available to members and their guests, and is not intended to be open to the public.

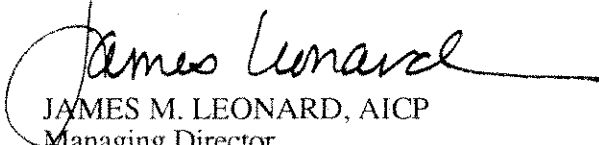
Lastly, you also ask if the project, in dealing with the growing congestion along Mamalahou Highway, will really alleviate the situation, or simply offer a piecemeal solution in order to obtain permission for development. In this regard, the highway bypass road, as proposed, seeks to address the project related traffic impacts in a realistic and timely manner. The proposal put forth by Oceanside 1250 has been evaluated by their traffic engineer, Parsons Brinckerhoff Quade & Douglas (PBQD), and the recommendations for the extent of regional improvements and the timing for such improvements in relationship to the phases of development are included within Section 4.6 of the Draft EIS. It is expected that such mitigation measures will be implemented in a timely and effective manner, as these are generally included as conditions to the requisite State and County land use approvals and permits.

We hope the above addresses your concerns related to this project, however, should you have any additional questions or concerns, please don't hesitate to contact either Mr. R. T. "Dick" Frye,

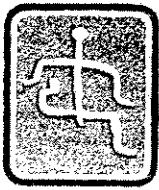
Ms. Shanti Devi  
September 10, 1993  
Page 3

Project Manager at Oceanside 1250, or myself. A copy of your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



**NA ALA HELE**  
Hawai'i Trail & Access System

July 30, 1993

Ms. Virginia Goldstein  
Director, Hawai'i County Planning Dept.  
25 Aupuni St., Hilo, HI 96720

Dear Ms. Goldstein:

Subject: Proposed Villages at Hokukano, Kona, Hawai'i,  
Draft EIS re: Public access and trail system

A field inspection of the Villages of Hokukano site indicates that lateral public access along the shoreline is adequate, as is the mauka-makai vehicular access. Also lateral pedestrian access through the property along the old West Hawai'i Rail Road bed and along portions of the old alaloa provide further public benefits.

The Council received copy of the Record Research of Roadways and Trails after our July 15 meeting. Examination of this report shows no documentation of mauka-makai trails except for a short section of an ala li'ili'i on the Kohala side of Grant 865. However from knowledge of how the ahupua'a system was set-up, we know many ahupua'a did contain mauka-makai trails. Page 76 of the DEIS states that the mauka-makai boundary walls of the ahupua'a are recommended for preservation. We would like to request that the developer consider the possibility of re-creating at least one mauka-makai trail paralleling an ahupua'a wall wherever it could best be incorporated into the overall trail network.

Thank-you for this opportunity to comment.

Sincerely,

Michael Tomich

Na Ala Hele, Council Member

copies to: Buck, Mike  
Frye, Dick  
Hibbard, Don  
Meller, Chris

04033





LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Michael Tomich, Council Member  
Na Ala Hele  
Department of Land & Natural Resources  
Division of Forestry & Wildlife  
P.O.Box 4849  
Hilo, Hawaii 96720

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Tomich:

Thank you for your letter of July 30, 1993, regarding the subject project. With regard to your comment on mauka-makai trails, Oceanside 1250 is currently studying the inclusion of a mauka-makai trail as part of the overall trail system within the property. It is likely that the mauka-makai trail would parallel an ahupua'a wall for at least a portion of its route. We look forward to reviewing any suggested alignment with the Council once this is completed.

Again, thank you for your comments. Should you have any additional questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



DEPARTMENT OF THE NAVY

COMMANDER  
NAVAL BASE PEARL HARBOR  
BOX 110  
PEARL HARBOR, HAWAII 96860-5020

IN REPLY REFER TO:

11010  
Ser N4(239)/2822  
29 Jul 93

Ms. Virginia Goldstein  
Planning Director  
County of Hawaii Planning Department  
25 Aupuni Street, Suite 109  
Hilo, HI 96720

Dear Ms. Goldstein:

DRAFT ENVIRONMENTAL IMPACT STATEMENT, VILLAGES AT  
HOKUKANO, COUNTY OF HAWAII

Thank you for the opportunity to comment on the subject  
Draft Environmental Impact Statement (DEIS) dated June 1993. The  
Navy has no comments to offer at this time.

Our point of contact is Mr. Stanford Yuen, Facilities  
Engineer, at 471-3324.

Sincerely,

STANFORD B. C. YUEN  
Facilities Engineer  
By direction of  
the Commander

Copy to:  
Mr. Richard Frye  
Oceanside 1250  
74-5620A Palani Road  
Suite 200  
Kailua-Kona, HI 96740

Mr. James Leonard  
PBR Hawaii  
101 Aupuni Street  
Suite 310  
Hilo, HI 96720



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Stanford B.C. Yuen, Facilities Engineer  
Department of the Navy  
Naval Base Pearl Harbor  
Box 110  
Pearl Harbor, HI 96860-5020

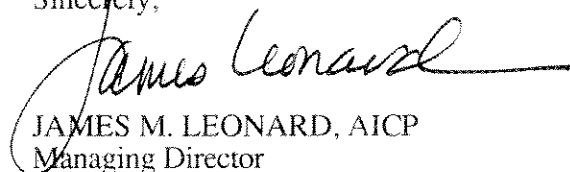
**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Yuen:

Thank you for your letter of July 29, 1993, concerning the above project. We appreciate your review of the subject draft Environmental Impact Statement (EIS).

Should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R.T. "Dick" Frye, Project Manager at Oceanside 1250 or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

  
JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



## DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

Central Pacific Plaza, 220 South King Street, 11th Floor, Honolulu, Hawaii  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804 Telephone: (808) 586-2406 Fax: (808) 586-2377

JOHN WAI  
Cove  
MUFU HANNEMA  
Dire  
BARBARA KIM STANT  
Deputy Dire  
RICK EGC  
Deputy Dire  
TAKESHI YOSHIM  
Deputy Dire

July 28, 1993

Ms. Virginia Goldstein  
Planning Director  
Planning Department  
County of Hawaii  
25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

The Department of Business, Economic Development & Tourism is pleased to submit the enclosed comments on the Draft Environmental Impact Statement for the Villages at Hokuano.

The comments were provided by the Land Use Commission. Questions regarding these comments may be directed to Esther Ueda, LUC Executive Officer at 587-3826.

Thank you for the opportunity to comment.

Sincerely,

  
Mufu Hannemann

Enclosure

cc: ~~Mr.~~ Richard Frye  
✓ Mr. James Leonard



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Mufi Hannemann, Director  
Department of Business, Economic Development and Tourism  
220 South King Street, 11th Floor  
Honolulu, Hawaii 96813

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Hannemann:

Thank you for your letter of July 28, 1993 transmitting the comments from the State Land Use Commission regarding the subject Draft Environmental Impact Statement (EIS). A response to the Land Use Commission is enclosed for your reference.

Should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R.T. "Dick" Frye, Project Manager at Oceanside 1250 or myself. Your letter, and this response, will be appended to the Final EIS.

Sincerely,

A handwritten signature in black ink that reads "James Leonard". The signature is fluid and cursive, with a long horizontal stroke at the end.

JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

Enclosure



STATE OF HAWAII  
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM  
LAND USE COMMISSION  
Room 104, Old Federal Building  
335 Merchant Street  
Honolulu, Hawaii 96813  
Telephone: 587-3822

July 19, 1993

Subject: Draft Environmental Impact Statement (DEIS) for the Villages at Hokukano, Hawaii, TMK Nos.: 8-1-04: 03 (por.); 7-9-12: 03, 04 (por.); 05 (por.), 11; 7-9-06: 01

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We have reviewed the DEIS for the subject Villages at Hokukano project and have the following comments:

- 1) We confirm that the project site, as shown on Figure 22 of the DEIS, is located within the State Land Use Agricultural and Conservation Districts.
- 2) Based on page 103 of the DEIS, 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, the location of the amendment area in relation to the project site is not clear. We suggest that the Final EIS include a map showing the location of the area proposed for the district boundary amendment.

We have no further comments to offer at this time.

EU:BS:th



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Esther Ueda, Executive Officer  
Land Use Commission  
Department of Business, Economic Development and Tourism  
335 Merchant Street, Suite 104  
Honolulu, Hawaii 96813

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO; APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Ueda:

Thank you for your letter of July 19, 1993 concerning the above project. We are responding to the comments provided by your office regarding the subject Environmental Impact Statement (EIS).

With regard to the question about the area that would be subject to the future Urban District Boundary Amendment to the State Land Use Commission, the boundaries of this area, which total approximately 763 acres, would be similar to that shown as Phase 2 in the Phasing Plan, Figure 5, including the area of the golf course and golf clubhouse. As noted within the Draft EIS, the upper portion of the proposed project, which includes approximately 637 acres, would remain in the State Agriculture district, and the approximately 140 acres along the shore would remain within the State Conservation District. As suggested, a figure showing the proposed area of the SLUC district boundary amendment will be included within the FEIS.

Again, thank you for your comments. Should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R.T. "Dick" Frye, Project Manager at Oceanside 1250 or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

A handwritten signature in cursive script that reads 'James Leonard'. The signature is written in dark ink and is positioned above the printed name and title.

JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: M. Hannemann, Department of Business, Economic Development and Tourism  
V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

(P)1518.3

JUL 13 1993

County of Hawaii  
Planning Department  
25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720

Attention: Ms. Virginia Goldstein

Gentlemen:

Subject: Villages at Hokukano  
Draft EIS

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,

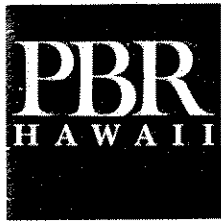


GORDON MATSUOKA  
State Public Works Engineer

RY:jy

cc: Oceanside 1250  
✓PBR Hawaii  
OEQC





LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Gordon Matsuoka  
State Public Works Engineer  
Department of Accounting and General Services  
P.O.Box 119  
Honolulu, Hawaii 96810

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Matsuoka:

Thank you for your letter of July 13, 1993 concerning the above project. We appreciate your review of the subject Draft Environmental Impact Statement (EIS).

Should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R.T. "Dick" Frye, Project Manager at Oceanside 1250 or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

A handwritten signature in black ink that reads 'James Leonard'. The signature is fluid and cursive, with a large initial 'J'.

JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SOIL  
CONSERVATION  
SERVICE

P. O. BOX 50004  
HONOLULU, HI  
96850-0001

July 7, 1993

Ms. Virginia Goldstein, Director  
Planning Department  
County of Hawaii  
25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

Subject: Villages at Hokukano  
Environmental Impact Statement

We have reviewed the Environmental Impact Statement (EIS). We note that mitigative measures have been proposed to minimize the anticipated adverse impacts upon the natural resources presently located on the development site. It is important to ensure their timely and effective installation.

Thank you, for the opportunity to review the EIS. Should you have any questions, please contact Mr. Mike Tulang at 541-2606 or Ms. Sandy Higa at 322-2484.

  
NATHANIEL R. CONNER  
State Conservationist

cc: Office of Environmental Quality Control, State of Hawaii, 220 South  
King Street, Honolulu, Hawaii 96813.  
✓ PBR HAWAII, 101 Aupuni Street, Suite 310, Hilo, Hawaii 96720.

  
TULANG



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Nathaniel R. Conner, State Conservationist  
Soil Conservation Service  
United States Department of Agriculture  
P.O.Box 50004  
Honolulu, Hawaii 96850-0001

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO; APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Conner:

Thank you for your letter of July 7, 1993 and your comments to the subject Environmental Impact Statement (EIS).

In response to your comment on the timely and effective implementation of proposed mitigation measures, it is anticipated that those measures proposed by the developer to mitigate potential project related impacts would be implemented in relation to initiation of the various elements of the development. Such measures are typically included as conditions of approval at the time of land use permit or approval. For instance, in regard to erosion and sedimentation control, the County of Hawaii generally requires that an Erosion and Sedimentation Control Plan be approved by the Chief Engineer prior to grading permit approval.

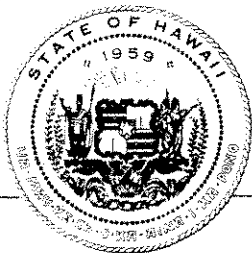
Again, thank you for your comments. Should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R.T. "Dick" Frye, Project Manager at Oceanside 1250 or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII



## DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

ENERGY DIVISION, 335 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813

PHONE: (808) 587-3800

FAX: (808) 587-3820

JOHN WAIHE  
Governor  
MUFU HANNEMAN  
Director  
BARBARA KIM STANTON  
Deputy Director  
RICK EGGER  
Deputy Director  
TAKESHI YOSHIHARA  
Deputy Director

93:1295e

June 30, 1993

Ms. Virginia Goldstein  
Planning Director  
County of Hawaii Planning Department  
25 Aupuni Street, Suite 109  
Hilo, Hawaii 96720

Dear Ms. Goldstein:

Subject: Draft Environmental Impact Statement  
For Villages at Hokukano, Big Island

Thank you for the opportunity to review and comment on the subject Draft Environmental Impact Statement for a golf course and residential development.

We note that you have considered our concerns for energy efficient designs in the document. We would also like to call your attention to the Model Energy Code, developed under the auspices of this department. We urge that you use the code as a guide for this project. We have previously provided copies of the code to your Department. If you need additional copies, please contact Mr. Howard Wiig at 587-3811.

Sincerely,

for Maurice H. Kaya  
Energy Program Administrator

MHK/ER:be

cc: Richard Frye  
✓ James Leonard  
OEQC



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Mr. Maurice H. Kaya  
Energy Program Administrator  
Energy Division  
Department of Business, Economic Development & Tourism  
335 Merchant Street, Suite 110  
Honolulu, Hawaii 96813

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Mr. Kaya:

Thank you for your letter of June 30, 1993, concerning the above project in which you suggest that the Model Energy Code be used as a guide for the proposed project.

As you know, for residential developments, the proposed Model Energy Code is intended to reduce the energy demand in a typical home primarily in the areas of water heating and air conditioning. As stated within Section 4.6.5 of the Draft Environmental Impact Statement (EIS), in an effort to promote these and other energy conservation measures in the planning and design of homes built within the proposed project, the developer plans to disseminate to lot owners appropriate materials, such as the Hawaii Design Strategies for Energy Efficient Architecture published by the Energy Division of the State's Department of Business, Economic Development and Tourism.

Also, as stated within the Draft EIS, those measures which will be evaluated in part based on their potential life cycle cost savings in the design of project related facilities, such as the golf clubhouse and golf lodge, would include:

- a) Siting and landscaping buildings to minimize the heat loads and to effectively utilize natural breezes for cooling indoor and outdoor living and recreational spaces;
- b) Use of high efficiency light sources and ballasts for indoor and outdoor lighting purposes, where practical;
- c) Use of high efficiency air conditioners, water pumps, and appliances;
- d) Use of heat pump, waste heating recovery and solar water heating systems; and
- e) Use of occupant sensing or time switch type light and air conditioner controls.

Mr. Maurice Kaya  
September 10, 1993  
Page 2

Other planned conservation measures aimed at reducing the maximum electrical demand, which will be implemented where and whenever practical, include power correction factors and scheduling certain types of loads, such as water pumping, to run during off-peak hours.

Again, thank you for your comments. Should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R.T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,

A handwritten signature in cursive script that reads "James Leonard". The signature is written in dark ink and is positioned above the printed name and title.

JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

Planning Director  
Virginia Goldstein  
25 Aupuni Street, Suite 109  
Hilo, HI 96720

Dear Ms. Goldstein,

I am aware of the proposed State road as Bypass Alignment to help facilitate traffic in Kona. I am in favor of this effort. I am also aware of the proposed Alternate Bypass Alignment to save money to the developer. I am against this proposal for many reasons. The main one being, it will be going through several homes in that area. What a waste and heartbreak for those who would have to lose their homes. They would not be paid, I'm sure, for the work and costs of their homes, and relocating would be difficult, if not impossible on the amount of money condemned payments would be. Please don't allow such a tragedy to take place at the great expense of others just to help the developer. Don't let the developer buy the State off.

Thank you,  
Rebecca B. London  
(Resident of Coast Cook)



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

September 10, 1993

Ms. Rebecca B. Layton  
P.O.Box 1132  
Captain Cook, Hawaii 96704

**SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
VILLAGES AT HOKUKANO  
APPLICANT: OCEANSIDE 1250  
TMK'S: 7-9-12: 03 POR, 04 POR, 05 POR & 11;  
8-1-4: 03 POR; 7-9-6: 01**

Dear Ms. Layton:

We received a copy of your letter to the County Planning Director that accompanied a facsimile letter from Ms. Valerie Rounsfull dated August 7, 1993, which was submitted in relation to the Draft Environmental Impact Statement (EIS) prepared for the Villages at HokuKano project. We would like to respond to your concerns regarding the proposed highway bypass road, as described within the Draft EIS.

The developer, Oceanside 1250, has carefully studied various alignment positions for the proposed Mamalahoa Highway bypass. Some of the early study versions were abandoned because they impacted existing residential structures. The current alignment, however, does not go through any residences.

Your letter expresses a concern that the highway bypass route proposed by the developer was to save the developer money. The alignment proposed by the State Department of Transportation (DOT) in the 1970's contemplated a highway from approximately the Kamehameha III intersection with Kuakini Highway southward along an alignment similar to the current proposed alignment, but extending much further south as a multi-regional highway to the Papa Bay area. In addition to the existing Haleki'i Street, two connector roads were proposed in the general vicinity of the four villages (Honalo, Kainaliu, Kealahou, and Captain Cook). The State's proposed alignment and connectors would all have been paid for with tax money and any Federal grants available.

The developer's proposal is to essentially build a portion of the multi-regional highway proposed by the State. There would still be three accesses from the bypass to the villages in locations not too different from the connector roads proposed by the State's multi-regional highway. The State's connector roads would have impacted several residential structures, whereas the proposed alignment will not.

Additionally, it is important to note that, as proposed, the bypass road can be built mostly, if not entirely, with private funds rather than public funds, and can be constructed much sooner than if



Ms. Rebecca B. Layton  
September 10, 1993  
Page 2

built according to the State DOT's priority schedule for highways. Oceanside 1250 has put forth this proposal as a solution that is intended to benefit all concerned.

We hope that this fully addresses your concerns in this regard. However, should you have any questions or concerns regarding this project, please do not hesitate to contact either Mr. R. T. "Dick" Frye, Project Manager at Oceanside 1250, or myself. Your letter and this response will be appended to the Final EIS.

Sincerely,



JAMES M. LEONARD, AICP  
Managing Director  
PBR HAWAII - Hilo Office

cc: V. Goldstein, Hawaii County Planning Department  
B. Choy, Office of Environmental Quality Control  
R. Frye, Oceanside 1250  
L. Tanimoto, LST, Inc.  
G. Leslie  
B. Kudo, Dwyer Imanaka Schraff & Kudo  
D. Hulse, PBR HAWAII

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