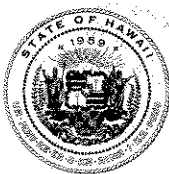


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EXECUTIVE CHAMBERS

HONOLULU

JOHN WAIHEE  
GOVERNOR

July 28, 1993

TO: The Honorable Keith W. Ahue, Chairperson  
Board of Land and Natural Resources

SUBJECT: Final Environmental Impact Statement for the Heeia State Park Master  
Development Plan

I am pleased to accept the Final Environmental Impact Statement for the Heeia State Park Master Development Plan as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes.

This environmental impact statement will be a useful tool in the process of deciding if the action described therein should be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws and does not constitute an endorsement of the proposed action.

When the decision is made regarding the proposed action itself, I expect the appropriate legislative bodies and governmental agencies to consider if the societal benefits justify the economic, social, and environmental impacts which will likely occur. These impacts are adequately described in the statement and, together with the comments made by reviewers, provide useful analysis of the proposed action.

JOHN WAIHEE

c: Mr. Brian J. J. Choy

OFFICE OF THE DIRECTOR  
QUALITY CONTROL  
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Heeia State Park

JUL - 8 1993



**HEEIA STATE PARK**

Final Environmental Impact Statement

Master Development Plan

JUNE 1993

6942

WIN 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

**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:** Heeia State Park Master Development Plan

**LOCATION:** ISLAND Oahu DISTRICT Koolaupoko

**TAX MAP KEY NUMBERS:** 4-6-05: 2, 4 and 9

**AGENCY ACTION:** Yes **APPLICANT ACTION:** \_\_\_\_\_

**ACCEPTING AUTHORITY:** Governor, State of Hawaii

**ADDRESS:** c/o Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

**CONTACT:** \_\_\_\_\_ **PHONE:** 586-4185

**PROPOSING AGENCY OR**

**APPLICANT:** Department of Land and Natural Resources, Division of State Parks

**ADDRESS:** P.O. Box 621  
Honolulu, Hawaii 96809

**CONTACT:** Bill Gorst **PHONE:** 548-7455

**CONSULTANT:** PBR HAWAII

**ADDRESS:** 1042 Fort Street, Suite 300  
Honolulu, Hawaii 96813

**CONTACT:** David Hulse **PHONE:** 521-5631

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!

**OEQC BULLETIN PUBLICATION FORM**

**TITLE OF PROJECT:** Heeia State Park Master Development Plan

**LOCATION:** ISLAND Oahu DISTRICT Koolaupoko

**TAX MAP KEY :** 4-6-05: 2, 4, and 9

**PLEASE CHECK THE FOLLOWING CATEGORIES:**

**Type of Action:** AGENCY  APPLICANT

**Applicable State or Federal Statute:**

Chapter 343, HRS  Chapter 205A, HRS  NEPA (Federal Actions Only)

**Type of Document:**

Draft Environmental Assessment (Negative Declaration anticipated)  Draft EIS  NEPA NOP  
 Final Environmental Assessment (Negative Declaration)  Final EIS  NEPA Draft EIS  
 Final Environmental Assessment (EIS Preparation Notice)  NEPA FONSI  NEPA Final EIS

**Type of Revision (if applicable):**

Revised  Supplemental  Addendum  Other (please explain)

*Prior to general distribution, please submit to OEQC: 4 copies of the Draft EA, Final EA (Negative Declaration or EIS Preparation Notice), 4 copies of the Draft EIS or Final EIS (For Draft and Final EISs an additional copy is mailed to OEQC.)*

**PROPOSING AGENCY OR APPLICANT SHOULD SUBMIT COPIES OF THE DOCUMENTS TO THE APPROVING AGENCY OR ACCEPTING AUTHORITY PRIOR TO SUBMITTING COPIES TO OEQC.**

**APPROVING AGENCY OR**

**ACCEPTING AUTHORITY:** Governor, State of Hawaii

**ADDRESS:** c/o Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

**CONTACT:** \_\_\_\_\_ **PHONE:** \_\_\_\_\_

**PROPOSING AGENCY OR APPLICANT:** Department of Land and Natural Resources, Division of State Parks

**ADDRESS:** P.O. Box 621  
Honolulu, Hawaii 96809

**CONTACT:** Bill Gorst **PHONE:** 548-7455

**CONSULTANT:** PBR HAWAII  
**ADDRESS:** 1042 Fort Street, Suite 300  
Honolulu, Hawaii 96813

**CONTACT:** David Hulse **PHONE:** 521-5631

**COMMENT PERIOD END DATE:** \_\_\_\_\_

**CONDITIONS WHICH TRIGGERED THE EIS LAW: PLEASE CHECK ALL THAT APPLY TO THE PROPOSED ACTION.**

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Use of State or County lands or funds<br>HRS 343-5(a)(1) | <input type="checkbox"/> Use of lands in the Waikiki Special District<br>HRS 343-5(a)(5)          |
| <input checked="" type="checkbox"/> Use of Conservation District Lands<br>HRS 343-5(a)(2)    | <input type="checkbox"/> Amendment to a County General Plan<br>HRS 343-5(a)(6)                    |
| <input checked="" type="checkbox"/> Use of Shoreline Setback Area<br>HRS 343-5(a)(3)         | <input type="checkbox"/> Reclassification of Conservation Lands<br>HRS 343-5(a)(7)                |
| <input type="checkbox"/> Use of Historic Site or District<br>HRS 343-5(a)(4)                 | <input type="checkbox"/> Construction or modification of helicopter facilities<br>HRS 343-5(a)(8) |

**OTHER CONDITIONS:**

- Use of Special Management Area (City & County of Honolulu)
- Other\* \_\_\_\_\_

\* If the project does not trigger HRS 343, please explain why document is being submitted to OEQC.

**SUMMARY** of the proposed action or project to be published in the OEQC Bulletin. Please submit it as a summary ready for publication. The description should be brief (300 words or less), yet provide sufficient detail to convey the full impact of the proposed action.

The subject property (Heeia State Park) is located approximately one mile north of Kaneohe on the windward side of Oahu on Heeia Peninsula (also known as Lae O Kealohi). The site is also proximate to Heeia Boat Harbor.

The proposed conceptual plan and project improvements are intended to reflect the present types of interpretive uses and use levels. The proposed conceptual plan calls for improvements to existing structures, landscaping, establishment of picnic areas, parking, signage, and the construction of an improved walkway system. Control of mangroves and replacement of some existing structures are also planned.

Walkways may consist of asphalt or crushed cinder path with a boardwalk located proximate to Heeia Stream. Interpretive programs integrated with the walkway system would be facilitated through the provision of information kiosks, signage, pamphlets and guided tours. Predetermined stopping points of interpretive interest will be emphasized. Access to a proposed ethno-botanical garden will be provided by a handicap ramp leading down gradient from picnic and parking lot areas.

**NOTE:** Since the deadline for EIS submittal is so close to the publication date for the OEQC Bulletin, please assist us by bringing the Document for Publication Form and a computer disk with the project description (size 3 1/2" or 5 1/4" disk are acceptable; preferably WordPerfect 5.1 or ASCII text format) to the Office of Environmental Quality Control as early as possible. Thank you.

## PROJECT SUMMARY SHEET

### PURPOSE

This Environmental Impact Statement (EIS) has been prepared in support of publicly funded improvements proposed for the 18.5 acre Heeia State Park, Kaneohe, Hawaii. The project area includes TMK 4-6-05: 2, 4, and 9 and is owned in fee by the State of Hawaii.

This document describes the proposed improvements, existing environmental conditions of the project site and surrounding area, the probable environmental impacts that might result from the proposed project, mitigation measures to minimize potential adverse environmental impacts, alternatives that have been investigated, and the relationship of the proposed project to existing land use policies and controls.

### PROPOSED ACTION

Several Conceptual Plans were prepared largely based on implementation of a proposed interpretive plan entitled, "Conceptual Development Plan, Heeia State Park, Friends of Heeia State Park, June, 1990", prepared for the Board of Land and Natural Resources (BLNR). The "He'eia State Park Master Plan Advisory Committee" was also formed to provide community based input into the planning process. The goal statement for development of the Heeia State Park Master Plan, is as follows:

He'eia State Park should recognize and perpetuate the natural and cultural heritage of the site known as, Lae O Ke Alohi and its surroundings, and serve the entire community as a social, educational, and cultural gathering place.

Once three Conceptual Plans were prepared, they were presented to the Board of Land and Natural Resources for action. It was the intent of the BLNR, to adopt a conceptual plan that would reflect the present level of use, but with emphasis on a quality interpretive program, facilities, and landscaping. Given these objectives, the Preferred Alternative (Alternative "B" for planning purposes) was determined to be the most feasible alternative, both from ecological and economical perspectives (Figure 6).

### SIGNIFICANT BENEFICIAL AND ADVERSE IMPACTS

With the establishment of expanded interpretive programs, facilities, landscaping, and better overall management of the Park, it is anticipated that the proposed improvements will impact the physical resources of the Park and adjoining areas in a more positive

manner. Many of the negative environmental impacts presently associated with the Park will be largely mitigated by the proposed improvements. Proposed facility improvements for the Preferred Alternative design call for replacement of existing structures, landscaping, parking, signage and an improved walkway system.

Park visitor use levels and length of stay could potentially cause adverse impacts if program attendance significantly increases as a result of project improvements. For example, interpretive programs coordinated with local schools and community groups will obviously attract significant numbers of Oahu residents. If these same programs and facilities are promoted with visitors to Hawaii as the intended target group, Heeia State Park has the potential to attract large numbers of tourists interested in learning more about Hawaiian history, the botanical qualities of Windward Oahu, and exploring the aquatic resources of Kaneohe Bay.

Construction activities also have the potential to cause adverse impacts if not properly mitigated. Noise, soil erosion, increased construction machinery exhaust emissions, temporary disruption of traffic, and potential disruption of existing programs are the primary considerations. No short-term significant impacts are anticipated regarding water quality and drainage, flora and fauna, and archaeological resources.

#### PROPOSED MITIGATIVE MEASURES

If implemented with appropriate mitigative measures, project development could enhance environmental quality and awareness, and provide enhanced interpretive programs to visitors and residents. The design of all interpretive displays, other facilities, and landscaping will incorporate methods to ensure that the environmental character of the Park will not be damaged.

*Drainage/Water Quality/Soil Erosion* – to protect water quality and mitigate potential soil erosion, grassing of graded areas, watering to reduce fugitive dust emissions, use of on-site retention basins during and after construction, and installation of fences to prohibit access to areas of steep slope are proposed. Implementation of the recommended soil erosion control measures and grading plan will require careful attention to establishment of new plant materials and ground cover. This will be especially critical in areas of steep slope proximate to shoreline areas.

Control of mangrove within the park boundaries at Heeia Stream is recommended. This will require an on-going maintenance program to ensure that stream flows are not artificially restricted by mangrove.

*Flora and Fauna* – No endangered flora and fauna exist on the subject property and no mitigation measures are planned. However, the proposed landscaping and ethnobotanical garden will increase the diversity of both plant and animal communities.

*Archaeological Resources* – No known archaeological resources exist on the subject property, however, the cultural heritage of the area is significant. Periodic erosion along the shoreline has exposed Hawaiian burials and a heiau is known to have existed on the property. Heeia Fishpond (off-site) is also a significant archaeological feature which dominates the area. The proposed interpretive program will present and educate park visitors of the area's cultural history.

*Noise* – The project is not expected to generate any significant long-term noise that will be of concern to residential areas. During construction, equipment will be used in accordance with accepted standards and during daylight hours to mitigate potential noise impacts.

*Air Quality* – The primary air quality impact will result from use of construction equipment, fugitive dust, and emissions from vehicular traffic. However, impacts from construction equipment and fugitive dust will occur only on a short-term basis. Watering during construction will largely mitigate dust emissions.

*Traffic* – Roadway improvements are proposed for the park entry at Kamehameha Highway and internally within the proposed parking area. Inasmuch as the level of use for the park is planned to remain essentially unchanged, no other significant mitigation measures are planned or required.

*Agriculture* – The proposed project will not reduce the availability of important agricultural land and no mitigation measures are required.

*Public Services and Utilities* – Continued use of the existing on-site sewage treatment and disposal facility should be adequate to accommodate wastewater generated by the number of park users at projected use levels. To provide irrigation within landscaped areas, water consumption may increase but not at a level that will require new source or transmission facilities. Electrical and communications improvements necessary to support the requirements of this project will be served from existing utility systems. Overhead lines will be placed underground.

#### ALTERNATIVES CONSIDERED

In compliance with the provisions 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 limited to those that would allow the objectives of the project to be met, while minimizing potential adverse environmental impacts.

Three alternative design concepts were developed for Heeia State Park. These Conceptual Plans each divide the park into various use areas based on extent of existing development, access, vegetation, interpretive resources, intensity of use, and physical



features. Each of the three alternative plans embody several specific design concepts which have governed their development critical to the realization of the final park design as currently envisioned. All design concepts were derived from the goals and objectives identified by the State of Hawaii for Hee'ia State Park.

The primary differences presented by the three alternative designs reflect a range of use intensities envisioned for each concept. Alternative A envisions a low use level and "natural" character to the landscape design. Alternative B is designed to accommodate existing use levels, but emphasizing and improving facilities for interpretive programs. Alternative C would increase the current level of use and utilize a "formal" style of landscaping. Interpretive programs would be very formal and structured.

The preferred plan, intended to reflect a mid-level use intensity (Alternative B), was selected by the Board of Land and Natural Resources and supported by the Friends of Hee'ia and He'e'ia State Park Master Plan Advisory Committee (Figure 6).

The level and detail of proposed improvements for Alternative B were refined to correspond to the desired use levels of the Park. Lower intensity uses would have required relatively minimal improvements and development of less structured interpretive programs, while high intensity use levels described in Alternative C would have necessitated expanded parking, trail development, visual overlooks, interpretive signage and program development, and increased maintenance.

#### UNRESOLVED ISSUES

The primary unresolved issues relative to the proposed project center on construction related phasing and grading procedures. Future use levels of the park and control of mangrove will also be on-going management considerations.

Construction phasing as described in Section 2.4 must be implemented in a way which keeps the park open to the public during regular park operating hours. It is recommended that the mauka portion of the project (consisting of the parking lot, luau pavilion walkway, access improvements, and landscaping) be constructed as the first phase. The remaining makai portion near the Interpretive Center and shoreline be constructed as the second phase.

It is difficult at this level of planning to identify whether a construction phasing program such as this (while keeping the park open to the public) is practical. However, the current lessee, Friends of Hee'ia State Park, have developed an ongoing outdoor education program with local schools so it will be important to continue this program, or any similar ongoing program, during construction.

## COMPATIBILITY WITH LAND USE PLANS AND POLICIES

Construction of any park related improvement projects on the subject property, would be generally consistent with applicable provisions of the Hawaii State Plan and various functional plans, and with the City and County of Honolulu General Plan, the Koolaupoko Development Plan, and the Land Use Ordinance. The site is currently designated by the State Land Use Commission as both "Urban" and "Conservation", and classified by the City and County of Honolulu Land Use Ordinance (LUO) as P-2 Preservation. The property is also located within the City and County of Honolulu's Special Management Area.

## NECESSARY PERMITS AND APPROVALS

All of the necessary land use permits and approvals will be obtained prior to development. The proposed action is generally consistent and compatible with State and County land use plans, policies and programs, and will continue the existing use of the property as a State Park. The necessary approvals and permits required to implement all of the proposed improvements are herein described. If only portions of the project are implemented, some of the entitlements identified would not be required.

### State

Environmental Impact Statement (8 mos.)  
Conservation District Use Permit (6 - 8 mos.)

### County

Special Management Area permit (8 mos.)  
Shoreline setback variance (3 - 5 mos.)  
Grading Permit (2 mos.)  
Building Permit (0.5 mo.)

In addition to the State and County permits listed above, any alterations to navigable waters of the United States would also require a permit from the U.S. Army Corps of Engineers (12 to 18 months) and a Stream Channel Alteration Permit from the Commission on Water Resource Management.

# **HEEIA STATE PARK**

---

## **Final Environmental Impact Statement**

---

### **Master Development Plan**

---

---

TMK 4-6-05: 2, 4, AND 9

This Environmental Impact Statement is Submitted  
Pursuant to Chapter 343, HRS

W. Frank Brandt, President  
PBR HAWAII



Date: June 15, 1993

Prepared for: State of Hawaii  
Department of Land and Natural Resources

Prepared by: PBR HAWAII

JUNE 1993

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- APPENDIX B**      Flora Survey
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CHAPTER I

## CHAPTER I - INTRODUCTION

### 1.0 PURPOSE OF THIS DOCUMENT

This Environmental Impact Statement (EIS) has been prepared in support of publicly funded improvements proposed for the 18.5 acre Hee'ia State Park, Kaneohe, Hawaii. The project area includes TMK 4-6-05: 2, 4, and 9 and is owned in fee by the State of Hawaii. The EIS has been prepared in compliance with the provisions of Hawaii Revised Statutes (HRS) Chapter 343 and Section 11-200-14 through 11-200-18 of Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules.

This document also describes the proposed improvements, existing environmental conditions of the project site and surrounding area, the probable environmental impacts that might result from the proposed project, mitigation measures to minimize potential adverse environmental impacts, alternatives that have been investigated, and the relationship of the proposed project to existing land use policies and controls.

The information contained herein has been drawn from site visits, planning and engineering studies prepared for the proposed project, and generally available sources applicable to the environmental characteristics of the project site and surrounding area.

The proposed Conceptual Plans were largely based on implementation of a proposed interpretive plan entitled, "Conceptual Development Plan, Hee'ia State Park, Friends of Hee'ia State Park, June, 1990", prepared for the Board of Land and Natural Resources (BLNR). DLNR will continue refinement of the plan to address on-going facility and program management needs as required.

Based in part on recommendations developed by the "He'e'ia State Park Master Plan Advisory Committee", the goal statement for Hee'ia State Park, is as follows:

He'e'ia State Park should recognize and perpetuate the natural and cultural heritage of the site known as, Lae O Ke Alohi and its surroundings, and serve the entire community as a social, educational, and cultural gathering place.

To achieve the stated goal, the interpretive values of the Park, on-going interpretive programs, and the emphasis on passive recreation for the Park, the following objectives have been developed in the master planning process to guide future management decisions and selection of the preferred conceptual plan.

#### Objectives

- o Optimize the use of Hee'ia State Park as an important recreational and interpretive resource for all residents of Hawaii by providing programs and interpretive information that improves the overall awareness of the natural environment.

- o Preserve and enhance the existing natural qualities and opportunities unique to Lae O Ke Alohi and the Kaneohe Bay environs.
- o Provide for site improvements and facilities, as necessary, to enhance the interpretive value of the Park.
- o Expand and emphasize on-shore and off-shore passive recreational opportunities, educational programs, and activities that relate to the Park's natural and cultural resources.
- o All interpretive programs and facilities shall be oriented to the Park theme:

***Man, the land, the sea, and their relationship as exemplified by the evolution of land use in the Kaneohe Bay region from early Hawaii to the present day.***

#### **1.1 AUTHORIZATION**

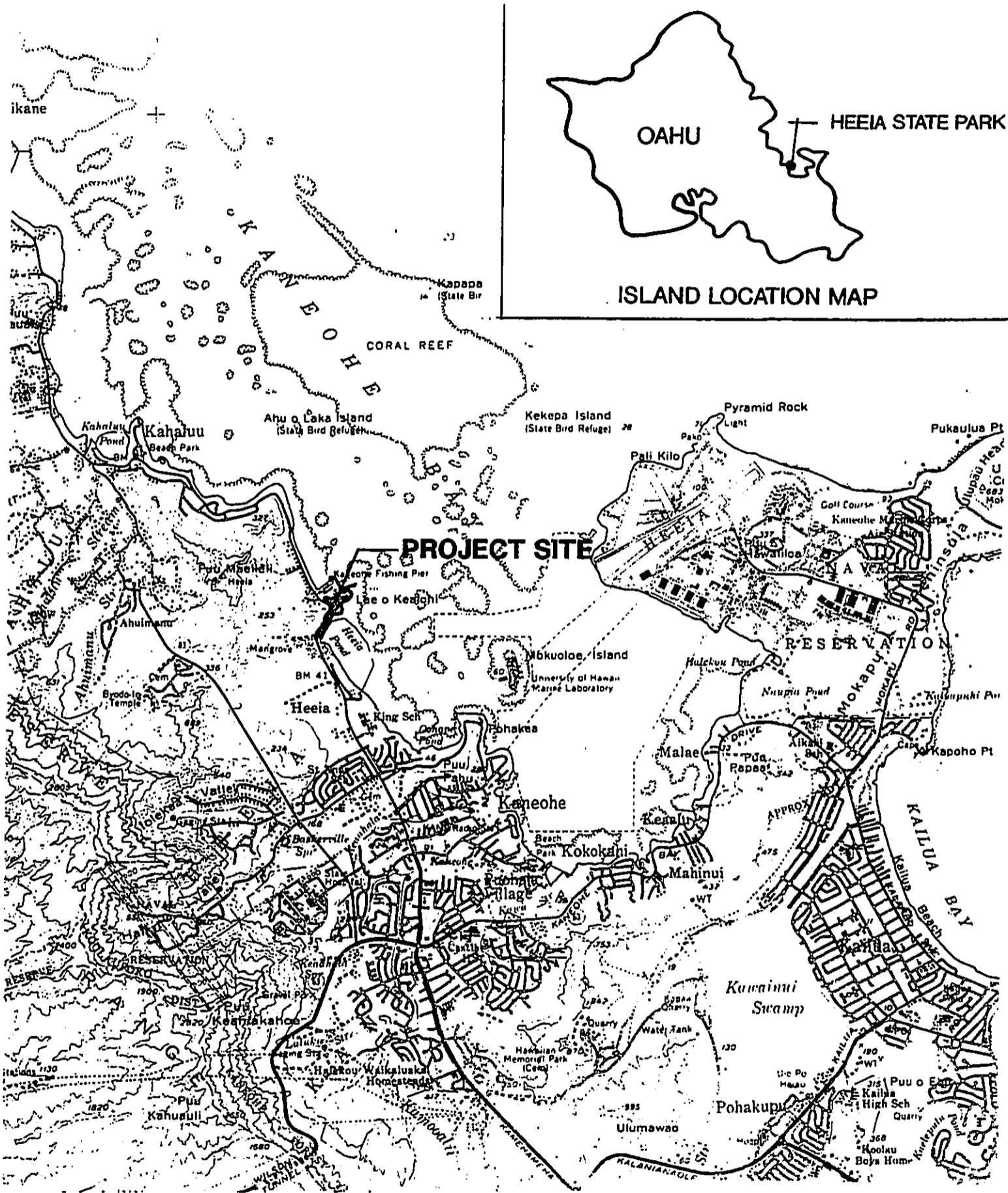
Authorization and funding for the proposed Development Plan and Environmental Impact Statement was authorized by Act 216 Session Laws of Hawaii 1987, Item H-18 and Act 2 Session Laws of Hawaii 1988, Item H-2. Principal consultant for the subject Development Plan and EIS document is PBR HAWAII under contract dated June 20, 1990, with the State of Hawaii by its Board of Land and Natural Resources (BLNR).

The proposed project entails the upgrading of the entire Park, encompassing the existing structures, landscaping, parking, signage, interpretive features, and the walkway system. The completed Park will utilize an expanded interpretive program for the development and enhancement of natural and/or historic values. Facilities will include an ethno-botanical garden, outdoor furniture and picnic tables, outdoor restroom, and luau pavilion (See Figure 6).

#### **1.2 PROJECT LOCATION AND DESCRIPTION**

The subject property is located approximately one mile north of Kaneohe on the windward side of Oahu on Heeia Peninsula (also known as Lae O Kealohi). Comprised of approximately 18.5 acres, the Park is bordered on three sides by Kaneohe Bay to the west, north and east, and Heeia Stream to the south. Kamehameha Highway defines the western boundary of the Park. Other significant landmarks in the region include Mokapu Peninsula (Kaneohe Marine Corps Air Station) across Kaneohe Bay to the east, Ahuimanu approximately one mile mauka, and Kahaluu approximately 3 miles north on Kahekili Highway (see Figure 1). Specifically, Heeia State Park (Figure 2) is located in Kaneohe, Island of Oahu, State of Hawaii (TMK 4-6-05: 2, 4 and 9).

The geologic landforms characteristic of the subject property and Windward Oahu, were formed by the complex actions of stream erosion, alluviation of valley floors, and sea level



**FIGURE 1**  
**REGIONAL LOCATION MAP**  
**HEEIA STATE PARK**





fluctuations. Estimated at approximately 2.5 to 2.2 million years old, Kaneohe Bay was formed as part of an ancient caldera complex of the Koolau volcano. Representative of the eroded Koolau shield volcano, spectacular erosional landforms were created. Heeia State Park was essentially formed at the dividing line between the relatively hard Koolau basalts and alluvium deposited from the Koolau mountain range.

### **Historical Development**

Three periods of development have occurred which established many of the familiar manmade landforms currently evidenced in Heeia and the Kaneohe region. These include pre-European/Hawaiian, post-European agriculture and forestry activities, and contemporary urbanization. Presently, properties adjoining the site still provide significant open space qualities and low density land uses.

Prior to the establishment of the Park in 1977, the subject property was known as Matson Point and operated as a cultural center and restaurant known as Ulu Mau Village. Currently, the Park's extensive shoreline formed by Heeia Peninsula represents the only relatively large publicly owned shoreline along Kaneohe Bay exclusive of Kualoa Park at the northern end of the bay.

### **Current Development Trends**

No significant development trends that may directly impact Heeia State Park are apparent in the area. However, according to the City and County of Honolulu Planning Department, a 230-acre site located mauka of Heeia State Park on the opposite side of Kamehameha Highway has been considered for development in the past. Comprised of 103 acres of land designated by the Land Use Commission (LUC) as Urban and 117 acres as Conservation, development of this site would therefore require a land use district boundary amendment by the LUC, and a Development Plan amendment and rezoning by the City and County of Honolulu. In the 1993 Annual Amendment Review to the Koolaupoko Development Plan Land Use Map, the City Council has requested that this property would be reclassified from Parks/Golf Course to Preservation use.

Proposed development on this site has generated significant opposition from both State and County governmental planning agencies. Specifically, the City has had concerns regarding water resources in the area and the questionable need for golf courses on Oahu. The City Council's proposed reclassification of the property to Preservation would likely limit development of the site for many more years into the future.

Mauka of Heeia State Park, the State of Hawaii acquired in 1991, a large area often referred to as Heeia Wetlands. In the future, this property may be utilized by the State for nature trails, interpretive programs, and other similar uses that would essentially maintain the existing natural character of the property. No specific plans have yet been prepared.



No other large scale development projects, resorts, or capital improvement projects are planned in the area that could significantly impact the existing use and participation levels of Heeia State Park.

### 1.3 NECESSARY APPROVALS AND PERMITS

Construction of any park related improvement projects on the subject property, would be generally consistent with applicable provisions of the Hawaii State Plan and various functional plans, and with the City and County of Honolulu General Plan, the Koolaupoko Development Plan, and the Land Use Ordinance. The site is currently designated by the State Land Use Commission as both "Urban" and "Conservation", and classified by the City and County of Honolulu Land Use Ordinance (LUO) as P-2 Preservation. The property is also located within the City and County of Honolulu's Special Management Area.

The necessary approvals and permits required to implement all of the proposed improvements are listed below. If only portions of the project are implemented, some of the entitlements identified would not be required.

#### State

#### County

Environmental Impact Statement (8 mos.)	Special Management Area permit (8 mos.)
Conservation District Use Permit (6 - 8 mos.)	Shoreline setback variance (3 - 5 mos.)
	Grading Permit (2 mos.)
	Building Permit (0.5 mo.)

In addition to the State and County permits listed above, any alterations to navigable waters of the United States which includes areas seaward of the mean high water level; rivers, streams, and wetlands; inland water subject to tidal influences or which are drained by rivers or streams running to the ocean and impoundments, would also require a permit from the U.S. Army Corps of Engineers (12 to 18 months) and a Stream Channel Alteration Permit from the Commission on Water Resource Management.

The timing of project construction, will depend largely on funding from the State legislature and approval of the various permits described above. The estimated entitlement processing time for each action is shown in parenthesis.

Three alternative conceptual plans were prepared and evaluated which reflected three different levels or intensity of use. The preferred plan, intended to reflect a mid-level use intensity (Alternative B) and improvements similar to the present condition, was selected by the Board of Land and Natural Resources and supported by the Friends of Heeia and He'eia State Park master Plan Advisory Committee (Figure 6).

Actions required to implement the preferred alternative plan include:

- o Funding by the State of Hawaii and private contributions,
- o Preparation of final construction plans,
- o Approval of necessary permits from the State, County, and U.S. Army Corps of Engineers, and;
- o Construction of proposed facilities.

CHAPTER II

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## CHAPTER II

### 2.0 DESCRIPTION OF THE PROPERTY AND PROPOSED PROJECT

Presently, Heeia State Park is operated as an interpretive park by the Friends of Heeia, a non-profit group dedicated to utilize and develop Heeia State Park as an important community resource. The Friends of Heeia State Park lease two buildings from the State, while the Department of Land and Natural Resources is responsible for upkeep of the grounds and all other buildings. The central ridge of the point rises to 57 feet and offers a 360-degree vista of Kaneohe Bay, the inland valleys and pali of the Koolau Range.

The park is spatially divided into; roadside pavilion and caretakers residence, parking lot and Visitor Center, and Heeia Stream. The structures within the park were formerly Ulu Mau Village, a privately owned and operated cultural center and restaurant. Major facilities include the Visitor Center, Exhibit Hall, parking lot, concrete pads near the makai shoreline, caretakers residence, and maintenance buildings. Although two vehicular entries service the property, the main entrance is located on the Kaneohe side of Kamehameha Highway. The other "entry" is not paved and does not provide safe or adequate access to the park.

### 2.1 NEED FOR THE PROPOSED PROJECT

To determine the types and amount of recreational facilities needed and/or interpretive facilities within Heeia State Park, two components of "need" have been considered. These include "perceived need" as expressed by current residents (usually based on adequacy or inadequacy of existing facilities expressed by opinion surveys) and "projected need" based on generally accepted recreation standards and anticipated population growth.

The Park's use levels, origin and destination of users, and length of stay will depend on the types of facilities proposed and promotional efforts deemed appropriate by local community interests and State officials. For example, interpretive programs coordinated with local schools and community groups will obviously attract significant numbers of Oahu residents. If these same programs and facilities are promoted with visitors to Hawaii as the intended target group, Heeia State Park has the potential to attract large numbers of tourists interested in learning more about Hawaiian history, the botanical qualities of Windward Oahu, and exploring the aquatic resources of Kaneohe Bay.

According to the 1990 State Comprehensive Outdoor Recreation Plan (SCORP), improvements to existing recreational facilities will be needed on Oahu area as the projected resident and visitor population base in the region expands. For example, the de facto population of the City and County of Honolulu which includes visitors, is expected to increase from 861,600 in 1985 to approximately 1,094,700 in 2010. Between the year 1990 and 2010, the SCORP estimates a de facto population increase of 17.96 percent.

The population forecast most widely used for planning purposes, is the Department of Business and Economic Development and Tourism (DBED&T) "M-K" Series population projections. This projection, utilized by both the State and County governments, has identified a population increase for Koolaupoko of 109,373 in 1980, to a range from between 109,900 to 121,900 persons for the year 2010. As a percent, this increase ranges from approximately 1 to 11 percent. If these projections are realized in the future, relatively minor impacts can be expected to occur in the Koolaupoko region from the anticipated expansion of the population base.

According to the SCORP Plan, "existing recreation facilities/areas include Makapu'u Beach Park, Sea Life Park, Waimanalo Beach Park, Waimanalo Bay State Recreation Area, Bellows Air Force Station, Kailua beach Park, Ho'omaluhia Park, Kawainui Marsh, Kualoa Regional Park, and Kaiona, Laenani, Kahaluu, and Waiahole Beach Parks."

The SCORP concludes that, alternatives to active forms of recreation are needed now and in the future. Especially important are alternatives to "going to the beach". Areas for picnicking, hiking, and areas for "the appreciation of scenic, natural, and cultural resources" are needed. "Given the importance of neighborhood recreation, adequate opportunities need to be provided in urban areas, including paths for bicycles and pedestrians..."

In summary, the area-wide population is projected to increase in the future and active recreational facilities already exist. However, the demand for passive forms of recreation (i.e. interpretive trails), which is already high, will continue to increase in the future.

## 2.2 ALTERNATIVES

In compliance with the provisions 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 limited to those that would allow the objectives of the project to be met, while minimizing potential adverse environmental impacts. An exploration of the environmental impact of all reasonable alternative actions, especially those that might enhance environmental quality within the site, have been included in this evaluation. The intent, however, is to not prematurely foreclose options which might enhance environmental quality or have less detrimental effects.

In conformance with applicable regulations, possible design alternatives have been investigated and rejected for the reasons discussed in this chapter. In addition to the uses set forth by the preferred alternative, the "no-action" and alternative land use options were also evaluated, but found to be a) inconsistent with the objectives of the proposed project; b) they would potentially create relatively greater environmental impacts; c) or because the type of improvements would be inconsistent with the preferred level of use identified for the Park.

Prior to the establishment of Heeia State Park, the subject property was operated as a cultural center and restaurant known as Ulu Mau Village. When the land was proposed for urban development, the community reaction prompted the Legislature to purchase the property which was acquired as a State Park in 1977. Currently, the Park's extensive shoreline formed by Heeia Peninsula represents the only relatively large, publicly owned shoreline along Kaneohe Bay exclusive of Kualoa Park located at the northern end of the bay. However, the property was not developed into a beach park due to the shoreline's steep slope, lack of beach area, and extensive interpretive values that would be more appropriately used for educational and informational purposes.

Existing land uses and facilities incorporated into alternative designs include the Interpretive Center, Exhibit Hall, a large parking area, scattered structures, picnic shelter, and a small boat landing. No active recreational facilities are present. Given the steep shoreline slopes, limited recreational value of near shore waters (i.e. swimming, snorkeling, boating, etc.), it was determined that the Park's greatest asset centers on the interpretive values present. As such, no major alterations to the types of existing land uses are recommended. Rather, alternative designs focused on accommodating various levels of use and incorporation of existing facilities where feasible.

### **2.2.1 Alternative Design Concepts**

Three alternative design concepts were developed for Heeia State Park. These Conceptual Plans each divide the park into various use areas based on extent of existing development, access, vegetation, interpretive resources, intensity of use, and physical features. Each of the three alternative plans embody several specific design concepts which have governed their development critical to the realization of the final park design as currently envisioned. All design concepts were derived from the goals and objectives identified by the State of Hawaii for Heeia State Park. Alternative A envisions a low use level and "natural" character to the landscape design. Alternative B is designed to accommodate existing use levels, but emphasizing and improving facilities for interpretive programs. Alternative C would increase the current level of use and utilize a "formal" style of landscaping. Interpretive programs would be very formal and structured.

From a design perspective, Heeia State Park exhibits a relatively restricted set of design limitations that have strongly influenced the design of the proposed Park improvements. For example, the existing edges and visual resources are clearly defined by physical features (i.e. steep slopes, shoreline, Heeia Stream, and Kamehameha Highway). These design elements are fixed and cannot be altered. As such, the proposed conceptual designs contain similar locations for visual overlooks, shoreline access points, trails, interpretive displays, and other improvements.

Examples of site design parameters that define the alternative designs as reflected in the alternative conceptual plans are:

- o The physical definition of the Park boundaries established by Kaneohe Bay, Heeia Stream and Heeia Fishpond, and Kamehameha Highway;
- o Significant mauka and makai views that are desirable for interpretive programs;
- o Access points (vehicular and pedestrian) leading into the Park from Kamehameha Highway;
- o Topographical features;
- o The views created along Heeia Stream from the clearing of mangroves for maintenance purposes.
- o Existing and potential access along the Heeia Stream.
- o Existing improvements that should remain;
- o Existing improvements that should be replaced or removed, and
- o Existing plant materials that are to be retained.
- o Establishment of a site to relocate the remains of Native Hawaiians that have previously been exposed near Heeia Stream should be considered for all three alternative plans.

The three alternative designs and intended usage intensities are described below.

**Alternative A – Low Intensity (Figure 3)**

This design is intended to reflect a low level intensity of use and more "natural" setting. Overall facility improvements are generally limited in scope and scale. Improvements that are provided utilize "natural" materials and landscape treatment reflective of an undisturbed or natural park area.

The overall responsibilities of the State for maintenance and management of Heeia State Park would decline from the present level. Maintenance would be reduced as the native plantings become established. The reduced quantity of parking facilities would also reduce maintenance of the existing asphalt parking lot and litter. Administration of interpretive facilities and programs will largely depend on a nonprofit organization such as the Friends of Heeia State Park operating the interpretive facilities as a lessee.

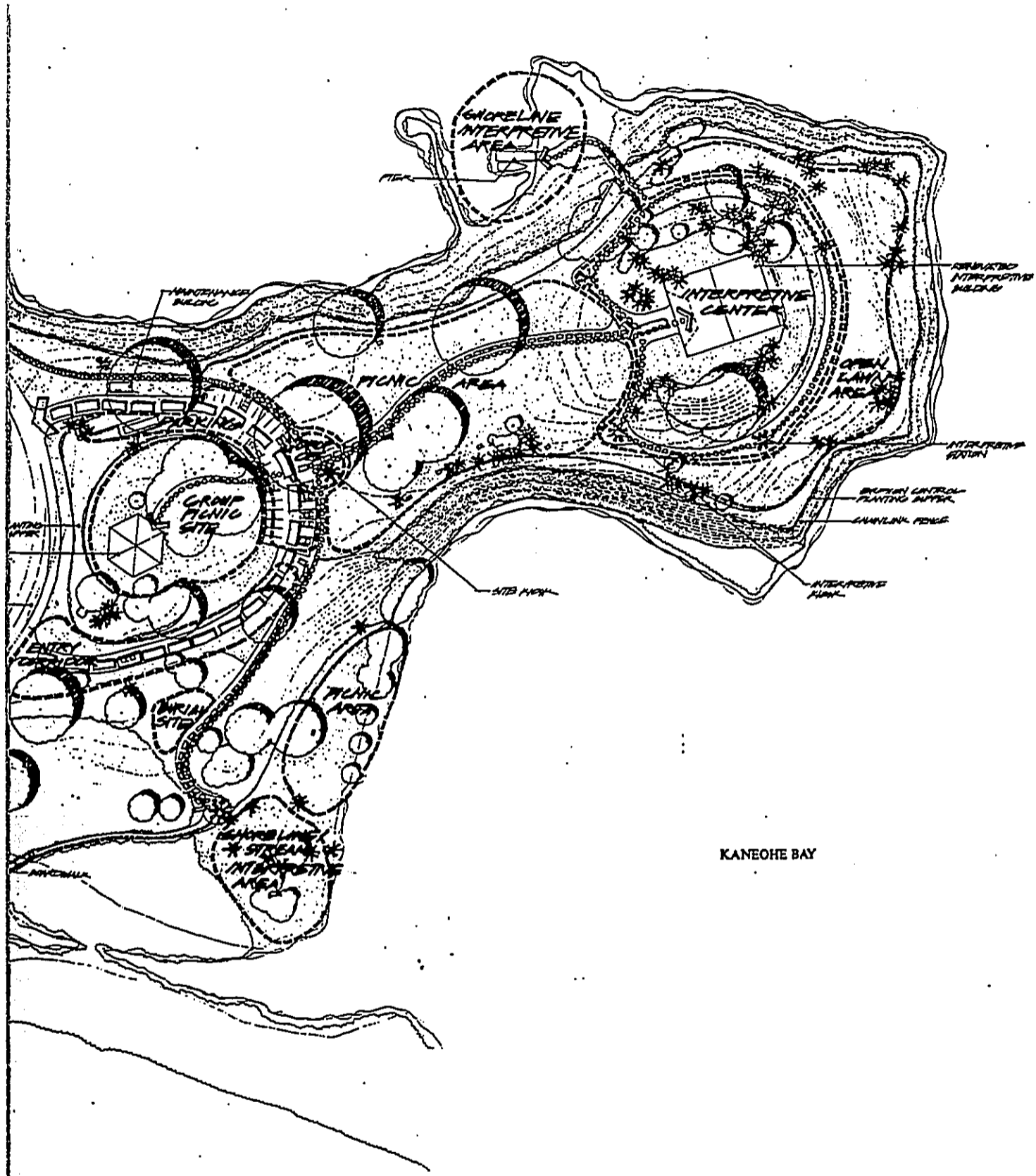
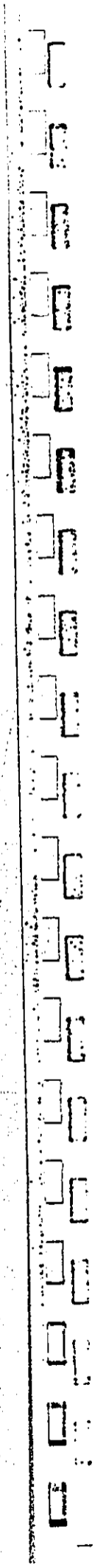


FIGURE 3  
 ALTERNATIVE CONCEPTUAL PLAN A  
HEE'IA STATE PARK MASTER PLAN  
 KANEOHE, HAWAII







#### **Alternative B – Mid-Level Intensity (Figure 4)**

Alternative B is the selected alternative chosen by BLNR as the most appropriate for the site and intended use levels. It is intended to reflect a mid-level intensity of use with improvements directed toward accommodating the present condition and use level. Proposed facility improvements call for an upgrade to existing structures, landscaping, parking, signage and the construction of an improved walkway system.

The overall responsibilities of the State for maintenance and management of Heeia State Park would remain at essentially the same level as currently exists. On-going maintenance of the proposed improvements would be required once all structural and landscape improvements are completed. Administration of interpretive facilities and programs would continue to depend on the Friends of Heeia and volunteers. Much of the landscaping and improvements to interpretive facilities could also be provided by volunteer groups, however, the major physical improvements would require professional services from contractors.

#### **Alternative C – High Intensity Uses (Figure 5)**

Alternative C is intended to reflect the highest intensity of use and improvements. Extensive landscaping, walkway systems, provisions for bus parking, new buildings for interpretive classrooms, a formal entry statement, a viewing platform extending into Kaneohe Bay, and an interpretive program utilizing extensive signage and indoor and outdoor displays. An outdoor amphitheater with terraced benching and stage are also envisioned.

With the increased intensity of planned uses, the management, administration, and funding for park programs will also increase. More full time staffing will be necessary to provide maintenance, security, and presentations of the interpretive program. Whether increasing the use level is desirable and manageable, depends on the State implementing a policy that would commit the necessary resources to Heeia State Park.

#### **2.2.2 Residential Land Uses**

While redevelopment of Heeia State Park for residential use could conservatively result in as many as 30 homesites, the market value of these homes would be high due to the close proximity of the shoreline and could not contribute to the supply of affordable housing in Hawaii. Additionally, residential development would destroy the historical and cultural value of the site and require extensive infrastructural improvements (i.e. water, sewer, transportation). In this light, residential development would result in significant negative environmental impacts. As such, the site was determined as unsuitable for this type of land use.

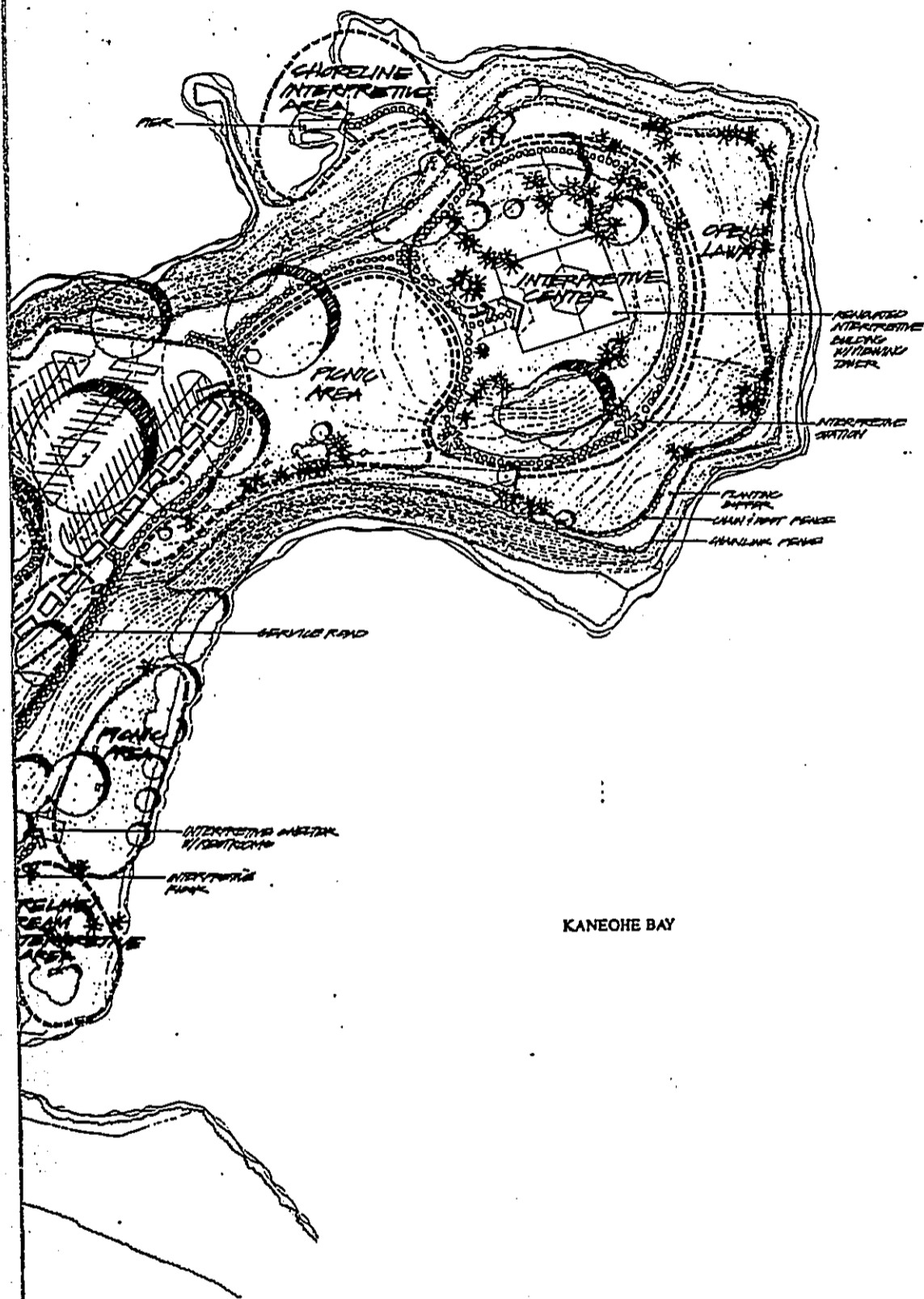
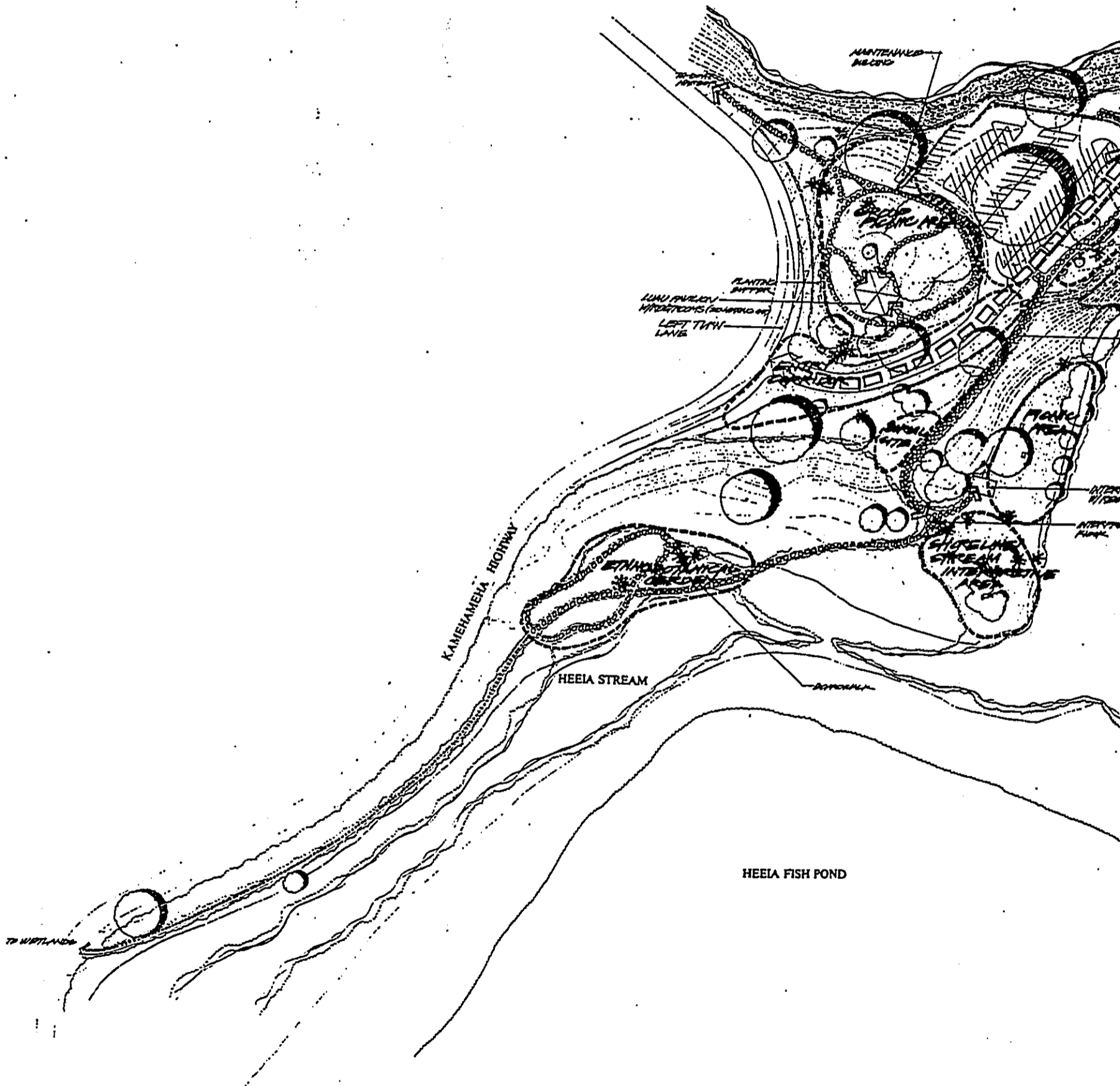


FIGURE 4  
 ALTERNATIVE CONCEPTUAL PLAN B  
HEE'IA STATE PARK MASTER PLAN  
 KANEOHE, HAWAII





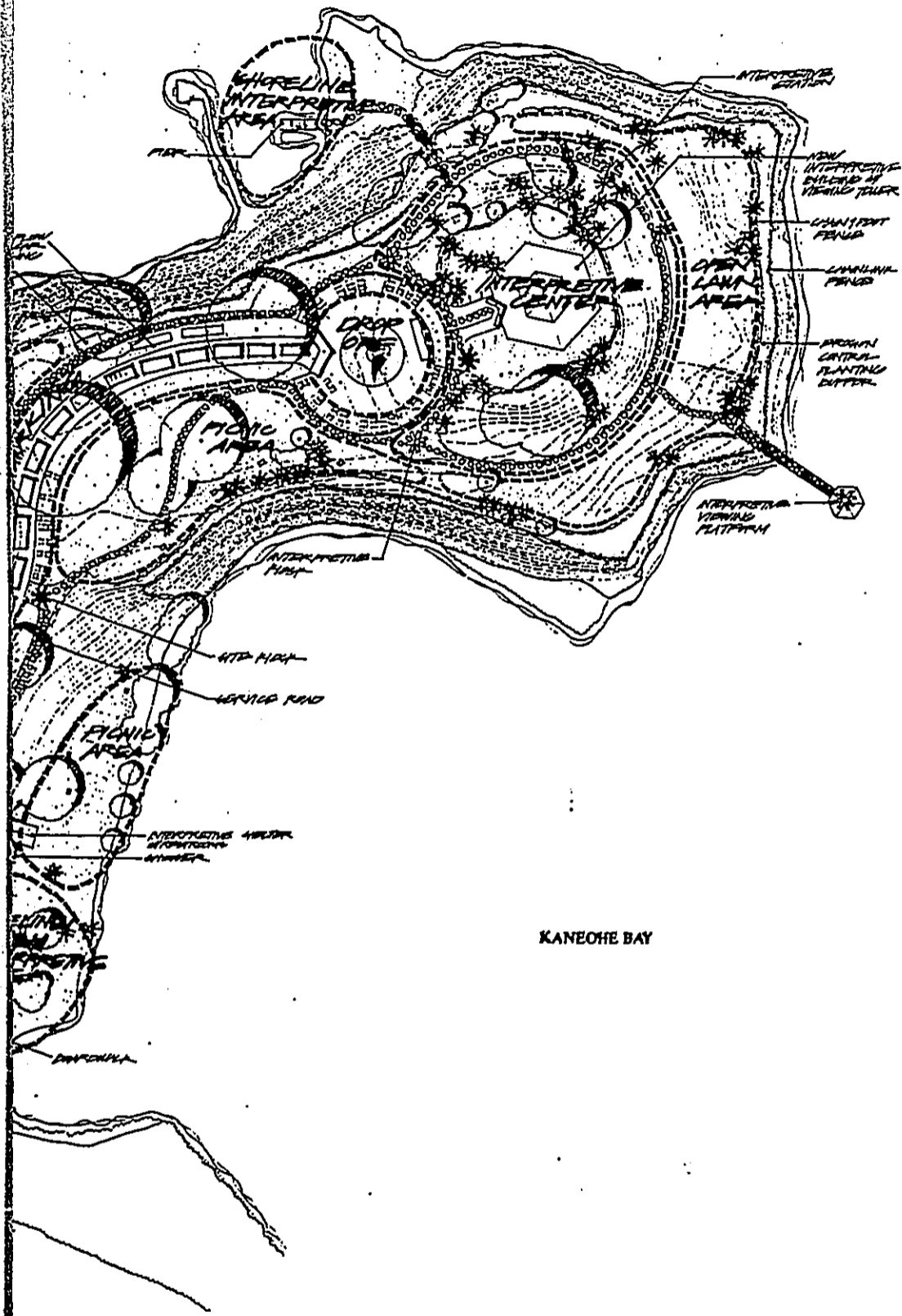
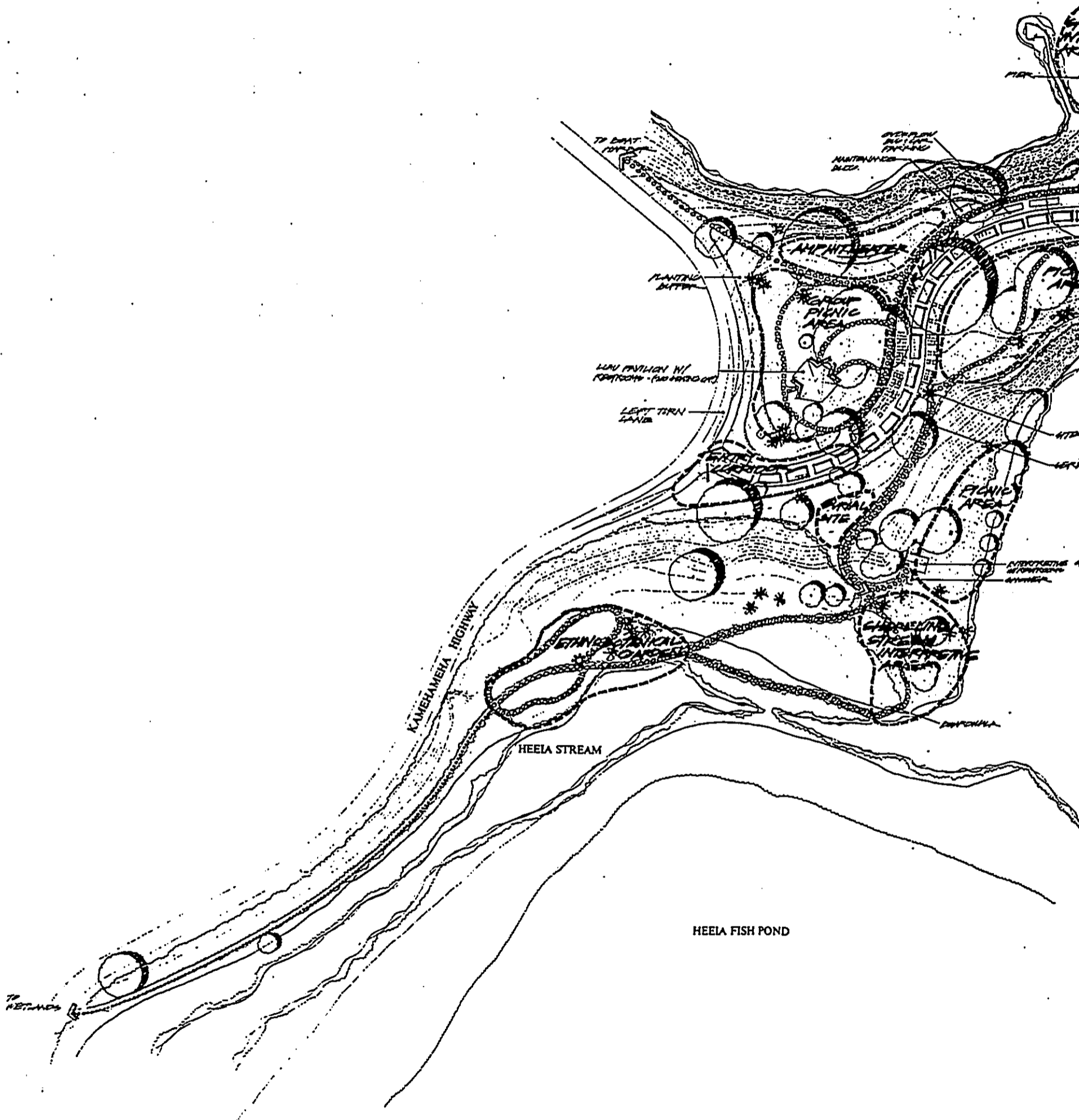


FIGURE 5  
 ALTERNATIVE CONCEPTUAL PLAN C  
 HEE'IA STATE PARK MASTER PLAN  
 KANEHOE, HAWAII





### **2.2.3 Intensified Agricultural Land Use**

Development of the Heeia State Park for intensified agricultural use is unfeasible because of the small size of the parcel, the cost of removing the existing improvements, the proximity of the site to salt spray, and lack of appropriate agronomic conditions necessary for agricultural production. As such, the cultural and economic costs associated with this alternative make agricultural use of the site impractical and unjustified. Therefore, this alternative was eliminated.

### **2.2.4 No-Action Alternative**

The "no-action" alternative would not be consistent with the stated governmental policies of establishing open space areas, opportunities for passive recreation, and would not accomplish the stated objectives of the proposed project.

This alternative would maintain the site in its current condition. The overall environmental impacts to the area (both positive and negative) would remain the same, but the natural attributes of the area would continue to be under utilized. The ability to improve the interpretive values of the site for residents and visitors, as well as to enhance and manage the open space character of the area, would be lost with this alternative.

## **2.3 THE PREFERRED ALTERNATIVE**

It was the intent of the BLNR, to adopt a conceptual plan that would reflect the present level of use, but with emphasis on a quality interpretive program, facilities, and landscaping. Given these objectives, the Alternative "B" was determined to be the most feasible alternative, both from ecological and economical perspectives (Figure 6). This plan has been refined to reflect more detail and to serve as the basis for continued planning (EIS preparation) and redevelopment of the Park by the State of Hawaii. Inasmuch as the site presently exists as a State Park, this current type of land use will minimize potential environmental impacts as the improvements are developed.

If implemented with appropriate mitigative measures, project development could enhance environmental quality and awareness, and provide enhanced interpretive programs to visitors and residents. The design of all interpretive displays, other facilities, and landscaping will incorporate methods to accommodate anticipated increases in usage without damaging the environmental character of the Park.

The primary differences presented by the three alternative designs reflect a range of use intensities envisioned for each concept. Many of the facilities proposed have similar function and methods employed to define how spaces are utilized. However, the level and detail of proposed improvements for Alternative B have been refined to correspond to the desired use levels of the Park. Lower intensity uses would have required relatively minimal improvements and development of less structured interpretive programs, while

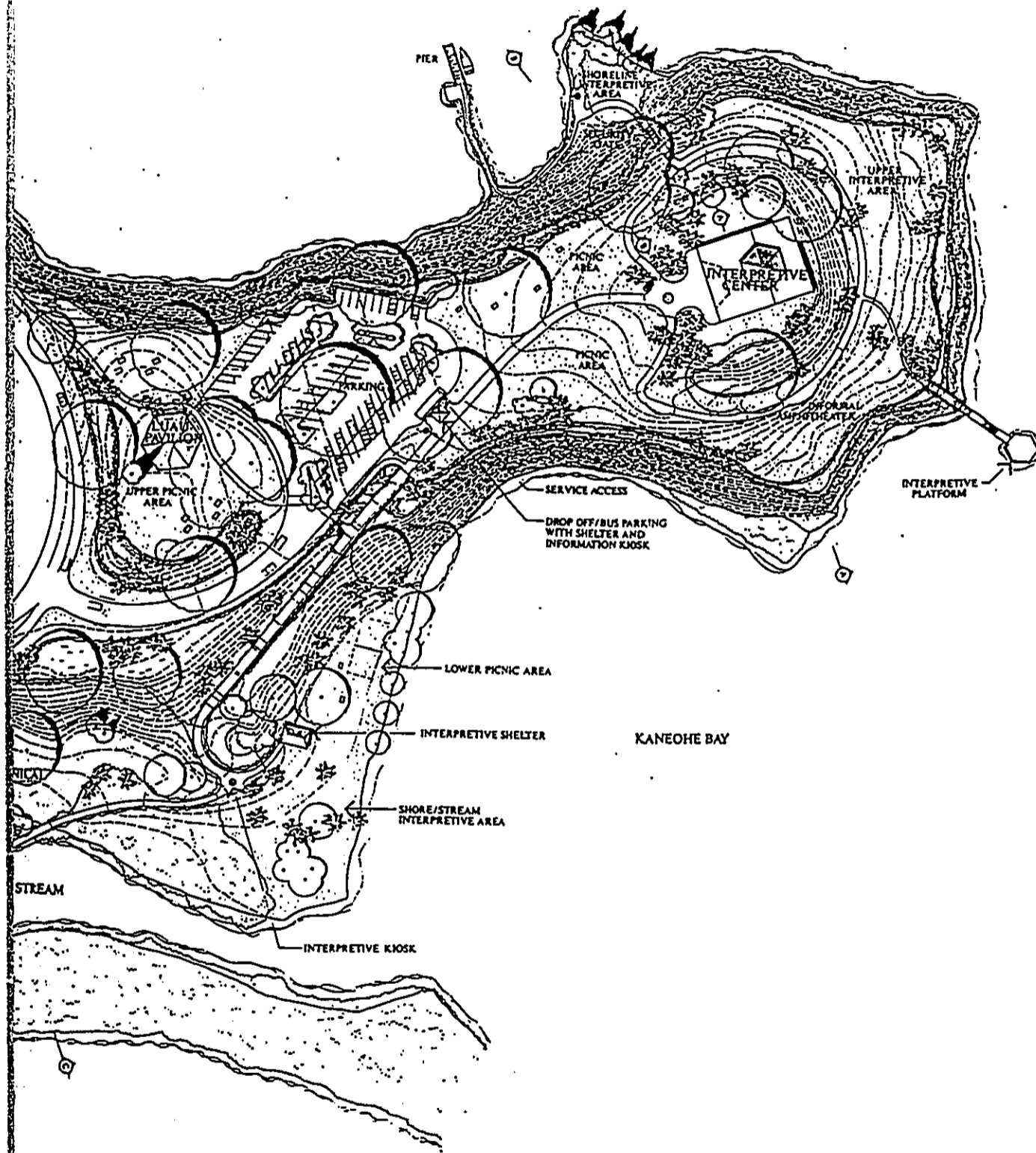














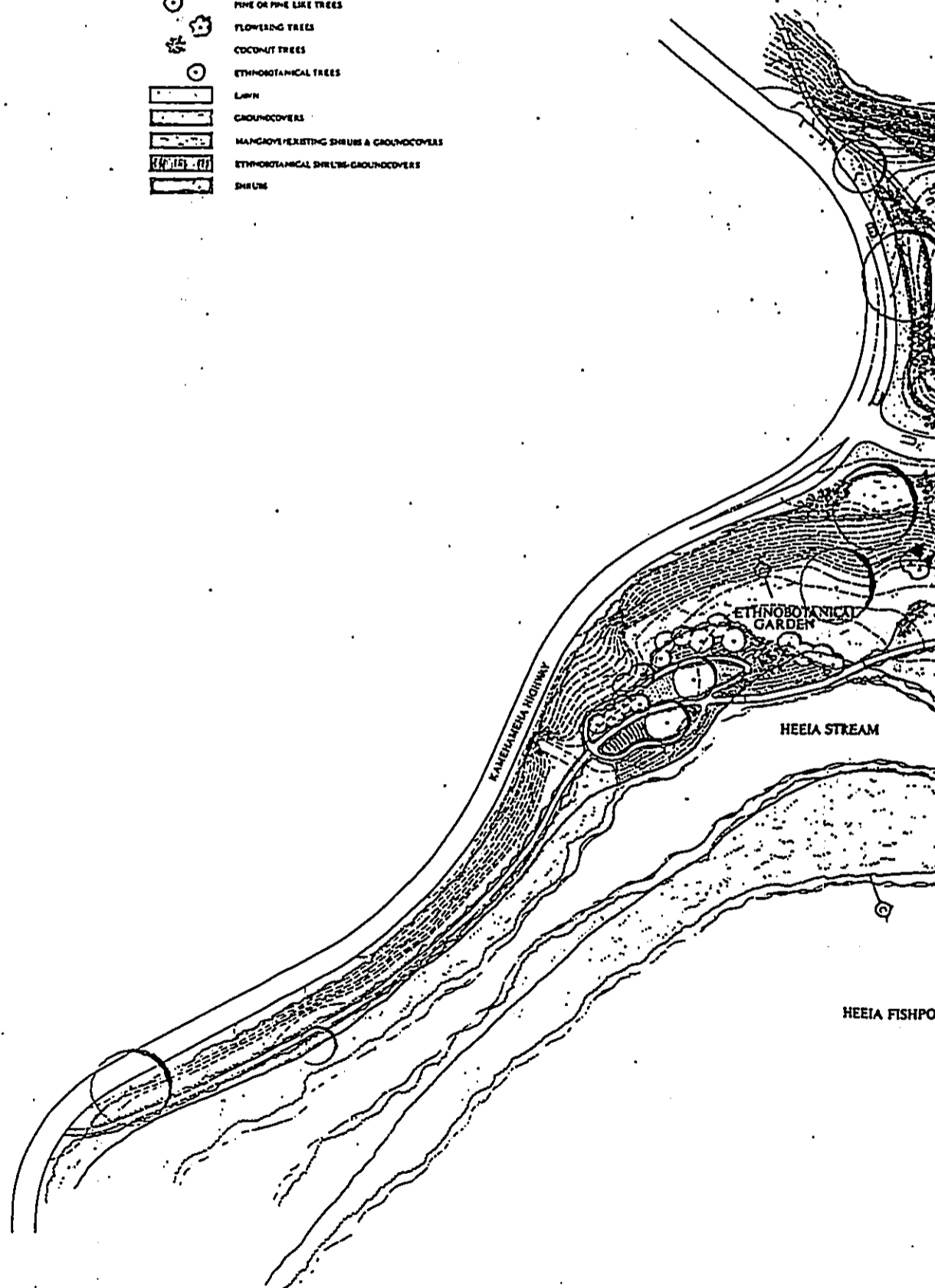
FIGURE 6  
 PREFERRED ALTERNATIVE  
 HEEIA STATE PARK MASTER PLAN  
 KANEHOE, HAWAII


  
 DECEMBER 27, 1991  
 REVISED APRIL 15, 1993  
 REVISED MARCH 4, 1993



**LEGEND**

-  LARGE CANOPY TREES
-  MEDIUM TO SMALL CANOPY TREES
-  PINE OR PINE LIKE TREES
-  FLOWERING TREES
-  COCONUT TREES
-  ETHNOBOTANICAL TREES
-  LAWN
-  GROUNDCOVERS
-  MANGROVE/EXISTING SHRUBS & GROUNDCOVERS
-  ETHNOBOTANICAL SHRUBS/GROUNDCOVERS
-  SHRUBS



HEEIA FISHPO

high intensity use levels described in Alternative C would have necessitated expanded parking, trail development, visual overlooks, interpretive signage and program development, and increased maintenance.

Additionally, to mitigate the environmental impacts currently affecting many aspects of the Park environment, design solutions have been established. These include reconfiguration of the large parking lot into a smaller parking area of similar capacity, redesign of entry access driveways, development of interpretive walkways and boardwalk, implementation of erosion control measures, redesign of existing landscape, and removal of unnecessary structures. Control of mangrove within the Park boundaries at Heeia Stream and Heeia Fishpond is also recommended as an element of the maintenance program.

With the establishment of expanded interpretive programs, facilities, landscaping, and better overall management of the Park, it is anticipated that the proposed improvements will impact the physical resources of the Park and adjoining areas in a more positive manner. Many of the negative environmental impacts presently associated with the Park will be largely mitigated by the proposed improvements. Proposed facility improvements for Alternative B call for replacement of existing structures, landscaping, parking, signage and the walkway system.

Similarly, precautions must be taken in all areas with steep slope to control erosion and sediment discharge that could enter Kaneohe Bay. These mitigation measures include grassing of graded areas, watering to reduce fugitive dust emissions, use of on-site retention basins during and after construction, and installation of fences to prohibit access to areas of steep slope.

Enhancement and maintenance of visual resources is perhaps one of the more important design considerations that should be reflected in all design decisions. The seemingly unlimited visual expanse afforded by Kaneohe Bay and the Koolau Mountains forms the basis of the entire visual interpretive program. These views must be protected. Enhanced views can be created by selected clearing of vegetation, construction of a visual/interpretive tower, and scenic overlooks located along the interpretive trail network.

### **Geographic and/or Activity Areas (Interpretive and Recreation)**

#### **Main Interpretive Area**

The primary focal point in the park will center on the site of the existing Visitor Center. An elevated platform or second story is proposed to provide a permanent viewing area, and multi-purpose room. Interpretive boards would also be placed adjacent to the many windows envisioned for the structure. Other proposed facilities include indoor restrooms, a kitchen, and office area. The establishment of a full kitchen will depend on costs and operating arrangements which meet health requirements. Proposed facilities to communicate cultural values include replacement of the existing concrete slab with

amphitheater and "stage" to accommodate Hula performances and other activities. A second interpretive platform (as shown in Alternative C) would be provided to extend out over the reef area fronting the Visitor Center. This platform would be designed for reef interpretation and not be accessible to boats or water related activities.

An information kiosk and shelter would be provided near the bus drop-off point at the top of the pathway leading to the Visitors Center. Area to be landscaped with new paths, benches and interpretive viewing stations. A small picnic area will be developed mauka of the Visitors Center.

### **Luau Pavilion Area**

As shown by Figure 6, the Park entry corridor is designed to extend along the central ridge of Heeia Peninsula and terminate within the parking area. Storage lanes on Kamehameha Highway and plant massing within the project's entry corridor, will "frame" the entry roadway leading to the parking lot, thereby creating visual interest. This entry landscaping will serve as a focal point for motorists on Kamehameha Highway as they traverse the curve in the highway.

An open-air, enclosable Luau Pavilion would be constructed (with restrooms) to accommodate about 100 people. Space under the pavilion will be provided for maintenance supplies and equipment.

Special attention to design details will be required during the development of grading and construction plans for realignment of the project entry. For example, several excellent specimen trees near the Park entry must be preserved. However, an examination of the topography in the area indicates that extensive grading will be necessary to establish the required site distances along the curve of Kamehameha Highway to ensure an adequate margin of traffic safety. The trees can be saved, although retaining walls and very steep slopes may also be necessary. The landscape treatment at the entry is planned as a more formalized and highly maintained design element as compared to the low intensity alternative. Plant materials are selected for their aesthetic characteristics such as form and color. The caretakers residence would be removed.

The parking lot would be redesigned, but retain approximately the same number of parking stalls. A hard surface access would also extend from the parking area to main interpretive center to provide a place for unloading vehicles.

### **Pier Interpretive Area (Proximate to Heeia Kea Pier)**

The proposed edge treatment near the shoreline cliffs would be clearly defined by a fence. Plant masses of native species will be used to control erosion and as a barrier to the hazardous steep slopes along the shoreline. The existing pathway and alignment of the boat launch would be improved to provide better orientation to the existing channel

which is especially critical for canoe use. The trail to the boat launch would be improved with asphalt surfacing, steps, and a hand rail. Provisions for access to the boat launch for the handicapped will be provided at Heeia Kea Pier.

### **Stream Interpretive Area**

Interpretive viewing stations would be provided along the walkway system at selected overlooks and along Heeia Stream. The cultural interpretive values of Heeia Fishpond and Heeia Stream will be described at the shoreline interpretive area and the ethno/botanical garden. Facilities at the shoreline interpretive area include an open air enclosable shelter with a restroom, outdoor showers, picnic tables, and connection of the interpretive trail to a future Heeia Meadowlands Trail to be connected at Kamehameha Highway near the "long bridge". This trail system through the park will link Heeia Kea Pier with Heeia Meadowlands. A boardwalk is proposed for areas located over saturated soils within areas of dense vegetation.

The heavily vegetated area between Heeia Stream and Kamehameha Highway would be cleared of refuse and undesirable vegetation. Collaboration with the Heeia Fishpond lessee should be encouraged to assist in the removal and control of mangroves to reduce possible damage to Heeia Fishpond and improve viewing. Mangrove control along Heeia Stream is presently being contracted to maintain the stream in a natural condition.

### **Story Development of Natural and/or Historic Interpretive Values**

The Interpretive Program for the preferred alternative will center on the natural environment and the impacts Hawaiian and western societies have created within the transition zone between land and sea. Emphasis should be placed on the geologic and biological evolution of Kaneohe Bay, the habitation patterns and importance of the site displayed by the Hawaiian culture, and how the natural environment is affected by the current condition. Landscape plantings have been proposed in locations to create a clear spatial definition of activity areas, viewing platforms, or special interpretive features. Some plants will require removal or relocation to maintain and enhance view corridors.

In recognition of the known burial grounds and heiau site that exist within the park, an remains found on the site will be re-buried after consultation with the Burial Council and designated representative(s) of the original Hawaiian families of He'eia Ahupua'a. The re-burial site will not be identified except by records maintained by the State and Burial Council.

### **Types of Interpretive Programs and Techniques**

The interpretive program for individuals can be "self-guided" through the provision of informational kiosks and pamphlets, and predetermined stopping points of interpretive

interest. In addition, the interpretive signage program and walkway system will provide handicap access to interpretive areas in accordance with recognized standards.

## **2.4 PARK DEVELOPMENT BY AREAS AND PHASES**

Once construction begins, the park is expected to remain open and continue to provide services to the community, general public, school groups and any special interest groups which have been using various portions of the park. Therefore, an important objective of the construction phasing will be to allow existing uses to continue in existing or temporary facilities while other facilities are being developed.

**Phase I** – This phase focuses on the redevelopment of the pedestrian and vehicular circulation of the upper area and includes landscaping and replacement of the small pavilion near the entry road. It was given first priority because of the need to provide safer ingress and egress to the park from the highway and replace the existing road and parking area which is now in poor condition.

- o The park entrance road will be realigned and Kamehameha Highway will be modified to provide a holding lane for left turns and generally improve the safety of the vehicular entrance. An entry gate will be located a short distance from the park boundary.
- o A new parking lot will be located somewhat nearer the entrance to the park for the convenience of luau pavilion users as well as Interpretive Center users. This facility will be approximately the same size as the existing facility and continue to provide about 94 stalls for cars with limited bus parking along the makai edge of the parking lot.
- o The existing caretaker's house and adjoining structures will be removed. The State Parks Division does not provide caretaker residences except in parks which include overnight camping or cabins for public visitors. The existing house was one of several homes on the private property when it was acquired by the State for park purposes.
- o A new walkway will be constructed from the new parking lot to the Interpretive Center and a walkway around the Interpretive Center will include interpretive viewing stations. The main walkway to the Interpretive Center will be designed as a 10 foot wide road to accommodate occasional use by trucks for maintenance and delivery services. Other secondary paths will be relatively narrow and follow the existing topography. All walkways and pathways will meet handicapped access requirements.

- o The entire upper area of the park will be landscaped as needed, keeping all large trees. The existing Interpretive Center as well as the new pavilion and parking area will be landscaped and some picnic tables placed in the upper picnic area. The upper edge of the shoreline cliffs will be fenced and planted to screen the fence and control erosion.
- o An information kiosk and shelter will be located in the vicinity of the parking area drop-off to tell visitors about the park and how to contact emergency services.
- o Remove the existing concrete slab makai of the Interpretive Center and develop an outdoor amphitheater in this general area. Amphitheater development will be limited to a stage area and grassed slope for the audience.
- o A new luau pavilion near the Park entry road, will be designed to continue to cater relatively small community groups. It will provide tables and seating for a maximum of 100 people, but will not include a stage or kitchen. A restroom and maintenance storage area for grounds keeping equipment (at a separate level) will be built into the pavilion. The new pavilion will be located north of the existing pavilion, avoiding the top of the hill overlooking the park entrance but will remain fairly close to the road. The new pavilion will be oriented north facing the ocean rather than the highway.
- o After the new luau pavilion is completed, the existing pavilion and adjoining restroom/storage building will be removed.

**Phase II** – The remaining, partially developed area of the park along Heeia Stream, would be improved in this phase. The area is somewhat isolated from the upper part of the park and offers some good environmental education program opportunities. This development phase is expected to follow a stream maintenance project which would clear mangrove from the stream bed in order to reopen the channel.

- o A new walkway will be constructed from the upper parking area to the flood plain near the river mouth. This walkway will be designed to 10 foot wide road standards to accommodate the occasional use of trucks for maintenance services. The walkway will meet handicapped access requirements. A relatively narrow pathway will parallel the river and link the river mouth area with the long bridge. This pathway is expected to provide access to public trails which are planned for the recently acquired state wildlife sanctuary in the Heeia wetlands. A portion of the pathway may include a boardwalk through the mangrove ecosystem.
- o An interpretive sign relating to the stream/fishpond will be located in the stream mouth area.

- o An interpretive picnic shelter will be developed near the mouth of the stream. It will include restrooms and a pavilion area with picnic tables for interpretive groups, outdoor education classes or picnickers. The pavilion area will not be enclosed but will be sheltered from the prevailing winds. An outdoor shower will be considered in the restroom complex.
- o An ethno-botanical garden area will be developed with the assistance of the Friends of Heeia State Park and for others interested in developing the garden as an interpretive feature. The garden will include native plants and plants introduced by the Hawaiians.
- o A re-burial site is being established to reinter early Hawaiian remains which erode from grave sites near the river mouth. The exact site is determined by Hawaiians from the ahupua'a and the Oahu Burial Council. The site will be established before Phase II work is undertaken, but will be located well away from any construction work. The location of the site will not be made known to the public and has not been included on the master plan maps.
- o The flood plain area between the base of the hill and the stream will be selectively landscaped. The river mouth area will remain in lawn and become a picnic area with some picnic tables. Other parts of the area will be selectively cleared of undesirable small trees although portions of the mangrove thicket are expected to remain. The steep hill side may also be selectively cleared to increase visibility of the bay while still screening the valley floor.
- o The existing paved driveway from the park entrance road to the bottom of the hill near the stream mouth will be removed.

**Phase III** – In order to fully tell the interpretive story of the interface between land and sea, the visitor needs to visit the bay itself as well as the shoreline. A small channel has already been dredged through the reef between the Heeia Kea Harbor entrance and cove adjoining the west side of the park.

- o Further planning work is needed to integrate the interpretive story, size of boats desired and channel improvements needed for boats to dock at the park. This work would also involve any permits needed for channel/harbor improvements. Canoe activities will also be considered.
- o Construct the pier and make channel improvements as needed. This will include a walkway to the pier which is accessible for the handicapped or alternative arrangements may be made for handicapped access from Heeia Kea Pier. A pier location along the leeward edge of fringing reef channel is preferred.

- o Provide boats for the interpretive program or arrange to have them provided as a park concession. Any commercial operation will need to consider the existing restrictions against the expansion of commercial use.

**Phase IV** – The existing Visitor Center and Exhibit Hall provide space for developing interpretive programs, but these facilities were acquired with the property and are not designed as park interpretive facilities. There are two main reasons for delaying the development of an Interpretive Center to the final phase:

1. The existing Visitor Center and Exhibit Hall have been renovated and are not expected to require replacement in the near future.
2. Some park programs have been developed, but the future of these programs, possible new programs and related sources of funding, are all uncertain at this time.

Further planning and design work will therefore be needed to determine facility needs and space requirements. Before construction can begin, facilities will be made available for ongoing outdoor education classes and interpretive programs. This may involve different uses of the Exhibit Hall, weekday use of the Luau Pavilion and temporary buildings or trailers.

Possible facilities and related activities for the Interpretive Center include;

- o Interpretive viewing stations located within the building, ideally in an elevated viewing tower above the surrounding roof and trees.
- o A banquet and meeting room for private parties, community meetings and interpretive programs. Kitchen facilities will also be considered.
- o Restroom facilities located within the building to replace the existing detached restroom.
- o Classrooms and/or craft rooms need to be considered for outdoor education programs.
- o Office space for park facility and program managers.
- o An interpretive viewing platform over the reef as conceptually shown in Alternative Plan "C".



## 2.5 PROJECT SCHEDULE

The proposed improvements to Heeia State Park are expected to be completed approximately 12 months after acquiring the necessary approvals and permits from the State and County, and funding from the State Legislature. Inasmuch as no funding was approved by the Legislature for 1993-1995, funding does not appear likely for at least 2 - 4 years. Should funding be phased over several years, and if extensive use of volunteer labor is available, construction of improvements could be phased over a relatively long period (1 to 3 years) as labor becomes available.

## 2.6 ESTIMATED PROJECT COSTS

Project costs will be determined primarily by the level of improvements ultimately selected and the method used to implement their installation. Based on the preferred alternative, construction costs are anticipated at approximately 3.66 million dollars as shown below:

### Projected Improvement Costs (1992 Dollars)

Demolition	\$ 219,913
Site Preparation	\$ 492,871
Hardscape	\$ 546,711
Site Furnishings	\$ 184,225
Building	\$ 857,000
Planting and Irrigation	\$1,042,059
Project Subtotal	\$3,342,779
Contingency, 10%	\$ 334,278
Project Total	\$3,667,057

CHAPTER III

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## CHAPTER III

### 3.0 PHYSICAL ENVIRONMENT

The physical environment of Heeia State Park, is comprised of dense vegetation (primarily introduced plant species), open space areas, steep slopes, significant visual resources, and damp climate. Man-made physical features include various improvements such as buildings, walkways, parking area, and other structures. Consequently, a combination of the natural and man-made physical environment that is reflected by the existing interpretive program and that will continue after the proposed improvements are in place. Therefore, it is important that the improvements proposed for the Park do not alter these components of the physical environment or interpretive values. The physical features are for the basis of the proposed plan and are described as follows (Figure 7).

### 3.1 PHYSIOGRAPHY AND AQUATIC RESOURCES

#### 3.1.1 Existing Conditions

Windward Oahu and the Koolau Mountains are comprised of a continuous line of sheer cliffs which represent excellent examples of the erosive power of water and the geologic stages of the Pacific islands. The shield volcano which originally formed Oahu, gradually eroded and deposited gravel and sand within shallow water along the edges of the island. Heeia Wetlands, Heeia State Park, and Kaneohe Bay provide an excellent example of erosional forces that continue to shape the present day landscape.

In addition to Heeia State Park, three major physiographic zones in Kaneohe Bay (inshore, inner bay, and outer bay) generally define both the transition from the sea to land, and Kaneohe Bay's major, but differing forms of aquatic resources.

The inshore zone consists of beaches, stream deltas, and promontories. Extensive historical modification of this area is evident from the presence of fishponds, seawalls, land fills, and channelization of streams which have caused sedimentation and pollution. This zone is most impacted by land uses up-slope from the shoreline. Introduced plant species, such as mangroves, have also significantly altered the inshore environment.

Fringing reefs and patch reefs are also characteristic of the inshore zone. Fringing reefs are fine, land-derived sediments that occur along the shoreline and grade into marine sediments toward the seaward edge. These reefs located in a more seaward position, also contain living coral formations. In the southeast portion of the bay, poor circulation and sediment from former agriculture and urbanization of the watershed, has resulted in less coral development and contributed to the destruction of living coral in the past.

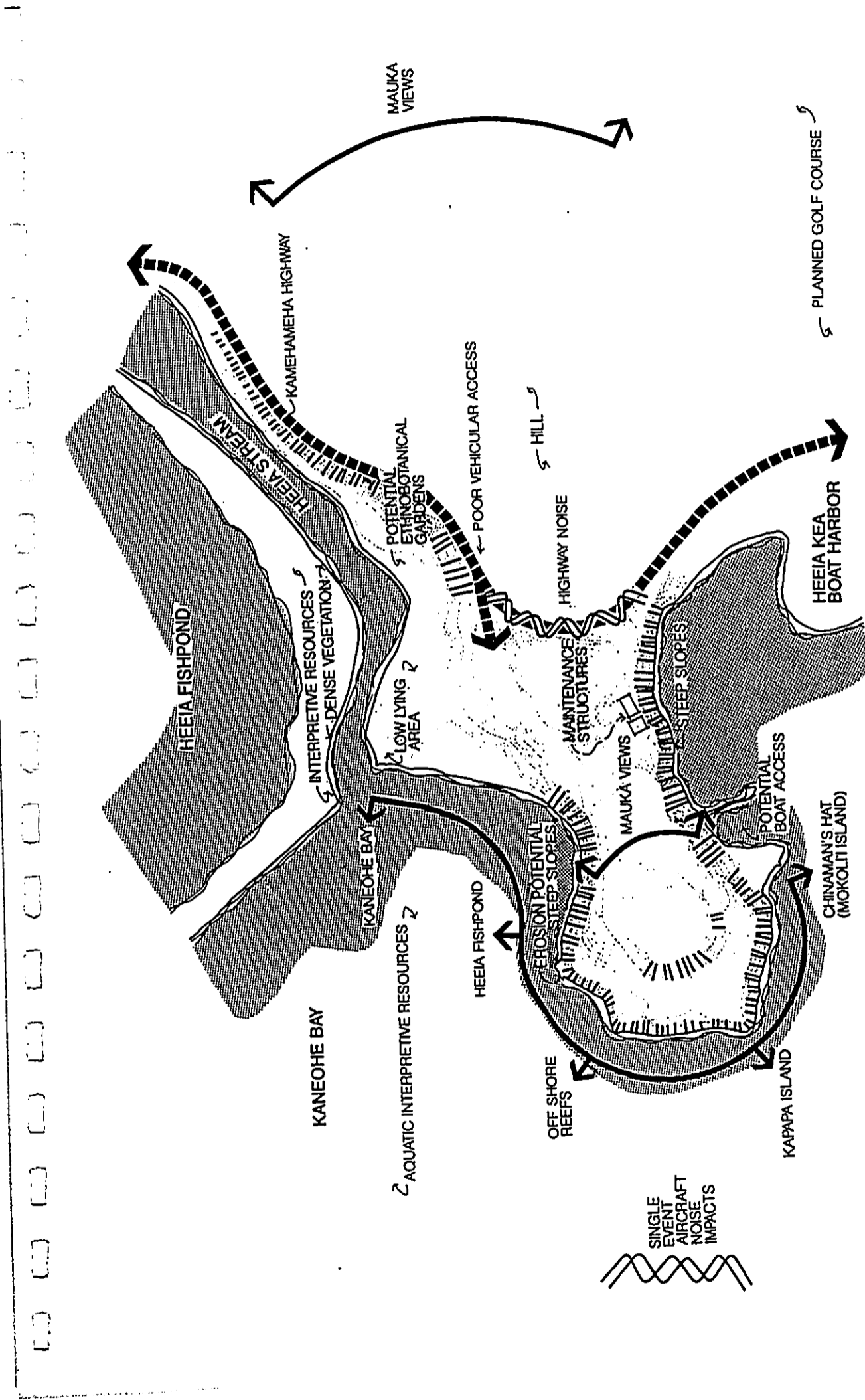


FIGURE 7  
 OPPORTUNITIES AND CONSTRAINTS  
 HEEIA STATE PARK



Patch reefs found within the inner bay zone, have active coral growth on the shallower portions. Many patch reefs are found throughout Kaneohe Bay and are typically small, round to oval structures. Coral is generally found along the sides of the reefs and not their shallower flat tops where much of the coral is no longer living.

The barrier reef complex is probably a basaltic structure overlaid with calcium carbonate extending from the bay's lagoon to ocean waters. These reefs are quite variable and have not been significantly altered by human activity.

Marine organisms found in the bay that could be successfully included in the proposed interpretive program includes: sharks, Hawaiian Green Turtle, pearl oysters, and brachiopods (lamp shells). Of particular interest are the pearl oysters and brachiopods. The pearl oysters were once abundant in Kaneohe Bay, but were almost eliminated due to the value of their pearls. Only one or two living oysters have been seen at these reefs in recent years. Today, this species is protected in Kaneohe Bay.

Recommended interpretive features set forth in the "Conceptual Development Plan for Heeia State Park, Friends of Heeia State Park, June 1990", suggests that physical components of the overall Park design include the following:

**Heeia Stream** – This freshwater drainage feature, has become overgrown with mangrove. The stream which previously flowed next to the adjacent fishpond, helped to create an environmentally diverse estuary. The stream was also used further inland for wetland agricultural practices mauka of the Park. These features can be more completely understood and protected if the stream is cleared of mangrove and trails are established along the stream bank with interpretive display boards.

**Heeia Fishpond** – Although Heeia Fishpond is not located within the boundaries of Heeia State Park, it does provide visual and potential functional values for Park visitors. A national historic site, the fishpond affords an example of both ancient ways and modern aquacultural techniques. Other potential interpretive opportunities include: the fishpond's historic function in the life of Kaneohe Bay, the lands and flood plains which influenced the location and design of the fishpond, and presentation of Hawaiian fishing techniques. The value of the fishpond can be described as:

- o One of the few remaining fishponds out of more than 100 that were once in operation on Oahu;
- o One of the largest ponds covering 88 acres with the longest wall on Oahu;
- o Unique in that the wall completely encloses the pond except for a large break which occurred during an intense storm in 1965.

- o Is in relatively good structural condition;
- o Represents the Polynesian culture-marine orientation and communal cooperative activities;
- o Highly visible to the public both from Nuuanu Pali State Wayside and Heeia State Park.
- o Easily interpreted to the public from Heeia Peninsula.

**Shoreline** – The Park is bounded on three sides by Kaneohe Bay. Access improvements will greatly enhance the interpretive and recreational potential of this resource.

**Reefs** – Approximately 100 feet off shore, an extensive variety of reef ecosystems are present. Especially at low tide, these offer a unique opportunity for interpretive programs.

**View Objects/Viewpoints/View Corridors** – From within the Park boundaries, the best viewpoint potential is present at the visitor center. Other places offer many different perspective of Kaneohe Bay and associated landforms.

### 3.1.2 Probable Impacts

The Park plan has been designed to enhance the interpretive views of the natural features surrounding the Park and the interpretive features within the park. No negative impacts to any significant landmarks will occur. The design of the Park has incorporated prominent physical features into the interpretive program thereby enhancing the likelihood of their continued protection. The proposed alterations to the existing physiography and geology will be limited to grading necessary to provide minor topographical improvements associated with pathway development, landscaping, and development of the parking and access roadway areas. As such, these alterations will be relatively insignificant compared to the existing overall geologic character of the site and region.

### 3.1.3 Proposed Mitigation Measures

Grading for proposed construction of the paths and access roads will generally maintain the present topographical characteristics of the Park. Grading will be undertaken in accordance with the City's Grading Ordinance and recommendations of a soils engineer. Appropriate grading permits will be required from the City prior to commencement of grading operations. Mitigation measures to control soil erosion will be implemented as defined in the erosion control plan to be submitted for City review and approval.

### **3.2 SOILS AND AGRICULTURAL POTENTIAL**

Soils in Hawaii are commonly rated in terms of three classification systems to identify their suitability for agricultural production: 1) the U.S.D.A Soil Survey (Figure 8); 2) Agricultural Importance to the State of Hawaii (ALISH) (Figure 9); and 3) the University of Hawaii Land Study Bureau Detailed Land Classification (LSB) (Figure 10).

#### **3.2.1 Existing Conditions**

According to the United States Department of Agriculture Soil Conservation Service, Soils Survey Report, the entire subject property is comprised of Alaeloa silty clay (AeE) soils. This soil type developed in material weathered from basic igneous rock. Slopes are gently sloping to very steep. Although found in upland areas, small eroded areas such as Heeia Peninsula also contain Alaeloa soils.

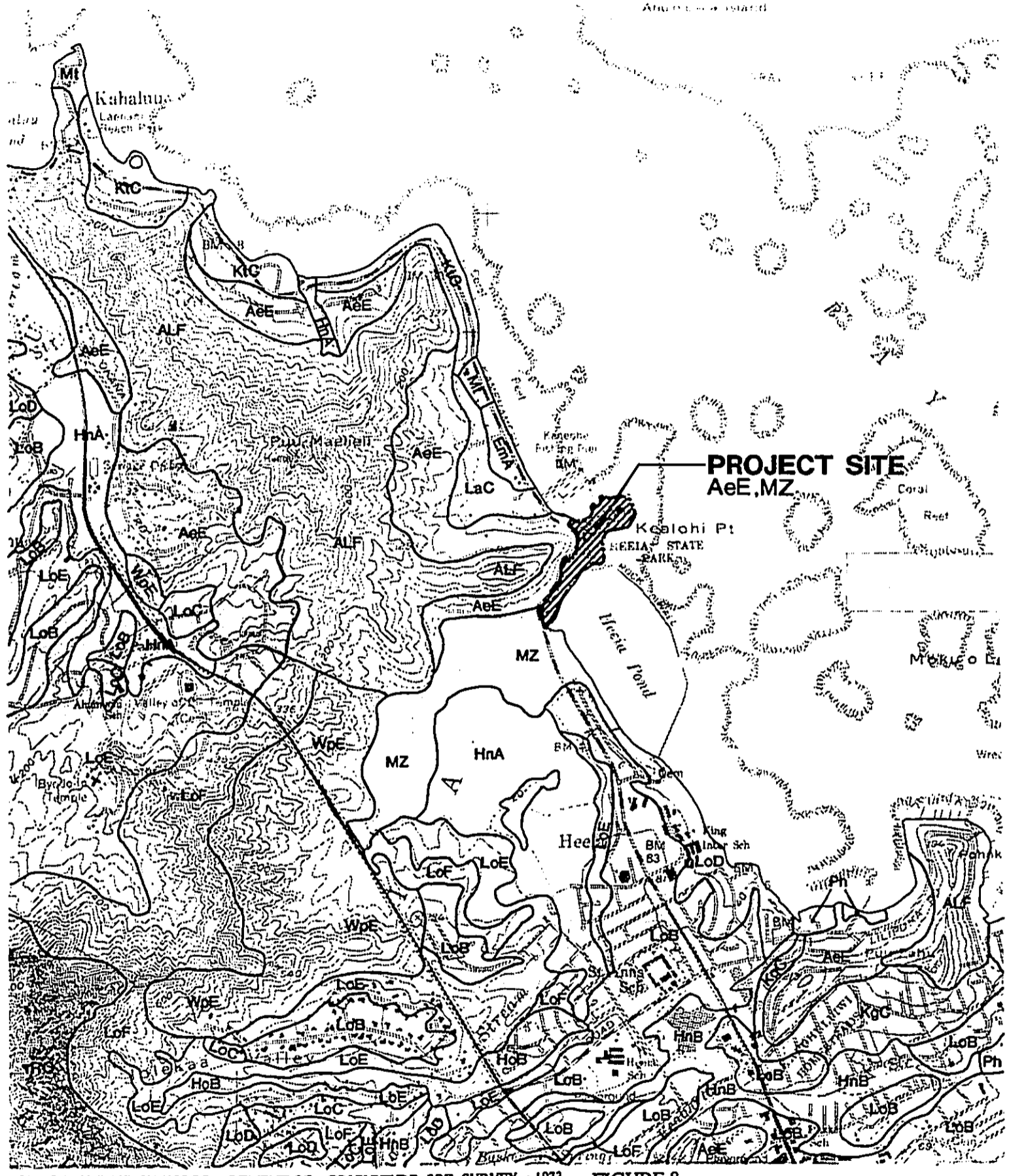
The surface layer is dark reddish-brown silty clay approximately 10 inches thick. The subsoil is approximately 48 inches thick, and has a subangular blocky structure. The soil is medium acid in the surface layer and strongly acid in the subsoil. Permeability is moderately rapid, runoff is medium, and the erosion hazard is moderate to severe on steep slopes.

Engineering applications for the Alaeloa soils are somewhat limited in areas of steep slope especially foundations for low buildings. The degree and kind of limitations for septic tank filter fields are slight on slopes of 3 to 7 percent; moderate on slopes of 7 to 15 percent, severe on slopes of more than 15 percent. Bedrock is usually greater than 5 feet below the surface. Shrink-swell potential is defined as moderate and corrosivity for uncoated steel is rated high. Corrosivity for concrete is rated as moderate.

According to both the ALISH and LSB agricultural rating systems, Heeia State Park is considered as an existing urban development and, therefore, not classified in terms of agricultural suitability. No agricultural activities, other than a possible ethno-agricultural demonstration plot, is planned as an element of the interpretive program or master plan.

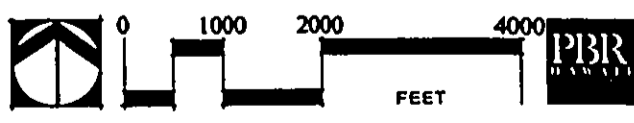
#### **3.2.2 Probable Impacts**

The potential use of the project lands for agricultural purposes is severely limited due to the poor soil qualities, relatively high development costs, and lack of market support sufficient to support the financial investment. Competition for land from higher intensity urban land uses also drive up the market value of land, thereby making the need for higher returns from agricultural production of greater importance. This is especially true for the subject property given the views and subsequent high land value. Other than the possible implementation of the proposed ethno-agricultural demonstration area, no agricultural uses will be added to the Park.

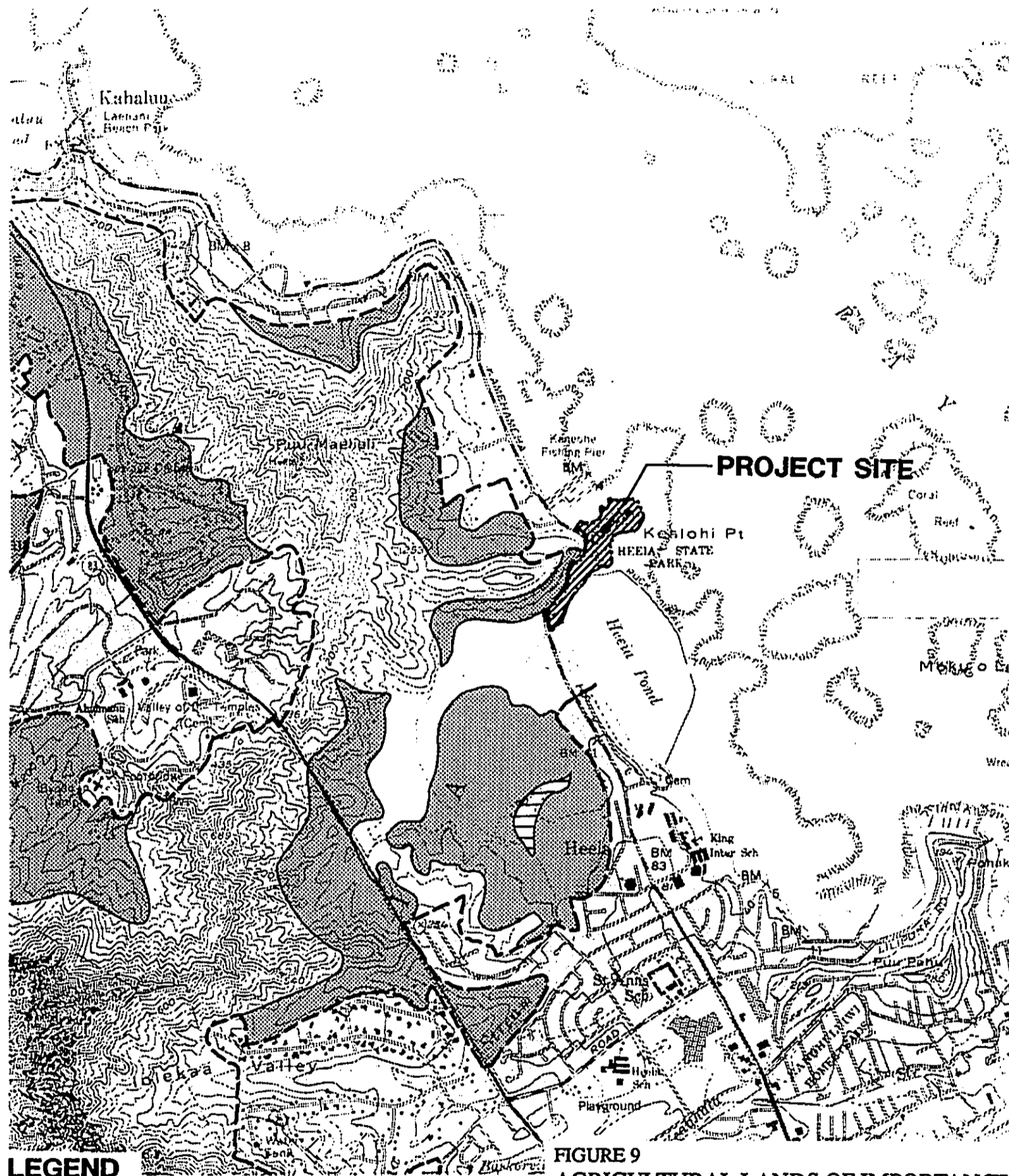


SOURCE: UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL SURVEY - 1973

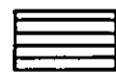
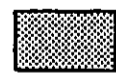
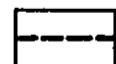
**FIGURE 8**  
**SOIL SURVEY- STATE OF HAWAII**  
**HEEIA STATE PARK**







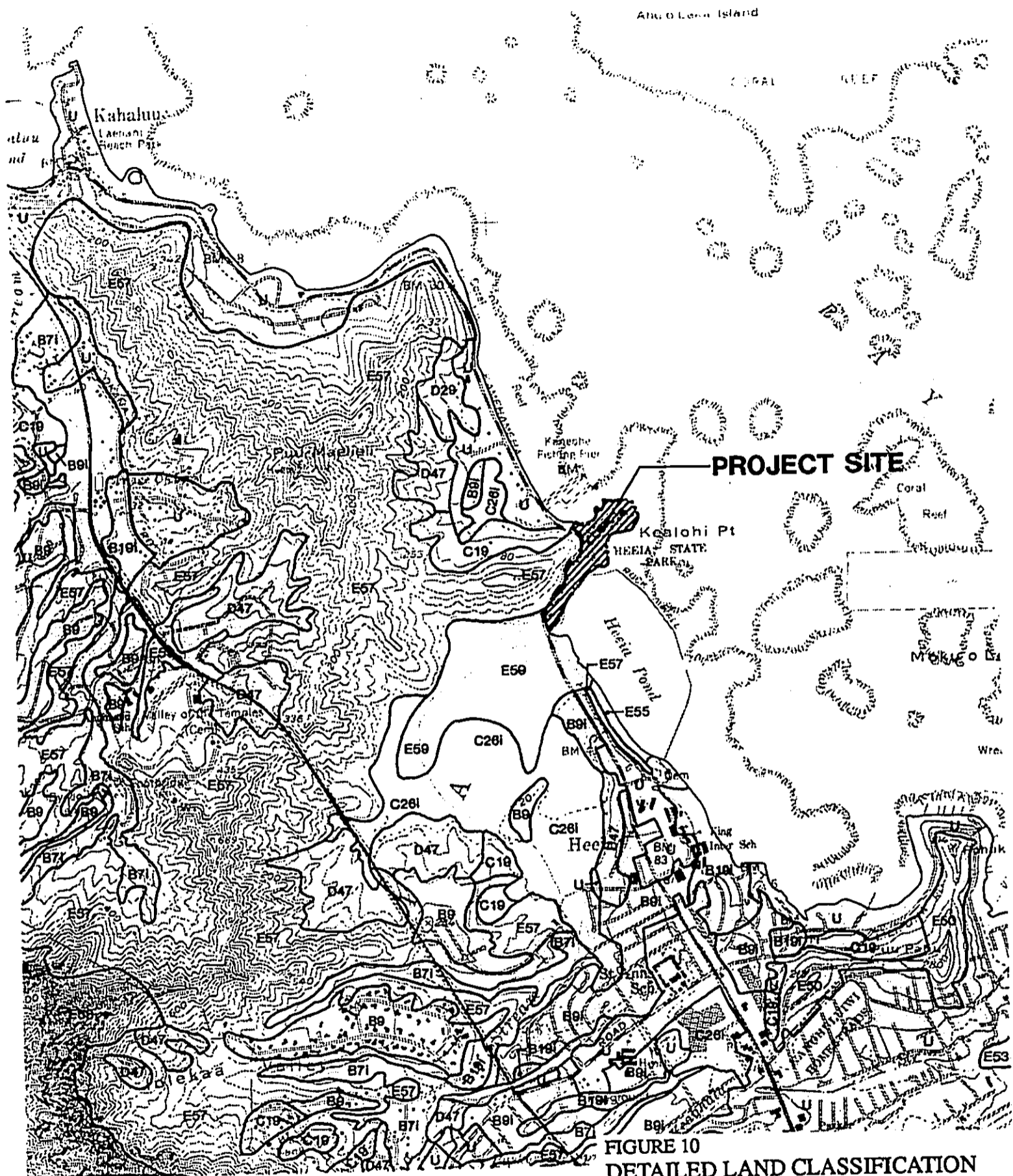
**LEGEND**

-  PRIME AGRICULTURAL LAND
-  OTHER IMPORTANT AGRICULTURAL LAND
-  EXISTING URBAN DEVELOPMENT

SOURCE: STATE DEPARTMENT OF AGRICULTURE - 1990

**FIGURE 9**  
**AGRICULTURAL LANDS OF IMPORTANCE**  
**TO THE STATE OF HAWAII (ALISH)**  
**HEEIA STATE PARK**





SOURCE: UNIVERSITY OF HAWAII, LAND STUDY BUREAU - 1963

**FIGURE 10**  
**DETAILED LAND CLASSIFICATION**  
 LAND STUDY BUREAU  
**HEE'IA STATE PARK**



Significant portions of the Park along the shoreline and adjacent to the makai side of the Interpretive Center, are potentially susceptible to erosion hazards. The erosion potential is exacerbated in these areas by steep slope, lack of vegetation, and soil type. However, mitigation measures will be required and implemented during construction to minimize the potential for significant soil erosion and resulting impacts on near shore water quality.

Assuming the proposed park improvements are implemented, impacts associated with soil erosion could result during the project's construction phase if appropriate mitigation measures are not implemented especially in areas of steep slope.

### **3.2.3 Proposed Mitigation Measures**

The following soil erosion control measures will be implemented as appropriate during project construction in accordance with an approved soil erosion control plan.

#### Short Term:

- o Frequent watering during the construction period to mitigate fugitive dust emissions from areas exposed by grading.
- o Use of temporary ground cover, mulching, and on-site retention areas to control surface runoff and sedimentation discharge into Kaneohe Bay and Heeia Stream. Maintain temporary vegetation until permanent vegetation is established.

#### Long Term:

- o Implement design solutions that will minimize the need to grade large portions of the Park along shoreline areas with steep slope.
- o Landscaping to control long-term dust emissions, enhance the visual impact of the Park, and establish view corridors emphasizing off-site interpretive features such as landforms, land use patterns, etc.
- o Retain, protect and supplement natural vegetation where feasible.
- o Incorporate retention basins or topographic depressions into landscape design to remove sediment from surface runoff.

## **3.3 HYDROLOGY AND DRAINAGE**

### **3.3.1 Existing Conditions**

The primary source of water pollution impacting Kaneohe Bay, is sediment transported by freshwater surface runoff generated directly from rainfall. Perennial streams carry

most of the surface freshwater into the bay with sediment loads varying with the amount and intensity of rainfall. It has been estimated that the streams emptying into Kaneohe Bay discharge an average of approximately 200 tons of sediment per day (Jones et al., 1971).

Diversion of freshwater to the leeward side of Oahu began in 1916 for agricultural purposes. Currently, freshwater runoff into the bay has decreased from an estimated average of 83.2 mgd to 48.1 mgd. This represents an overall decrease of over 40 percent. However, as a result of freshwater occasionally flooding into the bay, combined with low-tide conditions, mass mortality of marine life has occurred in the past. The transport of pollutants from pesticides, sewage, or urban runoff, is also of major concern.

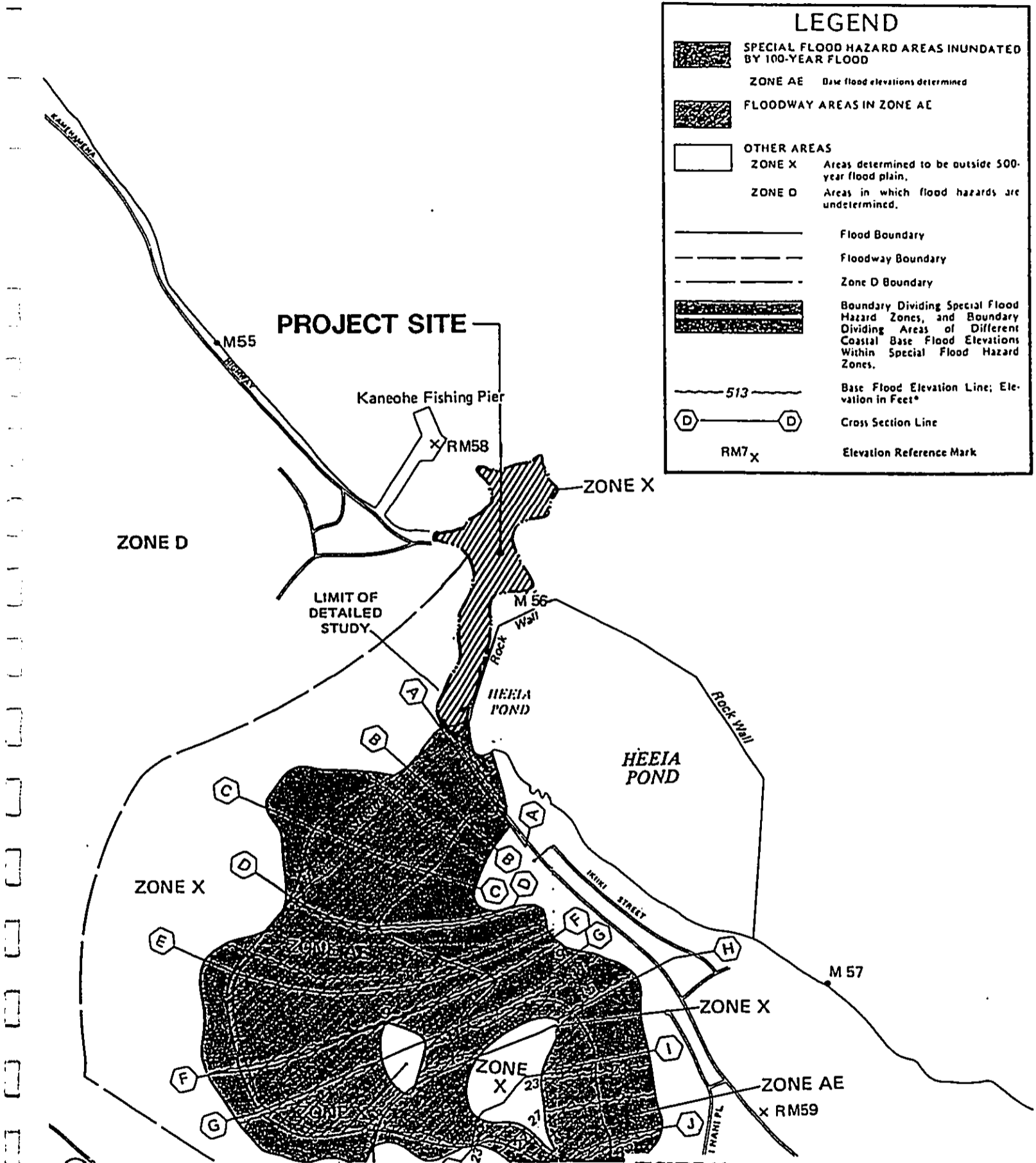
Channelization of streams and removal of vegetation for urban and agricultural development have exacerbated this natural process. Oahu's stream channels are typically short and lack storage making them susceptible to flash flooding and sediment discharge.

According to the Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) (Figure 11), dated September 4, 1987, the project site is located in Zone AE (areas inundated by the 100-year flood with a base flood elevation of 4 feet above mean sea level); Zone D (undetermined flood hazard) and Zone X (outside of the 500-year flood). Although soils in the Heeia Stream channel are typically saturated, its proximity to Kaneohe Bay permits adequate drainage and little flooding potential resulting from inland runoff. Only a small area of less than one acre is identified as "Special Flood Hazard Area Inundated by 100-year Flood".

The location of the project site adjacent to Kaneohe Bay, makes it highly unlikely that the underlying groundwater is potable. However, the Board of Water Supply (BSW) has developed water sources in the Koolau high level dike which provides potable water to the project site and neighboring Kaneohe. This water is contained behind impermeable dikes and is generally of excellent quality because it is not subject to saline contamination as is basal water. On site drainage occurs through natural topographic features which transport surface water to the ocean and Heeia Stream.

#### **Heeia Stream**

The drainage basin which forms Heeia Stream, encompasses 2,750 acres and extends 3.2 miles from the 2,826-foot summit of the Koolau mountains. Heeia Stream flows through Haiku Valley under Kahekili Highway and into Heeia Marsh where flooding is confined between the 40 foot elevation and Kamehameha Highway (Figure 12 and 12A). From under Kamehameha Highway, the stream traverses the southeastern edge of the park along Heeia Fishpond.



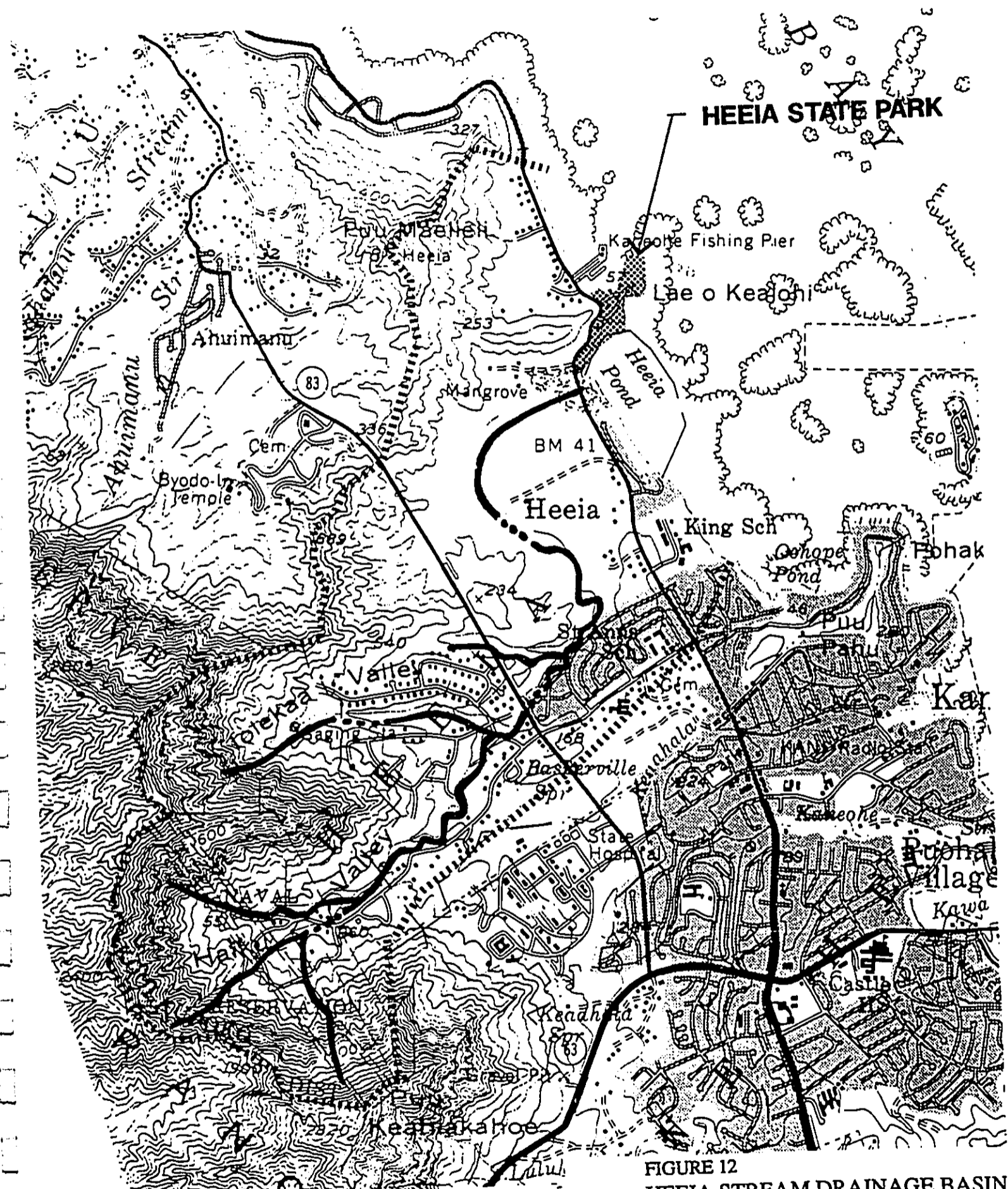
### LEGEND

	SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
	ZONE AE Base flood elevations determined
	FLOODWAY AREAS IN ZONE AE
<b>OTHER AREAS</b>	
	ZONE X Areas determined to be outside 500-year flood plain.
	ZONE D Areas in which flood hazards are undetermined.
	Flood Boundary
	Floodway Boundary
	Zone D Boundary
	Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
	Base Flood Elevation Line; Elevation in Feet*
	Cross Section Line
	Elevation Reference Mark

SOURCE: STATE COASTAL ZONE MANAGEMENT PROGRAM - 1990

**FIGURE 11  
FLOOD INSURANCE RATE MAP (FIRM)  
HEEIA STATE PARK**





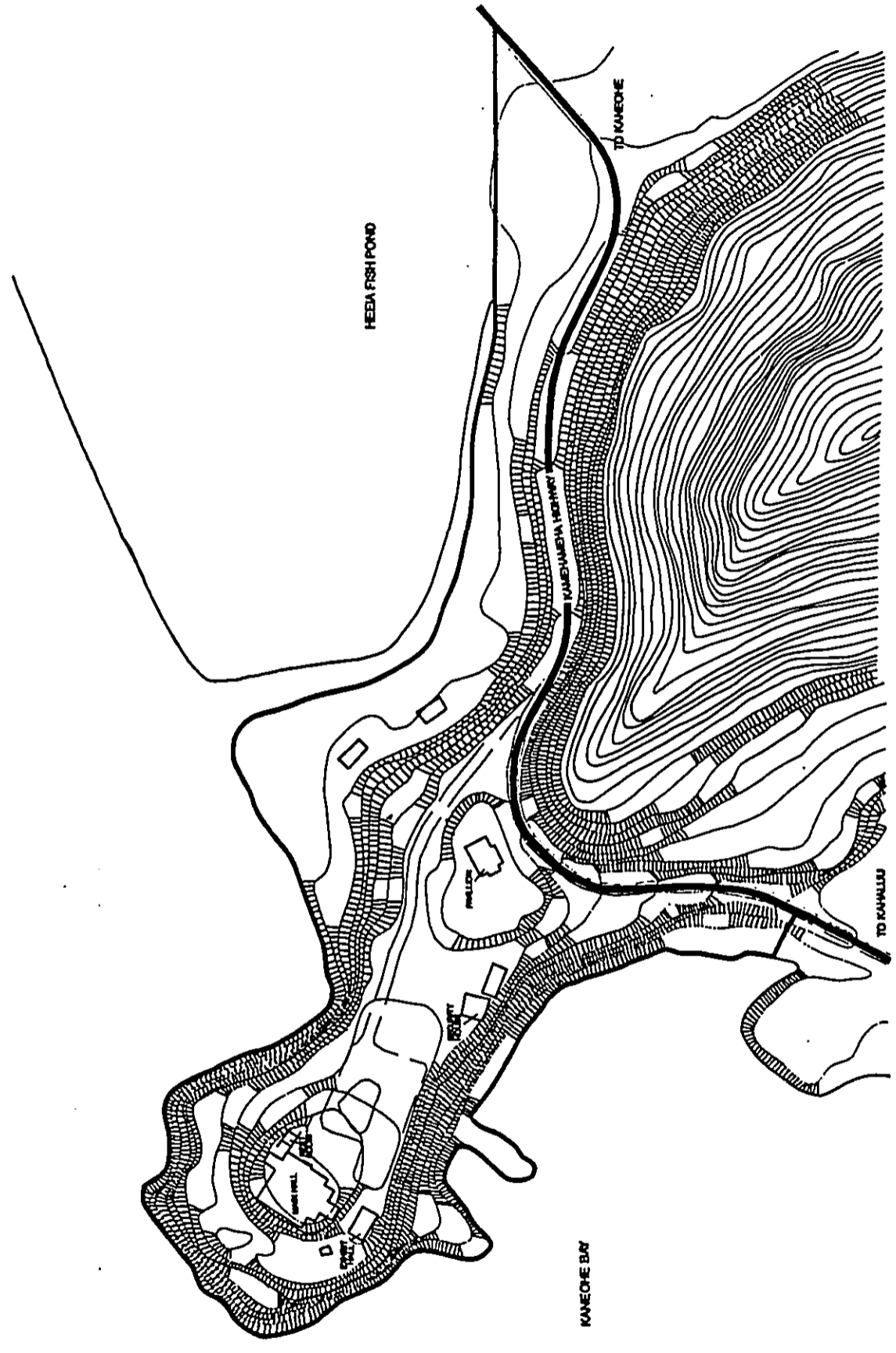
INSTREAM USE STUDY REPORT R68, APRIL 1983  
 DEPARTMENT OF LAND AND NATURAL RESOURCES

----- HEEIA STREAM DRAINAGE BASIN

FIGURE 12  
 HEEIA STREAM DRAINAGE BASIN  
 HEEIA STATE PARK



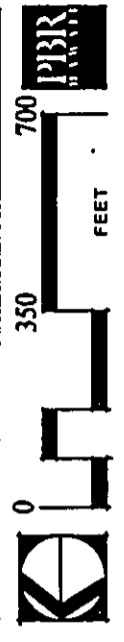
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



**LEGEND**

 >20% SLOPE

**FIGURE 12A**  
**SLOPE ANALYSIS**  
**HEEIA STATE PARK**



Although the stream channel vegetation is currently dominated with mangrove, the stream once provided an important control mechanism for regulating water level and salinity of Heeia Fishpond. Further inland, the stream also served as an important source of irrigation water for taro production by the Hawaiian residents of the area, and rice production within the last 100 years.

The stream channel within Heeia State Park, is defined as the area of dense vegetation leading from the bay in a mauka direction to Kamehameha Highway. Currently, this area is not generally accessible due to the density of vegetation and the saturated condition of low-lying soils. However, the stream corridor serves as a natural linkage between the mountains and shoreline recreational resources.

The presence of very dense mangrove within the Heeia Stream channel and stream bank (including the walls of Heeia Fishpond), creates a unique situation that will require further study. Specifically, Heeia Stream was free of mangrove until it was introduced to Oahu in the early 1920's.

The extensive variety of plant materials, interaction and interrelationship of Heeia Stream with existing plant communities, and the aesthetic quality provided by the natural surroundings, offers park visitors exposure to a unique environmental setting. The ecological significance and interpretive value of Heeia Stream also centers on the manner in which rainfall in Haiku Valley is generated and collected, the evolution of flora and fauna characteristic of Heeia Marsh, the Hawaiian use of Heeia Stream to regulate the salinity of Heeia Fishpond, and the impact of fresh water entering Kaneohe Bay at the stream mouth by Heeia State Park.

### **3.3.2 Probable Impacts**

Presently, the extensive density of mangrove within Heeia Stream is restricting flows and altering the inland stream ecosystem. Removal of mangrove from the stream channel should return the flow rate and flushing characteristics of Heeia Stream to a more natural condition. However, as the mangrove gradually became established within the stream and the natural flows became more restricted, new plant and animal communities became established within the stream and at Heeia Wetlands. Once the mangrove is controlled and fishpond walls repaired, an on-going maintenance program will be required to mitigate possible fluctuations in stream flow that could be harmful to some desirable species.

The proposed project is not expected to have any significant impact on the regional hydrology or on site drainage characteristics, however, maintenance of the stream channel will return the quantity of water to former flows which occurred before the channel was choked by the growth of mangrove. None of the proposed improvements will alter the quantity or quality of Heeia Stream waters. Only erosion impacts and removal of mangrove within the Heeia Stream channel could possibly alter the existing condition.



However, as previously indicated, mitigation measures are available to control potential erosion impacts.

### 3.3.3 Proposed Mitigation Measures

In addition to the soil erosion control mitigation measures and compliance with applicable Department of Health wastewater disposal and treatment regulations, no other actions are required to address the groundwater hydrology and surface drainage impacts of the proposed improvements. Mangrove should be controlled to re-establish flows of Heeia Stream.

## 3.4 DEVELOPMENT AND NATURAL HAZARDS

### 3.4.1 Existing Conditions

Development hazards can be categorized into three areas of concern; accident potential generated by the Marine Corps Air Station at Kaneohe, steep slopes found along the shoreline of Heeia Peninsula, and traffic hazards associated with the access driveways leading into the park. Other periodic hazards may occur such as sewage pollution and flooding of Heeia Stream. However, these are relatively uncommon and do not occur without some warning.

Limited accident potential hazards generated by aircraft overflights, may currently exist over a portion of Heeia State Park. According to the AICUZ Update, for Marine Corps Air Station Kaneohe Bay, Oahu, Hawaii, August, 1983), approximately one fourth of the park area (essentially Heeia Peninsula) extends into "Accident Potential Zone (APZ) II". The location of this zone is established by accident data and is more specifically defined as "the area extending beyond APZ-I to 15,000 feet from the runway end. It is normally used whenever APZ -I is required. This zone may also be modified to follow the principal approach and departure flight tracks." APZ-II is not used for helicopter operations.

Land uses compatible APZ-II as identified in the AICUZ, are also addressed. For land uses defined as "preservation" and "recreational", APZ-II is "clearly compatible" and "normally compatible" respectively. As such, all of the existing and proposed land uses envisioned by the Heeia State Park Master Plan are compatible with the APZ-II as established by the Kaneohe Marine Corps Air Station.

Steep slope and traffic hazards can be largely mitigated utilizing various design techniques. Currently, the only physical barrier protecting park users from the steep shoreline slopes, is a poorly maintained chain-link fence running parallel to the shoreline. This barrier is currently broken at several locations and also detracts aesthetically from the surrounding visual resources. Equally effective barriers can be established with appropriate plant material selection and alternate methods of fencing.

The highway access driveways leading into the park, will require realignment and redesign. Currently, each of the two driveways have only minimal sight distance.

### **3.4.2 Probable Impacts**

The project is not likely to have any impact on natural hazard conditions, however, other hazards that could directly effect the project area may exist, but are not considered significant.

### **3.4.3 Proposed Mitigation Measures**

No mitigation measures are required within the APZ-II flight zone as the proposed land uses are considered as compatible despite annoying, periodic noise levels.

Landscape plantings will be located within areas of steep slope to retain soil and restrict the level of pedestrian traffic. No new land uses are proposed for areas of the Park that may be susceptible to flooding as described by the FIRM except for possible fencing.

Based on the questionable need for two vehicular access driveways, and the hazard potential created by existing topographical and roadway alignment design features, a realignment of the entry for both aesthetic and safety purposes is recommended (see Figure 6).

## **3.5 CLIMATE AND METEOROLOGY**

### **3.5.1 Existing Conditions**

The Heeia region is relatively damp with an average rainfall of approximately 50 inches. Temperatures are similar to other coastal regions, ranging from approximately 65 to 90 degrees Fahrenheit. The entire windward side of Oahu is subject to northeasterly trade winds (makai direction) with a mean flow of approximately 18 knots. The presence of steady trade winds help to create an important cooling effect during warmer mid-day periods. However, winds of this strength near sea level generates a salt spray which must be considered during selection of plant materials to be incorporated into the landscape design. Supports and anchoring of new plantings will also be necessary to permit young plants to become fully established.

According to the Rainfall Atlas of Hawaii, Department of Land and Natural Resources, June, 1986, the subject property receives approximately 1500 millimeters (59.06 inches) of rainfall per year. This level of rainfall makes scheduling of outdoor events and presentations difficult if no options are present to move these activities indoors in the event of rain or high winds. As such the more important viewpoints and walkways may require canopies or extensive use of plant materials to mitigate the occurrence of rainfall.

### **3.5.2 Probable Impacts**

The project is not expected to have any impact on the micro climate of the project area or region. Planned structures would not be tall enough to significantly effect existing wind patterns; and new landscaping associated with the Park will not significantly effect temperature, although some localized cooling can be expected to result from the establishment of additional Park landscaping.

### **3.5.3 Proposed Mitigation Measures**

Due to the lack of anticipated significant adverse impacts of the project on micro or macro climate near the site, mitigation measures do not appear warranted.

## **3.6 AIR QUALITY**

### **3.6.1 Existing Conditions**

In general, air quality in Hawaii is excellent due to the predominant northeast trade winds. Some localized conditions, such as heavy traffic at intersections, can negatively impact air quality. However, the relatively low existing and projected traffic levels at Kamehameha Highway will not negatively impact air quality at Heeia State Park and it is assumed that emissions from vehicular traffic do not exceed State air quality standards.

### **3.6.2 Probable Impacts**

It is possible that during construction, the air quality at Heeia State Park will be impacted by exhausts generated from construction equipment and fugitive dust emissions. However, upon completion of the improvements to Heeia State Park, no significant air quality impacts are expected to remain from construction activities or result in long term impacts associated with development of project improvements. Mitigation measures are available to significantly reduce the potential impact on air quality during the construction period.

### **3.6.3 Proposed Mitigation Measures**

The proposed soil erosion control measures will mitigate both water and air borne emissions of silt and dust. As such, air quality within the Park can be maintained at essentially the same level as currently exists. Inasmuch as intersection improvements at the Park entry are planned to improve the efficiency of traffic movements, no additional mitigation measures proposed to mitigate vehicle emissions.

### 3.7 NOISE QUALITY

#### 3.7.1 Existing Conditions

Noise considerations in the Heeia region, are defined by transportation related noise from Kamehameha Highway and aircraft noise generated by the Kaneohe Marine Corp Air Station (KMCAS) on Mokapu Peninsula and activity noise associated with higher densities of persons utilizing the park and Kaneohe Bay. The relatively "urban" surroundings of Heeia State Park will inherently generate sounds that impact the "natural" experience of Park visitors. Examples of intrusions include the sound of boat engines from Heeia Pier and the bay as boats pass by the park.

Aircraft noise and its impact on surrounding land uses emanating the KMCAS, were most recently evaluated in August 1983 by the Department of the Navy (see AICUZ Update, for Marine Corps Air Station Kaneohe Bay, Oahu, Hawaii, August, 1983). According to this study, the subject property is located within "Noise Exposure Zone 2" which is exposed to Ldn noise contours of between 60 and 70 Ldn. (It should be noted that this study was largely based on F-4 aircraft and not the F/A-18's as currently deployed. The noise impacts of F/A-18's have not been determined.)

To provide guidance for land use planning near airfields, the Navy developed a "Land Use Compatibility Matrix" for application throughout the United States. According to the Compatibility Matrix, public facilities and recreational areas are defined as "normally compatible with Ldn noise levels of 60 to 65 Ldn. Ldn levels between 65 and 70 are "normally incompatible" with these types of land uses. The term "normally incompatible" means "noise exposure is severe to the extent that special building construction may be necessary to minimize adverse impacts on people and reduce interference with performance of normal activities."

Based on these Ldn noise contours, Heeia State Park is generally compatible with aircraft noise impacts identified in the 1983 study. Single event noise occasionally exceeds the recommended Ldn levels and may be considered as incompatible during these noise events. However, the recreational and open space character of the park appears to be the best use of the property given existing noise condition according to the AICUZ study. Higher density land uses would require mitigation measures to attenuate noise impacts.

Highway noise is limited to those portions of the Park adjacent to Kamehameha Highway that experience traffic related noise. Some vehicle noise also occurs within the parking area, however, this type of noise is temporary and varies with individual vehicles. If temporary bus parking becomes a regular occurrence in the future, buses may run their engines to operate air conditioning systems.

### **3.7.2 Probable Impacts**

Unavoidable, but temporary noise will occur during the construction phases of the proposed improvements. However, the limited extent of construction activity should not be excessive or approach unacceptable levels. None of the proposed land uses within the park are anticipated to significantly increase noise. However, noise that does exist (except for aircraft noise) can be buffered through the use of sound proofing techniques incorporated into building design and by establishing landscaping and plant masses proximate to heavily used outdoor areas. After the improvements are completed, noise levels are expected to remain similar to existing conditions, but worsen as increased traffic levels occur on an island-wide basis in the future. The project will not impact aircraft related noise.

### **3.7.3 Proposed Mitigation Measures**

The use of quiet equipment and construction curfew periods are required under the State Department of Health noise regulations to minimize construction noise impacts. Construction equipment will utilize required mufflers and be shut off when not operated.

Aircraft and highway traffic noise can each be mitigated, but not eliminated, by development of structural and landscape buffers. Structural buffers are typically comprised of building insulation, air conditioning, and limited window space. It should be emphasized, however, that these measures may not be suitable for the type of "open air" structures typically associated with recreational buildings. Landscaping located around the Interpretive Center and other buildings could provide limited noise buffering, while also spatially defining outdoor classrooms and interpretive areas.

Landscape buffers and topographic features, will be especially useful in mitigating noise impacts along the Kamehameha Highway corridor. Landscape buffers may become more important in the future as traffic levels increase. In addition, the highway landscape buffer, roadway improvements at the project entry will be required which may reduce the level of unnecessary noise. According to the Traffic Impact Analysis (Appendix A), proposed roadway improvements consist of a left turn storage lane on Kamehameha Highway and realignment of the project entry to intersect with Kamehameha Highway at a perpendicular angle to establish adequate sight distance.

Consequently, noise can be buffered through the use of sound proofing techniques incorporated into building design and by establishing landscaping and plant masses proximate to heavily used outdoor areas.

### **3.8 VISUAL ATTRIBUTES**

#### **3.8.1 Existing Conditions**

The City and County of Honolulu, has conducted a comprehensive view shed assessment documented in "Coastal View Study, City and County of Honolulu Department of Land Utilization, 1987". In this study, the existing visual resources of the entire Oahu coastline are inventoried, prioritized, and documented (Figure 13).

According to the Coastal View Study, the Heeia view-shed is distinctly residential with single family homes lining most of the shoreline. The roadway view from Kamehameha Highway near the Heeia Boat Harbor is termed as significant from "Heeia to Kealahi Point". Additionally, the alignment of Kamehameha Highway adjacent to the shoreline insures preservation of continuous views. Intermittent views (mauka and makai) from Kealahi Point to Heeia Fishpond are also present, however, heavy vegetation limits views in this area unless selective clearing is implemented. Significant pedestrian viewing points include panoramic views from Heeia State Park and H-3 Freeway scenic lookout. A portion of the Coastal View Study is depicted in Figure 13.

The visual intrusion of overhead power lines, scattered refuse, presence of the maintenance buildings and maintenance manager residence, water pollution, visual dominance of asphalt parking area, and general run-down appearance of some existing structures all impact the visual quality of the site.

#### **3.8.2 Probable Impacts**

Proposed improvements will alter the visual character of the site, but not in a negative manner. Landscaping with many native plant species will enhance the aesthetic quality of the park while defining view corridors, outdoor spaces, and acting functionally by restricting the effects of wind and rain. All improvements to physical facilities will incorporate building materials and techniques that exhibit a natural character to the park.

From the Kamehameha Highway corridor, the new Luau Pavilion and project entry landscape corridor will be visible to reinforce a favorable first impression for park visitors. The dense vegetation between Heeia Stream and Kamehameha Highway will remain visually similar to the present condition although this may be modified by mangrove control in Heeia Stream and establishment of the proposed ethno-botanical garden.

#### **3.8.3 Proposed Mitigation Measures**

View corridors of distant landforms and geographic prominence from within the Park will be established by landscape techniques to better define their interpretive value. Existing structures will also be removed or renovated as appropriate. Development of the proposed trail system and Heeia Stream boardwalk will open new visual resources to park

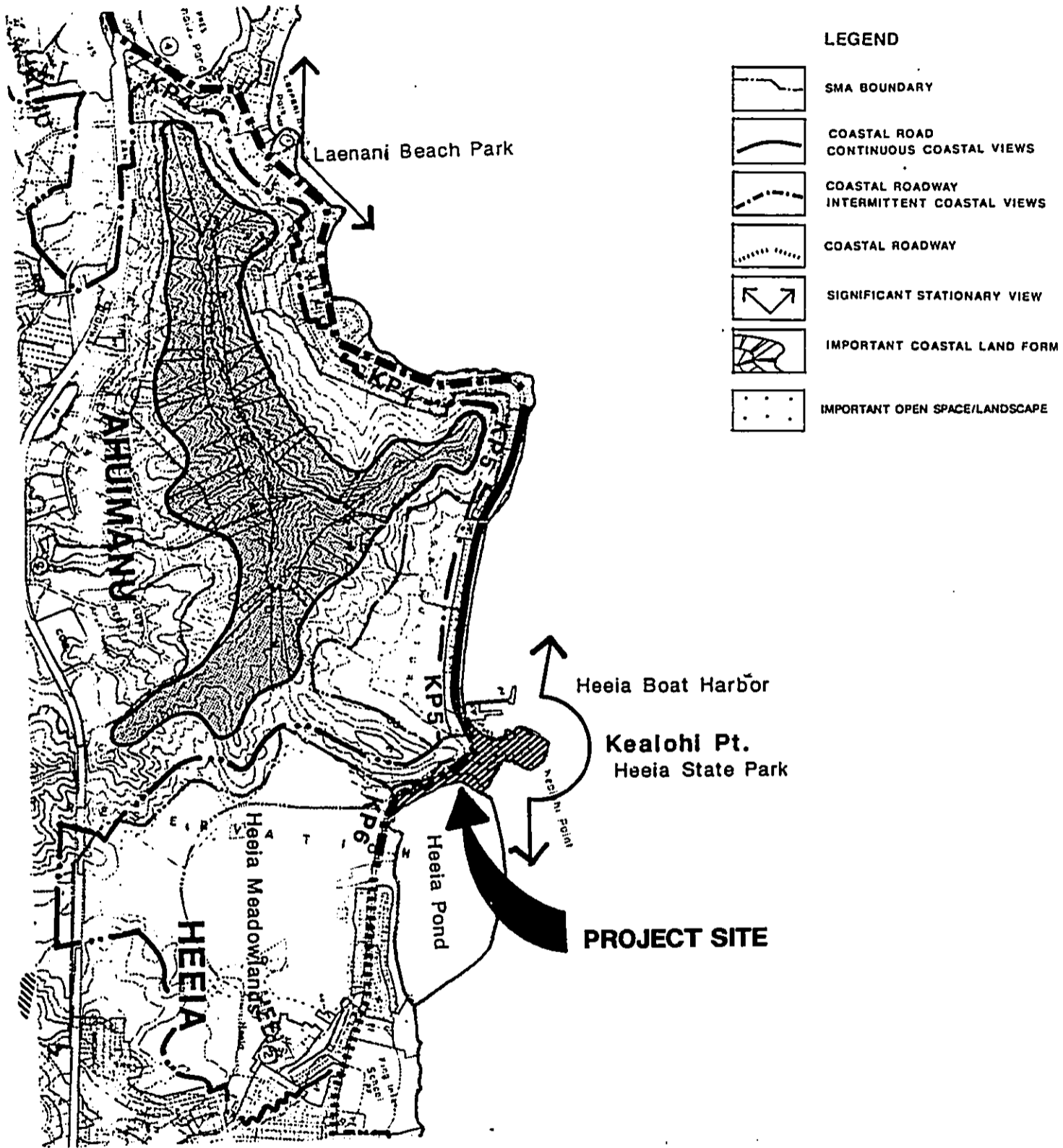
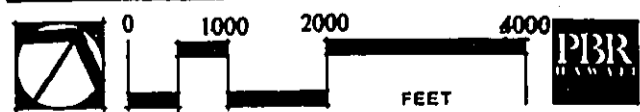


FIGURE 13  
 COASTAL VIEW STUDY  
 CITY AND COUNTY OF HONOLULU  
 HEEIA STATE PARK



visitors that are largely unavailable at the present time due to access limitations caused by dense vegetation, steep slope, and saturated soils of Heeia Stream. Views from Kaneohe Bay in a mauka direction toward the Park will maintain the visual quality of a natural setting with scattered buildings surrounded by vegetation.

To mitigate the impact of these existing intrusions, several design solutions are available. These include burial of overhead transmission and telephone lines, general clean-up of refuse (especially along shoreline areas), removal and relocation of existing maintenance structures, general renovation of remaining structures, redesign of asphalt parking area, and installation of new landscaping.

### **3.9 NATURAL ENVIRONMENT AND SITE ASSESSMENT**

No endangered plant or animal species are known to exist on the subject property. The area of dense vegetation along the bank of Heeia Stream leading from the ocean in a mauka direction toward Kamehameha Highway contains particularly dense vegetation. Currently, the majority of this area is not generally accessible due to the density of vegetation and the saturated condition of low-lying soils. Scattered litter is also present, especially along the edge of the vegetation line, which tends to discourage efficient use of the area.

The extensive variety of plant materials, opportunities to observe the interaction and interrelationship of Heeia Stream with existing plant communities, and the aesthetic quality provided by the natural surroundings, offers Park visitors exposure to a unique environmental setting. A flora inventory was conducted for the property and is contained in Appendix B.

#### **3.9.1 FLORA**

##### **3.9.1.1 Existing Conditions**

A flora survey (Appendix B) was conducted by Paul Weissich and Associates by field observation and through a literature search in March, 1991. The scope of the survey is a complete listing of plant species found on the project site. Some are weeds, some are represented by excellent and useful specimens, however, most do not fit into the ethnobotany concept.

#### **TREES**

Araucaria heterophylla  
Averrhoa carambola  
Bauhinia purpurea  
Bruguiera conjugata  
Carica papaya

Norfolk Pine  
Star Fruit  
Bauhinia  
Oriental Mangrove  
Papaya



TREES (continued)

Caryota urens  
Casuarina equisetifolia  
Chrysalidocarpus lutescens  
Citrus sp.  
Coccoloba uvifera  
Conocarpus erecta sericea  
Crescentia cujete  
Dracaena marginata  
Erythrina variegata var. orientalis  
Eugenia uniflora  
Ficus benjamina  
Ficus microcarpa  
Gardenia taitensis  
Hyophorbe laganicaulis  
Leucaena leucocephala  
Malpighia puniceifolia  
Mangifera indica  
Murraya paniculata  
Pandanus sp.  
Persea americana  
Pimenta dioica  
Plumeria obtusa  
Plumeria hybrids (many)  
Pritchardia sp.  
Psidium guajava  
Ptychosperma macathuri  
Rhizophora mangle  
Samanea saman  
Schefflera actinopylla  
Schinus terebinthifolius  
Syzygium cumini  
Terminalia catappa

SHRUBS

Alocasia cucullata  
Alpinia nutans  
Arundo donax variegata  
Asystasia gangetica  
Breynia nivosa var. roseo-picta  
Calliandra inaequilaterale  
Canna indica

Wine Palm  
Iron Wood  
Areca Palm

Sea Grape  
Silver Buttonwood  
Calabash Tree  
Money Tree  
Indian Wiliwili  
Surinam Cherry  
Benjamin Tree  
Chinese Banyan  
Tiare Tahiti  
Bottle Palm  
Haole Koa  
Acerola  
Mango  
Mockorange  
Variegated Hala  
Avocado  
Allspice  
Singapore Plumeria  
Hybrid Plumeria

Yellow Guava  
Macarthur Palm  
American Mangrove  
Monkey Pod  
Octopus Tree  
Christmas Berry  
Java Plum  
Java Almond

Chinese 'Ape  
Pearl Ginger  
Giant Reed  
Asystasia  
Snow Bush  
Lehua Haole  
Wild Canna

SHRUBS (continued)

Carissa grandiflora  
Cordiaum variegatum  
Crinum asiaticum  
Cyperus alternifolius  
Dieffenbachia picta  
Dracaena fragrans  
Dracaena warneckii  
Duranta repens  
Graptophyllum pictum  
Heliconia spp.  
Hibiscus hybrids  
Hibiscus schizopetalus  
Jatropha curcas  
Nandina domestica  
Odontonema strictum  
Pluchea indica  
Pluchea odorata  
Polyscias gullfoylei  
Polyscias fruticosa  
Sansevieria trifasciata  
Strelitzia nicolai  
Strelitzia reginae  
Vitex trifolia var. variegata  
Xanthosoma rosea

Natal Plum  
Croton  
Spider Lily  
Umbrella Plant  
Dumb Cane  
W. African Ti

Golden Dew Drop  
Caricature Plant

Hibiscus  
Coral Hibiscus  
Physic Nut  
Nandina  
Odontonema  
Indian Pluchea  
Sour Bush  
Panax  
Parsley Panax  
Bowstring Hemp  
White Bird of Paradise  
Bird of Paradise  
Vitex  
'Ape

VINES AND GROUND COVERS

Allamanda cathartica var.  
Antigonon leptopus  
Asparagus plumosus  
Bougainvillea glabra  
Bougainvillea spectabilis  
Jasminum multiflorum  
Microsorium scolopendria  
Molineria recuvata  
Monstera deliciosa  
Oplismenus hirtellus  
Paederia foetida  
Passiflora edulis  
Philodendron erubescens  
Philodendron lacerum  
Philodendron oxycardium

Mexican Creeper  
Asparagus Fern  
Bougainvillea  
Bougainvillea  
Star Jasmine  
Lau'ae  
Curculigo  
Monstera  
Basket Grass  
Maile Pilau  
Passion Flower

VINES AND GROUND COVERS (continued)

Philodendron selloum	
Scindapsus aureus	Pothos Vine
Solandra guttata	Cup of Gold
Syngonium podophyllum	
Thunbergia alata	Black-eyed Susan
Thunbergia alata var. bakeri	White Thunbergia
Thunbergia laurifolia	Blue Thunbergia
Wedelia triloba	Wedelia
Zebrina pendula	Purple Wandering Jew

MISCELLANEOUS

Bambusa vulgaris var.	Golden Bamboo
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The following list of existing plant species are valuable for interpretive purposes due to their indigenous Hawaiian or Polynesian introduced origin. Often used by Hawaiians for various purposes, these "ethno-botanical" plant species are presently found presently within the subject property and may also be included as part of the ethno-botanical garden. The ethno-botanical garden will also include space for a nursery for medicinal plants.

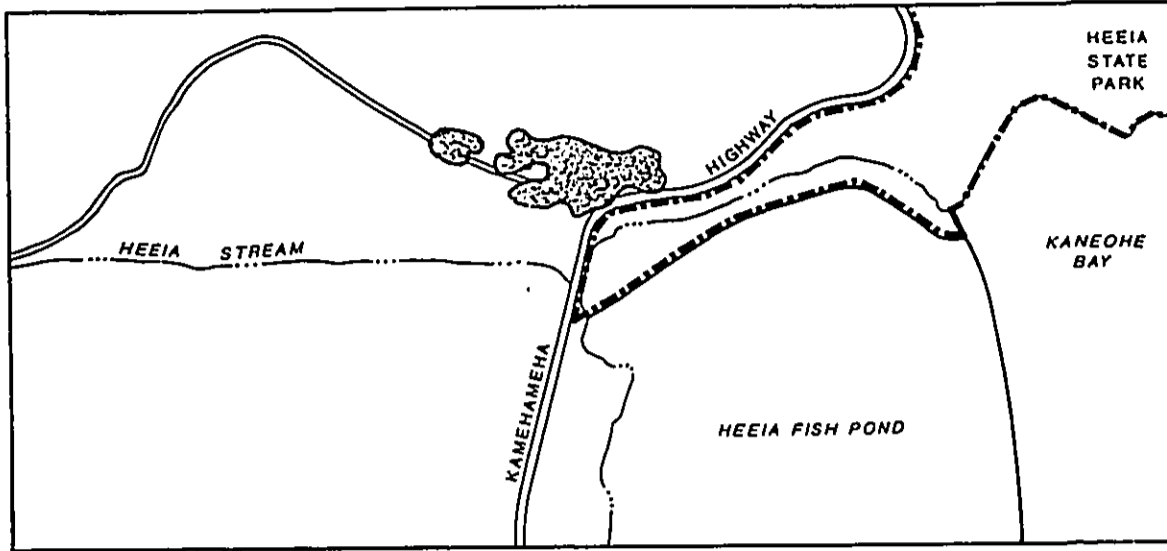
TREES

Aleurites moluccana	Kukui
Artocarpus comminus	'ulu, (Breadfruit)
Cocos nucifera	(Coconut)
Cordia subcordata	Kou
Hibiscus tiliaceus	Hau
Morinda citrifolia	Noni
Pandanus odoratissimus	Hala
Pritchardia sp.	Ioulu
Thespesia populnea	Milo

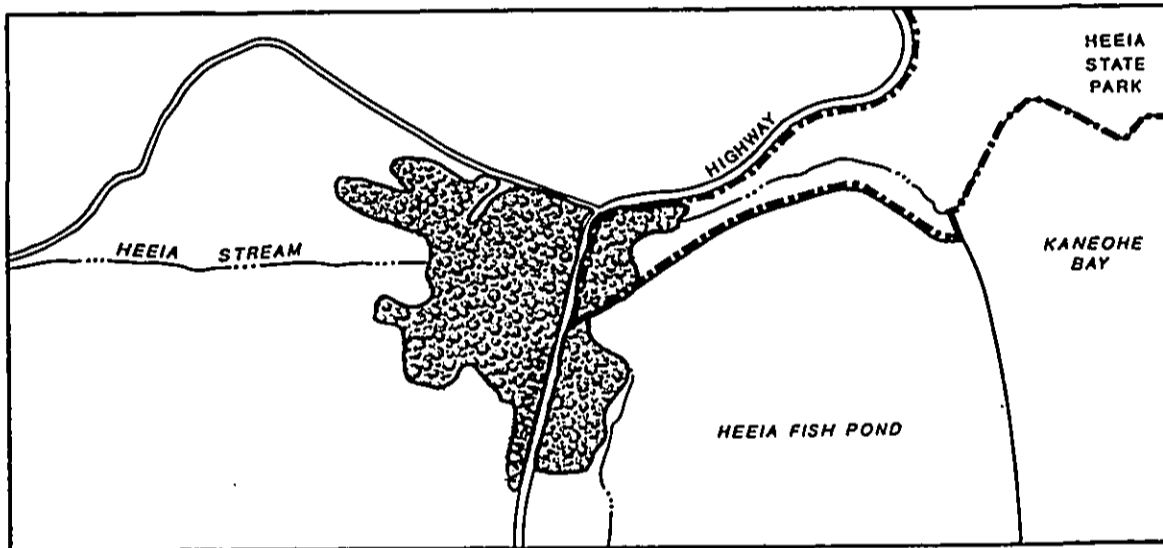
SHRUBS

Cordyline terminalis	Ti, Ki
Scaevola sericea	Naupaka kahakai

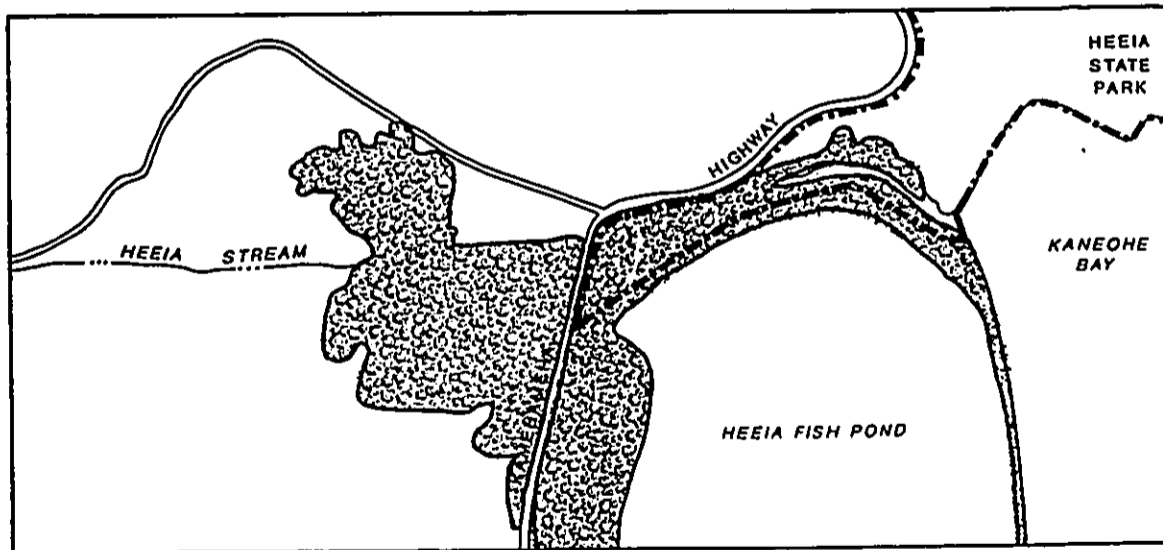
The "mangal community" is comprised of various mangrove species, that occupies sheltered, shallow, coastal and estuary waters, and extends landward as far as salt water is present during periods of high tide (Figure 14). Traditional uses of mangrove that may



1928



1949



1989

FIGURE 14  
MANGROVE ENCROACHMENT  
HEEIA STATE PARK

SOURCE: KANEOHE A HISTORY OF CHANGE, DENNIS DEVANEY, 1982



be appropriate for interpretive displays include the application of various parts of the plants as a source of tannin, medicinal preparations for the treatment of flesh wounds, diabetes and liver ailments, and for making dyes. As such, the Heeia mangal can play an important educational role in the community. The ethnobotanical garden could exploit land-sea relationships related to the mangrove, especially those in the Hawaiian culture and its world wide significance in other cultures as well.

### **3.9.1.2 Probable Impacts**

Generally, the proposed project will not have a significant impact on the flora of the area, as it is comprised largely of exotic species. The native species, indigenous to the region, are found in similar environmental conditions throughout the islands. None of the species identified are known to be endangered or threatened. Within the presently developed areas of the Park, coconut palms and large canopy trees currently provide some protection from wind, sun and rain. Lawn areas are also available for low intensity uses and various forms of passive recreation.

### **3.9.1.3 Proposed Mitigation Measures**

With redesign of the large parking area and addition of new landscaping, salt and wind tolerant shade trees are recommended. As the interpretive trail is developed, natural groupings of tall shrubs or trees should be preserved to provide comfort and interest for the viewer. In areas that receive heavy pedestrian traffic (i.e. parking areas, picnic area), large dense canopied trees will visually reduce the large expanses of paving and provide shade for Park users. The canopy trees should also be extended into the picnic areas to provide the same level of protection from sun and wind, and to visually buffer the two opposing land uses.

## **3.9.2 FAUNA**

### **3.9.2.1 Existing Conditions**

Within Heeia State Park, no endangered water bird species habitat is known to exist. The relatively formal Park landscaping and activity levels typically associated with a Park, generally discourage many species from entering Park boundaries.

One of the more important wildlife resources in the region, is comprised of the Nuupia Pond Wildlife Refuge and Ulupau Crater Wildlife Refuge at Mokapu Peninsula. For example, Nuupia Pond is the home of the endangered Hawaiian Stilt and other birds including the Cattle Egret, Migrating Pintails, Shovellers, Scamps, Buffleheads and Black-Crowned night Heron. Ulupau Crater is the site of the only land-accessible colony of Red-footed Boobies on Oahu. Although Heeia State Park does not contain a habitat comparable to the wildlife refuges of Mokapu Peninsula, some of these species may occasionally frequent the Park due to the proximity of these habitats.

According to the Hawaii Institute of Marine Biology, aquatic fauna consists of many corals found on the crests and slopes of fringing and patch reefs in the bay, and also on the barrier reef. The most abundant coral is the finger coral or Porites compressa which may comprise as much as 85 percent of the total coral population. This species is found in areas protected from high wave energy where large coral platforms can form. This species is generally found only in the Hawaiian Islands, although a similar species is also found in the Arabian Gulf. Other common corals in Kaneohe Bay include Montipora verrucosa, Pocillopora damicornis, Cyphastrea ocellina, Pavona varians, and Fugia scutaria. The most common corals on the seaward portion of the barrier reef are Porites lobata and Pocillopora meandrina, both of which are high energy species.

The reef adjoining Heeia State Park is defined as a fringing reef. These are shallow reefs that grow along the shoreline and average less than 1 meter in depth. Natural breaks occur where freshwater streams have cut channels into the fringe reef system. Proximate to the Park, the fringing reef has been extensively dredged in some locations. In the shallowest portions of the reef, changes in salinity from freshwater runoff, exposure to air, and sedimentation have limited coral development. Some extensive coral development, however, occurs along the reef edge on the seaward portion. Although the fringe reef closest to the shoreline is not generally suitable as an example of the reef system, it does have some interpretive value illustrating man's impact on the reef ecosystem.

In addition to the coral based ecosystems, the mangrove swamp, or "mangal" is a unique forest community composed of several mangrove species which provide important habitat for many plant and animal communities. Animal species primarily include crabs, prawns and mollusks, and small fish. The mangal also forms the first link of a critical food chain for many species of large ocean fish. It is known that many gamefish and commercial fish spend their juvenile stages in estuarine areas feeding on the smallest resident species. These communities play a major role in sustaining fish populations which form important marine products.

#### **3.9.2.2 Probable Impacts**

No significant negative impacts to the fauna of Heeia Park are expected. However, by establishing a wider range of plant species associated with project landscaping, the proposed park improvements could attract increased numbers of various fauna due to the increased diversity of habitat available in the Park. Within Kaneohe Bay, animal species would be impacted if increased levels of aquatic recreation (i.e. scuba diving, swimming, etc.) were to disturb their natural behavior. Other impacts could be anticipated if the quantity of fresh water were to change or if erosion during construction were allowed to occur, however, neither are expected to result from the proposed project.

### 3.9.2.3 Proposed Mitigation Measures

No mitigation measures are proposed other than implementation of the approved soil erosion control plan. Should increased levels of ocean recreation ultimately impact animal behavior in Kaneohe Bay, mitigation measures would be available to the State to limit the level of activity in the bay.

### 3.9.3 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

#### 3.9.3.1 Existing Conditions

According to, Kaneohe A History of Change, Dennis Devaney, 1982, "the name of the land of Heeia is traditionally associated with Heeia, the handsome foster son of the goddess Haumea and grandson of the demigod Olopana, who was an uncle of Kamapuaa." The Heeia ahupua'a was also rich in archaeological sites with not fewer than six heiau, five of which were destroyed by commercial cultivation of sugar and pineapple. No heiau or other significant archaeological sites currently exist on the subject property, although human remains are periodically uncovered as a result of beach erosion near the mouth of Heeia Stream. Apparently, the sandy soils and prominence of Heeia Peninsula made this small portion of the Park suitable for Hawaiian burials. In reverence to those possibly buried here, a small interment plot should be established in the same general area to accept remains as they may become exposed by beach erosion in the future. The exact location of the interment plot will be coordinated with the Oahu Burial Council.

Additionally, part of Mokapu Peninsula (now the Kaneohe Marine Corps Base), belonged to the Heeia ahupua'a where a heiau and Hawaiian burial grounds were located. Since 1912, well over a thousand burials have been unearthed in this area making Mokapu the largest known Hawaiian burial site.

Prior to World War II, Heeia was the site of the first trans-Pacific high-power radio station. Its antenna masts were among the world's highest man-made structures for many years. The bases which anchored the towers can still be seen on the reef of Kaneohe Bay adjacent to where the wireless station site was located southeast of Heeia Fishpond.

Agricultural production of taro and rice, and the introduction of mangrove, has also played an important role in shaping the landscape surrounding Heeia Peninsula. In 1928, mangrove was already present but not abundant. Rice was still being grown in low-lying wetland mauka of the present day Kamehameha Highway from water provided by Heeia Stream. Agricultural processing plants and other forms of agricultural infrastructure also predominated the area with no fewer than eight sugar plantations, a large rice mill in Heeia, a pineapple cannery at "Libbyville" (Kahalu'u), and extensive livestock grazing areas.

By 1949, mangrove had spread into the wetland area on both sides of the Heeia viaduct, and seaward into the Heeia Stream channel (Figure 14). By the early 1970's, mangrove had spread to the point of choking the Heeia Stream channel while advancing further inland. The north wall of Heeia Fishpond was also being covered by mangrove at this time. Presently, mangrove has established itself along almost the entire perimeter of the fishpond.

Prior to the establishment of the Park in 1977, the subject property was operated as a cultural center and restaurant known as Ulu Mau Village. Currently, the Park's extensive shoreline formed by Heeia Peninsula represents the only relatively large, publicly owned shoreline along Kaneohe Bay exclusive of Kualoa Park at the northern end of the bay.

### **3.9.3.2 Probable Impacts**

As part of the conceptual plan for Heeia State Park, an extensive interpretive program will be implemented to educate visitors to the Park of the historical and cultural attributes of the Park. Future interpretive programs may describe the evolution of the entire Heeia ahupua'a, particularly the earlier Hawaiian land uses associated with Heeia Fishpond, taro farming at Heeia Wetlands, and the historical Hawaiian interactions between sea and land.

### **3.9.3.3 Proposed Mitigation Measures**

Although the proposed project is not expected to impact any archaeological resources of the Park or region, careful monitoring during construction will be undertaken to identify previously unrecorded archaeological or historical sites. Should any archaeological or historic sites be uncovered on the property during any future construction, work in the area will cease and the State Historic Preservation Division will be immediately notified. If the need for further archaeological study of the site is indicated, the study will adhere to all applicable requirements of the Department of Land and Natural Resources.



CHAPTER IV

## CHAPTER IV

### 4.0 INFRASTRUCTURE, PUBLIC SERVICES, AND SOCIOECONOMIC IMPACTS

#### 4.1 TRAFFIC

##### 4.1.1 Existing Conditions

As described in Appendix A, access to the project site is provided exclusively by Kamehameha Highway. Kahekili Highway also runs parallel to Kamehameha Highway approximately one mile mauka of the Park which serves as the primary circle island roadway for the island of Oahu. Direct highway linkages between Kaneohe and Honolulu are provided by the Likelike and Pali Highways, and the H-3 Freeway now under construction.

Heeia State Park is located along a portion of Kamehameha Highway designated by the City and County of Honolulu Coastal View Study as a coastal roadway with continuous and intermittent coastal views. Two entry points off Kamehameha Highway provide the only vehicular access directly into Heeia State Park, each of which are located on a significant roadway curve.

The bend in the roadway creates very limited sight distances due to the presence of a hill and dense vegetation on the mauka side of the highway. Another deficiency is the lack of adequate turning lanes to facilitate access between the busy highway and Park, thereby creating a traffic hazard. This becomes even more severe during peak traffic hours.

Level of Service (LOS) is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS "A" through "F", LOS "A" being the best operating condition and LOS "F" the worst operation condition. According to the Site Access Report for the Proposed Heeia State Park Improvements (Appendix A), Kamehameha Highway at the project entrance currently operates at Level of Service (LOS) "D" during the morning, afternoon, and weekend peak periods. The Heeia State Park entry road operates at LOS "A". The traffic report indicates the roadway by the Park is operating at about one-third of its capacity.

Once in the Park, the roadway leading from the Kaneohe side access, leads directly into a large parking area which dominates the entry experience. The roadway width is approximately 12 to 15 feet with road shoulders of varying widths and essentially no guardrail or curbs. Curbs are present along the main parking lot edge.

The Kahaluu (north) entrance is also located on the "blind" curve of Kamehameha Highway. This access point is a less defined entry without signage and asphalt surfacing. No clear purpose for establishing and maintaining this entry is evident. Given the safety

hazard present, and the increased hazard created by locating two access points proximate to each other, the need for this access should be reconsidered.

#### 4.1.2 Probable Impacts

According to Appendix "A", the Park after project development is expected to generate approximately 21 vehicles per hour during the AM peak hour. During the PM peak hour, the project would generate approximately 52 vehicles per hour. During a weekend peak hour, the proposed project is expected to generate 104 vehicles per hour. Traffic levels on Kamehameha Highway will remain essentially unchanged with or without the project.

For example, Appendix A estimates that the AM peak hour Level of Service on Kamehameha Highway in 1996 without the project is projected at LOS "E" while the park entrance road is projected to operate at LOS "B". During the PM peak hour, Kamehameha Highway traffic will operate at LOS "D" and park entry road traffic at LOS "B". Weekend peak hour traffic will operate at LOS "E" on Kamehameha Highway and LOS "B" at the park entrance (Table 1). AM peak traffic on Kamehameha Highway is expected to operate at 44 percent of its capacity; PM peak at 38 percent and 47 percent on weekends.

With project development, traffic on Kamehameha Highway will be essentially unaffected. Based on the projected traffic counts, the AM peak hour of traffic on Kamehameha Highway is expected to operate at LOS "E" and the park entrance road at LOS "B" (Table 1). The projected PM peak hour of traffic on Kamehameha Highway is expected to operate at LOS "D" and the park entrance road at LOS "B". Weekend traffic on Kamehameha Highway will operate at LOS "E" and the park entrance at LOS "C". AM and PM peak traffic on Kamehameha Highway will operate at about 40 percent of its capacity and at almost 50 percent on weekends.

As indicated, none of the proposed improvements to Heeia State Park will generate significant adverse increases in the Kamehameha Highway traffic levels already experienced and projected to occur in the future. However, the LOS of Kamehameha Highway during the weekend and weekday AM peak periods, is projected to decline from LOS "D" to LOS "E" with or without the project.

After project development, only the Park entrance road will experience a decline in LOS and only during the weekend peak hour. For example, the Park entrance road without the project is projected at LOS "B", while the LOS with the project is projected at LOS "C". However, both LOS "B" and "C" are considered as acceptable Levels of Service for the uses proposed.

**HEEIA STATE PARK\***  
**TRAFFIC LEVELS OF SERVICE (LOS)**  
**TABLE 1**

LOS	EXISTING				FUTURE			
	WEEKEND		WEEKDAY		WITH PROJECT		WITHOUT PROJECT	
			AM	PM	WEEKEND	WEEKDAY	AM	PM
A	0	0	0	0				
B					0	0	0	0
C					0			
D	●	●	●	●		●		●
E					●	●	●	●
F								

- 0 Park Entry
- Kamehameha Highway

\*Site Access Report for the Proposed Heeia State Park Improvements (Appendix A)

### 4.1.3 Proposed Mitigation Measures

Based upon the projected number of trips generated by Heeia State Park, it is anticipated that the impact of traffic operations will be insignificant. Furthermore, it is anticipated that the peak period of trips generated by the park would occur during the late mornings and early afternoons or on the weekend, thus limited to non-peak periods of traffic on the highway.

The existing roadway width and condition of Kamehameha Highway should be improved to provide widening and a storage lane for left turns into the Park from the Heeia Kea direction.

According to Appendix A, the improvements proposed for Heeia State Park would not adversely affect traffic operations on Kamehameha Highway in the vicinity of the project. The trips generated by the proposed park improvements would not significantly change the Levels of Service projected for Kamehameha Highway or the park entrance.

However, traffic safety should also be taken into consideration as a result of the existing physical roadway conditions in addition to Levels of Service. According to Appendix A, the following improvements are recommended to accommodate the preferred alternative plan:

- a) Construction of a left turn storage median lane on Kamehameha Highway for motorists turning left from the north driveway. The recommended length of the storage lane is 40 feet plus taper. This improvement would provide a safer median shelter for motorists exiting the park and turning left onto Kamehameha Highway.
- b) Construction of a left-turn storage land on south bound kamehameha Highway at the south driveway. The recommended length of the storage lane is 120 feet plus taper. This improvement would mitigate the potential of rear end collisions due to the limited sight distance.
- c) Provide advance warning signs with 25 miles per hour advisory speed signs on both approaches of the curve fronting the project site. The signs should be posted at adequate distances for proper advance warning.

## 4.2 WATER SUPPLY

### 4.2.1 Existing Conditions

Potable water service is provided through a Board of Water Supply 6-inch transmission line located near the Park entry which transports water from established sources comprised of a series of tunnels and wells located mauka of the site in the Koolau mountains. Potable water is used primarily for drinking.

Although specific quantities of water usage is not known, a general estimate for landscaped areas (1985 State of Hawaii Water System Standards, Volume 1, Table 15) is approximately 4,000 gallons per acre/day (gpd) for Oahu.

#### 4.2.2 Probable Impacts

According to the "Oahu Water Management Plan, Technical Reference Document, March 1990", prepared for the Department of General Planning, the Koolaupoko Development Plan Area is projected to experience water demand of approximately 17.6 MGD in 1988 to between 17.3 and 18.1 MGD in the year 2010. Consequently, no major increased in water consumption for the Koolaupoko DP Area is anticipated.

After project improvements are in place, water usage within the Park will increase to provide the needed irrigation water for newly landscaped areas. Based on the estimated 4,000 gpd/acre estimated usage standard, the following estimated consumption of potable water for irrigation purposes can be estimated:

##### Irrigation Demand

7 acres (Entry, lawn, and pavillion) X 4,000 gpd = 28,000 gpd  
6 acres "drip irrigation" (Parking lot, Visitor Center, misc.) X 4,000 gpd = 12,000 gpd  
2  
5 acres not irrigated (generally within Conservation District)  
Total irrigation demand = 40,000 gpd

##### Potable Demand

(15 gallons/minute/connection) X (60 minutes/hr) X (2 hrs/day) = 1,800 gpd/connection  
1,800 gpd X Visitor Center x Pavilion x Comfort Station = 5,400 gpd  
Total potable demand = 7,200 gpd

Therefore, total water demand for potable and irrigation usage is approximately 47,200 gpd.

Given the total water demand for Koolaupoko projected at 18.5 mgd by the "Oahu Water Management Plan, Technical Reference Document, March 1990", and the projected total water demand for Heeia State Park of 47,200 gpd, no significant impact on projected water source of system facilities is anticipated as a result of the proposed project improvements.

#### 4.2.3 Proposed Mitigation Measures

In accordance with the Board of Water Supply (BWS) comments of January 13, 1992, the availability of additional water will be confirmed when the building permit is submitted for their review and approval. A water System Facilities Charge and applicable meter installation charges will apply to the project. If a three-inch or larger meter is required,

the construction drawings showing the installation of the meter should be submitted for BWS review and approval.

In addition, facility and source improvements are already planned by the Board of Water Supply to permit intra-island water transfer out of Koolaupoko to other parts of Oahu. Therefore, capacity of the existing water sources should be adequate for all of the Park's potable and landscape irrigation requirements.

To improve the efficiency of water that is used, the need for irrigation water will be minimized by the design of the irrigation system which will direct water to specific areas in the amounts required. For example, the entry corridor and Visitor Center would have specific irrigation needs while the Heeia Stream and shoreline areas would not require irrigation. No additional mitigation requirements are anticipated.

### **4.3 WASTEWATER DISPOSAL**

#### **4.3.1 Existing Conditions**

The State Department of Health Underground Injection Control (UIC) Line is located well mauka of the subject property. Currently, cesspools treat and dispose of wastewater generated on the site, but under recent UIC rules no new cesspools will be permitted on the subject property although the existing system can continue to operate. Continued operation of existing facilities is especially important since City and County of Honolulu sewage collection lines are not available past the long bridge crossing Heeia Stream.

#### **4.3.2 Probable Impacts**

If the level of park use increases in the future, new wastewater collection, treatment, and disposal improvements would be required to facilitate the additional quantities of wastewater generated. Site location and system design of new on site treatment and disposal facilities will be especially important if the existing facilities can no longer adequately service the subject property. Should a new septic system and leach field be required, soil absorption tests and septic system design and engineering would be necessary to comply with Department of Health requirements. As such, adherence to these standards will ensure that no significant wastewater impacts would result from project development.

#### **4.3.3 Proposed Mitigation Measures**

Because the UIC line is located well mauka of the subject property, ground disposal systems, such as the cesspools currently utilized, have been previously allowed on the subject property. Should increased use of Park facilities require expanded wastewater treatment and disposal facilities, new on site systems comprised of septic tanks and

percolation disposal fields will be provided in accordance with applicable Department of Health regulations.

#### **4.4 SOLID WASTE DISPOSAL**

##### **4.4.1 Existing Conditions**

Up-gradient from the boat landing area, it appears that the cliff's edge proximate to the existing shoreline trail was used in the past as a local dumping area of refuse. Plastics, old furniture, a cash register, and other miscellaneous items are still present. In addition, other portions of the Park near Heeia Stream and along most shoreline areas, exhibit an accumulation of litter from ocean disposal of plastics or other non-degradable refuse that wash into shore. Unfortunately, this appears to be a continuing problem than can only be addressed by an on-going maintenance program to remove the litter from these areas. Park visitors also contribute to the amount of solid waste generated, however, this refuse is largely disposed of properly in waste containers.

##### **4.4.2 Probable Impacts**

Increased usage levels within the park will inherently generate additional solid waste above the current volume. In addition, solid waste materials will also increase during construction. However, increased use levels should be minimal. Therefore, the anticipated quantities of additional solid waste will not significantly impact the capacity of existing solid waste collection and disposal facilities.

##### **4.4.3 Mitigation Measures**

Development of the proposed improvements will also generate solid waste above the current level during the construction period. To the extent possible, solid waste products will be disposed of on site in accordance with applicable State and County regulations. Additional solid wastes created by increased use levels will be accommodated by the existing Park refuse collection facilities. However, waste receptacles will be modified to reflect the new landscape and architectural character of the Park. All major waste receptacles must be screened with landscaping or other visual barriers.

#### **4.5 ELECTRICAL POWER AND COMMUNICATION SYSTEMS**

##### **4.5.1 Existing Conditions**

Existing utilities consist primarily of electrical and telephone service, and water transmission lines. Electrical service to the Park is provided by Hawaiian Electric Company and telephone service is provided by Hawaiian Telephone.



#### **4.5.2 Probable Impacts**

Electrical and Telephone service to the park will be adequate under the existing system.

#### **4.5.3 Proposed Mitigation Measures**

All electrical transmission and telephone lines within the Park and along Kamehameha Highway will be placed underground. This park was purchased in part by grants from the Federal Land and Water Conservation Fund. Projects funded by this grant are required to have underground wiring.

No significant adverse impacts to electrical or telephone communication systems are expected to result from development of the proposed improvements to Heeia State Park. Within the Park boundary, it is recommended that all overhead lines be buried underground to mitigate their visual impact. No additional mitigation measures are required.

### **4.6 PUBLIC SCHOOLS**

#### **4.6.1 Existing Conditions**

According to the Department of Education, approximately 29 elementary, intermediate, and high schools service Windward Oahu. As the proposed project does not contain any residential or commercial land use components, no new population growth is expected to be generated that would contribute to increased school enrollments.

#### **4.6.2 Probable Impacts**

Implementation of the proposed improvements would expand an existing educational resource that will prove very beneficial to Hawaii's school age population. The proposed interpretive facilities and school field trip programs will emphasize and describe Hawaiian history, culture, and physical characteristics of Oahu. The interpretive theme of the Park will describe the transition between the sea and land, and the Hawaiian cultural values placed on these features.

#### **4.6.3 Proposed Mitigation Measures**

The Park has been designed as an educational as well as a passive recreational facility. Some of the implementation of Park programs and construction of facility and landscape improvements could be undertaken by public and private educational institutions, community groups interested in Hawaiian history, or volunteers. The Friends of Heeia State park will work with area schools to coordinate the interpretive program with educational tours of the Park for classes.

As no negative impacts to the educational system are anticipated, mitigation measures do not appear necessary.

## **4.7 PARKS**

### **4.7.1 Existing Conditions**

Existing public recreation facilities/areas in the Koolaupoko Development Plan Area include: Makapuu Beach Park, Sea Life Park, Waimanalo Beach Park, Waimanalo Bay State Recreation Area, Bellows Air Force Station, Kailua Beach Park, Hoomaluhia Park, Kawainui Marsh, Kualoa Regional Park, Kaneohe Regional Park, and Kaiona, Laenani, Kahaluu, and Waiahole Beach Parks (Figure 15).

None of these parks are dedicated exclusively for interpretive purposes. Most are primarily utilized for active recreation or are generally ocean oriented beach parks. Only Kawainui Marsh and Hoomaluhia Park are left in a relatively undeveloped condition suitable for hiking, interpretive programs, or other forms of passive recreation. Heeia State Park's location by a bay, stream, wetland, and fishpond provides exceptionally good interpretive opportunities.

### **4.7.2 Probable Impacts**

The proposed improvements for Heeia State Park will provide expanded opportunities for passive recreation through the enjoyment of the proposed interpretive programs. The park is not intended to be utilized for active recreation or as a beach park. The topography and interpretive resource values associated with the Park make these forms of active recreation inappropriate in this area.

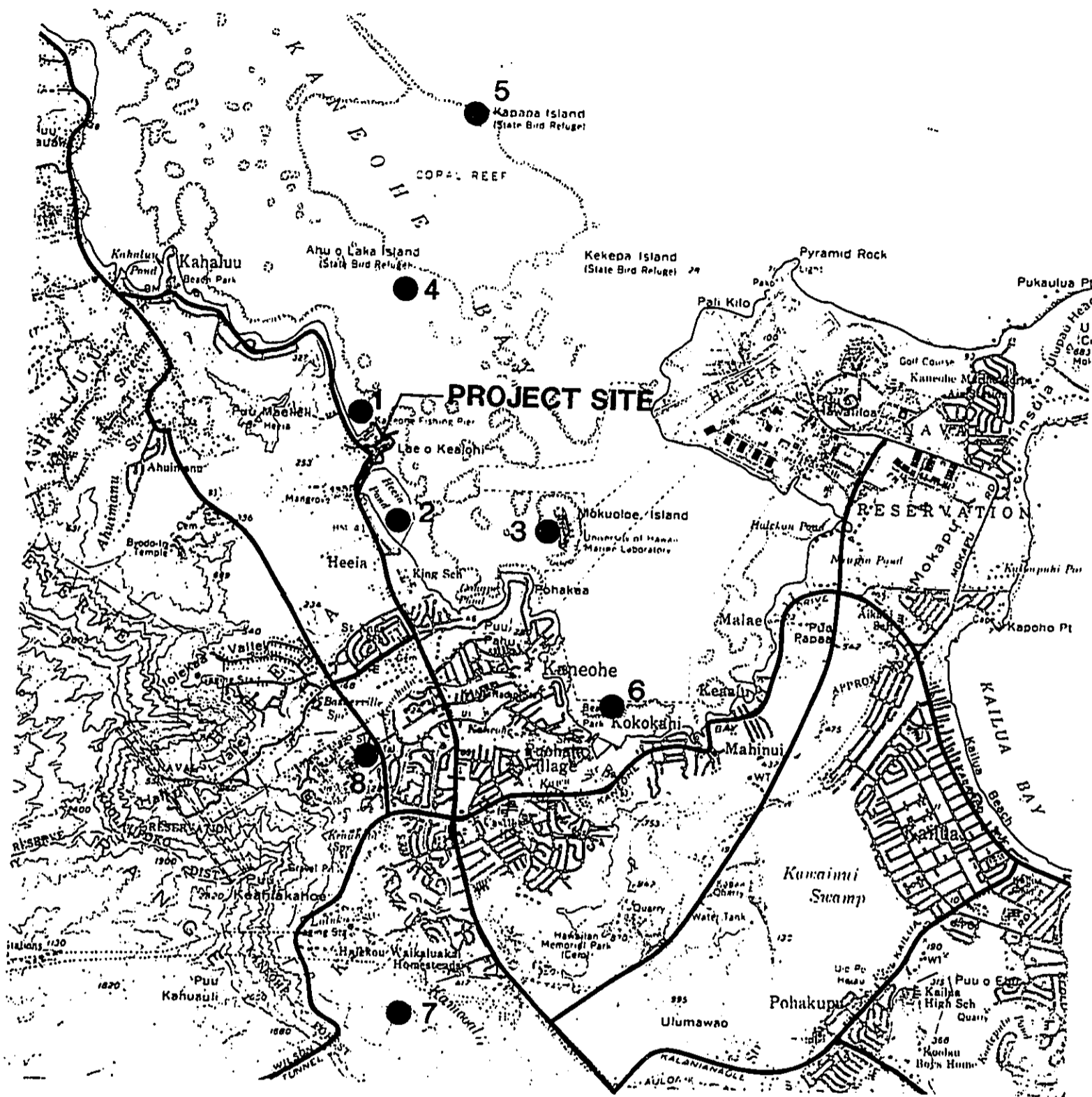
### **4.7.3 Proposed Mitigation Measures**

By creating a passive park at Heeia, potential recreational use conflicts (active vs passive) within other parks will be mitigated. As such, no negative impacts to area-wide recreational facilities are anticipated. Consequently, mitigation measures do not appear warranted.

## **4.8 HEALTH CARE FACILITIES**

### **4.8.1 Existing Conditions**

Public health care in the Kaneohe is provided primarily by Castle Medical Center, Kaiser-Permanente Medical Center, and Straub Clinic. Additionally, ambulance service is available from several providers.



**LEGEND**

- 1. HEEIA KEA BOAT HARBOR
- 2. HEEIA FISH POND
- 3. MOKUOLOE ISLAND (COCONUT ISLAND)
- 4. AHU O LAKA ISLAND
- 5. KAPAPA ISLAND
- 6. KANEOHE BEACH PARK
- 7. HO'OMALUHIA
- 8. KANEOHE REGIONAL PARK
- MAJOR TRANSPORTATION ROUTES

**FIGURE 15  
REGIONAL FACILITIES/RESOURCES  
HEEIA STATE PARK**



#### **4.8.2 Probable Impacts**

The proposed project will not increase population levels of Kaneohe or significantly increase the number of persons visiting Windward Oahu. Any increased population that does occur in the future with or without the project, can be provided with adequate medical care from existing and planned facilities and services.

#### **4.8.3 Proposed Mitigation Measure**

Due to lack of significant adverse impacts to health care services in the Kaneohe district, no mitigation measures appear necessary.

### **4.9 POLICE AND FIRE PROTECTION**

#### **4.9.1 Existing Conditions**

Since the park was originally purchased by the State, a caretaker has lived on the property to provide both maintenance and security. In addition, a burglar alarm system was established in the Visitor Center and Exhibit Hall after the Friends of Heeia State Park experienced a number of burglaries. A gate to prohibit vehicular entry is located near the Park entry which limits vehicular access and provides added security for the Visitor Center. However, vehicular access to the pavilion adjacent to Kamehameha Highway is not controlled.

Police protection services are located in Kaneohe approximately 2 miles from the project site on Kamehameha Highway. Both police and fire departments are working to maintain and/or improve existing levels of service. Existing and planned police and fire protection services and facilities are considered adequate. None of the proposed improvements will increase the potential for fire, however, an investment in park related improvements will make added security protection desirable. A fire hydrant is located on the mauka side of Kamehameha Highway near the park entry.

#### **4.9.2 Probable Impacts**

Although the proposed project will not contribute to an increase in area-wide population and no expansion of current personnel or facilities will be required, continued fire and police protection will be necessary at existing levels.

One important consideration, however, involves the security protection afforded by an on-site caretaker. As previously noted, the preferred plan calls for removal of the caretaker residence from the Park. Generally, lack of a live-in caretaker will not have a significant impact on security. Except in parks with overnight accommodations, caretakers employed by the State do not normally live within park boundaries. They do not patrol parks after working hours and are only available in case of emergencies or to lock or unlock gates.

### **4.9.3 Proposed Mitigation Measures**

A locked gate at the main entry to control vehicular access when the park is closed will reduce the potential for vandalism or unauthorized use of the Park. The gate will be relocated so the front pavilion will also be gated at night from vehicular entry. The gate would be left open for evening events as is currently being done by the Friends of Heeia for events in the Visitor Center.

The police department will be notified of project implementation and phasing to permit adequate planning and advance notice of project completion. An entry gate will be installed early during the construction phase to provide added security during evening hours. The fire department will also be advised of project implementation and construction phasing.

### **4.10 SOCIOECONOMIC IMPACTS**

Redevelopment of Heeia State Park will also impact the social and economic condition of the community. By expanding the existing interpretive programs and facilities, educational opportunities, and enhancement of the community's understanding of the history and culture of the area, the anticipated social impacts resulting from the project are clearly positive. Indirect employment and expansion of the economic base will also occur in the region.

#### **4.10.1 Existing Conditions**

Three periods of development have occurred in the past that established many of the familiar land use patterns currently evidenced in Heeia and the Kaneohe region. These include pre-European/Hawaiian, post-European agriculture and forestry activities, and contemporary urbanization.

The population forecast most widely used for planning purposes, is the Department of Business and Economic (DBED) "M-K" Series population projections. This projection, utilized by both the State and County governments, has identified a population increase for Koolaupoko from 109,373 in 1980, to a range of between 109,900 to 121,900 persons for the year 2010. As a percent, this increase reflect a population growth of from 1 to approximately 10 percent. If these projections are actually realized in the future, relatively minor impacts can be expected to occur in the Koolaupoko region from the anticipated expansion of the population base.

The existing and future population within the Koolaupoko will not be affected by development of the proposed project. However, the added interpretive features and educational opportunities described by the preferred conceptual plan will generally enhance the cultural opportunities for Hawaii residents. The improved facilities for social gatherings will provide an important focal point for community interaction.

As no residential, commercial, or industrial land uses are proposed for the Park, no associated socioeconomic impacts characteristic of these land uses are anticipated. However, a significant development trend that may directly impact Heeia State Park, is the proposed development of a golf course and "recreational community" mauka of the project site on the opposite side of Kamehameha Highway. Tentative plans call for a 18-hole golf course, health spa, aerobic and tennis center, and 30 to 35 single family residential units. Comprised of 103 acres of lands designated by the LUC as Urban and 117 acres as Conservation, this site will also require an amendment to the Development Plan and rezoning by the City and County of Honolulu.

No other large scale development projects, resorts, or capital improvement projects are planned in the area that could significantly impact the existing use and participation levels of Heeia State Park.

Although significant open space does exist in the area, some relatively "urban" impacts surrounding Heeia State Park will inherently generate sounds and visual intrusions that impact the "natural" experience of park visitors. Examples of intrusions include the sound of boat engines from Heeia Pier, overhead power lines, refuse located throughout the site, presence of the maintenance buildings and maintenance manager residence, aircraft noise, water pollution, visual dominance of asphalt parking area, and general run-down appearance of existing structures.

These forms of environmental intrusions also potentially impact the quality of educational, cultural, and interpretive programs at the Park. The contributions to social and cultural understanding of Hawaiian heritage provided by these programs, is reduced if the learning experience is impacted by these types of intrusions. Expansion of the existing interpretive program and facilities, and removal or mitigation of existing environmental intrusions, will represent the primary social impact associated with the proposed project.

#### **4.10.2 Probable Impacts**

As currently envisioned, none of the proposed improvements to Heeia State Park will negatively impact the social, cultural, and interpretive values associated with the Park. In addition, no significant increases in Kamehameha Highway traffic levels already experienced are anticipated. As such, only positive impacts are anticipated.

#### **4.10.3 Proposed Mitigation Measures**

To mitigate the impact of environmental intrusions on the social, cultural, and interpretive values of the Park, man-made intrusions should be eliminated. These include overhead transmission and telephone lines, and removal of refuse especially within Kaneohe Bay and along the shoreline. Park structures and the parking area should be designed to integrate into the surrounding natural environment.

#### 4.11 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

In general, development of the proposed improvements are expected to have beneficial and/or minimal impacts on the physical, natural and socioeconomic environments of the project area. The summary of the impacts herein described are based on published information concerning the study area; special studies conducted for the proposed project; projections of the types of activities that would be associated with the proposed project, and site visits.

During construction of the proposed improvements, grading of the area and landscaping will cause some impacts to the environment. However, upon completion, the resulting Park improvements will justify the impacts sustained, yielding a clean, well designed, ecologically sound environment. Visual impacts will be positive, as will the social impacts provided by the expanded interpretive program.

The amount of wastewater (sewage) generated during operation may increase as persons are attracted to the improved condition of the park. Traffic to the area may also increase. However, wastewater and traffic generation will not increase beyond the capacities of the existing or improved systems.

The visual character of the property would be improved by clearly defined open space areas, removal of undesirable vegetation and replaced with aesthetically pleasing landscape of native and ethno-botanical plant species. Visual impacts affecting adjoining property owners will be considered as positive by most viewers.

Recommendations for park maintenance improvements are also provided. State Park operation and maintenance are expected to be preformed during daylight hours and equipment used would meet appropriate federal and State noise and air quality and control regulations.

As previously indicated, negative environmental impacts to the site and surrounding area are not expected to result from the proposed project. Mitigation measures, in addition to the construction phasing plan and drainage related soil erosion control measures, have been designed to minimize potential adverse environmental impacts of the proposed. A summary of additional mitigation measures include the following:

Short Term:

- o Control public access to construction areas during development period by phasing implementation of project improvements.

Long Term:

- o Select aesthetically appropriate plant materials along cliff edge to prevent public access and control erosion.
- o Provide topographic and landscape buffer along Kamehameha Highway to reduce noise impacts within the Park.
- o Where possible, establish native plant species to provide diversity and additional interpretive values.
- o Improve signage to identify interpretive resources.
- o Design and construct wastewater treatment and disposal system(s) in accordance with Department of Health Standards. Sizing and design of future septic system improvements will be determined by soil testing, level of use, and timing of central sewage system improvements that may become available in the future.



CHAPTER V

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## CHAPTER V

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

Land use regulatory restrictions are applicable to the Park from the State, County, and federal government jurisdictions. Certain restrictions may also apply when funding for Park improvements are derived from governmental sources. However, the following plans, programs, and regulations apply from a land use perspective.

#### 5.1 THE HAWAII STATE PLAN

The Hawaii State Plan, Revised, was developed by the State to "serve as a guide for the future long-range development of the State; identify the goals, objectives, policies, and priorities for the State of Hawaii; provide a basis for determining priorities and allocating limited resources, such as public funds, services, human resources, land, energy, water, and other resources; improve coordination of State and County plans, policies, programs, projects, and regulatory activities; and to establish a system for plan formulation and program coordination to provide for an integration of all major State and County activities."

As stated in "Section 226-4 (2) State Goals", it shall be the goal of the State to achieve:

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

Specific objectives, policies and priority actions contained in the State Plan relevant to the proposed project are discussed below.

Section 226-8 Objective and policies for the economy – visitor industry.

- 226-8(b)(1) Support and assist in the promotion of Hawaii's visitor attractions and facilities.
- 226-8(b)(2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawaii's people.
- 226-8(b)(8) Foster an understanding by visitors of the Aloha Spirit and of the unique and sensitive character of Hawaii's cultures and values.

Discussion:

As described in the Conceptual Development Plan, Heeia State Park, Friends of Heeia State Park, June 1990, facility improvements were proposed to expand the Park's interpretive program. These kinds of improvements are envisioned to provide visitors with an educational awareness of land use in the Kaneohe Bay region and the interrelationship of man, the land, and sea from early Hawaii to the present day. As stated in the Conceptual Development Plan, residents and visitors alike will become exposed to the "unique and sensitive character of Hawaii's cultures and values" found throughout the Kaneohe Bay region of Oahu.

Section 226-12 Objective and policies for the physical environment – scenic, natural beauty, and historic resources.

226-12(b)(1) Promote the preservation and restoration of significant natural and historic resources.

226-12(b)(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.

226-12(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.

Discussion:

One function of the proposed interpretive program will be to establish and enhance view corridors from Heeia peninsula in both mauka and makai directions. The transition zone between land and sea, and the evolution of land use patterns from both a geographic and man-made socio-economic perspective will be described from this vantage point. A historic land use perspective, ranging from early Hawaiian habitation to the present, will also be offered from scenic overlooks and viewing platforms.

By fostering an appreciation of historic, cultural, and scenic amenities such as these, their preservation will be promoted and encouraged.

Section 226-13 Objectives and policies for the physical environment – land, air and water quality.

226-13(a)(2) Greater public awareness and appreciation of Hawaii's environmental resources.

226-13(b)(1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.

### Discussion:

The interpretive program will be expanded to incorporate the needs of educational programs at local schools. Areas of emphasis will include the interrelated coastal and bay ecosystems, geologic processes, displays of flora and fauna, and evolution of cultures from a historical perspective.

## **5.2 STATE FUNCTIONAL PLANS**

The Hawaii State Plan directs the appropriate State agencies to prepare functional plans for their respective program areas. As such, these functional plans serve as the primary implementing vehicle for the goals, objectives and policies of the Hawaii State Plan. An important component of the Hawaii State Plan, are the various functional plans which provide long-range direction for Hawaii's future and guide programs, actions, and resource allocation decisions. The following sections of the listed State Functional Plans are directly applicable to the proposed project.

### **5.2.1 State Historic Preservation Functional Plan**

The objectives, policies and implementing actions of the State Historic Preservation Functional Plan are directed toward State agencies, primarily the Department of Land and Natural Resources, Historic Preservation Division. The archaeological resources of the project site have been surveyed and evaluated by the Historic Preservation Division. No significant archaeological sites are known to exist on the subject property. If archaeological sites or other cultural resources become known in the future, the DLNR Historic Preservation Division will be advised and appropriate actions implemented to ensure proper treatment. A site for interment of remains will be established in accordance with recommendations from the Oahu Burial Council.

### **5.2.2 State Recreation Functional Plan**

The functional plan most applicable to the proposed Heeia State Park Master Plan is the "Recreation Functional Plan". This Functional Plan focuses on various planning issues relating to shoreline recreation, inland recreation, shoreline access issues, resource conservation and management, recreation programs, and wetlands protection and management.

According to the "State Recreation Functional Plan Technical Reference Document (TRD), December 1990", the population of Hawaii is growing at a proportionately higher rate than the nation as a whole. Between 1980 and 1988, the United States population increased 8.5 percent, compared with 13.8 percent for Hawaii. The de facto population of Oahu is projected to increase at 9.11 percent for the period between 1990 and 2000. During this same period, the median age of the resident population will rise from 31.9 in

1990 to 34.1 in 2000. The number of persons 65 years and older is also projected to rise from 11.0 percent to 12.5 percent.

This "greying" of the population will impact the amount and type of recreation demanded by the overall population. The Recreation Functional Plan anticipates increased demand for golf, and increase in leisure time spent on relaxing, home-based, non-physical types of activities, and continuation of the popularity of walking as identified by the Recreational Functional Plan TRD statewide resident survey.

As such, a growing demand for less active forms of recreation appears evident. This trend was also reflected by the State Recreation Functional Plan Advisory Committee which has identified the development of interpretive programs for areas of historic and cultural significance as a critical need. The State Tourism Functional Plan recognized historic/cultural sites as assets which can enrich both residents and visitors. In addition, resort developers who have significant historic and archaeological resources on their properties are encouraged to preserve, maintain, and interpret them.

Generally, the needs related to the development of recreational resources were identified as follows:

#### **Threats to Health and Safety or Valued Resources**

- o Capacity limitations of beach Parks.
- o Water safety concerns.
- o User conflicts.
- o Limited availability of activities and facilities.
- o Restrictions to public access.
- o Environmental degradation.
- o Enforcement of rules.
- o Inadequate maintenance of existing facilities.
- o Demand for wetlands protection.

#### **Recreation Demand**

- o Shortage of mauka recreational opportunities.
- o Overburdened or insufficient urban and community recreation.

#### **Recreation Resources Management**

- o Need for more cooperation between agencies.
- o Inadequate funding mechanisms to acquire, develop, and manage recreation resources.

In addition to identifying the recreational needs listed above, the Recreation Functional Plan also addresses actions designed to mitigate these existing and potential problems. The mitigation actions applicable to the proposed Heeia State Park Master Plan include:

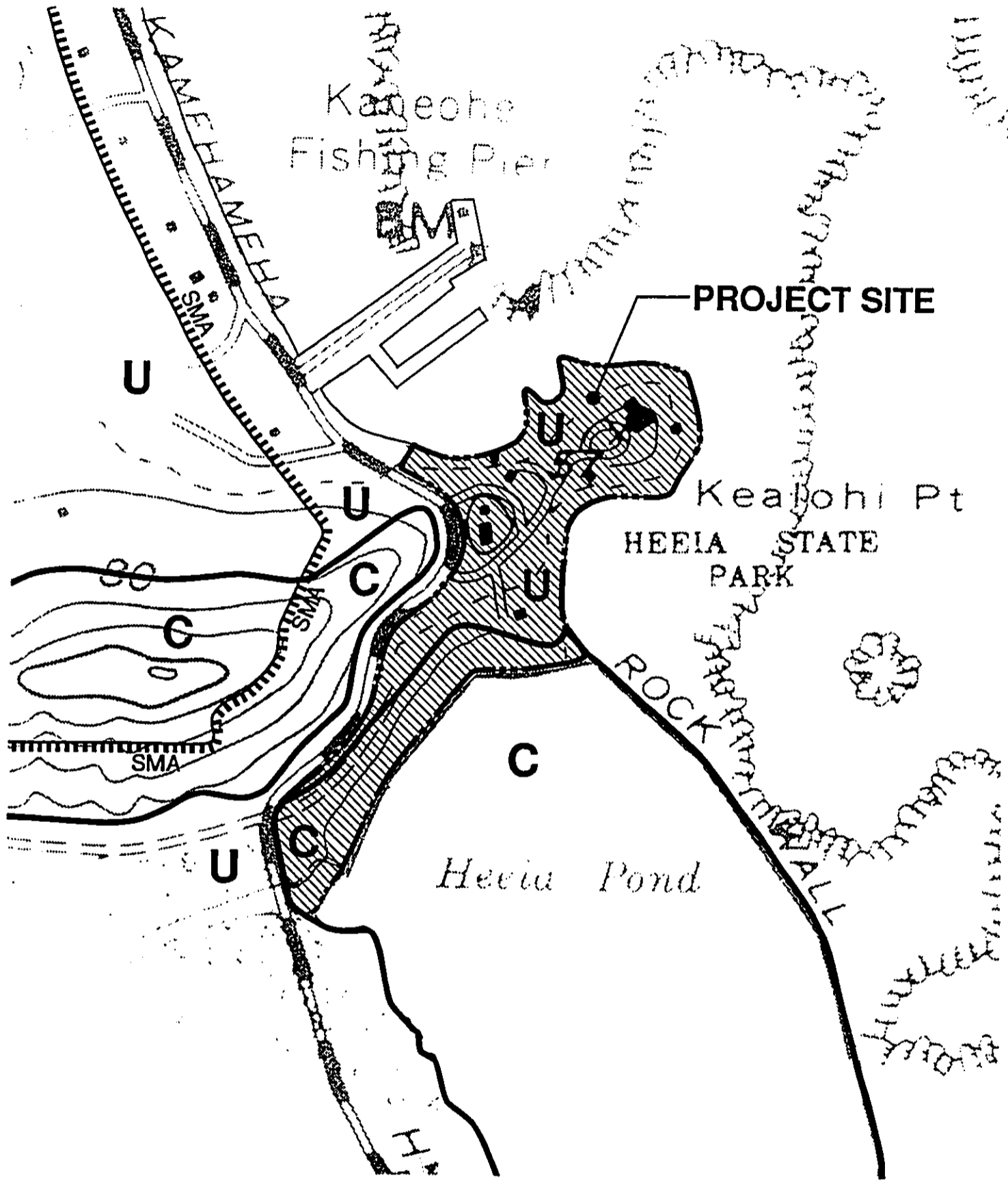
- o Improvement of beach access for ocean recreation and interpretive programs.
- o More aggressive management and control of Park activities.
- o Increase capacities of existing beach Parks and develop new areas.
- o Implement and enforce the Ocean Recreation Management Plan (ORMP).
- o Plan and develop Parks featuring historic, cultural, scenic, and natural resources; implement interpretive programs.
- o Proceed with planning, acquisition, and development of hiking trails.
- o Acquire public access to selected shoreline and mauka recreation areas.
- o Assure the provision of adequate improvements and maintenance of public access ways.
- o Keep existing shoreline access ways open.
- o Develop and implement information, education, and interpretive programs regarding environmental degradation.
- o Explore innovative ways to manage and maintain recreation resources.
- o Identify existing wetlands that have the potential for recreational use without adversely affecting wetland resources.
- o Expand the wetlands information base.
- o Develop a coordinated approach to wetlands protection, acquisition, and management.

### **5.3 STATE LAND USE LAW, CHAPTER 205**

The State Land Use Law regulates the classification and uses of land to accommodate growth and development, and to protect natural resources. To implement the provisions of Chapter 205, the State has established a Land Use Commission (LUC) to determine appropriate land uses for all lands within the State and to classify these lands into Urban, Agricultural, Rural, or Conservation Districts.

Approximately 13.1 acres of the subject property is currently classified by the LUC as within the "Urban District" and 4.9 acres as within the State Conservation District (Figure 16). Boundaries for the Heeia State Park and Shoreline Survey were certified as of May 22, 1991. Lands such as these, classified as Urban by the LUC, are generally regulated by County General Plans, zoning ordinances, subdivision regulations, and (along shoreline areas) Special Management Area (SMA) regulations. Conservation lands are generally regulated by the Board of Land and Natural Resources.

As such, the existing and proposed Park uses for the subject property are permitted within the State Urban District. Uses or alterations to those portions of the Park located within the State Conservation District will require a Conservation District Use Permit from the Board.



**LEGEND**

**STATE LAND USE**

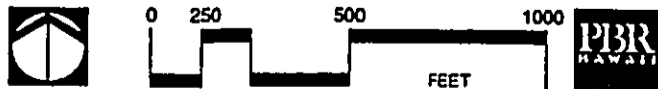
- U** URBAN
- C** CONSERVATION

**SPECIAL MANAGEMENT AREA**



SOURCE: STATE LAND USE COMMISSION - 1990

**FIGURE 16**  
**STATE LAND USE/**  
**SPECIAL MANAGEMENT AREA**  
**HEEIA STATE PARK**



#### **5.4 COASTAL ZONE MANAGEMENT ACT**

The objectives of the Hawaii Coastal Zone Management (CZM) Act as set forth in Chapter 205A, Hawaii Revised Statutes, applies to the protection and maintenance of valuable coastal resources and the establishment of Special Management Areas (SMA). The SMA boundary applicable to Heeia State Park is shown on Figure 16.

Inasmuch as the proposed Heeia State Park Master Plan is consistent with the already approved Urban State Land Use District and the City and County of Honolulu P-2 zoning designation, the proposed project does not conflict with existing land use regulatory controls.

The Special Management Area (SMA) is defined by ordinance of the City and County of Honolulu to establish additional development controls along Oahu's shoreline areas. Specifically, development is generally defined as grading, removing, dredging mining, or the extraction of any materials; and the construction, reconstruction, demolition, or alteration of the size of any structure. Consequently, the proposed improvements will be subject to approval under provisions set-forth by the City and County of Honolulu's SMA ordinance.

The proposed project conforms to the applicable CZM objectives as follows:

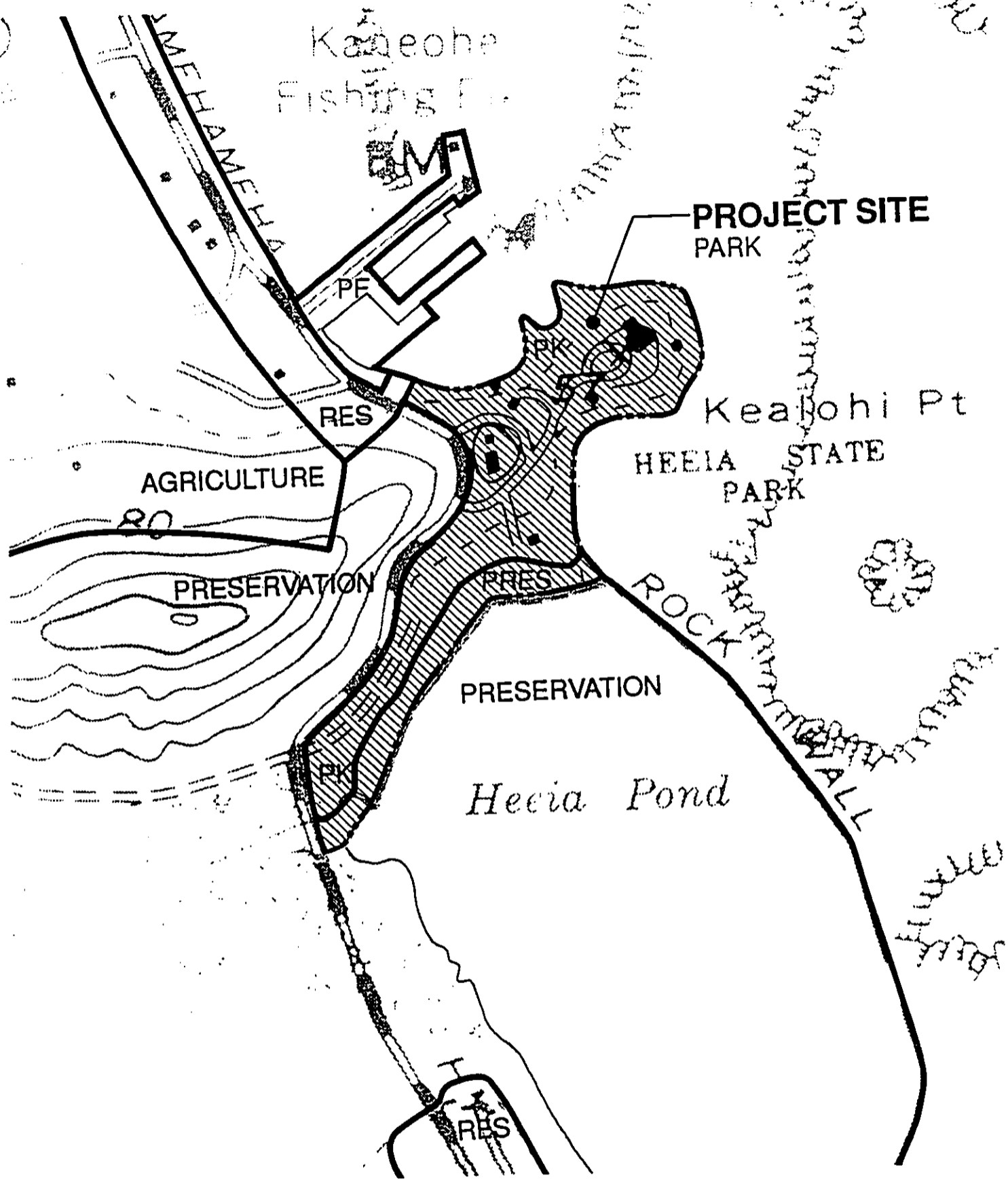
- A) Erosion control measures will be undertaken during project construction to mitigate the potential impact of near shore siltation during intense storm events. Design of project drainage systems will follow all design standards of the City and County of Honolulu to ensure the safe conveyance and discharge of storm water runoff. Protection of groundwater resources will also be enhanced by the installation of upgraded sewage treatment facilities and use of on-site retention basins.
- B) No development or construction will occur within the 100-year flood hazard zone as identified in the Flood Insurance Rate Maps.

Consequently, none of the proposed improvements are in conflict with any plans, programs, or other activities of the State Coastal Zone Management Program.

#### **5.5 CITY AND COUNTY OF HONOLULU GENERAL PLAN**

The City and County of Honolulu has developed an extensive program of land use planning and regulatory mechanisms that include the General Plan, Development Plan Areas (Figure 17), Public Facility Maps, and a comprehensive Land Use Ordinance (LUO).





**LEGEND**

- |                          |                                |
|--------------------------|--------------------------------|
| <b>PRES</b> PRESERVATION | <b>PK</b> PARKS AND RECREATION |
| <b>AG</b> AGRICULTURE    | <b>PF</b> PUBLIC FACILITY      |
| <b>RES</b> RESIDENTIAL   |                                |

SOURCE: DEPARTMENT GENERAL PLANNING - 1990

FIGURE 17  
DEVELOPMENT PLAN  
LAND USE MAP  
**HEEIA STATE PARK**



The General Plan establishes a statement of long-range social, economic, environmental and design objectives to be achieved within a 20 year time horizon. Policy statements applicable to the development of proposed Park improvements, are also set forth to facilitate implementation of the plan. These include the following:

Culture and Recreation:

- Objective A - To foster the multiethnic culture of Hawaii.
- Policy 2 - Encourage greater public awareness, understanding, and appreciation of cultural heritage and contributions to Hawaii made by the City's various ethnic groups.
- Objective B - To protect Oahu's cultural, historic, architectural, and archaeological resources.
- Policy 1 - Encourage the restoration and preservation of early Hawaiian structures, artifacts, and landmarks.
  - Policy 4 - Promote the interpretive and educational use of cultural, historic, architectural, and archaeological sites, buildings and artifacts.

Discussion:

The enhancement of visual resources, proximity to Heeia Fishpond, and presence of unique coastal ecosystems, offer excellent opportunities for cultural education and interpretive programs. For example, the historic Heeia Fishpond represents one of the few remaining archaeological artifacts of Hawaiian culture on Oahu that is easily accessible to large segments of the population. A possible interpretive feature could include a typical Hawaiian village with displays illustrating the operation of the fishpond and demonstrating the engineering techniques required to construct a structure of this size.

To implement the policies and objectives of the General Plan, the Development Plans have been formulated to establish a relatively detailed guide for the future physical development of the island. The Development Plans provide for land use and public facilities planning as well as indicate the sequence in which development will occur. They must implement and accomplish the objectives and policies of the General Plan. This is also true for the zoning and public facility maps.

## 5.6 CITY AND COUNTY OF HONOLULU LAND USE ORDINANCE

According to the City and County of Honolulu's Zoning Map #22, "Heeia to Maunawili", the entire 18.5 acres of the Park (comprised of the State Urban and Conservation Districts) are classified by the Land Use Ordinance (LUO) as P-2 General Preservation (Figure 18). It is the intent of the LUO that "lands designated urban by the State, but well-suited to the functions of providing visual relief and contrast to the City's built environment or serving as outdoor space for the public's use and enjoyment be zoned P-2 General Preservation District. Areas unsuitable for other uses because of topographical considerations related to public health, safety and welfare concerns shall also be placed in this district."

Within the P-2 zoning district, permitted land uses that may be applicable to the proposed improvements for Heeia State Park include: aquaculture, public uses and structures, and outdoor recreation facilities. The only applicable permit that would be discretionary as defined by the LUO, would be the "Conditional Uses, Type 1". These types of Conditional Uses (which include use of historic structures and marina accessories) are reviewed and approved by the Director of Land Utilization, no public hearing is required.

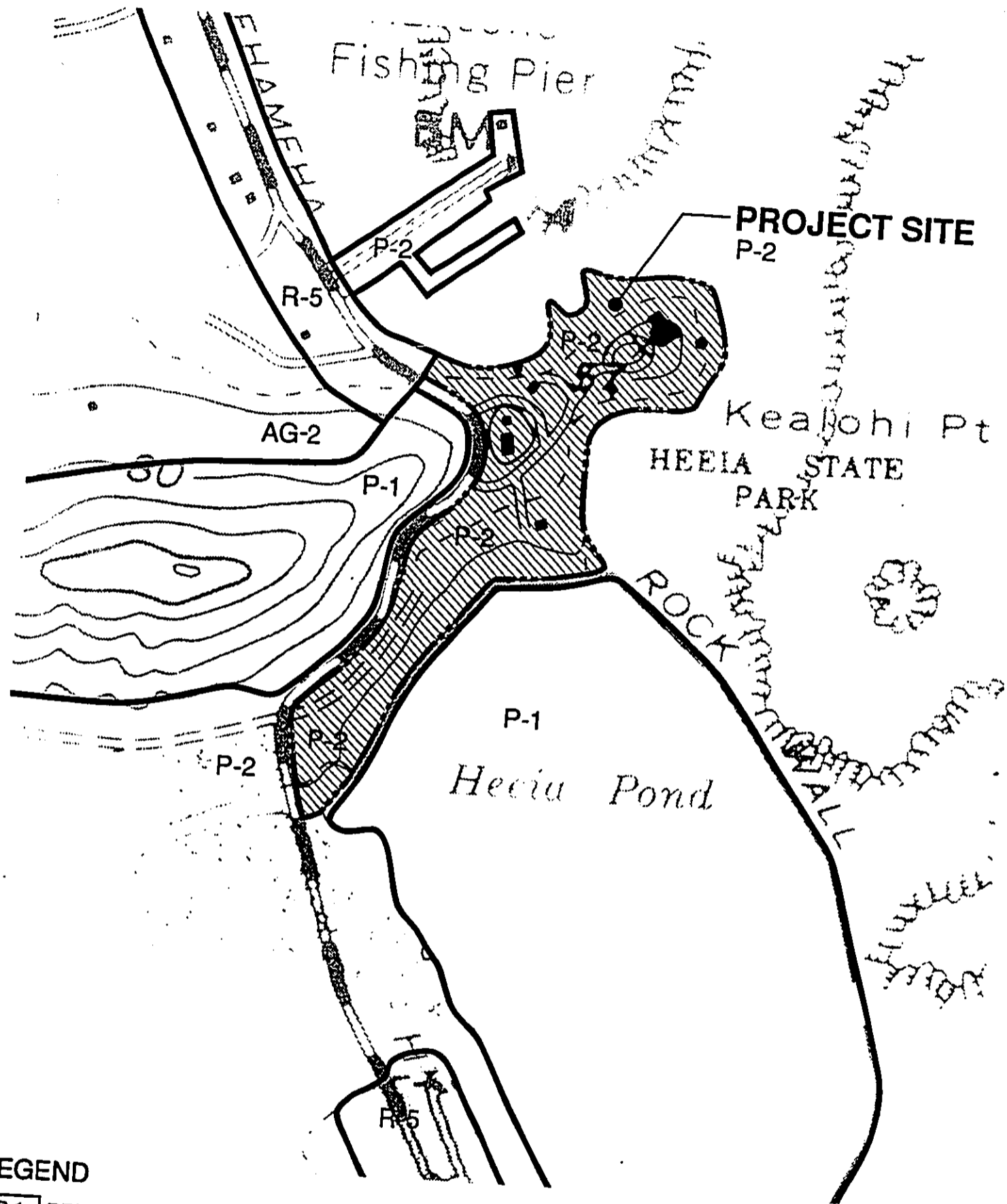
## 5.7 ENVIRONMENTAL IMPACT STATEMENTS (CHAPTER 343, HRS)

Title 11, Department of Health Administrative Rules, Chapter 200, states that an Environmental Impact Statement is required when significant environmental effects are determined and when any of five geographical designations and/or two administrative categories are applicable to a proposed action.

Therefore, the proposed redesign of Heeia State Park appears to be applicable to the following classes of action that require compliance with Chapter 343:

- o The use of State or County lands;
- o The use of State or County funds;
- o Any use within the shoreline area as defined in Section 205A-41, Hawaii Revised Statutes; and
- o The use of land within the State Conservation District.

Inasmuch as the proposed improvements involve State lands and funding, may involve Conservation District lands, and the anticipated environmental effects could be defined as significant (especially if grading of side slopes adjacent to the shoreline is necessary), it has been determined in the Environmental Impact Statement Preparation Notice, published in the November 23, 1991 Office of Environmental Quality Control Bulletin, that preparation of this Environmental Impact Statement is appropriate in accordance with the provisions of Chapter 343, HRS.

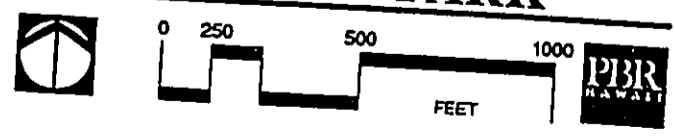


**LEGEND**

- P-1** RESTRICTED PRESERVATION
- P-2** GENERAL PRESERVATION
- R-5** RESIDENTIAL
- AG-2** GENERAL AGRICULTURE

SOURCE: DEPARTMENT OF LAND UTILIZATION - 1990

**FIGURE 18**  
**AREA-WIDE COUNTY**  
**ZONING CLASSIFICATIONS**  
**HEEIA STATE PARK**



The location of Heeia State Park at the transition between land and ocean and the interpretive potential this relationship represents, affects the policies and programs of many State and County agencies. Some of these potentially include the Department of Education, the State Harbors Division, Hawaii Institute of Marine Biology, the Coastal Zone Management Program, Department of Transportation, Board of Land and Natural Resources, and City and County of Honolulu (SMA review).

Each of these agencies will either review the proposed plans and interpretive program, or provide input into the design and development of the master plan. Coordination of various agency activities and consideration of agency comments, however, can and will be incorporated into the Environmental Impact Statement review process.

Upon review of this EIS, agencies will have the opportunity to assess project baseline information, the proposed conceptual plans, associated environmental impacts, mitigation measures, and overall feasibility of project proposals. Agency comments will be provided in the draft and final EIS and reflected in the selected design concept.

This EIS process also gives the community an opportunity to provide input into the plan. This is especially important for Heeia State Park because the park was created in response to community concerns and support. Numerous informational meetings and establishment of a community based taskforce provided valuable input into the planning and design process.

CHAPTER VI

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## CHAPTER VI

### 6.0 TOPICAL ISSUES

#### 6.1 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Improvements to Heeia State Park will result in irreversible and irretrievable commitments of natural and economic resources. The commitments include land, capital, construction material and labor required to implement the project. These commitments are outweighed by the benefit of retaining and enhancing Heeia State Park as a recreational, educational and cultural resource for the people and visitors of the State of Hawaii.

#### 6.2 CONSIDERATION OF OFFSETTING GOVERNMENTAL POLICIES

The proposed project has been generally demonstrated to be consistent with Hawaii's existing land use policies, plans, goals, objectives and other land use controls. There are, however, inherent contradictions and conflicts within the system which cannot be avoided. Safeguarding and preserving open space and protection of the State's natural and cultural resources, may conflict with expansion of educational and interpretive opportunities for residents and visitors. Protection of air and water quality, and minimizing noise impacts can be mitigated, but will require the alteration of existing conditions. However, in the long-term, impacts of project development will be generally positive.

The Heeia State Park project addresses these conflicts by utilizing the planning and regulatory processes to provide beneficial social and economic impacts while minimizing adverse environmental impacts through formation of mitigation measures. In addition, the project has been shown to be generally consistent with the Hawaii State Plan and Functional Plans, the City and County of Honolulu General Plan and the Koolaupoko Development Plan.

#### 6.3 UNRESOLVED ISSUES

The primary unresolved issues relative to the proposed project center on construction related phasing and grading procedures. Post construction visitor use levels of the park and control of mangrove will also be on-going management considerations.

Construction phasing as described in Section 2.4 must be implemented in a way which keeps the park open to the public during regular park operating hours. It is recommended that the mauka portion of the project (consisting of the parking lot, luau pavilion walkway, access improvements, and landscaping) be constructed as the first phase. The remaining makai portion near the Interpretive Center and shoreline be constructed as the second phase. It is difficult at this level of planning to identify whether a construction phasing program such as this (while keeping the park open to the public) is practical. However, the current lessee, Friends of Heeia State Park, have developed an ongoing outdoor

the current lessee, Friends of Heeia State Park, have developed an ongoing outdoor education program with local schools so it will be important to continue this program, or any similar ongoing program, during construction. Phasing may therefore have to consider temporary facilities such as office trailers and multiple use of the luau facilities.

Implementation of the recommended soil erosion control measures and grading plan will require careful attention to establishment of new plant materials and ground cover. This will be especially critical in areas of steep slope proximate to shoreline areas.

Should the level of park use significantly increase after proposed improvements are implemented, management techniques will be necessary to control the movement of groups and individuals away from environmentally sensitive areas.

Control of mangrove within Heeia Stream and along the shoreline of Heeia State Park will continue to require an on-going maintenance program to ensure that stream flows are not artificially restricted by mangrove.

#### **6.4 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

Heeia State Park will continue to serve as an educational, recreational, and cultural resource to both visitors and residents of the State. In the short-term, construction activities will disrupt park use. As an environmental resource, the value of the site lies in retaining its use as a public park and enhancement of its long-term interpretive and educational values. The benefits of the proposed improvements to the park have been fully described in this EIS.

#### **6.5 PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED**

There are no probable adverse environmental effects which cannot be avoided. The cumulative environmental impacts of the proposed park improvements are not significant. As the project will not increase population in the area, impacts relative to public services, facilities, and programs will not be adverse, but beneficial. Secondary effects include creation of employment opportunities and a valuable educational/interpretive experience for residents and visitors alike. No change in population and growth patterns including land use, water and public services in the area will be impacted. The proposed action does not constitute a direct or indirect source of pollution.



CHAPTER VII

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## CHAPTER VII

### 7.0 REFERENCES

- AICUZ Update, for Marine Corps Air Station Kaneohe Bay, Oahu, Hawaii, August, 1983)
- Armstrong, R. W. ed. (1983). Atlas of Hawaii. 2nd edition. Honolulu: University of Hawaii Press
- Baker, H.L. et al. (1965). Detailed Land Classification, Island of Hawaii. L.S. Bulletin 6. Honolulu: Land Study Bureau, University of Hawaii
- City and County of Honolulu, Department of Parks and Recreation (1988). Resident's Attitudes & Usage of the City and County Recreation Facilities & Services. Honolulu, Hawaii.
- "Coastal View Study, City and County of Honolulu Department of Land Utilization, 1987"
- "Conceptual Development Plan for Heeia State Park, Friends of Heeia State Park, June 1990"
- Devaney, Dennis, et. al. (1982). Kaneohe A History of Change. Honolulu, Hawaii.
- Hawaii, State of. Department of Agriculture. (1977). Agricultural Lands of Importance to the State of Hawaii. Honolulu, Hawaii.
- Hawaii, State of. Department of Health. (November 1982) "Chapter 59, Ambient Air Quality Standards". Title 11. Administrative Rules. Honolulu, Hawaii.
- Hawaii, State of. Department of Land and Natural Resources. (1989). Draft State Conservation Lands Functional Plan. Honolulu, Hawaii.
- Hawaii, State of. Department of Transportation. (1990) Draft State Transportation Functional Plan. Honolulu, Hawaii.
- Hawaii, State of. Department of Land and Natural Resources. (1989). Draft State Recreation Functional Plan. Honolulu, Hawaii.
- Hawaii, State of. Department of Health (1989). State Health Functional Plan. Honolulu, Hawaii.
- Hawaii, State of. Department of Business and Economic Development. (1990) Draft State Tourism Functional Plan. Honolulu, Hawaii.

Hawaii, State of. Office of State Planning. (1989). The Hawaii State Plan. Honolulu, Hawaii.

Hawaii, State of. Department of Agriculture. (1989). Draft State Agriculture Functional Plan. Honolulu, Hawaii.

Hawaii, State of. Housing Finance and Development Corporation. (1988) Final Draft State Housing Functional Plan. Honolulu, Hawaii.

Hawaii, State of. Department of Planning and Economic Development (1989) The Data Book. Honolulu, Hawaii.

Honolulu, City and County of. (1989). The General Plan. Honolulu, Hawaii.

National Flood Insurance Program. (1981). Floodway Boundary & Floodway Map. Honolulu, Hawaii.

"Oahu Water Management Plan, Technical Reference Document, March 1990"

United States. Department of Agriculture/University of Hawaii. Soil conservation Study. (1973). Agriculture Experimentation Station. Honolulu, Hawaii.

1985 State of Hawaii Water System Standards, Volume 1, Table 15

## **7.1 LIST OF FINAL EIS PREPARERS**

This Environmental Impact Statement was prepared for the Board of Land and Natural Resources by PBR HAWAII with additional reports furnished by subconsultants. Those subconsultants involved were:

### **Subconsultants**

R.M. Towill Corporation  
Traffic Management Consultant - Randall S. Okaneku  
Paul Weissich and Associates

**7.2 COMMENTS RECEIVED DURING THE EIS PREPARATION NOTICE COMMENT PERIOD AND RESPONSES, DRAFT AND FINAL EIS DISTRIBUTION LIST**

property. A community activity center is also planned for the mauka portion of the property, which may accommodate a senior center, day care center, community meeting space, and facilities for theatrical or musical performances. The existing commercial area along Kailua Road is proposed to be expanded by about one acre. Approximately 50-60 affordable elderly housing units are planned for the makai portion of the property. The project area contains about 29 acres of wetlands located on both sides of Hamakua Drive, which are proposed to be restored and improved as a waterfowl habitat with opportunities for public viewing and education.

The applicant is requesting the Department of General Planning to consider an amendment to the Koolau-poko Development Plan to change the DP designation of 20 acres of land from the Preservation designation to Medium-Density Apartment designation and 1 acre from the Preservation designation to the Commercial designation. The other 78 acres of the project area will remain in the Preservation district.

#### MOKULEIA GOLF COURSE

District:  
Kailua

TMK:

First Division, 6-8-02:6 and 6-8-03:5,6,11,  
15,19,20,21,30,31,33,34,35 & 40

Please send your comments to OEQC and the following:

Accepting Authority:  
Department of General Planning,  
City & County of Honolulu,  
650 South King Street,  
Honolulu, Hawaii 96813

Applicant:  
Mokuleia Land Company,  
68-540 Farrington Highway,  
Waiialua, Hawaii 96791  
Attention: Jason Kim (637-6085)

Consultant:  
Belt Collins & Associates,  
680 Ala Moana Blvd., Suite 200,  
Honolulu, Hawaii 96813  
Attention: Lee Sichter (521-5361)  
Deadline: December 23, 1991

This EISPN supersedes the previous notice that was published in the December 23, 1990 OEQC Bulletin.

The applicant, Mokuleia Land Company, is proposing to develop two 18-hole golf

courses, each with its own clubhouse, driving range, parking lot and ground maintenance facilities.

The approximately 470-acre project site is located adjacent to the Dillingham Airfield and mauka of the Farrington Highway. Existing land uses are primarily vacant and pasture use. A portion of the property is occupied by an equestrian facility, company offices, the Dillingham House, four residences, cane haul road and plan nursery.

The proposed golf courses are part of a master planned residential-recreational community that would be developed over a 10-year period. The planned community, which will occupy approximately 330 acres around the golf courses, will include single-family homes and low-density multi-family units with a sum total of approximately 365 units. The planned recreational amenities would include equestrian/sports facilities, bridle trails, tennis courts and family recreation center. The Dillingham House and an existing man-made pond area will be preserved.

The golf course project comprises the first phase of development. The remainder of the master planned community, including the residential units, will be developed in subsequent phases and involve separate land use applications. In considering the potential impacts of the proposed development, however, the cumulative effects of the residential and recreational amenities as well as the two golf courses will be addressed.

The applicant also owns approximately 83 acres of land makai of the Farrington Highway and the project site. Preliminary concepts for lodging facilities, beach club and open space with beach accesses have been discussed for this area, but no final development plan has been determined. The applicant is reserving this area for long-term future development and is not expecting to proceed with this area in the immediate future. Therefore, the 83-acre makai site is not included in the current development proposal.

#### HEEIA STATE PARK MASTER DEVELOPMENT PLAN

District:  
Koolau-poko  
TMK:  
4-6-05:2, 4 and 9

Please send your comments to OEQC and

the following:

Accepting Authority:  
Governor, State of Hawaii  
c/o Office of Environmental Quality Control,  
220 S. King St. 4th Floor,  
Honolulu, Hawaii 96813  
Proposing Agency:  
Department of Land and Natural Resources,  
Division of State Parks,  
P. O. Box 621,  
Honolulu, Hawaii 96809  
Attention: Bill Gorst (548-7455)  
Consultant:  
PBR Hawaii,  
1042 Fort Street, Suite 300,  
Honolulu, Hawaii 96813  
Attention: David Hulise (521-5631)  
Deadline: December 23, 1991

The subject property is located approximately one mile north of Kaneohe on the windward side of Oahu on Heeia Peninsula (also known as Lee O Kealahi). The site is also proximate to Heeia Boat Harbor.

The proposed conceptual plan and project improvements are intended to reflect a mid-level intensity of use directed towards accommodating the present type of use and use levels. Proposed facility master plan calls for improvements to include an upgrade to existing structures, landscaping, picnic areas, parking, signage, and the construction of an improved walkway system. Walkways may consist of asphalt or crushed cinder path with a boardwalk located proximate to Heeia Stream. Walking interpretive programs would be facilitated through the provision of information kiosks, signage, pamphlets and guided tours. Predetermined stopping points of interpretive interest will be emphasized.

Access to an ethno-botanical garden will be provided by a handicap ramp leading down gradient from picnic and parking lot areas. Control of mangroves and replacement of some existing structures are also planned.

#### HAUULA 160 RESERVOIR AND BOOSTER STATION

District:  
Koolauloa  
TMK:  
5-4-4:4

Please send your comments to OEQC and the following:

Accepting Authority:  
Mayor, City and County of Honolulu,

PHILIPS BRANDT REDDICK  
11/19/91  
PBR HAWAII  
PLANNING AND ENVIRONMENTAL SERVICES

(P)2314.1

December 12, 1991

NFC 9 [99]

Department of Land and Natural Resources  
Division of State Parks  
P. O. Box 621  
Honolulu, Hawaii 96809

Attention: Mr. Bill Gorst

Gentlemen:

Subject: Heeia State Park  
Master Development Plan  
EIS Preparation Notice

Thank you for the opportunity to review the subject document. We have no comments to offer.

Should there be any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Very truly yours,

*Teuane Tominga*  
TEUANE TOMINAGA  
State Public Works Engineer

RZ:jk  
cc: ✓PBR Hawaii  
Office of Environmental Quality Control

Mr. Teuane Tominga  
State Public Works Engineer  
P.O. Box 119  
Honolulu, Hawaii 96810

SUBJECT: HEIEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EIS/PN)

Dear Mr. Tominga:

Thank you for participating in the Environmental Impact Statement review process. This is to acknowledge receipt of your November 9, 1991 letter regarding the proposed improvements for Heeia State Park.

Your letter and this response will be appended in the Draft and Final Environmental Impact Statements.

Sincerely,

PBR HAWAII

*David Hulsc*  
David Hulsc, ASLA  
Project Planner

cc: Bill Gorst, State Parks

759BL\_R\_W51

PHILIPS BRANDT REDDICK  
11/19/91  
PBR HAWAII  
PLANNING AND ENVIRONMENTAL SERVICES

DEPARTMENT OF LAND AND NATURAL RESOURCES  
550 SOUTH KING STREET  
HONOLULU, HAWAII 96813



PHILLIPS SHANDT REDDICK  
ARCHITECTS  
1101 KALANIANA'OHU BLVD  
SUITE 200  
HONOLULU, HI 96813  
NOV 7 1991

November 22, 1991

Department of Land and Natural Resources  
Division of State Parks  
P. O. Box 621  
Honolulu, Hawaii 96809

Attention: Bill Gorst  
Gentlemen:

Subject: Review of Environmental Impact Statement  
Preparation Notice for Heeia State Park  
Master Development Plan

After review of this report, we agree with the  
recommendations as proposed by PBR Hawaii, especially  
in the preservation/restoration of the wetlands/fishpond  
environment.

The educational potential of this environment is of interest  
to us and it fulfills an educational-recreational need not  
now existing. The restoration of a system utilized by the  
ancient Hawaiian culture is a good concept. In addition, you  
have managed to retain a use which is currently popular--the  
front portion of the property is heavily used by the  
community for parties, wedding-type functions, luaus, etc.

Sincerely,  
*Walter H. O'Zawa*  
WALTER H. OZAWA, Director

WHO:ei  
cc: ✓ PBR Hawaii (David Hulse)  
OEQC



December 12, 1991

Department of Parks and Recreation  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: HEIEA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISP/N)

Dear Mr. Ozawa:

Thank you for participating in the Environmental Impact Statement review process. This is to  
acknowledge receipt of your November 22, 1991 letter regarding the proposed improvements for  
Heeia State Park.

The educational and interpretive components of the proposed plan will incorporate your  
comments regarding the community use of the mauka portion of the park for gatherings and  
functions.

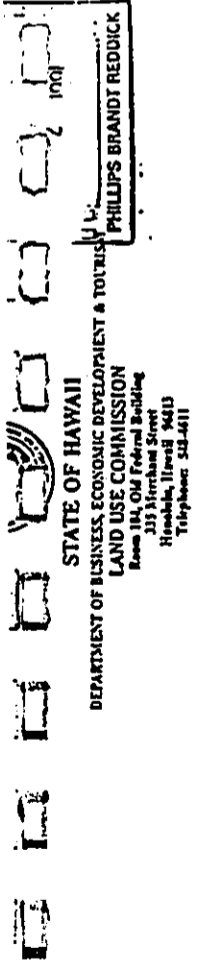
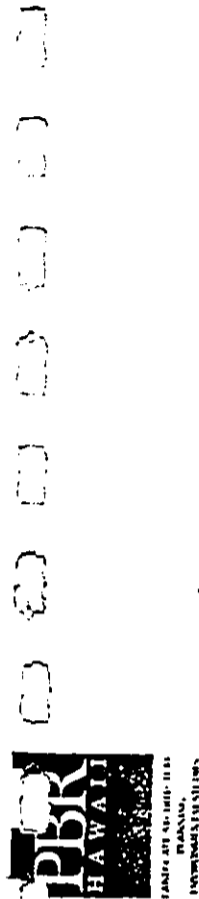
Your letter and this response will be appended to the Draft and Final Environmental Impact  
Statements.

Sincerely,  
*David Hulse*  
PBR HAWAII  
David Hulse, ASLA  
Project Planner

cc: Bill Grist, State Parks  
759BI\_4\_W51

FOR INFORMATION ONLY: THE STATE OF HAWAII, DEPARTMENT OF LAND AND NATURAL RESOURCES, DIVISION OF STATE PARKS, HAS REVIEWED THE ENVIRONMENTAL IMPACT STATEMENT FOR THE HEIEA STATE PARK AND HAS APPROVED THE PROPOSED IMPROVEMENTS FOR THE MAUKA PORTION OF THE PARK.





December 12, 1991

Department of Business,  
Economic Development and Tourism  
Land Use Commission  
Room 104, Old Federal Building  
333 Merchant Street  
Honolulu, Hawaii 96813

November 26, 1991

Mr. Bill Corst  
Department of Land and Natural Resources  
Division of State Parks  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Corst:

**SUBJECT: IIEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISPN)**

**Subject: Heeia State Park Environmental Impact Statement Preparation  
Notice (EISPN), Kaneohe, Hawaii, TRK No.: 4-6-05: 2, 4 and 9**

Dear Ms. Ueda:

Thank you for participating in the Environmental Impact Statement review process. This is to acknowledge receipt of your November 26, 1991, letter regarding the proposed improvements for Heeia State Park.

As requested, the draft and final Environmental Impact Statement will include a map showing the proposed conceptual plan in relation to the State Land Use districts. We acknowledge that the Park is located in both the State Urban District and State Conservation District.

Your letter and this response will be appended to the Draft and Final Environmental Impact Statements.

The Department of Business, Economic Development and Tourism has referred the subject EISPN to our office for response.

We have reviewed the subject EISPN for the facility improvements at Heeia State Park and confirm that the subject parcels are designated within the State Land Use Urban and Conservation Districts. For your information, parcels 2 and 4 are designated within the Urban District and parcel 9 is designated within both the Urban and Conservation Districts.

We suggest that the draft EIS include a map showing the proposed conceptual plan in relation to the State Land Use Districts.

We have no other comments to offer at this time. We appreciate the opportunity to comment on this matter.

If you have any questions, please call me or Bert Saruwatari of our office at 587-3822.

Sincerely,

PBR HAWAII

*David Hulise*

David Hulise, ASLA  
Project Planner

Sincerely,

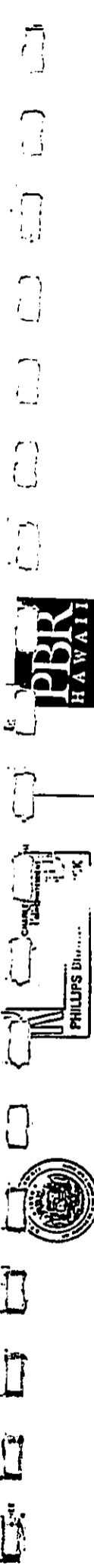
*Esther Ueda*

ESTHER UEDA  
Executive Officer

cc: Bill Corst, State Parks  
759BL\_5\_W51

cc: DEED  
OECC  
/PBR Hawaii, David Hulise

POSTMASTER: MAIL TO THE HONOLULU, HAWAII OFFICE OF THE DIRECTOR OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM, 333 MERCHANT STREET, HONOLULU, HAWAII 96813



STATE OF HAWAII  
DEPARTMENT OF EDUCATION  
P. O. BOX 2104  
HONOLULU, HAWAII 96813

OFFICE OF THE SUPERINTENDENT

November 19, 1991

Mr. David Hulise  
PBR Hawaii  
1042 Fort Street, Suite 300  
Honolulu, Hawaii 96813

Dear Mr. Hulise:

SUBJECT: Environmental Impact Statement Preparation  
Notice for Heeia State Park, Kaneohe, Hawaii  
TKS: 4-6-05: 2, 4 and 9

Our review of the subject EISP indicates that the proposed development plan will have no impact on the public schools in the area.

Thank you for the opportunity to comment.

Sincerely,

*Charles T. Toguchi*

Charles T. Toguchi  
Superintendent

CTT:jl

cc: A. Suga  
S. Loo



December 12, 1991

Mr. Charles T. Toguchi  
State of Hawaii  
Department of Education  
P.O. Box 2360  
Honolulu, Hawaii 96804

SUBJECT: HEIEA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISP)

Dear Mr. Toguchi:

Thank you for participating in the Environmental Impact Statement review process. This is to acknowledge receipt of your November 19, 1991 letter regarding the proposed improvements for Heeia State Park.

Your letter and this response will be appended to the Draft and Final Environmental Impact Statements.

Sincerely,

PBR HAWAII

*David Hulise*

David Hulise, ASLA  
Project Planner

cc: Bill Gorst, State Parks

1991.6.WS1

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER

1001 KUIA STREET, SUITE 300, HONOLULU, HAWAII 96813-5215 FAX (808) 521-1802  
MAILING LIST: 1001 KUIA STREET, SUITE 300, HONOLULU, HI 96813-5215



STATE OF HAWAII  
 DEPARTMENT OF DEFENSE  
 OFFICE OF THE ADJUTANT GENERAL  
 HIS MAJESTY KING KAMEHAMEHA III  
 1000 KALANOA'OLE DRIVE, SUITE 200  
 HONOLULU, HAWAII 96813

MAJORITY REDDICK  
 DEPARTMENT OF DEFENSE  
 OFFICE OF THE ADJUTANT GENERAL  
 1000 KALANOA'OLE DRIVE, SUITE 200  
 HONOLULU, HAWAII 96813

December 4, 1991

Engineering Office

Bill Gorst  
 Division of State Parks  
 P. O. Box 621  
 Hilo, Hawaii 96809

Subject: Environmental Impact Statement Preparation  
 Notice - Heela State Park

Dear Mr. Gorst:

Thank you for providing us the opportunity to review the above mentioned Environmental Impact Statement.

We have no comments to offer at this time regarding the project.

Sincerely,

*Jerry M. Matsuda*  
 Jerry M. Matsuda  
 Lieutenant Colonel  
 Hawaii Air National Guard  
 Contracting and Engineering Officer

Enc.

cc: PBR Hawaii

December 12, 1991

Mr. Jerry M. Matsuda  
 State of Hawaii  
 Department of Defense  
 3949 Diamond Head Road  
 Honolulu, Hawaii 96816

Subject: HEEEA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
 PREPARATION NOTICE (EISP/N)

Dear Mr. Matsuda:

Thank you for participating in the Environmental Impact Statement review process. This is to acknowledge receipt of your December 4, 1991 letter regarding the proposed improvements for Heeia State Park.

Your letter and this response will be appended to the Draft and Final Environmental Impact Statements.

Sincerely,

PBR HAWAII

*David Hulsc*  
 David Hulsc, ASLA  
 Project Planner

cc: Bill Gorst, State Parks

12/12/91

PREPARED BY: PBR HAWAII  
 1000 KALANOA'OLE DRIVE, SUITE 200  
 HONOLULU, HAWAII 96813

DEPARTMENT OF PUBLIC WORKS  
HONOLULU, HAWAII

FRANKIE PARI  
MAIL ROOM



NOV 9 1991  
PHILLIPS DRIVE  
SAM CALLEJO  
DIRECTOR AND CHIEF ENGINEER  
C MICHAEL STREET  
DEPT. OF PUBLIC WORKS  
HONOLULU, HAWAII 96813  
ENV 91-250

December 4, 1991

Mr. David Hulse  
PBR Hawaii  
1042 Fort Street, Suite 300  
Honolulu, Hawaii 96813

Dear Mr. Hulse:

Subject: ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE  
(EISP/N) - HEEIA STATE PARK MASTER DEVELOPMENT PLAN  
TKK:4-6-05:2, 4 & 9

We have reviewed the subject EISP/N and have the following comments:

1. We have no objections to the proposed state park improvements in Heeia.
2. There are no municipal sewers in the area and none is planned for the near future.
3. For your information, should a septic tank system be used for the proposed project, an approval from the State Department of Health is required. Also, when pumping is required, a private pumping service will have to be arranged since the City does not provide pumping service for septic tanks.

Very truly yours,  
*C. Michael Street*  
SAM CALLEJO  
Director and Chief Engineer

cc: DLNR

December 12, 1991

Mr. Sam Callejo, Director and Chief Engineer  
City and County of Honolulu  
Department of Public Works  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISP/N)

Dear Mr. Callejo:

Thank you for participating in the Environmental Impact Statement review process. This is to acknowledge receipt of your December 4, 1991 letter regarding the proposed improvements for Heeia State Park.

Your letter and this response will be appended to the Draft and Final Environmental Impact Statements.  
Sincerely,

PBR HAWAII

*David Hulse*

David Hulse, ASLA  
Project Planner

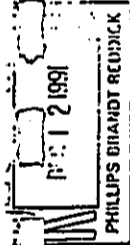
cc: Bill Gurst, State Parks

1991\_11.W51

DEPARTMENT OF PUBLIC WORKS  
HONOLULU, HAWAII



PHILIPS BIRANDT REDDICK  
PLANNING  
ENVIRONMENTAL SERVICES



TE-5874  
PL91.1.389

December 5, 1991

Honorable William W. Paty, Chairperson  
Department of Land and Natural Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Paty:

Subject: Heeia State Park  
Environmental Impact Statement  
Preparation Notice (EISP)  
THK: 4-6-05: 2, 4 and 9

This is in response to the EISP submitted to us for review on November 13, 1991.

Based on our review, we have the following comments:

1. Adequate sight distance should be provided at all driveway locations.
2. Landscaping should be placed in locations where it does not obstruct vehicular sight lines. Existing vegetation should be cleared if it interferes with the sight lines.
3. A 10-foot road widening setback exists fronting the subject parcel on Kamehameha Highway.
4. It should be noted that the portion of Kamehameha Highway fronting the park is under City jurisdiction.
5. Construction plans for all work within the City's right-of-way should be reviewed by our department.

December 12, 1991

Mr. Joseph M. Magaldi, Jr., Director  
Department of Transportation Services  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISP)

Dear Mr. Magaldi:

Thank you for participating in the Environmental Impact Statement review process. This is to acknowledge receipt of your December 5, 1991 letter regarding the proposed improvements for Heeia State Park.

In response to your comments, the sight distance and location of landscape plantings at the intersection of Heeia State Park with Kamehameha Highway will be coordinated with your office to insure that adequate sight distance is maintained. All construction plans for work to be conducted within the City's right-of-way and 10-foot setback will be submitted to your office for review and comment.

Your letter and this response will be appended to the Draft and Final Environmental Impact Statements.

Sincerely,

PBR HAWAII

David Hulise, ASLA  
Project Planner

cc: Bill Gorst, State Parks

75981\_7\_W51

PHILIPS BIRANDT REDDICK  
PLANNING  
ENVIRONMENTAL SERVICES  
1000 KALANIANA'OHU DRIVE, SUITE 1000, HONOLULU, HAWAII 96813  
TELEPHONE: 531-2200 FAX: 531-2201

Honorable William W. Paty

Page 2

December 5, 1991

Should you have any questions, please contact Lance Watanabe of my staff at 523-4199.

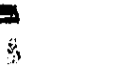
Sincerely,



JOSEPH A. MAGALDI, JR.  
Director

cc: PBR Hawaii

DEC 14 1991



STATE OF HAWAII  
DEPARTMENT OF BUDGET AND FINANCE  
HOUSING FINANCE AND DEVELOPMENT CORPORATION

91: PPE/5300jt

STATE OF HAWAII  
DEPARTMENT OF BUDGET AND FINANCE  
HOUSING FINANCE AND DEVELOPMENT CORPORATION  
SEVEN WATERFRONT PLAZA, SUITE 300  
500 ALA MOANA BOULEVARD  
HONOLULU, HAWAII 96813  
FAX: 808/531-0020

December 12, 1991

Mr. Joseph K. Conant, Executive Director  
State of Hawaii  
Housing Finance & Development Corp.  
Seven Waterfront Plaza, Suite 300  
500 Ala Moana Boulevard  
Honolulu, Hawaii 96813

December 5, 1991

Mr. David Hulse  
PBR Hawaii  
1042 Fort Street, Suite 300  
Honolulu, Hawaii 96813

Dear Mr. Hulse:

Re: EIS Preparation Notice for the Heeia State Park Master  
Development Plan

Thank you for the opportunity to review the subject EISPN. We  
have no comments to offer.

Sincerely,

JOSEPH K. CONANT  
Executive Director

c: Bill Gorst, DLNR

SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISPN)

Dear Mr. Conant:

Thank you for participating in the Environmental Impact Statement review process. This is to  
acknowledge receipt of your December 9, 1991 letter regarding the proposed improvements for  
Heeia State Park.

Your letter and this response will be appended to the Draft and Final Environmental Impact  
Statements.

Sincerely,

PBR HAWAII

DAVID HULSE  
Project Planner

cc: Bill Gorst, State Parks

12/11/91

POSTAGE WILL BE PAID BY ADDRESSEE  
PERMIT NO. 1000 HONOLULU, HI 96811  
POST OFFICE BOX 1000 HONOLULU, HI 96811



William A. Bonnet  
Manager  
Environmental Department

December 9, 1991

Mr. Bill Gorst  
Department of Land and Natural  
Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Gorst:

Subject: Environmental Impact Statement Preparation Notice  
(EISPN) for Sand Island Marine Education and Training  
Center, and Public Boat Launch Facility

We have reviewed the subject EISPN, and have no comments at this  
time on the proposed project. HECO shall reserve further comments  
pertaining to the protection of existing powerlines bordering and  
servicing the area until construction plans are finalized.

Sincerely,

cc: Mr. David Hulise, PBR Hawaii

An HEI Company

10 10 1991

LAND AND NATURAL RESOURCES  
DEPARTMENT



December 12, 1991

Mr. William A. Bonnet, Manager  
Hawaiian Electric Company, Inc.  
Environmental Department  
P.O. Box 2750  
Honolulu, Hawaii 96840

SUBJECT: HIEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISPN)

Dear Mr. Bonnet:

Thank you for participating in the Environmental Impact Statement review process. This is to  
acknowledge receipt of your December 9, 1991 letter regarding the proposed improvements for  
Heeia State Park.

Your letter and this response will be appended to the Draft and Final Environmental Impact  
Statements.

Sincerely,

PBR HAWAII

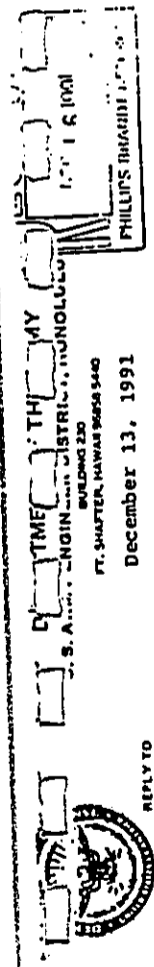
David Hulise, ASIA  
Project Planner

cc: Bill Gorst, State Parks

15981\_9\_051

100 FORT STREET, SUITE 500 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5410 FAX: (808) 521-1102  
FACSIMILE: (808) 521-5410





REPLY TO  
ATTENTION OF:

Planning Division

Department of Land and Natural  
Resources, Division of State Parks  
State of Hawaii  
Attention: Mr. Bill Gorst  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Sir/Madam:

We have reviewed the Environmental Impact Statement  
Preparation Notice (EISP) for Heeia State Park, Kaneohe, Hawaii  
(THK 4-6-05: 2,4,9). The following comments are provided  
pursuant to Corps of Engineers authorities to disseminate flood  
hazard information under the Flood Control Act of 1960 and to  
issue Department of the Army (DA) permits under the Clean Water  
Act; the Rivers and Harbors Act of 1899; and the Marine  
Protection, Research and Sanctuaries Act.

a. A DA permit would be required for work in Heeia Stream,  
in the mangrove areas and at the shoreline. For more information  
on permit requirements, please contact the Operations Division at  
438-9258 and cite the following file number which has been  
assigned to the project: P092-045.

b. According to the Federal Emergency Management Agency's  
Flood Insurance Rate Map (FIRM), panel 150001-0055-B, dated  
September 4, 1987, the project site is located in the following  
zones: the floodway area, designated as Zone AE (areas inundated  
by the 100-year flood with a base flood elevation of 4 feet above  
mean sea level); Zone D (areas in which flood hazards are  
undetermined); and Zone X - unshaded (areas determined to be  
outside of the 500-year flood plain).

Sincerely,

**ORIGINAL SIGNED**

Ray Jyo  
Acting Director of Engineering

Enclosure



January 7, 1991

Department of the Army  
U.S. Army Engineer District, Honolulu  
Building 230  
Ft. Shafter, Hawaii 96858-5440

SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISP)

Dear Mr. Jyo:

Thank you for participating in the Environmental Impact Statement review process and your  
assessment that a Department of the Army permit would be required for work in Heeia Stream,  
in the mangrove areas and at the shoreline. Should any alterations to these wetland areas be  
required, the appropriate coordination and submittal of applications to your Department will be  
undertaken at the appropriate time.

We also wish to acknowledge the information you provided regarding the Federal Emergency  
Management Agency's Flood Insurance Rate Map (FIRM) designations for the subject property.

Your letter and this response will be appended to the Draft and Final Environmental Impact  
Statements.

Sincerely,

PBR HAWAII

David Hulser, ASLA  
Project Planner

cc: Bill Gorst, State Parks  
759DL\_13.W51

PROJECT SERIAL NUMBER: 759DL\_13.W51  
PLANNING DIVISION



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

January 29, 1993

Mr. Robin Foster, Chief Planning Officer  
Department of General Planning  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

**SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISPN) COMMENTS OF 12 DECEMBER 1991**

Dear Mr. Foster:

Thank you for your agency's comments of 6 December 1991 regarding the Environmental Impact Statement Preparation Notice and project master plan for Heeia State Park. We apologize for the delay in our response, however, preparation of the Environmental Impact Statement (EIS) was essentially discontinued during 1992 to reevaluate the master plan and provide more opportunities for informational meetings and community input.

Although the informational meetings provided many valuable suggestions regarding operation of Heeia State Park were received, no significant revisions to the original master plan were recommended by the various groups participating. Therefore, preparation of the EIS is once again proceeding and we offer our response to your earlier comments.

All proposed improvements will be located within the boundaries of Heeia State Park. However, we acknowledge that the proposed development could be susceptible to soil erosion during the construction period. As such, the erosion and sediment control plan will specifically describe the treatment measures to be installed and maintained in order to minimize any adverse impacts. This plan will fully comply with all applicable erosion control regulations and grading ordinances applicable to the City and County of Honolulu. In addition, construction will be phased to eliminate the possible exposure of large areas to wind and water erosion. The phasing plan will be described in the Draft EIS.

1025 FORT STREET MAIL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: 535-2500 FAX: 535-2502

DEPARTMENT OF GENERAL PLANNING  
**CITY AND COUNTY OF HONOLULU,**  
DIVISION OF  
STATE PARKS

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JAN 13 1993 4:35

JAN 7 2 36 PM '92

BENJAMIN B. LEE  
CHIEF PLANNING OFFICER  
ROLAND LIBERT, JR.  
DEPUTY CHIEF PLANNING OFFICER

ET 11/91-3507

December 12, 1991

RECEIVED  
91 DEC 18 PM 4:01

DLNR  
OCEA

Honorable William W. Paty, Chairperson  
Board of Land and Natural Resources  
Department of Land and Natural Resources  
State of Hawaii  
P.O. Box 2001  
Honolulu, Hawaii 96809

Dear Mr. Paty:

Environmental Impact Statement Preparation  
Notice (EISPN) for Heeia State Park  
Tax Map Keys 4-5-5: 2, 4 and 9, Kaneohe, Hawaii

We have reviewed the subject Environmental Impact Statement Preparation Notice dated November 1991 prepared by PBR Hawaii.

In the preparation of the Environmental Impact Statement (EIS), possible impacts to the complete ecosystem, e.g., Heeia Wetlands, Park and Fishpond, and the adequacy of Heeia Stream bridge to accommodate the increased traffic should be addressed.

Thank you for the opportunity to comment. Should you have any questions, please contact Eugene Takahashi of our staff at 527-6022.

Sincerely,

*B. Lee*  
BENJAMIN B. LEE  
Chief Planning Officer

BBL:ft

Mr. Robin Fuster, Chief Planning Officer  
SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISPN) COMMENTS OF 13 JANUARY 1993  
January 29, 1993  
Page 2

Thank you for participating in the Environmental Impact Statement review process. Your letter and this response will be appended to the Draft and Final Environmental Impact Statements.

Sincerely,

PBB HAWAII  
  
David Hulse, AICP  
Project Planner

cc: Bill Gurst, State Parks



January 29, 1993

Mr. Warren Lee, State Conservationist  
USDA Soil Conservation Service  
P.O. Box 50004  
Honolulu, Hawaii 96843

SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISP) COMMENTS OF 6 DECEMBER 1991

Dear Mr. Lee:

Thank you for your comments of 6 December 1991 regarding the Environmental Impact Statement Preparation Notice and project master plan for Heeia State Park. We apologize for the delay in our response. However, preparation of the Environmental Impact Statement (EIS) was essentially discontinued during 1992 to reevaluate the master plan and provide more opportunities for informational meetings and community input. Although the informational meetings provided many valuable suggestions regarding operation of Heeia State Park were received, no significant revisions to the original master plan were recommended by the various groups participating. Therefore, preparation of the EIS is once again proceeding and we offer our response to your earlier comments.

We acknowledge that the proposed development could be susceptible to soil erosion during the construction period. As such, the erosion and sediment control plan will specifically describe the treatment measures to be installed and maintained in order to minimize any adverse impacts. This plan will fully comply with all applicable erosion control regulations and grading ordinances applicable to the City and County of Honolulu. In addition, construction will be phased to eliminate the possible exposure of large areas to wind and water erosion. The phasing plan will be described in the Draft EIS.

Thank you for participating in the Environmental Impact Statement review process. Your letter and this response will be appended to the Draft and Final Environmental Impact Statements.

Sincerely,

PBR-HAWAII  
*David Hulse*  
David Hulse, AICP  
Project Planner  
cc: Bill Gorst, State Parks

102 FORT STREET, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE (808) 521-5412 FAX (808) 521-5412  
REACHING: HONOLULU, HI 96813-4000 HAWAIIAN ISLANDS REGIONAL OFFICE: 100 SOUTH KING STREET, SUITE 200, HONOLULU, HI 96813

UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SOIL  
CONSERVATION  
SERVICE

Mr. William Gorst  
Department of Land and Natural Resources  
Division of State Parks  
P.O. Box 621  
Honolulu, Hawaii 96809

P. O. BOX 50004  
HONOLULU, HAWAII  
96850-0004  
STATE PARKS

U.S. 10 59 AM December 6, 1991

Dear Mr. Gorst:

Subject: Environmental Impact Statement Preparation Notice (EISP) -  
Heeia State Park, Heeia, HI

We have reviewed the Heeia State Park Environmental Impact Statement Preparation Notice (EISP) and like to make the following comments.

The Soil Conservation Service supports the concept of the proposed park improvements to the Heeia State Park. We would, however, like to emphasize the need for caution during any construction activities in the area. Being so close to the stream and wetlands, construction activities could have adverse impacts on the water quality of these areas. The erosion and sediment control plan for this project should specifically describe the treatment measures to be installed and maintained in order to minimize any adverse impacts.

Thank you for the opportunity to comment on this proposed project. We would appreciate reviewing the draft Environmental Impact Statement when it is completed.

Sincerely,

*Warren H. Lee*  
WARREN H. LEE  
State Conservationist

TO: ADMINISTRATOR  
ASST. DIR. FOR  
DEV. BR.  
PLANNING  
RES. & EXT. SR.  
PROJ. CONTROL  
SW. REC. PLAN.  
CIV. & STAFF  
APP. & ASST.  
ASST. TO DIR.  
FOR: CHIEF, POST  
OFFICE & REC.  
CIV. & STAFF  
PLANNING  
REC. MGMT.  
EIS/IMPACT  
STUDY  
SING COPY TO: \_\_\_\_\_

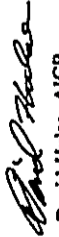
Mr. Kazu Hayashida, Manager  
SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISP/N) COMMENTS OF 13 JANUARY 1992  
January 29, 1993  
Page 2

4. If a three-inch or larger meter is required, the construction drawings showing the installation of the meter will be submitted for Board of Water Supply review and approval.

Thank you for participating in the Environmental Impact Statement review process. Your letter and this response will be appended to the Draft and Final Environmental Impact Statements.

Sincerely,

PBR HAWAII

  
David Hulse, AICP  
Project Planner

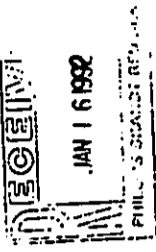
cc: Bill Gnst, State Parks

BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU

COPY



January 13, 1992



Mr. Bill Gorst  
Division of State Parks  
Department of Land and Natural  
Resources  
State of Hawaii  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Gorst:

Subject: Environmental Impact Statement Preparation Notice (EISPN) Regarding the  
Proposed Heeia State Park Master Plan; TMK: 4-6-05: 2, 4, and 9; Kamehameha  
Highway

Thank you for the opportunity to review and comment on the EISPN for the proposed Heeia  
State Park Master Plan. We have the following comments:

1. There is an existing water service serving the property and there are two other  
water laterals to the property which are currently inactive. However, if additional  
water is required for the State Park expansion, a water allocation should be  
obtained from the State Department of Land and Natural Resources.
2. The availability of additional water will be confirmed when the building permit is  
submitted for our review and approval. If additional water is made available, the  
applicant will be required to pay our Water System Facilities Charges for  
transmission and daily storage, and any applicable meter installation charges.
3. The proposed development will be subject to Board of Water Supply cross-  
connectional control requirements prior to the issuance of the building permit.
4. If a three-inch or larger meter is required, the construction drawings showing the  
installation of the meter should be submitted for our review and approval.

If you have any questions, please contact Bert Kuioha at 527-5235.

Very truly yours,

KAZU HAYASHIDA  
Manager and Chief Engineer

David Hulse, PBR Hawaii



PLANNING BOARD  
January 29, 1993

Mr. Kazu Hayashida, Manager  
City and County of Honolulu  
Board of Water Supply  
630 South Beretania Street  
Honolulu, Hawaii 96843

SUBJECT: HEEIA STATE PARK ENVIRONMENTAL IMPACT STATEMENT  
PREPARATION NOTICE (EISPN) COMMENTS OF 13 JANUARY 1992

Dear Mr. Hayashida:

Thank you for your comments of 13 January 1992 regarding the Environmental Impact Statement  
Preparation Notice and project master plan for Heeia State Park. We apologize for the delay in  
our response, however, preparation of the Environmental Impact Statement (EIS) was essentially  
discontinued during 1992 to reevaluate the master plan and provide more opportunities for  
informational meetings and community input.

Although the informational meetings provided many valuable suggestions regarding operation of  
Heeia State Park were received, no significant revisions to the original master plan were  
recommended by the various groups participating. Therefore, preparation of the EIS is once  
again proceeding and we offer our response to your earlier comments.

1. The DLNR has determined that the future level of use for the Park should remain  
essentially unchanged from the current condition. To minimize the need for irrigation  
water, the irrigation system will be designed to direct water to specific areas in the  
amounts required. Significant portions of the Park will not require irrigation for  
landscaping. If additional water is required, a water allocation would be obtained from  
the State Department of Land and Natural Resources as applicable.
2. Should additional water be required above current levels, the applicant will pay the Board  
of Water Supply Water System Facilities Charges for transmission, storage, and any  
applicable meter installation charges.
3. We acknowledge that the proposed development will be subject to Board of Water Supply  
cross-connectional control requirements prior to the issuance of applicable building  
permits.

**LIST OF INDIVIDUALS OR AGENCIES  
THAT HAD 'NO COMMENT' ON THE  
EIS PREPARATION NOTICE**

**STATE AGENCIES**

DBED - Energy Office  
DBED - Library  
Department of Accounting and General Services  
Department of Agriculture  
Department of Hawaiian Home Lands  
Department of Health  
Department of Transportation  
DLNR - Historic Preservation Office  
Office of Environmental Quality Control  
Office of State Planning  
State Archives

**UNIVERSITY OF HAWAII**

Environmental Center  
Marine Programs  
Water Resources Research Center

**FEDERAL AGENCIES**

Army Directorate of Facilities Engineer  
Environmental Protection Agency - PAC Islands Contact  
Environmental Protection Agency - Regional Division  
Naval Base, Pearl Harbor  
U.S. Coast Guard  
U.S. Fish and Wildlife Service  
U.S. Geological Survey

**MEDIA**

Honolulu Advertiser  
Honolulu Star Bulletin  
Sun Press

**LIST OF INDIVIDUALS OR AGENCIES  
THAT HAD 'NO COMMENT' ON THE  
EIS PREPARATION NOTICE (continued)**

**CITY AND COUNTY OF HONOLULU**

Building Department  
Department of Housing and Community Development  
Department of Land Utilization  
Fire Department  
Municipal Reference and Records Center  
Police Department

**NON-GOVERNMENTAL AGENCIES**

American Lung Association  
Office of Hawaiian Affairs

**LIBRARIES**

Legislative Reference Bureau  
State - Main Library  
University of Hawaii - Hamilton Library

**REGIONAL LIBRARIES**

Kaimuki Regional Library  
Kaneohe Regional Library  
Pearl City Regional Library

**OAHU LIBRARIES**

Kahuku Community School Library, Koolauloa  
Kailua Library, Koolaupoko

759BO-4.W51



The following is a list of agencies that receive copies of the Draft Environmental Impact Statement. For agencies with number of copies already assigned, this is the required amount of copies they are to receive.

**STATE AGENCIES**

	# OF COPIES
OFFICE OF ENVIRONMENTAL QUALITY CONTROL (4 copies delivered to OEQC prior to distribution/1 copy mailed at distribution)	5
DEPARTMENT OF AGRICULTURE	1
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES	1
DEPARTMENT OF DEFENSE	1
DEPARTMENT OF EDUCATION *	
DEPARTMENT OF HAWAIIAN HOME LANDS *	
DEPARTMENT OF HEALTH	1
DEPARTMENT OF LAND AND NATURAL RESOURCES (DLNR)	3
DLNR STATE HISTORIC PRESERVATION OFFICE	1
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT AND TOURISM (DBEDT)	1
DBEDT LIBRARY	1
HOUSING FINANCE AND DEVELOPMENT CORPORATION	1
DEPARTMENT OF TRANSPORTATION	3
STATE ARCHIVES	1
DBEDT STATE ENERGY OFFICE	1
OFFICE OF STATE PLANNING	1

**UNIVERSITY OF HAWAII**

ENVIRONMENTAL CENTER	4
MARINE PROGRAMS *	
WATER RESOURCES RESEARCH CENTER	1

**FEDERAL AGENCIES**

REGIONAL DIVISION U.S. ENVIRONMENTAL PROTECTION AGENCY	1
ARMY DIRECTORATE OF FACILITIES ENGINEER	1
ENVIRONMENTAL PROTECTION AGENCY-PAC ISLANDS CONTACT * (DISTRIBUTE ONLY FOR FEDERAL ACTIONS)	
NAVAL BASE, PEARL HARBOR	2
SOIL CONSERVATION SERVICE	1
U.S. ARMY CORPS OF ENGINEERS	1
U.S. COAST GUARD	1
U.S. FISH AND WILDLIFE SERVICE	1
U.S. GEOLOGICAL SURVEY	1

- \* Copy required if project involves Agency's responsibility.
- \*\* Copy required if project is in respective County.

**NEWS MEDIA**

**# OF COPIES**

HONOLULU STAR BULLETIN	1
HONOLULU ADVERTISER	1
SUN PRESS	1
HAWAII TRIBUNE HERALD **	
WEST HAWAII TODAY (KONA) **	
THE GARDEN ISLAND NEWSPAPER (KAUAI) **	
MAUI NEWS **	
KA MOLOKAI **	

**CITY AND COUNTY OF HONOLULU \*\***

BOARD OF WATER SUPPLY	1
BUILDING DEPARTMENT	1
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT	1
DEPARTMENT OF GENERAL PLANNING	1
DEPARTMENT OF LAND UTILIZATION	1
DEPARTMENT OF PARKS AND RECREATION	1
DEPARTMENT OF PUBLIC WORKS	1
DEPARTMENT OF TRANSPORTATION SERVICES	1
FIRE DEPARTMENT	1
MUNICIPAL REFERENCE AND RECORDS CENTER (OAHU ONLY)	1
POLICE DEPARTMENT	1

**COUNTY OF HAWAII \*\***

PLANNING DEPARTMENT	
DEPARTMENT OF PARKS AND RECREATION	
DEPARTMENT OF PUBLIC WORKS	
DEPARTMENT OF RESEARCH AND DEVELOPMENT	
DEPARTMENT OF WATER SUPPLY	
UNIVERSITY OF HAWAII - HILO CAMPUS LIBRARY	

**COUNTY OF MAUI \*\***

PLANNING DEPARTMENT	
DEPARTMENT OF PARKS AND RECREATION	
DEPARTMENT OF PUBLIC WORKS	
DEPARTMENT OF WATER SUPPLY	
ECONOMIC DEVELOPMENT AGENCY	
MAUI COMMUNITY COLLEGE LIBRARY	

\* Copy required if project involves Agency's responsibility.  
 \*\* Copy required if project is in respective County.

**KAUAI \*\***

# OF COPIES

PLANNING DEPARTMENT	
DEPARTMENT OF PUBLIC WORKS	
DEPARTMENT OF WATER SUPPLY	
KAUAI COMMUNITY COLLEGE LIBRARY	

**NON-GOVERNMENTAL AGENCIES**

AMERICAN LUNG ASSOCIATION	1
HAWAIIAN ELECTRIC COMPANY	1
OFFICE OF HAWAIIAN AFFAIRS	1

**LIBRARIES**

UNIVERSITY OF HAWAII, HAMILTON LIBRARY	1
LEGISLATIVE REFERENCE BUREAU	1
STATE MAIN LIBRARY	1

**REGIONAL LIBRARIES**

KAIMUKI REGIONAL LIBRARY	1
KANEOHE REGIONAL LIBRARY	1
PEARL CITY REGIONAL LIBRARY	1
HILO REGIONAL LIBRARY	1
WAILUKU REGIONAL LIBRARY	1
KAUAI REGIONAL LIBRARY	1

**OAHU LIBRARIES \*\* (Distribution to Libraries on Oahu should be according to District of the proposed action.)**

	DISTRICT	
AIEA LIBRARY	EWA	
AINA HAINA LIBRARY	HONOLULU	
EWA BEACH COMMUNITY SCHOOL LIBRARY	EWA	
HAWAII KAI LIBRARY	HONOLULU	
KAHUKU COMMUNITY SCHOOL LIBRARY	KOOLAULOA	
KAILUA LIBRARY	KOOLAUPOKO	1
KALIHI PALAMA LIBRARY	HONOLULU	
LILIHA LIBRARY	HONOLULU	
MANOA LIBRARY	HONOLULU	
MCCULLY-MOILILI LIBRARY	HONOLULU	
MILILANI PUBLIC LIBRARY	EWA	
WAHLAWA LIBRARY	WAHLAWA	
KANEOHE PUBLIC LIBRARY	KOOLAUPOKO	1

\* Copy required if project involves Agency's responsibility.  
 \*\* Copy required if project is in respective County.

OAHU LIBRARIES (cont.) \*\* (Distribution to Libraries on Oahu should be according to District of the proposed action.)

	DISTRICT	# OF COPIES
WALALUA LIBRARY	WALALUA	
WAIANAЕ LIBRARY	WAIANAЕ	
WAIKIKI-KAPAHULU LIBRARY	HONOLULU	
WAIMANALO COMMUNITY SCHOOL LIBRARY	KOOLAUPOKO	1
WAIPAHU LIBRARY	EWA	

HAWAII LIBRARIES \*\* (Distribution to Libraries on Hawaii should be according to District of the proposed action.)

BOND MEMORIAL (KOHALA) LIBRARY	KOHALA	
HOLUALOA LIBRARY	KONA	
HONOKAA LIBRARY	HAMAKUA	
KAILUA-KONA LIBRARY	KONA	
KEAAU COMMUNITY SCHOOL LIBRARY	PUNA	
KEALAKEKUA LIBRARY	KONA	
LAUPAHOEHOE COMMUNITY SCHOOL LIBRARY	HILO	
MOUNTAIN VIEW COMMUNITY SCHOOL LIBRARY	PUNA	
PAHALA COMMUNITY SCHOOL LIBRARY	KAU	
PAHOA COMMUNITY SCHOOL LIBRARY	PUNA	
THELMA PARKER MEMORIAL LIBRARY	KOHALA	

MAUI LIBRARIES \*\* (Distribution to Libraries on Maui should be according to District of the proposed action.)

KAHULUI LIBRARY	WAILUKU	
LAHAINA LIBRARY	LAHAINA	
MAKAWAO LIBRARY	MAKAWAO	
MOLOKAI LIBRARY (ISLANDWIDE)		
LANAI COMMUNITY SCHOOL LIBRARY (ISLANDWIDE)		

KAUAI LIBRARIES \*\* (Distribution to Libraries on Kauai should be according to District of the proposed action.)

HANAPEPE LIBRARY	KOLOA WAIMEA	
KAPAA LIBRARY	KAWAIHAU	
KOLOA COMMUNITY SCHOOL LIBRARY	KOLOA	
WAIMEA LIBRARY	WAIMEA	

DISTRIBUTION LIST CONTINUES ON NEXT PAGE.

- \* Copy required if project involves Agency's responsibility.
- \*\* Copy required if project is in respective County.



JOHN W. HALE  
Director

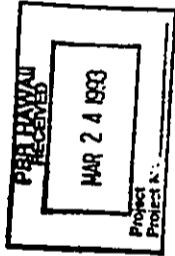


STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

225 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813  
TELEPHONE 538-4116

March 22, 1993

BRIAN J. CHOY  
Director



Letter to Mr. Nagata  
March 22, 1993  
Page 2

If you have any questions, please call Margaret Wilson at 586-4185. Thank you.

Sincerely,

*Brian J. Choy*  
Brian J.J. Choy  
Director

cc: David Hulse, PBR Hawaii

Mr. Ralston H. Nagata, Administrator  
Division of State Parks  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Attention: Mr. Bill Gorst

Dear Mr. Nagata:

SUBJECT: DRAFT EIS FOR THE HEEIA STATE PARK MASTER DEVELOPMENT PLAN,  
KOOILAUPOKO, OAHU

We have completed our review of the subject document and have several comments. Please include the following information when submitting the Final EIS for this project, as required by §11-200-17, Hawaii Administrative Rules:

- ▶ A summary sheet which concisely discusses the following: a brief description of the action, significant beneficial and adverse impacts, proposed mitigation measures, alternatives considered, unresolved issues, and compatibility with land use plans and policies, and a listing of permits or approvals (§11-200-17 (b));
- ▶ Probable adverse environmental effects which cannot be avoided (§11-200-17(f)); and
- ▶ A list of those who had no comment on the EIS Preparation Notice (§11-200-17(m)).

Please include copies of all substantive comment letters and responses in the Final EIS. Letters of no comment need not be reproduced in the Final, however, all persons, organizations, and public agencies who have commented on the Draft EIS (no comment letters included) shall be listed in the Final EIS pursuant to §11-200-18.



Mr. Brian Choy, Director  
Office of Environmental Quality Control  
220 South King St., 4th Floor  
Honolulu, Hawaii 96813

**SUBJECT: HEEEA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Mr. Choy:

We are in receipt of your comment letter of March 22, 1993 and appreciate your efforts in reviewing this document. With regard to the comments made, the Final EIS will include:

- 1 As required by §11-200-17(b) HRS: a summary sheet which will provide a brief description of the action, significant beneficial and adverse impacts, proposed mitigation measures, alternatives considered, unresolved issues, compatibility with land use plans and policies and a list of permits and approvals required for the action;
- 1 As required by §11-200-17(f): a discussion on probable adverse environmental effects which cannot be avoided;
- 1 As required by §11-200-17(m): a list of those who had no comment on the EIS preparation notice; and
- 1 As required by §11-200-18: copies of substantive comment letters and responses and a list of all persons, organizations and public agencies who have commented on the draft EIS.

Thank you again for your comments.

Sincerely,

PBR-HAWAII

*David Hulise*  
David Hulise  
Project Manager

cc: Bill Goist

TYPE LETTER

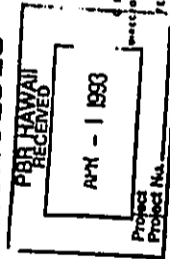
1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
MAILING OFFICE: 1020 LAGOON CENTER 101 AUPUNANI STREET, SUITE 310 HONO, HAWAII 96910 TELEPHONE: (808) 941-3110 FAX: (808) 941-4999

DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU

300 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANK PARI  
MAYOR



MICHAEL STREET  
PROJECT MANAGER AND CHIEF ENGINEER  
JULIE B. LUTHICO  
PROJECT DIRECTOR

ENV 93-78

March 30, 1993

The Honorable John Waihee  
Governor  
State of Hawaii  
c/o Office of Environmental  
Quality Control  
220 South King Street, Fourth Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Subject: Draft Environmental Impact Statement (DEIS)  
Heeia State Park Master Development Plan  
TKK:4-6-05:2, 4 & 9

We have reviewed the subject DEIS and have the following comments:

1. The DEIS should address the impact of storm water discharges associated with construction activities on water quality of the receiving waters since the proposed project is located adjacent to Kaneohe Bay.
2. For your information, a NPDES permit is required by the State Department of Health if the disturbed area resulting from clearing and grubbing, grading and stockpiling activities exceeds five (5) acres or more.

Should you have any questions, please contact Mr. Alex Ho at 523-4150.

Very truly yours,

*C. Michael Street*  
C. MICHAEL STREET  
Director and Chief Engineer

cc: Department of Land and Natural Resources (Bill Gorst)  
PBR Hawaii (David Hulse)



LANDSCAPE ARCHITECTURE  
PLANNING  
LANDSCAPE ARCHITECTS  
June 8, 1993

Mr. C. Michael Street, Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96816

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Street:

We are in receipt of a copy of your comment letter of March 30, 1993 regarding the above project. Our response will follow the order of the comments in your letter.

1. As stated in the draft EIS on pages 22 and 24, appropriate mitigation measures and Soil Erosion Control Plan will be implemented prior to construction of the proposed improvements. The Erosion Control Plan will be reviewed and approved by the Department of Public Works prior to construction. It is anticipated that no sediment discharges will be permitted to enter Kaneohe Bay and, thus, no impacts will result. ✓
2. Inasmuch as the entire "Urban" area is only 13.1 acres, it is not anticipated that graded areas larger than five acres will occur. If the disturbed area resulting from clearing, grubbing, grading, and stockpiling activities exceeds five acres, a NPDES permit will be applied for by the developer. ✓

We appreciate the time taken by the DPW to review this document, and thank you for your comments.

Sincerely,

PBR HAWAII

*David Hulse*

David Hulse  
Project Manager

cc: Bill Gorst/DLNR  
ENVIRONMENT

DEPARTMENT OF LAND AND NATURAL RESOURCES  
HONOLULU, HAWAII 96813





DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM

ENERGY DIVISION, 335 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813 PHONE: (808) 547-3000 FAX: (808) 547-3820

JOHN WAIHEE  
Governor  
MAFI HANAUWAI  
Director  
BARBARA IMAI SHAYDON  
Deputy Director  
RICK LUGOLD  
Deputy Director  
LUTHER YOUNGBLUM  
Deputy Director

April 1, 1993

The Honorable John Waihee  
Governor, State of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street  
Fourth Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

SUBJECT: Draft Environmental Impact Statement for the  
Heeia State Park Master Development Plan  
Island of Oahu, Koolau Point  
Tax Map Key: 4-6-05: 2, 4, and 9

We wish to inform you that we have no comments to offer on the Draft  
Environmental Impact Statement (DEIS).

Thank you for the opportunity to review the document.

Sincerely,

*Maurice H. Kaya*  
Maurice H. Kaya  
Energy Program Administrator

HLK:y/eis78

cc: Mr. Bill Gorst, DLHR  
Mr. David Hulise, PBR Hawaii



LANDSCAPE ARCHITECTURE  
PLANNING  
INTERNATIONAL STUDIOS

June 8, 1993

Mr. Maurice H. Kaya, Energy Program Administrator  
Department of Business, Economic Development  
and Tourism, Energy Division  
State of Hawaii  
355 Merchant Street, Room 110  
Honolulu, Hawaii 96813

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Kaya:

We are in receipt of your comment letter of April 1, 1993 regarding the above project. The time  
and effort taken by the your Division at DBED to review the document was greatly appreciated.  
Thank you for your comments.

Sincerely,

PBR HAWAII

*David Hulise*

David Hulise  
Project Manager

cc: Bill Gorst

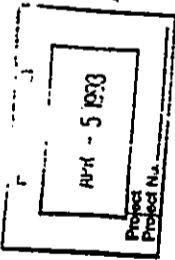
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1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
MANAHOA OFFICE 1160 LAGOON CENTER 181 AUPUNU STREET, SUITE 210 HILA, HAWAII 96720 TELEPHONE: (808) 941-3113 FAX: (808) 941-4999

JOHN WAHLEE  
COMMISSIONER



STATE OF HAWAII  
DEPARTMENT OF BUDGET AND FINANCE  
HOUSING FINANCE AND DEVELOPMENT CORPORATION  
877 QUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813  
FAX (808) 541-9408



JOSEPH K. CONANT  
EXECUTIVE DIRECTOR

IN REPLY REFER TO:  
93: PPE/1542

April 1, 1993

TO: The Honorable John Wahlee, Governor  
c/o Office of Environmental Quality Control

FROM: *Joseph K. Conant*  
Joseph K. Conant  
Executive Director

SUBJECT: Draft EIS for the Heeia State Park Master Development Plan

Thank you for the opportunity to review the enclosed draft EIS. We have no comments to offer.

Enclosure

c: Mr. Bill Corst, DLNR  
Mr. David Hulise, PBR Hawaii



June 8, 1993

Mr. Joseph K. Conant, Executive Director  
Housing Finance and Development Corporation  
State of Hawaii  
677 Queen Street, Suite 300  
Honolulu, Hawaii 96813

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Conant:

We are in receipt of your comment letter of April 1, 1993 regarding the above project. The time and effort taken by HFDC to review the document was greatly appreciated. Thank you for your comments.

Sincerely,

PBR HAWAII

*David Hulise*

David Hulise  
Project Manager

cc: Bill Corst/DLNR

7595127E12

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 531-5431 FAX: (808) 573-1002  
BRANCH OFFICE: 1010 LACON CENTER #81 AUPUNANI STREET, SUITE 310 HILLO, HAWAII 96738 TELEPHONE: (808) 941-3103 FAX: (808) 941-4989



DEPARTMENT OF THE NAVY  
 COMMANDER  
 NAVAL BASE PEARL HARBOR  
 BOX 110  
 PEARL HARBOR, HAWAII 96860-5070

PROJECT: 11-011  
 Ser N42/0882  
 7 APR 1993

Governor  
 State of Hawaii  
 c/o Office of Environmental Quality Control  
 220 South King St., 4th Floor  
 Honolulu, HI 96813

Gentlemen:

HEEIA STATE PARK MASTER DEVELOPMENT PLAN  
 Thank you for the opportunity to review the subject  
 Draft Environmental Impact Statement (DEIS) and have no comments  
 to offer. Since we have no further use for the DEIS, it being  
 returned to your office.

Thank you for the opportunity to review the draft.

Sincerely,

*W. K. Liu*  
 W. K. LIU  
 Facilities Engineer  
 By direction of  
 the Commander

Encl:  
 (1) Draft Environmental Impact Statement

Copy to: (w/o encl)  
 Mr. Bill Gorst  
 Department of Land and Natural Resources  
 Division of State Parks  
 P O Box 621  
 Honolulu, HI 96809

Mr. David Hulise  
 PBR Hawaii  
 1042 Fort Street, Suite 300  
 Honolulu, HI 96813



June 8, 1993

Mr. W. K. Liu, Facilities Engineer  
 Department of the Navy  
 Naval Base Pearl Harbor  
 Box 110  
 Pearl Harbor, Hawaii 96860-5020

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
 DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Liu:

We are in receipt of your comment letter of April 7, 1993 regarding the above project. The time  
 and effort taken by the Navy to review the document was greatly appreciated. Thank you for  
 your comments.

Sincerely,

PBR HAWAII  
*David Hulise*

David Hulise  
 Project Manager  
 cc: Bill Gors/DLNR

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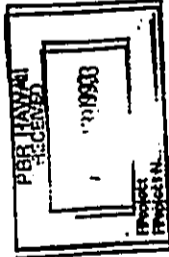
1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 571-5631 FAX: (808) 523-1402  
 BRANCH OFFICE: HED LAGOON CENTER 881 ALUANI STREET, SUITE 318 HONO, HAWAII 96708 TELEPHONE: (808) 941-3111 FAX: (808) 941-4000

DEPARTMENT OF PARKS AND RECREATION  
CITY AND COUNTY OF HONOLULU

800 SOUTH KING STREET  
HONOLULU HAWAII 96813



WALTER M. OZAWA  
DIRECTOR  
ALVIN C. AU  
DEPUTY DIRECTOR



FRANKY FASI  
MAYOR

April 7, 1993

The Honorable John Waihee  
Governor  
c/o Office of Environmental  
Quality Control  
State of Hawaii  
220 South King Street, Fourth Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Subject: Draft Environmental Impact Statement (DEIS) for the  
Heeia State Park Master Development Plan

We have reviewed the DEIS for the Heeia State Park Master  
Development Plan and support the planned improvements.

The site of Heeia State Park offers a unique opportunity to  
preserve the natural environment, perpetuate the cultural  
heritage of the area and provide educational-recreational  
amenities.

Sincerely,

For WALTER M. OZAWA, Director

WMO:ei

cc: Office of Environmental Quality Control  
Department of Land & Natural Resources  
✓ PBR Hawaii



June 8, 1993

Mr. Walter, M. Ozawa, Director  
Department of Parks and Recreation  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Ozawa:

We are in receipt of your comment letter of April 7, 1993 regarding the above project. The time  
and effort taken by the DPR to review the document was greatly appreciated. Thank you for  
your positive comments.

Sincerely,

PBR HAWAII

David Hulse  
Project Manager

cc: Bill Gors/DLNR

TYPESETTER

*We Add Quality to Life*

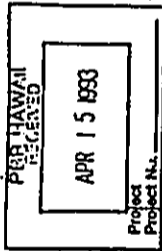
1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
BRANCH OFFICE: HILO LAGOON CENTER 181 ALUPUNI STREET, SUITE 318 HILO, HAWAII 96728 TELEPHONE: (808) 941-3333 FAX: (808) 941-4999

JOHN WILKIE  
Colonel  
MAJOR GENERAL (ONARD V. MCNEILSON)  
Director of Civil Defense  
ROY C. PRICE, SR.  
Vice Director of Civil Defense



STATE OF HAWAII  
DEPARTMENT OF DEFENSE  
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE  
1415 DISTRICT HEAD ROAD  
HONOLULU, HAWAII 96819-2115

April 13, 1993



PHONE (808) 734-3161

Governor, State of Hawaii  
April 13, 1993  
Page 3

(acceleration and funneling) through and over the Koolaus and over the open water should be addressed. The results of this investigation should dictate the structural and architectural design and construction necessary to withstand the force of winds that could result from orographic amplification.

Our SCD planners and technicians are available to discuss this further if there is a requirement. Please have your staff call Mr. Mel Nishihara of my staff at 734-2161.

Enc.

c: Mr. Bill Gorst  
Division of State Parks, DLNR

Mr. David Hulise  
PBR Hawaii

Office of Environmental Quality Control

TO: Governor, State of Hawaii  
c/o Office of Environmental Quality Control

FROM: *for* Roy C. Price, Sr. *for* Mel Nishihara  
Vice Director of Civil Defense

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS); HEELIA STATE PARK  
MASTER DEVELOPMENT PLAN

We appreciate this opportunity to comment on the DEIS by the Office of Environmental Quality Control on the Heeia State Park Master Development Plan, Kaneohe, Oahu, Hawaii; TMK 4-06-05: 02, 04 and 09.

We do not have negative comments specifically directed at the DEIS. The proposed area is covered by an existing siren warning device. However, we would like to additionally propose that a siren simulator be purchased and installed by the developer to help alert residents and guests should an impending or actual event threaten the area. A siren simulator is a large, suitcase size, portable siren, complete with built-in battery backup power. This siren simulator is triggered by the same radio signal that triggers the existing civil defense siren warning system. The suggested location for such a siren simulator should be in a facility manned during normal operating hours or a facility with 24-hour manning. A suggested location is inside the "Interpretive Center," as shown in Figures 3, 4, 5 and 6, Heeia State Park Master Plan, or the existing visitor center.

Chapter 11, paragraph 2.0, "DESCRIPTION OF THE PROPERTY AND THE PROPOSED PROJECT," describes the elevation of the project site as follows: "the central ridge of the point rises to 57 feet and offers . . . the inland valleys and the Pali of the Koolau Range." Additionally, Chapter III, paragraph 3.5, CLIMATE AND METEOROLOGY, subparagraph 3.5.1, Existing Conditions, describes the following: "the entire windward side of Oahu is subject to Northeasterly trade winds (makai direction) with a mean flow of approximately 18 knots." The impact of this elevation on high winds



June 8, 1993

Mr. Roy Price, Sr., Vice Director of Civil Defense  
Department of Defense  
State of Hawaii  
3949 Diamond Head Road  
Honolulu, Hawaii 96816-4495

**SUBJECT: HEELA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Mr. Price:

We are in receipt of your comment letter of April 13, 1993 regarding the above project. Your suggestion that a siren simulator be purchased appears to be a duplication if there is an existing warning device which covers the area. Additionally, the entire park area is located essentially outside of any flood hazard zone as depicted by Figure 11, Flood Insurance Rate Map (FIRM).

Further, the concerns expressed by your department over orographic amplification due to the funnel effect of winds through and over the Koolau Mountains is mitigated by the distance of the park (approximately 3 miles) from the Koolau wind effect described in your comments. Thus, no modifications to the existing structural and architectural design will be needed. Appropriate measures to secure newly planted trees and scrubs will be utilized to provide a wind protection as they become established.

We appreciate the time taken by the DOD to review this document, and thank you for your comments.

Sincerely,

PBR HAWAII

David Hulsc  
Project Manager

cc: Bill Gorst DLNR

75PBL5TTEZ1

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
SEARCH OFFICE FIELD LAGOON CENTER IN AUPUNU STREET, SUITE 318 HONO, HAWAII 96819 TELEPHONE: (808) 581-3333 FAX: (808) 581-4198



United States Department of the Interior



GEOLOGICAL SURVEY  
WATER RESOURCES DIVISION  
677 Ala Moana Blvd., Suite 415  
Honolulu, Hawaii 96813

April 14, 1993

Governor, State of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Governor Maitheo:

Subject: Heeia State Park Master Development Plan, Draft Environmental  
Impact Statement (DEIS), Koolauapoko, Oahu

We are in receipt of the subject DEIS. We regret that due to prior  
commitments, we are unable to review the subject DEIS by the May 23rd  
deadline.

We are returning the DEIS to your office for your future use.

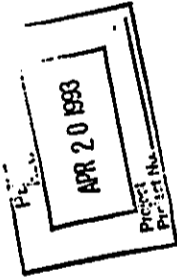
Sincerely,

*William Meyer*  
William Meyer  
District Chief

Enclosure

cc: Mr. Bill Gorst  
Department of Land and Natural Resources  
Division of State Parks  
P.O. Box 621  
Honolulu, HI 96809

Mr. David Hulse  
PBR Hawaii  
1042 Fort Street, Suite 300  
Honolulu, Hawaii 96813



June 8, 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: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Meyer:

We are in receipt of your comment letter of April 14, 1993 regarding the above project. Thank  
you for returning the document. Although you were unable to review the DEIS, we wish to  
assure you that we will make every effort to protect the water resources related to this project.

Sincerely,

PBR HAWAII

*David Hulse*

David Hulse  
Project Manager

cc: Bill Gorst/DLNR

1993LETT16

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
BRANCH OFFICE: HELOLAOON CENTER 181 ALA MOANA BLVD., SUITE 310 HELOLAOON CENTER HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402

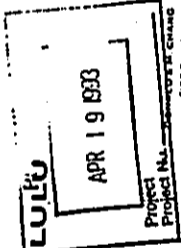
**CITY AND COUNTY OF HONOLULU**

FIRE DEPARTMENT  
3375 KOAPAKA STREET, SUITE 4425  
HONOLULU, HAWAII 96819-1869



April 14, 1993

FRANK E. PEAR  
1993



Governor  
State of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Gentlemen:

**SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN  
KOOLAUPOKO, OAHU, TMK: 4-6-05: 2, 4, AND 8**

We have reviewed the subject material provided and foresee no adverse impact in Fire Department facilities or services. Fire protection services provided from Kaneohe and Kahaluu engine companies with ladder service from Kaneohe are adequate.

Access for fire apparatus, water supply and building construction shall be in conformance to existing codes and standards.

Should you have any questions, please call Assistant Chief Attilio Leonard of our Administrative Services Bureau at 831-7775.

Sincerely,

DONALD S. M. CHANG  
Fire Chief

AKL:ny

Copy to:  
Dept. of Land & Natural Resources  
PBR HAWAII  
OEQC w/Impact Statement



June 8, 1993

Mr. Donald S.M. Chang, Fire Chief  
Fire Department  
City and County of Honolulu  
3375 Koapaka Street, Suite H425  
Honolulu, Hawaii 96819-1869

**SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Mr. Chang:

We are in receipt of your comment letter of April 14, 1993 regarding the above project. Access for fire apparatus, water supply and building construction related to the above project will be in conformance to existing codes and standards. Thank you for your comments.

Sincerely,

PBR HAWAII

David Hulsc  
Project Manager

cc: Bill Goist/DLNR

7595LETT17

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 531-5631 FAX: (808) 533-1402  
BRANCH OFFICE: FIELD LAGOON CENTER 101 AUPUNANI STREET, SUITE 310 HOLEA, HAWAII 96720 TELEPHONE: (808) 941-3333 FAX: (808) 941-6999



DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
CITY AND COUNTY OF HONOLULU

850 ROBINSON STREET, 5TH FLOOR  
HONOLULU, HAWAII 96813  
PHONE (808) 525-4437 • FAX (808) 527-5499



FRANK FASI  
MAYOR

E. JAMES TURSE  
DIRECTOR  
GEN. M. KATO  
SENIOR DIRECTOR

April 16, 1993

The Honorable John Waihee, Governor  
c/o Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813


Dear Governor Waihee:

Subject: Heeia State Park Master Development Plan

The Department has reviewed the subject Draft Environmental Impact Statement and has no comments at this time.

Thank you for the opportunity to review and comment on the proposed master development plan.

Sincerely,

  
E. JAMES TURSE  
Director

cc: DLNR - Division of State Parks  
✓ PBR Hawaii



June 8, 1993

Mr. E. James Turse, Director  
Department of Housing and Community Development  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN;  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Turse:

We are in receipt of your comment letter of April 16, 1993 regarding the above project. The time and effort taken by the DHCD to review the document was greatly appreciated. Thank you for your comments.

Sincerely,

PBR HAWAII



David Hulise  
Project Manager

cc: Bill Gors/DLNR

7PWSLETTE.15

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 571-5631 FAX: (808) 523-1402  
BRANCH OFFICE: 1100 LACON CENTER III, AUPUNANI STREET, SUITE 310 HONO, HAWAII 96708 TELEPHONE: (808) 941-3333 FAX: (808) 941-4989



STATE OF HAWAII  
 OFFICE OF HAWAIIAN AFFAIRS  
 111 KAPOLANI BOULEVARD, SUITE 500  
 HONOLULU, HAWAII 96813-5199  
 PHONE: (808) 546-3777  
 FAX: (808) 546-3799

April 20, 1993

Governor, State of Hawaii  
 c/o Office of Environmental Quality Control  
 220 South King Street, 4th Floor  
 Honolulu, Hawaii 96813

RE: Heeia State Park Master Development Plan

Dear Governor:

We have received a copy of the above-referenced Draft Environmental Assessment. Thank you for the opportunity to review this document. We have no comments or concerns with this project.

If you have any questions, please contact Lynn J. Lee in our Land and Natural Resources Division at 586-3777.

Sincerely,

Richard K. Paglinawan  
 Administrator

cc: Clayton H.M. Hee

Mr. Bill Gorst  
 Department of Land and Natural Resources

✓ Mr. David Hulse  
 PBR Hawaii



June 8, 1993

Mr. Richard K. Paglinawan, Administrator  
 Office of Hawaiian Affairs  
 State of Hawaii  
 711 Kapiolani Boulevard, Suite 500  
 Honolulu, Hawaii 96813-5249

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
 DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Paglinawan:

We are in receipt of your comment letter of April 20, 1993 regarding the above referenced project. The time and effort taken by the OHA to review the document was greatly appreciated. Thank you for your comments.

Sincerely,

PBR HAWAII

David Hulse  
 Project Manager

cc: Bill Gorst

139RESLETTE.10

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
 BRANCH OFFICE: HELE LAGOON CENTER 441 AUPUNANI STREET, SUITE 210 HELE, HAWAII 96726 TELEPHONE: (808) 941-3333 FAX: (808) 941-4999

APR 28 1993  
 Project  
 Project No.

✓

PLANNING DEPARTMENT  
CITY AND COUNTY OF HONOLULU

430 SOUTH KING STREET  
HONOLULU, HAWAII 96813



ROBIN FOSTER  
Chief Planning Officer

ROLAND O. LIBERT, JR.  
Deputy Chief Planning Officer

HM 3/93-849

The Honorable John D. Waihee, III  
April 21, 1993  
Page 2

Thank you for the opportunity to comment. Should you have any questions, please contact Mel Murakami of our staff at 527-6020.

April 21, 1993

The Honorable John D. Waihee, III  
Governor of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Draft Environmental Impact Statement (DEIS)  
for Heaia State Park  
TKK: 4-6-051 2, 4 and 9, Kaneohe, Hawaii

We have reviewed the subject DEIS for Heaia State Park and have the following comments:

1. The Final Environmental Impact Statement should further elaborate on the design solutions (p. 24) under consideration that will minimize the need to grade large portions of the park along shoreline areas with steep slopes.
2. The Development Plan Public Facilities Map indicates improvements planned for Kamehameha Highway. Proposed improvements to the park should be coordinated with the State Department of Transportation to recognize any additional right-of-way needs for planned improvements in the future.
3. With regard to the section describing current development trends (p. 3), the City Council has requested an amendment in the 1993 Annual Amendment Review to the Koolauoko Development Plan Land Use Map which would redesignate the property situated mauka of the subject site from Parks/Golf Course to Preservation use. The City Council indicated in its submittal that the property has been sold and that the new owners do not intend to develop a golf course on the site.

Sincerely,

*Robin Foster*  
ROBIN FOSTER  
Chief Planning Officer

RF:ft

cc: Office of Environmental Quality Control  
Department of Land and Natural Resources,  
Division of State Parks  
PBR Hawaii

15



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL SERVICES

June 8, 1993

Mr. Robin Foster, Chief Planning Officer  
Department of Planning  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

**SUBJECT: HEEHA STATE PARK MASTER DEVELOPMENT PLAN;  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Mr. Foster:

We are in receipt of your comment letter of April 21, 1993 regarding the above project. Our response will follow the order of the comments in your letter.

1. The "design solutions" discussed in the draft EIS (page 24) are referring to the landscape and grading design shown on the Preferred Alternative Plan, Figure 6. In order to minimize the amount of cut and fill required for the proposed improvements, existing topographic contours have been incorporated into the overall design. Where possible, pathways, landscaping, and parking areas are proposed only in those areas most suitable for these kinds of uses. Only the proposed pathways leading down toward Heeia Stream and the proposed boat launch would require grading and retaining walls. Construction of these improvements will follow all applicable regulations in accordance with the City's Grading Ordinance and recommendations of a soils engineer (page 22). Appropriate grading permits and approval of an erosion control plan to be submitted for City review will be in place prior to construction.
2. Improvements to Kamehameha will be coordinated with the Department of Transportation Services as they have jurisdiction over that portion of Kamehameha Highway.
3. Thank you for the current information regarding the proposed 1993 Development Plan Amendment for the property mauna of Heeia State Park. We will include your comments in the final EIS.

We appreciate the time taken by the DP to review this document, and thank you for your comments.

Sincerely,

PBR-HAWAII

David Hübsc  
Project Manager

cc: Bill Gores/DLNR  
1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
BRANCH OFFICE: WILD LACEDON CENTER 101 AUTUMN STREET, SUITE 310 WILD LACEDON, HAWAII 96798 TELEPHONE: (808) 941-3333 FAX: (808) 941-9999

BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU

COPY

April 22, 1993

The Honorable John Waihee  
Governor  
State of Hawaii  
c/o Office of Environmental  
Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Subject: DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR THE HEEIA STATE PARK  
MASTER DEVELOPMENT PLAN, KAHAMANA HIGHWAY - TRK: 4-6-5: 2, 4 AND 9

Thank you for the opportunity to comment on the Draft EIS for the Heeia State Park  
Master Development Plan. Our previous comments of January 13, 1992, on the EIS  
Preparation Notice are still applicable and included in Section 7.2.

We have the following additional comments:

1. Section 4.2.1: The 1985 State of Hawaii Water System Standards consumption guideline for landscaped areas is 4,000 gallons per acre per day on Oahu. The projected irrigation and total water demands should be revised accordingly.
2. The Board of Water Supply requires the use of nonpotable water for the irrigation of large landscaped areas if a suitable nonpotable water supply is available.
3. The developer should investigate the availability and use of nonpotable water for irrigation throughout the park. Possible nonpotable sources include brackish water wells, streams or treated wastewater effluent.

If you have any questions, please call me at 527-6180.

Very truly yours,

*Kazu Hayashida*  
KAZU HAYASHIDA  
Manager and Chief Engineer

cc: Bill Gorst  
Dept. of Land and Natural Resources  
David Hulise  
PBR HAWAII



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIOS

June 8, 1993

Mr. Kazu Hayashida, Manager and Chief Engineer  
Board of Water Supply  
City and County of Honolulu  
630 South Beretania Street  
Honolulu, Hawaii 96813

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN;  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Hayashida:

We are in receipt of your comment letter of April 22, 1993 regarding the above project. Our response will follow the order of the comments in your letter.

1. The project irrigation and total water demands will be revised to conform with Section the 1985 Hawaii Water System Standards consumption guidelines for landscaped areas of 4,000 gallons per acre per day on Oahu. This equates to a total demand for potable and non-potable water at 47,200 gpd.
2. The only suitable source of non-potable water for irrigation may be Heeia Stream. However, the close proximity to the ocean and need to maintain consistent flows may make this source prohibitive.
3. The availability and use of non-potable water for irrigation throughout the park will be investigated. Appropriate testing and engineering design will be considered once the specific water needs are better defined.

We appreciate the time taken by BWS to review this document, and thank you for your comments.

Sincerely,

PBR HAWAII

*Bill Gorst*

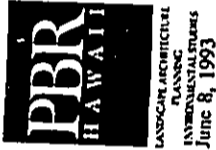
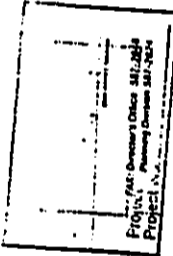
David Hulise  
Project Manager

cc: Bill Gorst/DLNR

75965LETT19  
1042 FORT STREET MAIL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
BRANCH OFFICE: HILD LAGOON CENTER 111 AUPUNU STREET, SUITE 310 HILLO, HAWAII 96728 TELEPHONE: (808) 941-3103 FAX: (808) 941-4999

**OFFICE OF STATE PLANNING**

Office of the Governor  
STATE OFFICES: P.O. BOX 3340 HONOLULU HAWAII 96813-3340  
STREET ADDRESS: 240 SOUTH FORT STREET, 6TH FLOOR  
HONOLULU HAWAII 96813-3300



April 27, 1993

Ref. No. C-6

**MEMORANDUM**

**TO:** Mr. Brian Choy, Executive Director  
Office of Environmental Quality Control

**SUBJECT:** Heeia State Park Master Development Plan

We have reviewed the proposed conceptual plan and project improvements for the Heeia State Park and concur that the preferred Alternative "B" is appropriate from ecological and economic perspectives.

The recently completed Kaneohe Bay Master Plan (KBMP), developed through extensive agency and public participation, recognizes the values of the Park's location and resources, and states the Park presents a unique opportunity to create and enhance access for educational purposes. It notes that educating youths about the ecology and cultural resources of Kaneohe Bay and allowing them the opportunity to experience the Bay may provide the best long term protection for the Bay. The KBMP suggests that the possibility of organized activities, such as canoe halau, sailing clubs, etc., should be made available at the Park. Additionally, it recommends the consideration of constructing finger piers for fishing and passive recreation. The proposed alternative in the subject Master Development Plan appears to incorporate these consensus recommendations and could thereby aid in further implementing the KBMP.

The KBMP also recommends the pedestrian connection of Heeia Kea Harbor with Heeia State Park, if possible, and the incorporation of Heeia Kea Valley as an expansion of Heeia State Park. We encourage you to consider these possibilities. If you have any questions, please contact our Coastal Zone Management Program at 587-2880.

cc: DLNR/State Parks  
PBR HAWAII (c/o: D. Hulse)

*Harold S. Masumoto*  
Harold S. Masumoto  
Director

Mr. Harold S. Masumoto, Director  
Office of State Planning  
State of Hawaii  
P.O. Box 3540  
Honolulu, Hawaii 96811-3540

**SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Mr. Masumoto:

We are in receipt of your comment letter of April 27, 1993 regarding the above project. Alternative B is the alternative which will be implemented. The Kaneohe Bay Management Plan (KBMP) suggestions regarding the opportunities to create and enhance access for educational purposes has been included in the Preferred Plan. Additionally, the proposed trail system (Figure 6) has incorporated planned trail extensions for pedestrian use to the Heeia Kea Pier and the recently acquired Heeia Wetlands located mauka of Kaneohe Highway.

Thank you for your participation in the EIS review process. Your comments and this response will be included in the final EIS.

Sincerely,

PBR HAWAII

*David Hulse*

David Hulse  
Project Manager

cc: Bill Gors/DLNR

25PESLETT:R

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
BRANCH OFFICE: HEEO LAGOON CENTER 141 ADMINISTRATION STREET, SUITE 300 HEEO, HAWAII 96813 TELEPHONE: (808) 961-3333 FAX: (808) 961-4999

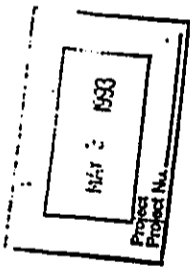
JOHN WAHLEE  
GOVERNOR



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

April 28, 1993

REX D. JOHNSON  
DIRECTOR  
DEPUTY DIRECTORS  
JOHN W. SHINE  
AL. P. HANI  
KEANNE K. SCHULTZ  
CALVINIA TSUDA  
WIREPAY REFER TO  
STP 8.5177



TO: The Honorable John Wahlee, Governor  
c/o Office of Environmental Quality Control

FROM: Rex D. Johnson  
Director of Transportation

SUBJECT: Draft Environmental Impact Statement  
Heeia State Park Master Development Plan

Mr. Rex D. Johnson, Director  
Department of Transportation  
State of Hawaii  
869 Punchbowl Street  
Honolulu, Hawaii 96813-5097

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

June 8, 1993



Dear Mr. Johnson:

We are in receipt of a copy of your comment letter of April 28, 1993 regarding the above project. The time and effort taken by the DOT to review the document was greatly appreciated. Thank you for your comments.

The proposed development of Heeia State Park will not impact our State transportation facilities. The project will affect a portion of Kamehameha Highway that is currently under the jurisdiction of the City and County of Honolulu.

Sincerely,

PBR HAWAII

David Hulse  
Project Manager

cc: Bill Gorst

We appreciate the opportunity to provide comments.

c: Mr. Bill Gorst - Dept. of Land and Natural Resources  
✓ Mr. David Hulse - PBR Hawaii

7595LETT19

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 571-5631 FAX: (808) 573-1602  
BRANCH OFFICE: FIELD LAGOON CENTER 381 APOPOKI STREET, SUITE 318 HONO, HAWAII 96708 TELEPHONE: (808) 941-3103 FAX: (808) 941-6999

JOHN WAIHEE  
GOVERNOR

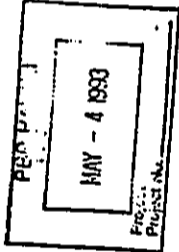


STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 111, HONOLULU, HAWAII 96810

ROBERT P. TAKUSHI  
COMPTROLLER  
LLOYD T. AKERASHI  
DEPUTY COMPTROLLER

SEND COPIES TO  
APPROPRIATE PARTIES

LETTER NO. [P]1256.3



APR 30 1993

The Honorable John Waihee  
Governor, State of Hawaii  
c/o Office of Environmental  
Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Subject: Heeia State Park  
Master Development Plan  
Koolaupoko, Oahu, Hawaii  
DEIS

Thank you for the opportunity to review the subject document. Since development of the park will not affect any of the facilities we service, we have no comments to offer.

If there are any questions, please have your staff contact Mr. Ralph Yukumoto of the Public Works Division at 586-0488.

Respectfully,

*Robert P. Takushi*

ROBERT P. TAKUSHI  
State Comptroller

c: Bill Corst, DLNR, Division of State Parks  
David Hulise, PBR Hawaii



June 8, 1993

Mr. Robert P. Takushi, State Comptroller  
Department of Accounting and General Services  
State of Hawaii  
P.O. Box 119  
Honolulu, Hawaii 96810

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Takushi:

We are in receipt of your comment letter of April 30, 1993 regarding the above project. The time and effort taken by DAGS to review the document was greatly appreciated. Thank you for your comments.

Sincerely,

PBR HAWAII

*David Hulise*

David Hulise  
Project Manager

cc: Bill Corst

1993LETT13

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 571-5631 FAX: (808) 523-1402  
BRANCH OFFICE: 3150 LAGOON CENTER #1, AUPUNISTREET, SUITE 318 HONO, HAWAII 96708 TELEPHONE: (808) 531-3111 FAX: (808) 561-4999



UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SOIL  
CONSERVATION  
SERVICE

P. O. BOX 50004  
HONOLULU, HI  
96850-0001

May 3, 1993

Mr. Ralston Nagata, Administrator  
Division of State Parks  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96813

Dear Mr. Nagata:

Subject: Heia State Park Environmental Impact Statement  
Master Development Plan

We have reviewed the development plan as requested and have no comments to offer. Potential erosion, sedimentation, water quality, and flooding problems are addressed adequately in the Plan. Thank you for the opportunity to provide comment.

Sincerely,

*Nathaniel R. Conner*  
NATHANIEL R. CONNER  
State Conservationist

cc: Michael Bejinting, District Conservationist, Honolulu Field Office



LANDSCAPE ARCHITECTURE  
PLANNING  
ENVIRONMENTAL STUDIES

June 16, 1993

Mr. Nathaniel R. Conner  
State Conservationist  
U.S.D.A. Soil Conservation Service  
P.O. Box 50004  
Honolulu, Hawaii 96850-0001

SUBJECT: HEIA STATE PARK MASTER DEVELOPMENT PLAN;  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Conner:

We are in receipt of your comment letter of May 3, 1993 regarding the above project. The time and effort taken by the your agency to review the document was greatly appreciated. Thank you for advising that the potential erosion, sedimentation, water quality, and flooding problems are addressed adequately in the Plan.

Sincerely,

PBR HAWAII

*David Hulsc*

David Hulsc  
Project Manager

cc: Bill Gors/DLNR

7/25/93

1942 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5431 FAX: (808) 521-1402  
BRANCH OFFICE: 1800 LACON CENTER HI JUPITER BEACH, FLORIDA 33411 TELEPHONE: (888) 941-3333 FAX: (888) 941-3399

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING  
410 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANCE FARI  
MAYOR

PROJECT RECEIVED  
MAY - 7 1993  
PROJECT NO.

JOSEPH M. MAGALDI, JR.  
DIRECTOR  
AMAR KAPPAL  
SENIOR DIRECTOR

TE-1231  
PE93.1.120

May 6, 1993

The Honorable John D. Waihee  
Governor  
State of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street, Fourth Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Subject: Heeia State Park Master Development Plan  
Draft Environmental Impact Statement (DEIS)  
TKM: 4-6-93: 2, 4 and 9

This is in response to the Draft Environmental Impact Statement submitted to us for review by the Office of Environmental Quality Control.

Based on our review, we have the following comments:

1. There is a 10-foot road widening setback fronting the subject parcel on Kamehameha Highway. Full frontage improvements should be provided with respect to the new property line.
2. All vehicular access and egress points should be constructed as standard city dropped driveways.
3. Adequate sight distance should be provided at all driveway locations. Landscaping should be placed in locations where it does not obstruct vehicular sight lines. Existing vegetation should be cleared if it interferes with the sight lines.
4. The proposed entry gate should be recessed as far into the site as practical.
5. Additional parking stalls should be provided to accommodate the present and anticipated needs of the park and its facilities.

The Honorable John D. Waihee  
Page 2  
May 6, 1993

6. A preliminary roadway scheme showing the recommended improvements, as suggested in the traffic report, should be submitted to our department for review. This plan should show the proposed access widths and locations, internal circulation, entry gates, storage lanes, signing, striping and sight distances.

Should you have any questions, please contact Lance Watanabe of my staff at 523-4199.

Sincerely,

JOSEPH M. MAGALDI, JR.  
Director

cc: Department of Land and Natural  
Resources, Division of State Parks  
PBR Hawaii



PLANNING  
DEPARTMENT  
1042 FORT STREET MALL, SUITE 300  
HONOLULU, HAWAII 96813

June 8, 1993

Mr. Joseph M. Magaldi, Director  
Department of Transportation Services  
650 South King Street, 3rd Floor  
Honolulu, Hawaii 96813

**SUBJECT: HEENA STATE PARK MASTER DEVELOPMENT PLAN;  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Mr. Magaldi:

We are in receipt of your comment letter of May 6, 1993 regarding the above referenced project. Our response will follow the order of the comments in your letter.

1. The 10-foot road widening setback fronting the subject parcel on Kamehameha Highway will be honored and full frontage improvements will be provided as related to the new property line. The setback has been considered in the design of the proposed intersection improvements.
2. All vehicular access and egress points will be constructed as City dropped driveways in accordance with City of Honolulu requirements.
3. Proposed landscaping has been placed in locations to ensure that it does not obstruct vehicular site lines, particularly with regard to the park intersection. Existing vegetation which could potentially interfere with site lines will continue to be trimmed or removed as warranted.
4. The proposed entry gate location is shown on the Preferred Alternative (Figure 6), recessed approximately 40' from the park entry.
5. Paving will be provided in accordance with the configuration shown on the Preferred Alternative. To maintain the existing use levels in accordance with Alternative "B", the number of stalls will not increase above the current level, but continue to adhere with City and County of Honolulu LHO parking requirements.
6. A preliminary roadway scheme showing recommended traffic improvements will be submitted to the Department of Transportation Services for review prior to preparation of final construction drawings. The plan will include proposed access widths and locations, internal circulation, entry gates, storage lanes, signing, striping and site distances.

We appreciate the time and effort taken by DTS to review the documents. Thank you for your comments.

Sincerely,

PDR HAWAII

David Hildie  
Project Manager

cc: Bill Goetz  
75PELSLETTE6

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
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DEPARTMENT OF THE ARMY  
U.S. ARMY ENGINEER DISTRICT, HONOLULU  
FORT SHAFTER, HAWAII 96858-5440

MAJITO  
ATTORNEY OF

May 5, 1993

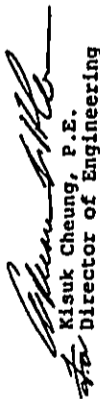
Planning Division

Office of Environmental Quality Control  
State of Hawaii  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Sir:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement for the Heeia State Park Master Development Plan, Koolau-poko, Oahu. We have no additional comments beyond those provided in our letter dated December 13, 1991.

Sincerely,

  
Bill Gorst  
Director of Engineering

Copies Furnished:

Mr. Bill Gorst  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Mr. David Hulse  
PBR Hawaii  
1042 Fort Street, Suite 300  
Honolulu, Hawaii 96813



LANDMARK ARCHITECTURE  
PLANNING AND  
ENVIRONMENTAL SERVICES  
June 8, 1993

Mr. Kisuk Cheung, P.E.  
Director of Engineering  
Department of the Army  
U.S. Army Engineer District, Honolulu  
Fort Shafter, Hawaii 96858-5440

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN;  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Cheung:

We are in receipt of your comment letter of May 5, 1993 regarding the above project. The time and effort taken by the Army to review the document was greatly appreciated. Thank you also for your earlier comments of December 13, 1991.

Sincerely,

PBR HAWAII



David Hulse  
Project Manager

cc: Bill Gorst

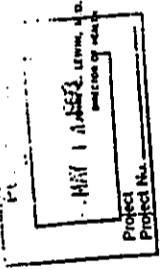
TYPESETTER

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5431 FAX: (808) 523-1402  
BRANCH OFFICE: 1810 LAGOON CENTER HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-3319 FAX: (808) 521-4999

JOHN WAIKIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HAWAII 96801



In reply, please refer to:

May 11, 1993

91-434/epo

To: The Honorable John Waiike  
Governor, State of Hawaii

From: *John C. Lewin*  
John C. Lewin, M.D.  
Director of Health

Subject: Draft Environmental Impact Statement  
Heeia State Park Master Development Plan  
Kaneohe, Hawaii  
THK: 4-6-05: 2, 4, & 9

Thank you for allowing us to review and comment on the subject document. We have previously commented on the Environmental Impact Statement Preparation Notice in our letter of January 18, 1992. We have no additional comments at this time.

c: Department of Land and Natural Resources  
PBR Hawaii



June 8, 1993

Dr. John C. Lewin  
Director  
Hawaii State Department of Health  
P.O. Box 3378  
Honolulu, Hawaii 96801

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Dr. Lewin:

We are in receipt of a copy of your comment letter of May 11, 1993 regarding the above project. We appreciate the time and effort taken by DLNR to review the document. Thank you for your earlier comments.

Sincerely,

PBR HAWAII

David Hulse  
Project Manager

cc: Bill Gorst

7/95/SL/ET/ES

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
BRANCH OFFICE: 1100 LAGOON CENTER 101 AUPUNANI STREET, SUITE 310 HOLEIA, HAWAII 96720 TELEPHONE: (808) 941-3333 FAX: (808) 941-2969

**CITY AND COUNTY OF HONOLULU**

POLICE DEPARTMENT  
801 SOUTH BERETANIA STREET  
HONOLULU, HAWAII 96813 - AREA CODE (808) 528-3111



FRANK J. FAYI  
MAYOR

MAY 8 1993

WILLIAM C. WAKABURA  
CHIEF

HAROLD M. KAWASAKI  
DEPUTY CHIEF

OUR REFERENCE BS-1K

May 14, 1993

The Honorable John Waihee  
Governor  
State of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Governor Waihee:

This is in response to your request for comments on the Draft Environmental Impact Statement for the Heeia State Park Master Development Plan.

Our major concerns would be construction-related noise and dust problems, and site security and traffic both during and after construction. We note in section 4.1.2 that traffic on Kamehameha Highway should be "essentially unaffected." Section 4.9.3 says that "The police department will be notified of project implementation and phasing to permit adequate [security] planning and advance notice of project completion." Sections 3.6.2 and 3.7.3 satisfactorily discuss noise and dust mitigation. Our concerns, therefore, have been adequately addressed, and we have no further comments at this time.

Thank you for the opportunity to review this document.

Sincerely,

MICHAEL S. NAKAMURA  
Chief of Police

By: *Eugene Uehura*  
EUGENE UEHURA  
Assistant Chief of Police  
Administrative Bureau

cc: OPOC  
Department of Land and Natural Resources  
PBR Hawaii



LAND AND NATURAL RESOURCES  
DIVISION  
ENVIRONMENTAL PLANNING

June 8, 1993

Mr. Michael S. Nakamura  
Chief of Police  
801 South Beretania Street  
Honolulu, Hawaii 96813

SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Nakamura:

We are in receipt of a copy of your comment letter to Governor Waihee of May 14, 1993. We appreciate the time and effort you took to review the document. Thank you for your comments.

Sincerely,

PBR HAWAII

*David Hulise*

David Hulise  
Project Manager

cc: Bill Gorst

PHRESLETTES

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 571-5631 FAX: (808) 523-1402  
BRANCH OFFICE: HEEO LAGOON CENTER 181 AUPUNU STREET, SUITE 310 HEEO, HAWAII 96729 TELEPHONE: (808) 961-3113 FAX: (808) 961-4999

STATE OF HAWAII  
 DEPARTMENT OF LAND AND NATURAL RESOURCES  
 P. O. BOX 621  
 HONOLULU, HAWAII 96809

REF:OCEA:SKK

File No.: 93-519  
 DOC. ID.: 2741

MAY 14 1993



DEPARTMENT OF LAND AND NATURAL RESOURCES  
 DIVISION OF LAND MANAGEMENT  
 DIVISION OF AQUATIC RESOURCES  
 DIVISION OF FORESTRY AND WILDLIFE  
 DIVISION OF HISTORIC PRESERVATION  
 DIVISION OF PLANNING AND DEVELOPMENT  
 DIVISION OF WATER RESOURCES

Mr. B. Choy  
 File No.: 93-519

Mr. Brian J. Choy, Director  
 Office of Environmental Quality Control  
 220 South King Street, 4th Floor  
 Honolulu, Hawaii 96813

Dear Mr. Choy:  
 Subject: Draft Environmental Impact Statement (DEIS):  
 He'eia State Park Master Development Plan,  
 Koolauloko, Oahu, TWK: 4-6-05; 2, 4, and 9

We have reviewed the DEIS information for the subject master plan received by our Department on March 29, 1993, and have the following comments:

Historic Preservation Division

The Historic Preservation Division (HPD) comments that the preferred Mid-Level Intensity (Alternative B) development involves relatively small-scale changes to the existing park. Most ground-disturbing activities in this alternative are in the area immediately adjacent to Kanehaha Highway. In 1977, Martha Yent and Agnes Griffin of the Division of State Parks surveyed this area and found it to be "heavily modified by construction and landscaping." Copies showed that there were no buried cultural deposits there. It is likely that modifications to this portion of the park will have "no effect" on historic sites.

The preferred alternative shows few modifications to the lands adjacent to He'eia Stream. This area is known to have cultural remains, including human burials and various cultural deposits. In this area, it would be best to have archaeological work precede construction of improvements, so that human burial remains can be identified and properly treated and cultural deposits can be studied before they have been disturbed by construction related activities. Details on the scope of this work can be developed when plans for the park have been finalized.

Commission on Water Resource Management

The Commission on Water Resource Management (CWRM) staff comments that the Final EIS should cite in section 1.3 NECESSARY APPROVALS AND PERMITS, the possible applicability of Stream Channel Alteration Permits (SCAP) from CWRM.

Division of Land Management

The Division of Land Management (DLM) comments they have no objections to the proposed project provided that:

1. All improvements coincide with the purpose of Executive Order No. 3519, which sets aside these lands to the State's Department of Land and Natural Resources, Division of State Parks.
2. There is a minimal impact on water resources in the area.
3. A Conservation District Use Permit (CDUP) be obtained on all applicable lands.
4. There is minimal adverse impact to the adjoining He'eia Kea wetlands recently acquired by the State's Housing Finance and Development Corporation (HFDC) from Bernice P. Bishop Estate. (DLM is basically concerned that there is no effect from this project on drainage flow.)
5. The applicant obtain all necessary Federal, State, and local permits.

Division of Aquatic Resources

The Division of Aquatic Resources (DAR) comments that the DEIS appears to be comprehensive and complete. DAR supports the development of He'eia State Park for the enhancement of cultural and historical values, especially with respect to native Hawaiian culture and the He'eia Fish Pond. DAR would also support the restoration of the fish pond and He'eia Stream to a condition approximating the pre-mangrove infestation state. Precautions should be taken to prevent adverse effects from landscaping and construction activities which result in associated runoff and sedimentation in the fish pond and Kaneohe Bay. The mitigation measures proposed in the DEIS may be adequate to address this concern.

Division of Forestry and Wildlife

The Division of Forestry and Wildlife comments that they have no objections to the proposed project.

Mr. B. Choy

-3-

File No.: 93-519

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. AHEE

cc: Bill Gorst, DMNR-DSP  
David Hulse, PER Hawaii

✓





June 8, 1993

Mr. Keith W. Ahue, Chairperson  
Board of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

**SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN;  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Mr. Ahue:

We are in receipt of a copy of your comment letter of May 14, 1993 regarding the above project. Our response will follow the same order as the comments in your letter.

Historic Preservation Division

While it was found unlikely that modifications to the area immediately adjacent to Kamehameha Highway would result in impacts to historic sites, the State can ensure that archaeological testing of areas to be graded is undertaken. The lands adjacent to Heeia Stream are not planned for any major modification. However, due to the possibility of the existence of cultural remains, human burials or other cultural deposits, the Historic Preservation Division will be consulted prior to any construction to determine the scope of work when the park plans are finalized.

Commission on Water Resource Management

Section 1.3, NECESSARY APPROVALS AND PERMITS, will include the possible requirement of a Stream Channel Alteration Permit from the Commission on Water Resource Management.

Division of Land Management

In response to the Division of Land Management concerns, development of project improvements will:

1. Be in conformance with E.O. 3519 which sets aside the lands to DLNR's Division of Parks;
2. Minimize impact on water resources of the area;

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
BRANCH OFFICE: HILO JACOBSON CENTER 891 AUPUNANI STREET, SUITE 310 HILO, HAWAII 97030 TELEPHONE: (808) 941-3100 FAX: (808) 941-4999

Mr. Keith W. Ahue, Chairperson  
SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN  
DRAFT ENVIRONMENTAL IMPACT STATEMENT  
June 8, 1993  
Page 2

3. Obtain a CDUA permit on lands within the State Conservation District as applicable;
4. Minimize impact on drainage flow which could effect the adjoining Heeia Koa Wetlands; and
5. Obtain all necessary Federal, State and local permits (provided in Section 1.3).

Division of Aquatic Resources

As the Heeia Fishpond is not located within park boundaries, restoration will require the cooperation of other landowners. Maintenance of Heeia Stream and control of mangrove will be undertaken, but not to the level required to restore Heeia Stream to its pre-mangrove infestation state. Nearshore water quality will be maintained by controlling construction runoff as described in the short term impact mitigation measures in the DEIS.

We appreciate the time and effort taken by DLNR to review the document. Thank you again for your comments.

Sincerely,

PBR HAWAII

David Hulsc  
Project Manager

cc: Bill Gorst  
7/25/93LETTE4



**KAHALU'U NEIGHBORHOOD BOARD NO. 29**  
(He'eia Kea/Ahuimanu, Kahala'u, Waialeale, Waiahole, Waikane, Helepanu'u, Kuaulu)

410 KEY PROJECT - 41-200 WAIHEE ROAD - KANE'OHU P.O., HAWAII 96744  
*"Let us not ever have an unhappy minority, rather let us build a community consensus."  
May 18, 1993*

**Bill Gorst**  
Division of State Parks  
Department of Land and Natural Resources  
PO Box 621  
Honolulu, HI. 96809

Dear Mr. Gorst,

As you know, the Kahalu'u Neighborhood Board participated in the Community Advisory Committee established to develop a community recommendation for the Master Plan for He'eia State Park. We are pleased to see many of the elements of the community's recommended plan incorporated into the State's Preferred Alternative, including the Goal Statement for the park.

The Goal Statement, "He'eia State Park should recognize and perpetuate the natural and cultural heritage of the site known as Lae O Ke Alohi, and its surrounding, and serve the entire community as a social, educational, and cultural gathering place," must guide all development and improvements to the State Park.

At our regular Board meeting on May 12, 1993, the Kahalu'u Neighborhood Board voted unanimously to support master planning improvements for He'eia State Park, recognizing that the Community Recommended Plan is included in the Draft Environmental Impact Statement (DEIS) as an appendix.

We look forward to working with the State to implement the recommended changes in a timely and cost-effective manner. Thank you for your support in working with the Community Advisory Committee. Please call me at 239-5603 if you have any questions.

Sincerely,  
*Amy S. Luersten*  
Amy S. Luersten, Chair  
Kahalu'u Neighborhood Board #29



June 8, 1993

Kahalu'u Neighborhood Board No. 29  
c/o Key Project  
47-200 Waihe'e Road  
Kane'ohu, Hawaii 96744

Attn: Amy S. Luersten, Chair

**SUBJECT: HE'EIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Ms. Luersten:

Thank you for your comments of May 18, 1993. The continued input and participation of the Kahalu'u Neighborhood Board in the Community Advisory Committee process for He'eia State Park has provided a valued contribution to planning process. The unanimous support of the Kahalu'u Neighborhood Board and the Goal Statement recognizing and perpetuating the natural and cultural heritage of Kae O Ke Alohi will be reflected in the Final EIS and all future planning efforts.

Sincerely,

PBR HAWAII

*David Hulise*

David Hulise  
Project Manager

cc: Bill Gorst

WRESLETTI

1942 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 571-5631 FAX: (808) 523-1402  
BRANCH OFFICE: HILO LACORD CENTER 411 AUPUNESTREET, SUITE 318 HILO, HAWAII 96720 TELEPHONE: (808) 941-3333 FAX: (808) 941-4989

ADMINISTRATOR	
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DIR. FE	
PLANNING	
RES. MGT. RL	
PROJ. CONTROL	
SW. PLAN	
STAFF	
AD. ST.	
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CF	
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IS & REC	
STV	



# 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

MAY 24 1993

Governor John Waihee  
May 23, 1993  
Page 2

Thank you for the opportunity to review the Draft EIS. We hope that our comments will be helpful in the preparation of the final document.

Sincerely,

John T. Harrison  
Environmental Coordinator

cc: DEQC  
DNR, Division of State Parks  
PER Hawaii  
Roger Fujioke  
Yu-Si Fok  
Terry Hart  
Christine Woolaway  
Elizabeth Gordon

May 23, 1993  
RE: 0628

Governor John Waihee  
State of Hawaii  
c/o Office of Environmental Quality Control  
220 South King Street, Suite 400  
Honolulu, Hawaii 96813

Dear Governor Waihee:

Draft Environmental Impact Statement  
Keala State Park  
Kaneohe, Oahu

The proposed master development plan calls for improvements to and some replacement of existing structures, landscaping, control of mangroves, establishment of picnic areas, parking, signage, and construction of an improved walkway system on the subject property. The proposed plan is intended to reflect the present types of interpretive uses and use levels. Our review of the Draft Environmental Impact Statement (EIS) was prepared with the assistance of Yu-Si Fok, Civil Engineering; Terry Hart, Anthropology; Christine Woolaway, Education/Sea Grant; and Elizabeth Gordon, Environmental Center.

### General Comments

Generally, our reviewers have found the Draft EIS adequate in its discussion of anticipated environmental impacts and proposed mitigative measures. We concur that the proposed Alternative B—Mid-level Intensity, or Alternative A—Low Intensity, are preferable from ecological and economic perspectives. We offer the following comments in augmentation of information provided in the Draft EIS:

### Historical and Archaeological Resources (Section 3.9.3)

Archaeological subsurface testing, in addition to monitoring, is a necessary mitigative measure in areas affected by construction.

### Wastewater Disposal (Section 4.3)

What are the current and projected rates of wastewater generation by park users?

An Equal Opportunity/Affirmative Action Institution



June 8, 1993

University of Hawaii at Manoa  
Environmental Center  
Crawford 317  
2550 Campus Road  
Honolulu, Hawaii 96822

**SUBJECT: HEEIA STATE PARK MASTER DEVELOPMENT PLAN:  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

Dear Mr. Harrison:

Thank you for your comments of May 23, 1993, and we offer the following response.

Archaeological subsurface testing, in addition to monitoring, will be undertaken in accordance with applicable requirements of the Department of Land and Natural Resources (DLNR) Historic Sites Division recommendations and/or requirements. According to DLNR (comment letter of May 14, 1993), subsurface testing was undertaken in 1977 and no cultural deposits were found.

Presently, the wastewater generated by the on-site restroom and kitchen facilities is not metered or connected to a central wastewater system. Therefore, it is difficult to determine the existing and future quantities of wastewater generated by Heeia State Park. However, a conservative estimate would not exceed 5,000 gallons per day.

Your comments and this response will be included in the final EIS.

Sincerely,

PBR HAWAII

David Hulse  
Project Manager

cc: Bill Goist

79PES1ET12

1042 FORT STREET MALL, SUITE 300 HONOLULU, HAWAII 96813 TELEPHONE: (808) 521-5631 FAX: (808) 523-1402  
BRANCH OFFICE: HILD LAGOON CENTER 181 AUPUNIH STREET, SUITE 210 HILD, HAWAII 96726 TELEPHONE: (808) 961-3333 FAX: (808) 961-4889

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

**FINAL ENVIRONMENTAL IMPACT STATEMENT  
DISTRIBUTION LIST**

Prior to general distribution, please submit four copies of the Final Environmental Impact Statement, a completed Final EIS Distribution List, and a copy of the Final Distribution List Cover Letter to OEQC by 4:30 p.m. of the Environmental Impact Statement Deadline Date (eight working days prior to Bulletin publication date). OEQC will review the submitted Distribution List and contact the referenced contact person listed below for correction or concurrence of the list. After concurrence is achieved, the Proposing Agency or Applicant may proceed with the general distribution.

OEQC requests that a fifth copy of the Final Environmental Impact Statement be mailed to the Office when the general distribution takes place, to insure timely receipt by all parties.

(A) APPLICANT ACTION	PLEASE TYPE AND FILL IN ALL INFORMATION	(B) AGENCY ACTION
TITLE:	Heeia State Park Master Development Plan	
LOCATION (DISTRICT/ISLAND):	Koolauapoko, Oahu	
TMR:	4-6-05: 2, 4 and 9	
PROPOSING AGENCY/APPLICANT:	Department of Land and Natural Resources, Division of State Parks	
ACCEPTING AUTHORITY/APPROVING AGENCY:	Governor, State of Hawaii	
PUBLICATION DATE:	June 23, 1993	
COPY OF DISTRIBUTION LIST SENT TO:	Office of Environmental Quality Control 220 South King Street, 4th Floor Honolulu, Hawaii 96813	DISTRIBUTION DATE: June 23, 1993
		DISTRIBUTED BY (CONTACT): PBR HAWAII, David Hulse
		PHONE NUMBER: 521-5631

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STATE ARCHIVES	1

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PEARL CITY REGIONAL LIBRARY	1
HILO REGIONAL LIBRARY	1
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A P P E N D I X A

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SITE ACCESS REPORT FOR THE  
PROPOSED HEELA STATE PARK  
IMPROVEMENTS

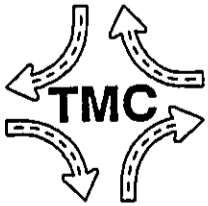
**TRAFFIC ACCESS REPORT  
FOR THE PROPOSED  
HEEIA STATE PARK IMPROVEMENTS**

**PREPARED FOR  
PBR HAWAII  
March 8, 1993**

**PREPARED BY**

**THE TRAFFIC MANAGEMENT CONSULTANT**

**RANDALL S. OKANEKU, P. E. • PRINCIPAL • 1188 BISHOP STREET • SUITE 1907 • HONOLULU, HAWAII 96813**



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**TRAFFIC ACCESS REPORT  
FOR THE PROPOSED  
HEEIA STATE PARK IMPROVEMENTS**

**I. INTRODUCTION**

**A. Purpose of Study**

The purpose of this study is to analyze the site access locations and requirements resulting from the proposed Heeia State Park Improvements, and to suggest mitigating measures, if appropriate, to minimize or eliminate any adverse impacts on traffic operations within the area.

**B. Scope of Study**

The scope of this study includes:

1. A description of the proposed project site and improvements.
2. An assessment of the existing conditions.
3. Estimation of future traffic without project.
4. Development of trip generation characteristics for the proposed site.
5. An assessment of site-generated traffic superimposed over the projected traffic conditions.
6. Recommendation of driveway locations and access requirements.

**II. PROJECT DESCRIPTION**

**A. Location**

The Heeia State Park project site is located in Koolaupoko on the east coast of the island of Oahu. The 18.5 acre site is identified as Tax Map Key: 4-6-5:5. The project site is located off Kamehameha Highway, about one and one half miles north of Kaneohe in Windward Oahu. The projected year of completion for the site improvements is 1996. The location map is shown on Exhibit 1.

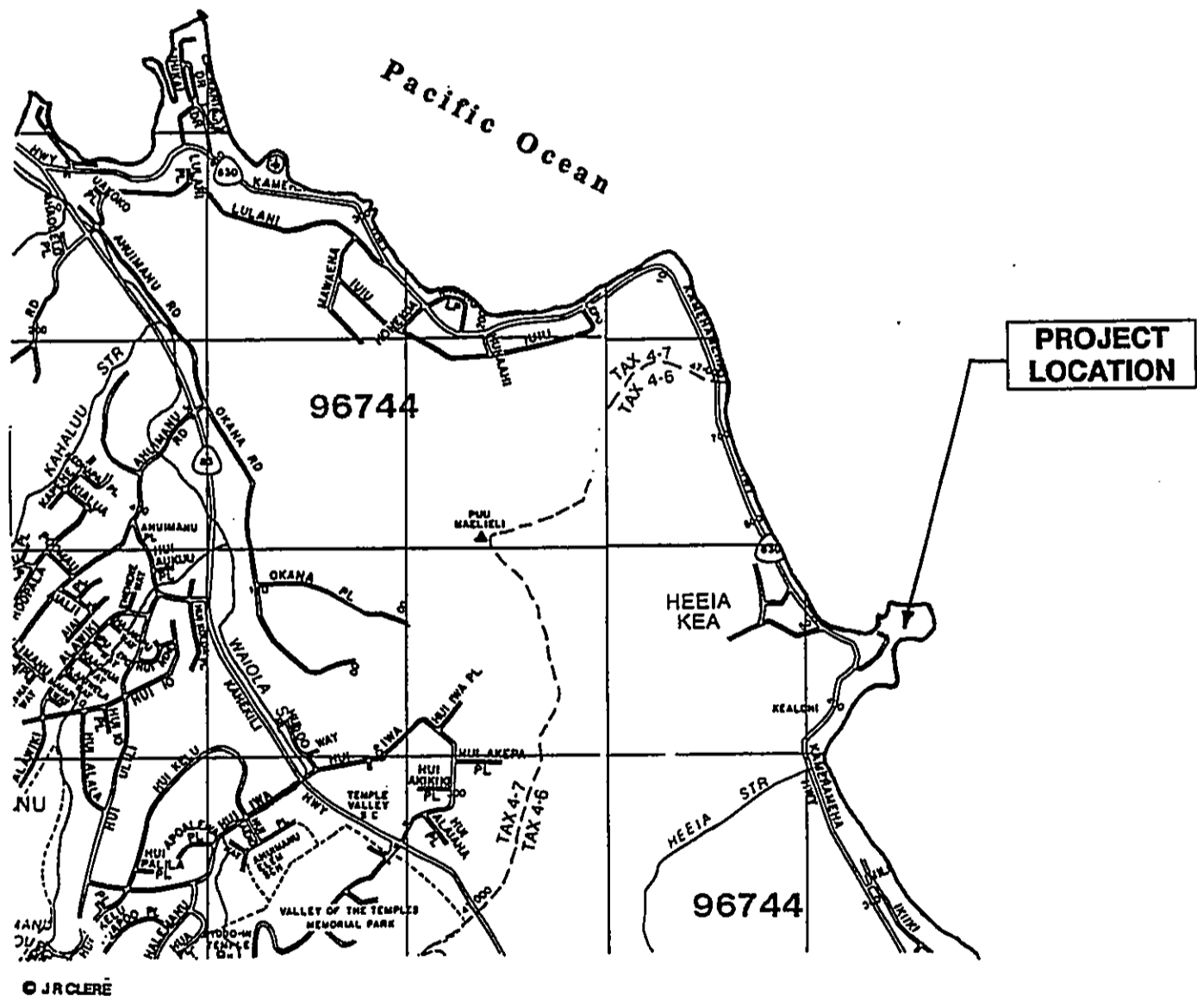


EXHIBIT 1 - LOCATION MAP

## **B. Description of Improvements**

The Heeia State Park improvements will include:

1. Ninety-four striped parking stalls.
2. Landscaped walkways and picnic areas.
3. Renovation of existing building for special event use.
4. Shoreline scenic areas.
5. Botanical garden.

The park improvements are essentially the renovation of existing facilities. The park is expected attract the same activities, such as special gathering events and cultural activities.

## **C. Existing Site Access**

Access to the Heeia State Park is provided by two existing driveways on Kamehameha Highway. One driveway is at the south boundary of the park, and the other at the north boundary. The existing south driveway is currently the primary access point to the park's parking lot and facilities. The existing north driveway is a service road. The project site plan is shown on Exhibit 2.

## **III. EXISTING TRAFFIC CONDITIONS**

### **A. Area Roadway System**

Kamehameha Highway is primarily a two lane, two way roadway in the vicinity of the project site. Kamehameha Highway is generally oriented along the coastline and is the primary access route in north-east Oahu to many rural communities such as Kaaawa and Punaluu. The posted speed limit along the project frontage is 30 miles per hour (mph). Based on the existing superelevation and approximate curve radius of 206 feet on Kamehameha Highway fronting the project site, the comfortable driving speed is calculated at 25 mph.

The available stopping sight distances on south bound and north bound Kamehameha Highway are 130 feet and 205 feet, respectively. The north driveway has an intersection sight distance of 240 feet to the left of a stopped vehicle exiting the driveway and turning right on to Kamehameha Highway, and a limited intersection sight distance of 170 feet from opposing traffic for a vehicle turning left from south bound Kamehameha Highway entering the driveway. The south



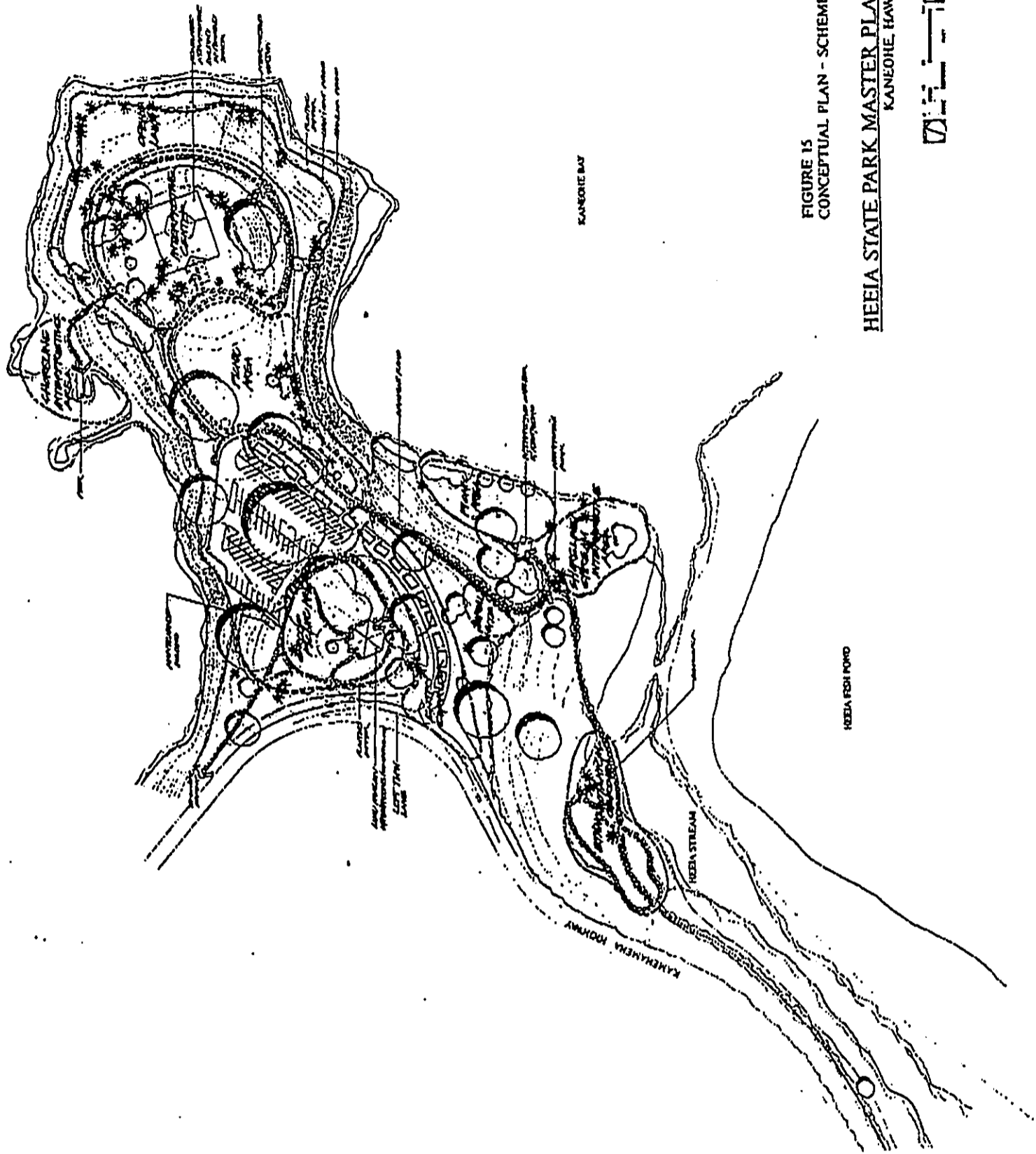


FIGURE 15  
CONCEPTUAL PLAN - SCHEME B

HEEIA STATE PARK MASTER PLAN  
KANEIHEA, HAWAII



**EXHIBIT 2 - PROJECT SITE PLAN**

driveway has an intersection sight distance of 205 feet to the right of a stopped vehicle exiting the driveway turning left on to Kamehameha Highway, and adequate intersection sight distance to the left of the stopped vehicle turning right onto the highway for a design speed of 35 mph.

## **B. Traffic Volumes and Conditions**

### **1. General**

#### **a. Field Investigation**

The field investigation was conducted on June 1 and 4, 1991. The field investigation was comprised of a site inspection of the road and traffic conditions, and a traffic count survey. The traffic count survey was conducted between the hours of 6:30 AM and 8:30 AM, and 4:00 PM and 6:00 PM on a weekday, and 4:00 PM and 6:00 PM on the weekend at the intersections of Kamehameha Highway at the Heeia State Park entrance and Kamehameha Highway at the Heeia Boat Harbor entrance. A Saturday traffic count survey was conducted during a "special event" that was held at the park facilities to establish the existing traffic condition during that period. In general, traffic moves well along Kamehameha Highway in the vicinity of the project site.

#### **b. Capacity Analysis Methodology**

The highway capacity analysis performed for this study is based upon procedures presented in the "Highway Capacity Manual", Special Report 209, Transportation Research Board, 1985 and the "Highway Capacity Software", Federal Highways Administration.

Level of Service (LOS) is a quantitative and qualitative assessment of traffic operations. Levels of Service are defined by LOS "A" through "F", LOS "A" being the best operating condition and LOS "F" the worst operating condition.

"Volume-to-capacity" (v/c) ratio is another measure indicating the relative traffic demand to the road carrying capacity. A v/c ratio of one (1.00) indicates that the roadway is operating at capacity. A v/c ratio of greater than 1.00 indicates that the projected traffic demand exceeds the road's traffic handling capacity.

## **2. AM Peak Hour Traffic Analysis**

The AM peak hour of traffic occurs between 6:30 AM and 7:30 AM, with 613 vehicles per hour (vph) entering the intersection of Kamehameha Highway and the park entrance. Kamehameha Highway along the project frontage operates at LOS "D", and a v/c ratio of 0.33. The park entrance road operates at LOS "A". The direction of traffic is primarily south bound on Kamehameha Highway during the morning peak period.

At the boat harbor, the AM peak hour of traffic occurs between 6:30 AM and 7:30 AM, with 620 vph entering the intersection of Kamehameha Highway and the harbor entrance. Kamehameha Highway near the harbor operates at LOS "D", and a v/c ratio of 0.32. The harbor entrance road operates at LOS "A".

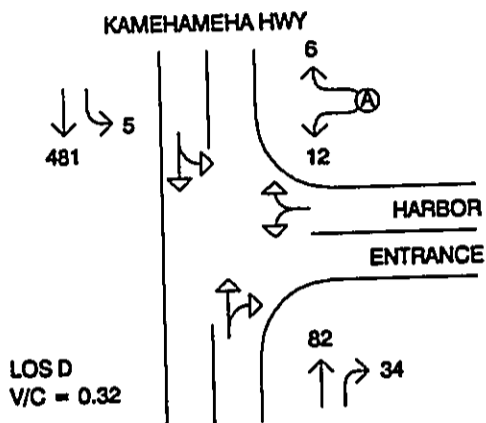
Exhibit 3 shows the existing AM peak hour traffic volumes and capacity analysis at the intersections of Kamehameha Highway at the park entrance and at the boat harbor entrance.

## **3. PM Peak Hour Traffic Analysis**

The PM peak hour of traffic occurs between 4:30 and 5:30 PM, with a total of 616 vph entering the intersection of Kamehameha Highway and the park entrance. Kamehameha Highway along the project frontage operates at LOS "D", and a v/c ratio of 0.30. The park entrance road operates at LOS "A". The direction of traffic is primarily north bound on Kamehameha Highway during the afternoon peak period.

At the boat harbor, the AM peak hour of traffic occurs between 4:30 PM and 5:30 PM with 634 vph entering the intersection of Kamehameha Highway and the harbor entrance. Kamehameha Highway near the harbor operates at LOS "C", and a v/c ratio of 0.29. The harbor entrance road operates at LOS "A".

Exhibit 4 shows the existing PM peak hour traffic volumes and capacity analysis at the intersections of Kamehameha Highway at the park entrance and at the boat harbor entrance.



LEGEND

- 80 ↘ TRAFFIC MOVEMENT VOLUME (VPH)
- ↘ LANE CONTROL
- LOS LEVEL OF SERVICE (TWO LANE HWY)
- V/C VOLUME-TO-CAPACITY RATIO
- ⊙ CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)

DATE OF SURVEY: JUNE 4, 1991

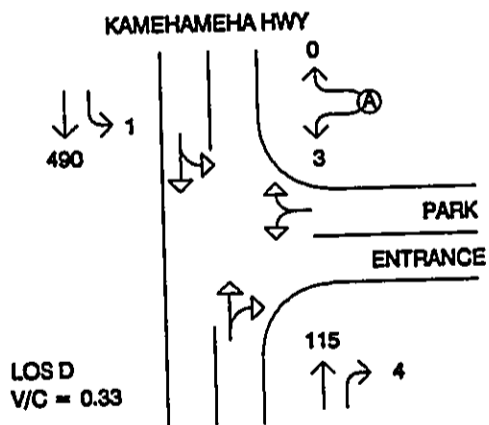
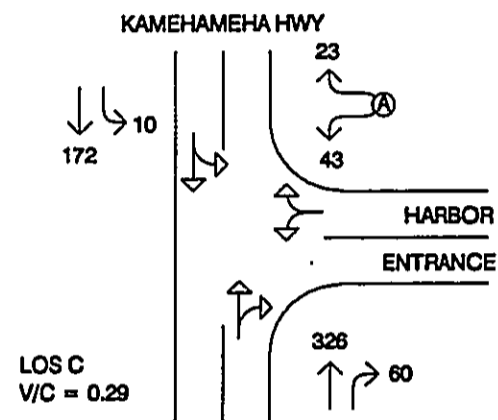





EXHIBIT 3 - EXISTING AM PEAK HOUR TRAFFIC



LEGEND

-  90 TRAFFIC MOVEMENT VOLUME (VPH)
-  LANE CONTROL
- LOS LEVEL OF SERVICE (TWO LANE HWY)
- V/C VOLUME-TO-CAPACITY RATIO
-  CAPACITY ANALYSIS (UN SIGNALIZED CONDITION)

DATE OF SURVEY: JUNE 4, 1991

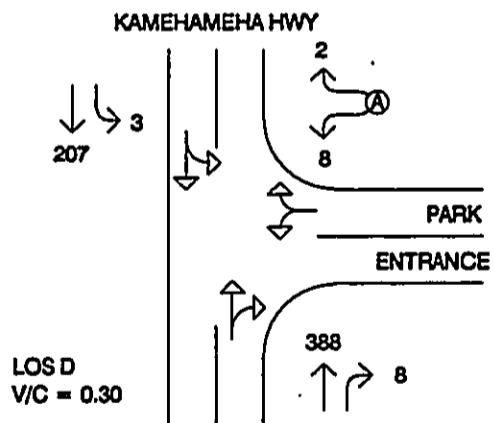


EXHIBIT 4 - EXISTING PM PEAK HOUR TRAFFIC

#### **4. Saturday Peak Hour Traffic Analysis**

The peak hour of traffic for a Saturday occurs between 4:15 and 5:15 PM, with a total of 656 vph entering the intersection of Kamehameha Highway and the park entrance. Kamehameha Highway along the project frontage operate at LOS "D", and a v/c ratio of 0.32. The park entrance road operates at LOS "A". The direction of traffic is primarily south bound on Kamehameha Highway during the special event peak period.

At the boat harbor, the peak hour of traffic for a Saturday occurs between 4:15 PM and 5:15 PM, with a total of 658 vph entering the intersection of Kamehameha Highway and the boat harbor. Kamehameha Highway near the harbor operate at LOS "D", and a v/c ratio of 0.34. The harbor entrance road operates at LOS "A".

Exhibit 5 shows the existing Saturday peak hour of traffic and capacity analysis at the intersections of Kamehameha Highway at the park entrance and at the harbor entrance.

### **IV. PROJECTED TRAFFIC**

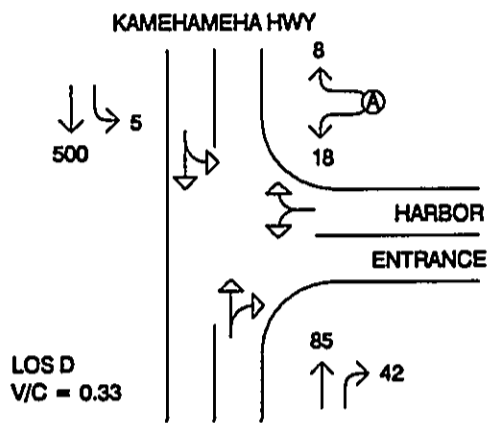
#### **A. Site-Generated Traffic**

##### **1. Trip Generation Methodology**




The trip generation methodology used in this study is based upon generally accepted techniques developed by the Institute of Transportation Engineers (ITE) and published in "Trip Generation", 4th Edition, 1987. The ITE trip rates for a State Park are developed empirically by correlating the vehicle trip generation data with various land use characteristics, such as vehicle trips per available parking space. The ITE rates were adjusted based upon observed traffic conditions.

##### **2. Trip Generation Characteristics**

The proposed State Park will include a 94-stall parking area and is expected to generate 21 vehicles per hour (vph) during the AM peak hour, 10 vph entering and 11 vph exiting the site. During the PM peak hour, the proposed project is expected to generate 52 vph, 20 vph entering and 32 vph exit-



LEGEND

-  90 TRAFFIC MOVEMENT VOLUME (VPH)
-  LANE CONTROL
- LOS LEVEL OF SERVICE (TWO LANE HWY)
- V/C VOLUME-TO-CAPACITY RATIO
-  CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)

DATE OF SURVEY: JUNE 1, 1991

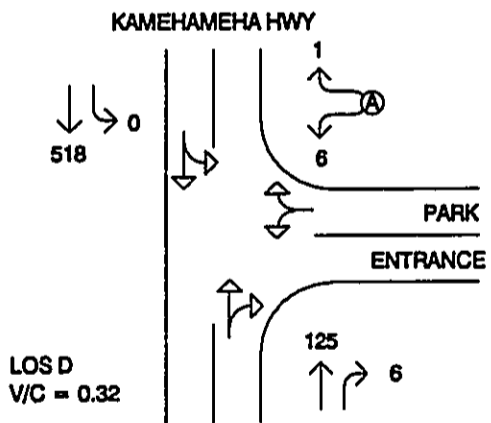


EXHIBIT 5 - EXISTING SATURDAY PEAK HOUR TRAFFIC

ing the project site. During a weekend peak hour, the proposed project is expected to generate 104 vph, 47 vph entering and 57 vph exiting. A summary of the trip generation rates are shown in Table 1.

Table 1. Trip Generation Characteristics				
Parking Spaces = 94 Stalls			ITE Trip Rate	Vehicle Trips
Average Weekday Vehicle Trip Ends			2.07	195
Peak Hour of Generator	AM	Enter	0.103	10
		Exit	0.112	11
		Total	0.215	21
	PM	Enter	0.209	20
		Exit	0.344	32
		Total	0.553	52
	Saturday	Enter	0.504	47
		Exit	0.609	57
		Total	1.113	104

### 3. Trip Distribution

The trip distribution is based upon the existing traffic patterns observed during the field investigation. The directions of traffic during the peak hour of traffic are generally south bound during the morning, north bound during the afternoon, and south bound on a Saturday.

### B. Through Traffic

#### 1. Forecasting Methodology

The travel forecast is based upon historical traffic data dating back to 1979, obtained from the State Department of Transportation. Linear regression techniques were performed on the historical data to obtain the growth



rate of traffic in the vicinity. Based upon the analysis, it was determined that traffic within the area increases at a rate of approximately 3.8% per year. A growth factor of 19% was used in projecting traffic demands to the Year 1996.

## **2. Total Traffic Volumes Without Project**

### **a. Projected AM Peak Hour of Traffic**

The projected AM peak hour of traffic is expected to consist of 778 vph entering the intersection of Kamehameha Highway and the park entrance. Kamehameha Highway, along the park frontage, is projected to operate at LOS "E", and a v/c ratio of 0.44. The park entrance road is projected to operate at LOS "B".

At the boat harbor, the projected AM peak hour of traffic is expected to consist of 727 vph entering the intersection of Kamehameha Highway and the harbor entrance. Kamehameha Highway, near the harbor entrance, is projected to operate at LOS "D", and a v/c ratio of 0.38. The harbor entrance road is projected to operate at LOS "A".

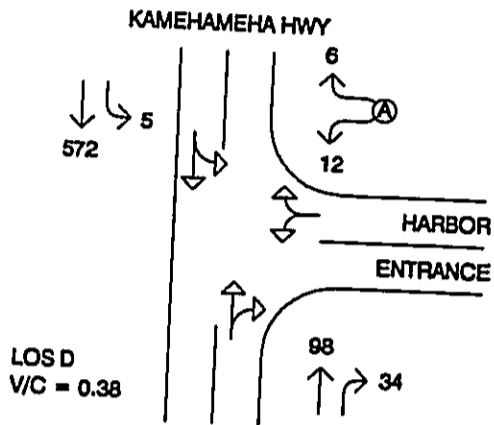
Exhibit 6 shows the projected AM peak hour traffic volumes and capacity analysis at the intersections of Kamehameha Highway at the park entrance and at the harbor entrance without the proposed project.

### **b. Projected PM Peak Hour of Traffic**

The projected PM peak hour of traffic is expected to consist of 729 vph entering the intersection of Kamehameha Highway and the park entrance. Kamehameha Highway, along the park frontage, is projected to operate at LOS "D", and a v/c ratio of 0.38. The park entrance road is projected to operate at LOS "B".

At the boat harbor, the projected PM peak hour is expected to consist of 729 vph entering the intersection of Kamehameha Highway and the harbor entrance. Kamehameha Highway, near the harbor entrance, is projected to operate at LOS "D", and a v/c ratio of 0.33. The harbor entrance road is projected to operate at LOS "B".

Exhibit 7 shows the projected PM peak hour traffic volumes and capacity analysis at the intersections of Kamehameha Highway at the park entrance and at the harbor entrance without the proposed project.



- LEGEND
- TRAFFIC MOVEMENT VOLUME (VPH)
  - LANE CONTROL
  - LOS LEVEL OF SERVICE (TWO LANE HWY)
  - V/C VOLUME-TO-CAPACITY RATIO
  - Ⓐ CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)

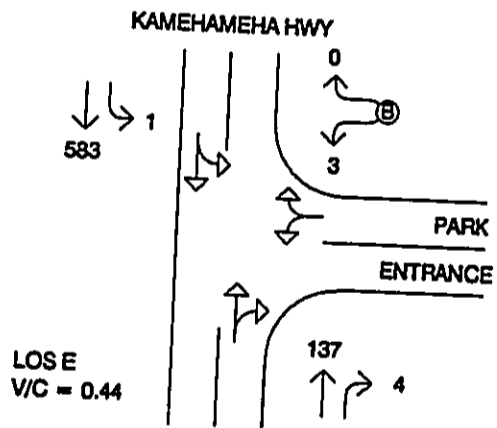
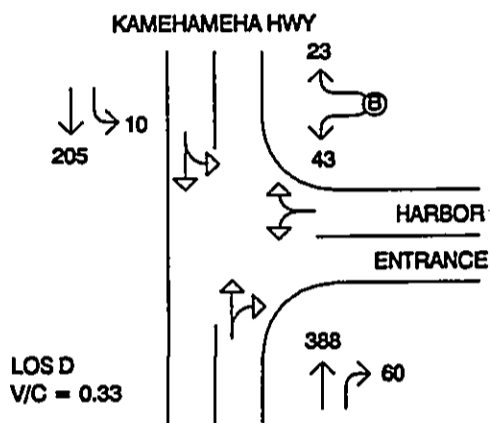


EXHIBIT 6 - PROJECTED AM PEAK HOUR W/O PROJECT



LEGEND

- 98 TRAFFIC MOVEMENT VOLUME (VPH)
- LANE CONTROL
- LOS LEVEL OF SERVICE (TWO LANE HWY)
- V/C VOLUME-TO-CAPACITY RATIO
- ⊕ CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)

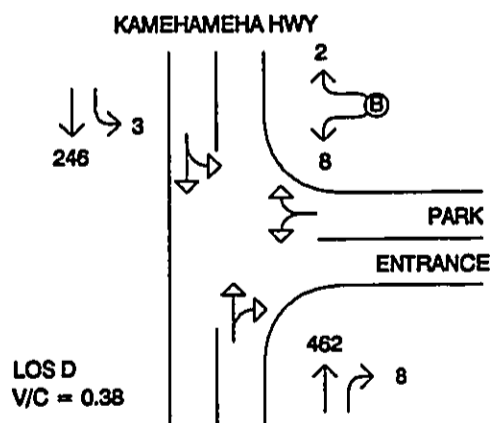


EXHIBIT 7 - PROJECTED PM PEAK HOUR W/O PROJECT

**c. Projected Saturday Peak Hour of Traffic**

The projected peak hour of traffic for a Saturday is expected to consist of 778 vph entering the intersection of Kamehameha Highway and the park entrance. Kamehameha Highway, along the park frontage, is projected to operate at LOS "E", and a v/c ratio of 0.47. The park entrance road is projected to operate at LOS "B".

At the boat harbor, the projected peak hour for a Saturday is expected to consist of 769 vph entering the intersection of Kamehameha Highway and the harbor entrance. Kamehameha Highway, near the harbor entrance, is projected to operate at LOS "D", and a v/c ratio of 0.39. The harbor entrance road is projected to operate at LOS "B".

Exhibit 8 shows the projected Saturday peak hour traffic volumes and capacity analysis at the intersections of Kamehameha Highway at the park entrance and at the harbor entrance without the proposed project.

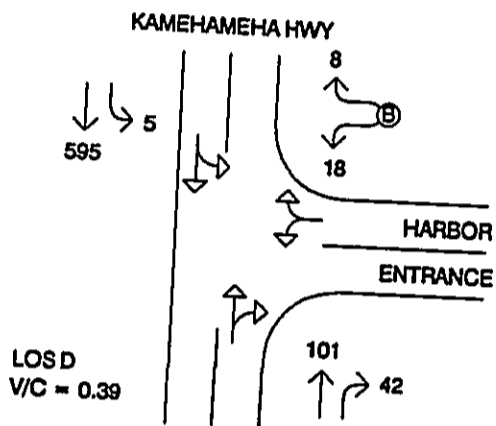
**C. Cumulative Traffic With Project**

**1. Projected AM Peak Hour of Traffic**

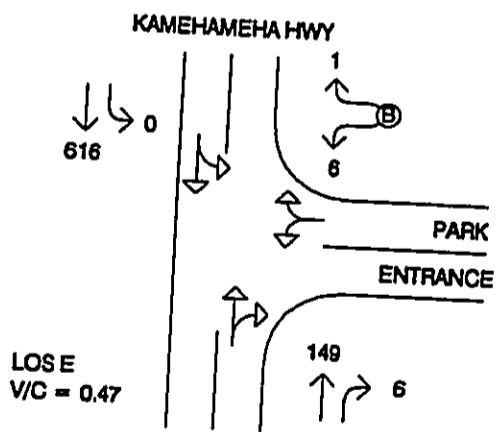
The projected AM peak hour of traffic with the proposed project is expected to consist of 741 vph entering the intersection of Kamehameha Highway at the park entrance. Kamehameha Highway, along the park frontage, is projected to operate at LOS "E", and a v/c ratio of 0.42 with park improvements. The park entrance road is projected to operate at LOS "B".

At the boat harbor, the projected AM peak hour of traffic is expected to consist of 730 vph entering the intersection of Kamehameha Highway and the harbor entrance. Kamehameha Highway, near the harbor entrance, is projected to operate at LOS "D", and a v/c ratio of 0.38. The harbor entrance road is projected to operate at LOS "A".

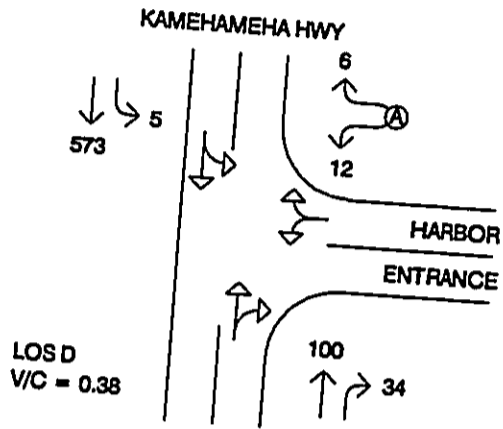
Exhibit 9 shows the projected AM peak hour traffic volumes and capacity analysis of the intersections of Kamehameha Highway at the park entrance and at the harbor entrance with the proposed project.



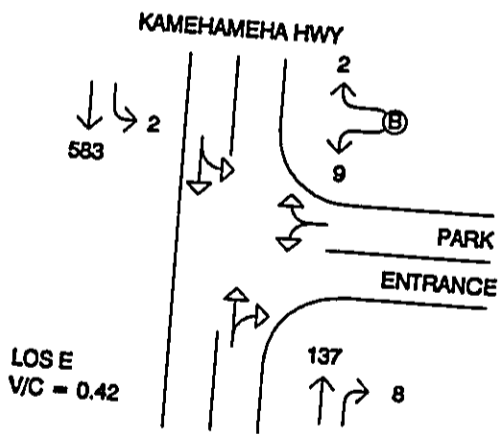
- LEGEND**
- TRAFFIC MOVEMENT VOLUME (VPH)
  - LANE CONTROL
  - LOS** LEVEL OF SERVICE (TWO LANE HWY)
  - V/C** VOLUME-TO-CAPACITY RATIO
  - A** CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)



**EXHIBIT 8 - PROJECTED SATURDAY PEAK HOUR W/O PROJECT**



- LEGEND
- 90 → TRAFFIC MOVEMENT VOLUME (VPH)
  - ↔ LANE CONTROL
  - LOS LEVEL OF SERVICE (TWO LANE HWY)
  - V/C VOLUME-TO-CAPACITY RATIO
  - (A) CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)



**EXHIBIT 9 - PROJECTED AM PEAK HOUR WITH PROJECT**

## **2. Projected PM Peak Hour of Traffic**

The projected PM peak hour of traffic is expected to consist of 760 vph entering the intersection of Kamehameha Highway at the park entrance. Kamehameha Highway, along the park frontage, is projected to operate at LOS "D", and a v/c ratio of 0.39 with park improvements. The park entrance is projected to operate at LOS "B".

At the boat harbor, the projected PM peak hour of traffic is expected to consist of 735 vph entering the intersection of Kamehameha Highway and the harbor entrance. Kamehameha Highway, near the harbor entrance, is projected to operate at LOS "D", and a v/c ratio of 0.33. The harbor entrance road is projected to operate at LOS "B".

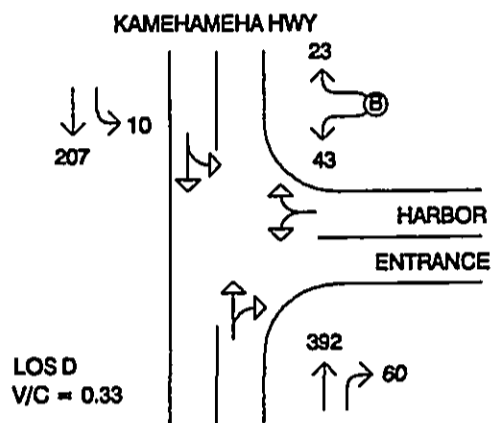
Exhibit 10 shows the projected PM peak hour traffic volumes and capacity analysis of the intersections of Kamehameha Highway at the park entrance and at the harbor entrance with the proposed project.



## **3. Projected Saturday Peak Hour of Traffic**

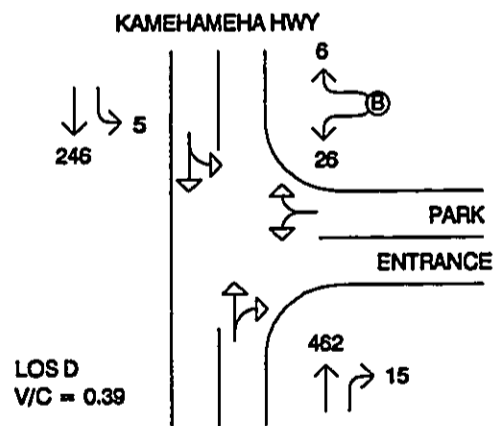
The projected Saturday peak hour of traffic is expected to consist of 869 vph at the intersection of Kamehameha Highway at the park entrance. Kamehameha Highway, along the park frontage, is projected to operate at LOS "E", and a v/c ratio of 0.48 with park improvements. The park entrance road is projected to operate at LOS "C".

At the boat harbor, the projected peak hour for a Saturday is expected to consist of 782 vph entering the intersection of Kamehameha Highway and the harbor entrance. Kamehameha Highway, near the harbor entrance, is projected to operate at LOS "D", and a v/c ratio of 0.40. The harbor entrance road is projected to operate at LOS "B".

Exhibit 11 shows the projected Saturday peak hour traffic volumes and capacity analysis of the intersections of Kamehameha Highway at the park entrance and at the harbor entrance with the proposed project.

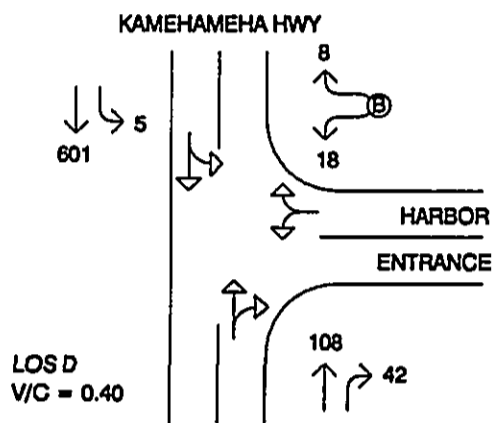


- LEGEND**
-  TRAFFIC MOVEMENT VOLUME (VPH)
  -  LANE CONTROL
  - LOS LEVEL OF SERVICE (TWO LANE HWY)
  - V/C VOLUME-TO-CAPACITY RATIO
  - (A) CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)



**EXHIBIT 10 - PROJECTED PM PEAK HOUR WITH PROJECT**





LEGEND

- 80 ↘ TRAFFIC MOVEMENT VOLUME (VPH)
- ↘ LANE CONTROL
- LOS LEVEL OF SERVICE (TWO LANE HWY)
- V/C VOLUME-TO-CAPACITY RATIO
- Ⓐ CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)

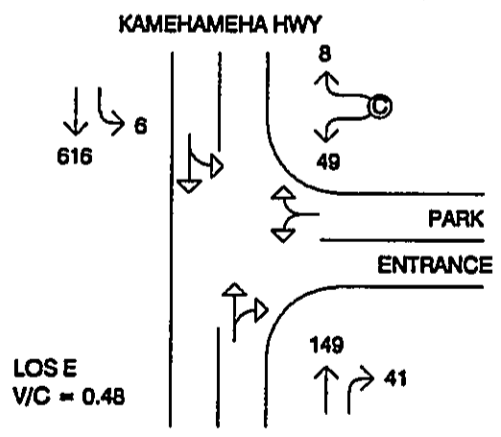


EXHIBIT 11 - PROJECTED SATURDAY PEAK HOUR WITH PROJECT

## **V. TRAFFIC IMPACT ANALYSIS**

### **A. General**

Based upon the projected number of trips generated by the Heeia State Park, it is anticipated that the impact of traffic operations will be insignificant. Furthermore, it is anticipated that the peak period of trips generated by the park would occur during the late mornings and early afternoons or on the weekend, thus limited to non-peak periods of traffic on the highway

### **B. SITE ACCESS IMPACT ANALYSIS**

#### **1. Intersection Sight Distance**

The north and south driveways have limited intersection sight distances that are inadequate due to the existing physical roadway constraints in the area. The north driveway has an intersection sight distance of 240 feet to the left of a stopped vehicle at the driveway and turning right on to Kamehameha Highway. The north driveway also has an intersection sight distance of 170 feet from opposing traffic for a vehicle turning left from south bound Kamehameha Highway into the driveway. The south driveway has sufficient intersection sight distance to the left but only 205 feet to the right of a stopped vehicle at the driveway.

#### **2. Stopping Sight Distance**

The existing curve radius of Kamehameha Highway fronting the project site restricts stopping sight distances for both north bound and south bound motorists. The available stopping sight distances for north bound and south bound Kamehameha Highway are 205 feet and 130 feet, respectively.

#### **3. Left Turn Analysis**

Left turn lane warrant analysis, based on projected volumes on Kamehameha Highway at the south driveway, indicates that a left turn lane on south bound Kamehameha Highway is not warranted. However, traffic safety should be taken into consideration at this location. The limited stopping sight distance of south bound Kamehameha Highway at the south driveway warrants an exclusive left turn lane to improve traffic safety at this intersection.

## **VI. RECOMMENDATIONS AND CONCLUSION**

### **A. Recommendations**

The following access improvements on Kamehameha Highway are recommended:

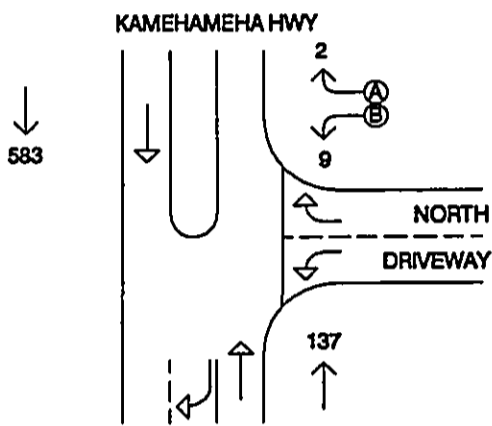
1. Utilize the existing north and south driveway locations to maximize available sight distances.
2. Restrict the north driveway to an exit-only driveway, and the south driveway to an entrance-only driveway. This improvement would provide a safer driving environment as well as improve the on-site parking circulation.
3. Design on-site parking to facilitate separate entry and exit driveways.
4. Reconstruct and pave both driveways to applicable standards to provide passenger vehicles and buses safe entry and egress. Provide separate left turn and right turn lanes at the exit driveway.
5. Construction of a left turn storage median lane on Kamehameha Highway for motorists turning left from the north driveway. The recommended length of the storage lane is 40 feet plus taper. This improvement would provide a safer median shelter for motorists exiting the park and turning left onto Kamehameha Highway.
6. Construction of a left-turn storage lane on south bound Kamehameha Highway at the south driveway. The recommended length of the storage lane is 120 feet plus taper. This improvement would mitigate the potential of rear end collisions due to the limited sight distance.
7. Provide advance warning signs with 25 miles per hour advisory speed signs on both approaches of the curve fronting the project sight. The signs should be posted at adequate distances for proper advance warning.

### **B. Conclusion**

The proposed improvements of the Heeia State Park would not adversely affect traffic operations on Kamehameha Highway in the vicinity of the project. The trips generated by the proposed park improvements would not significantly change the service levels of existing movements at the intersections of Kamehameha Highway at the park entrance and the harbor entrance. However,

traffic safety should be taken into consideration as a result of the existing physical roadway conditions. Exclusive left turn storage lanes and separate entrance and exit driveways should improve traffic safety.

Exhibits 12, 13 and 14 show the capacity analysis of the proposed access driveways for the AM, PM and Saturday peak hours, respectively.



LEGEND

- 80 TRAFFIC MOVEMENT VOLUME (VPH)
- LANE CONTROL
- LOS LEVEL OF SERVICE (TWO LANE HWY)
- V/C VOLUME-TO-CAPACITY RATIO
- Ⓐ CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)

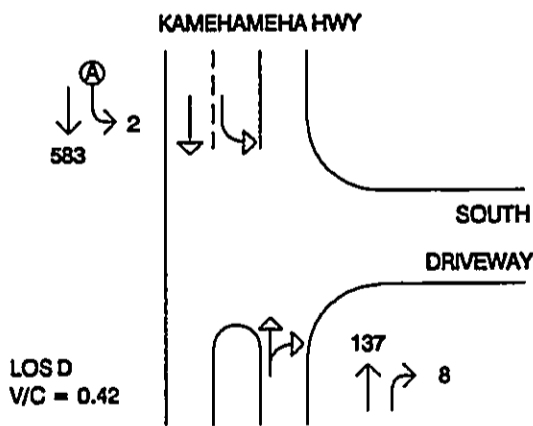
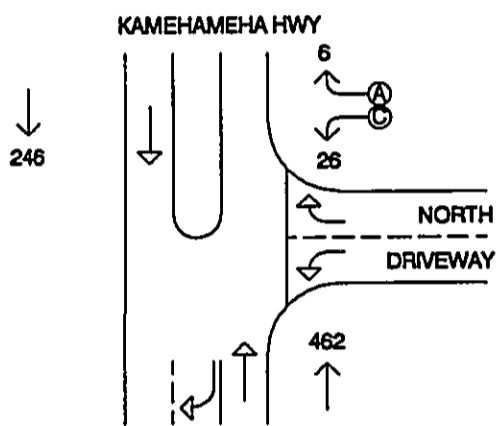
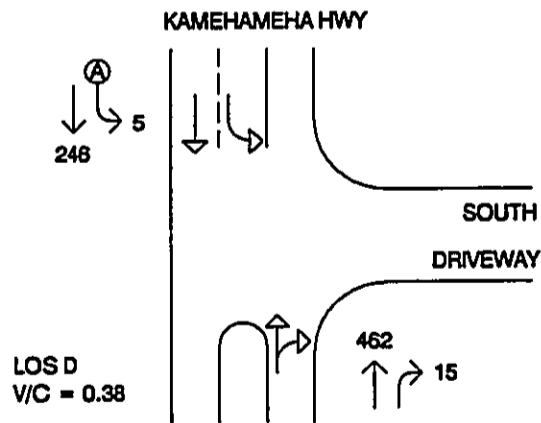


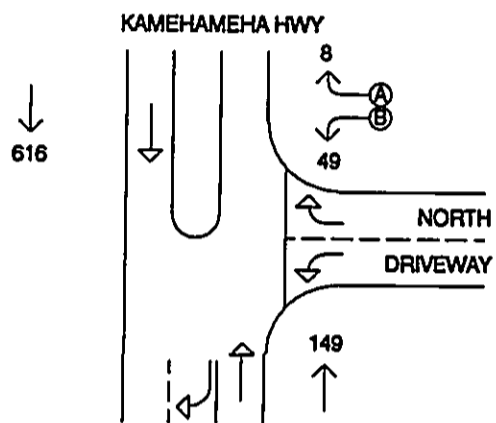
EXHIBIT 12 - AM PEAK HOUR WITH PROPOSED ACCESS DRIVEWAYS



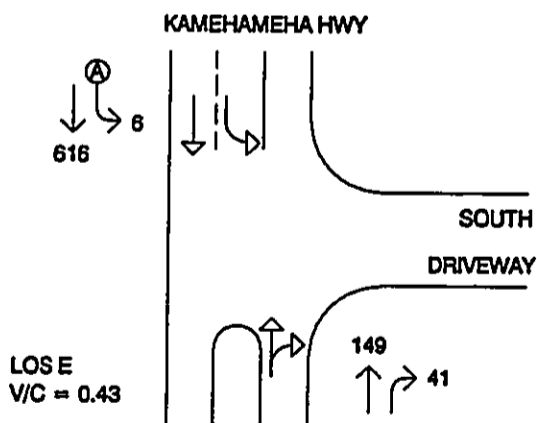
- LEGEND**
- 80 → TRAFFIC MOVEMENT VOLUME (VPH)
  - LANE CONTROL
  - LOS LEVEL OF SERVICE (TWO LANE HWY)
  - V/C VOLUME-TO-CAPACITY RATIO
  - Ⓐ CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)



**EXHIBIT 13 - PM PEAK HOUR WITH PROPOSED ACCESS DRIVEWAYS**



- LEGEND
- 80 TRAFFIC MOVEMENT VOLUME (VPH)
  - LANE CONTROL
  - LOS LEVEL OF SERVICE (TWO LANE HWY)
  - V/C VOLUME-TO-CAPACITY RATIO
  - Ⓐ CAPACITY ANALYSIS (UNSIGNALIZED CONDITION)



**EXHIBIT 14 - SAT. PEAK HOUR WITH PROPOSED ACCESS DRIVEWAYS**

**APPENDIX  
CAPACITY ANALYSIS CALCULATIONS**

(AVAILABLE ON REQUEST)



A P P E N D I X B

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FLORA SURVEY

PAUL WEISSICH AND ASSOCIATES, INC.  
LANDSCAPE ARCHITECTURE  
CONSULTANTS: XERISCAPING, TROPICAL PLANT MATERIALS  
PO Box 4758  
KANEOME HAWAII 96744  
TELEPHONE (808) 235-3377

March 5, 1991

David S. Hulse  
Project Planner  
PBR Hawaii  
1042 Fort St. Suite 300  
Honolulu, Hawaii 96813

Subject: Heeia kea Project: plant list/significant trees

Dear David

Attached is a complete listing of plant species found on the project site. Some are weeds, some are represented by excellent and useful specimens, most do not fit into the Hawaiian ethnobotany concept. I'll need to go over the list with you in person to determine your level of selection. Species appropriate to the ethnobotany concept are indicated by an asterisk.

Accompanying the list is a clean copy of the topo on which I have marked in red those trees I feel are significant. Again, we'll need to go over this together, preferably on the site.

Sincerely,



3/5/91

List of Plant Species found at Heeia State Park  
species of Hawaiian ethnobotanical interest are marked with  
an asterisk (\*)

Note: nomenclature follows that published in the "Manual of  
Flowering Plants of Hawai'i" Bishop Museum 1990 where  
applicable. And that found in Marie Neal "In Gardens of  
Hawai'i" Bishop Museum 1965 for species not listed in the  
Manual.

TREES:

<i>Aleurites moluccana</i> *	kukui
<i>Araucaria heterophylla</i>	Norfolk Pine
<i>Artocarpus communis</i> *	'ulu, Breadfruit
<i>Averrhoa carambola</i>	Star Fruit
<i>Bauhinia purpurea</i>	Bauhinia
<i>Bruguiera conjugata</i>	Oriental Mangrove
<i>Carica papaya</i>	Papaya
<i>Caryota urens</i>	Wine Palm
<i>Casuarina equisetifolia</i>	Ironwood
<i>Chrysalidocarpus lutescens</i>	Areca Palm
<i>Citrus</i> sp. ( <i>C. aurantiifolia</i> ?)	
<i>Coccoloba uvifera</i>	Sea Grape
<i>Cocos nucifera</i> *	Coconut
<i>Conocarpus erecta sericea</i>	Silver Buttonwood
<i>Cordia subcordata</i> *	kou
<i>Crescentia cujete</i>	Calabash Tree
<i>Dracaena marginata</i>	Money Tree
<i>Erythrina variegata</i> var. <i>orientalis</i>	Indian wiliwili
<i>Eugenia uniflora</i>	Surinam Cherry
<i>Ficus benjamina</i>	Benjamin Tree
<i>Ficus microcarpa</i>	Chinese Banyan
<i>Gardenia taitensis</i>	Tiare Tahiti
<i>Hibiscus tiliaceus</i> *	hau
<i>Hyophorbe lagenicaulis</i>	Bottle Palm
<i>Leucaena leucocephala</i>	koa hacle
<i>Malpighia punicifolia</i>	Acerola
<i>Mangifera indica</i>	Mango
<i>Morinda citrifolia</i> *	noni
<i>Murraya paniculata</i>	Mockorange
<i>Pandanus odoratissimus</i> *	hala
<i>Pandanus</i> sp.	variegated hala
<i>Persea americana</i>	Avocado
<i>Pimenta dioica</i>	Allspice
<i>Plumeria obtusa</i>	Singapore Plumeria
<i>Plumeria hybrids</i> (many)	Hybrid Plumeria
<i>Pritchardia</i> sp. ( <i>hillebrandii</i> ?) *	loulu
<i>Psidium guajava</i>	Yellow Guava
<i>Ptychosperma macarthurii</i>	Macarthur Palm
<i>Rhizophora mangle</i>	American Mangrove

Samanea saman  
Schefflera actinophylla  
Schinus terebinthifolius  
Syzygium cumini  
Terminalia catappa  
Thespesia populnea \*

Monkey Pod  
Octopus Tree  
Christmas Berry  
Java Plum  
Java Almond  
milo

SHRUBS:

Alocasia cucullata	Chinese 'Ape
Alpinia nutans	Peral Ginger
Arundo donax variegata	Giant Reed
Asystasia gangetica	Asystasia
Breynia nivosa var. roseo-picta	Snow Bush
Calliandra inaequilaterale	lehua haole
Canna indica	Wild Canna
Carissa grandiflora	Natal Plum
Codiaeum variegatum (many vars.)	Croton
Cordyline terminalis *	ki, ti
Crinum asiaticum	Spider Lily
Cyperus alternifolius	Umbrella Plant
Dieffenbachia picta	Dumb Cane
Dracaena fragrans	W. African Ti
Dracaena warneckii	
Duranta repens	Golden Dew Drop
Graptophyllum pictum (sev. vars)	Caricature Plant
Heliconia spp. (several; not in flower)	
Hibiscus hybrids (many vars.)	Hibiscus
Hibiscus schizopetalus	Coral Hibiscus
Jatropha curcas	Physic Nut
Nandina domestica	Nandina
Odontonema strictum	Odontonema
Pluchea indica	Indian Pluchea
Pluchea odorata	Sour Bush
Polyscias guilfoylei	Panax
Polyscias fruticosa	Parsley Panax
Sansevieria trifasciata	Bowstring Hemp
Sansevieria trifasciata var. laurentii	
Scaevola sericea *	naupaka kahakai
Strelitzia nicolai	White Bird of Paradise
Strelitzia reginae	Bird of Paradise
Vitex trifolia var. variegata	Vitex
Xanthosoma rosea	'Ape

VINES AND GROUND COVERS:

Allamanda cathartica var. hendersonii	Allamanda
Antigonon leptopus	Mexican Creeper
Asparagus plumosus	Asparagus Fern
Bougainvillea glabra	Bougainvillea

Bougainvillea spectabilis  
Jasminum multiflorum  
Microsorium scolopendria  
Molineria recurvata  
Monstera deliciosa  
Oplismenus hirtellus  
Paederia foetida  
Passiflora edulis  
Philodendron erubescens  
Philodendron lacerum  
Philodenron oxycardium  
Philodenron selloum  
Scindapsus aureus  
Solandra guttata  
Syngonium podophyllum  
Thunbergia alata  
Thunbergia alata var. bakeri  
Thunbergia laurifolia  
Wedelia triloba  
Zebrina pendula

Bougainvillea  
Star Jasmine  
lau'ae  
Curculigo  
Monstera  
Basket Grass  
maile pilau  
Passion Flower

Pothos Vine  
Cup of Gold

Black-eyed Susan  
White Thunbergia  
Blue Thunbergia  
Wedelia  
Purple Wandering  
Jew

MISCELLANEOUS:

Bambusa vulgaris var. aureo-variegata Golden Bamboo

A P P E N D I X C

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HE'EIA STATE PARK MASTER PLAN  
COMMUNITY ADVISORY COMMITTEE

## HE'EIA STATE PARK MASTER PLAN COMMUNITY ADVISORY COMMITTEE

The concept of a He'eia State Park Master Plan Community Advisory Committee was developed at a June, 1992 community meeting where the Master Plan, as proposed by the State Parks planning consultants, was discussed. It was felt that the general community had not had adequate opportunity to address the development of the Proposed Master Plan.

The Community Advisory Committee consisted of:

Kaneohe Neighborhood Board #30:

Cindi Soraoka

Nadine Onodera

Kahalu'u Neighborhood Board #29:

John Reppun

Amy Luersen

He'eia Community:

Leialoha "Rocky" Kaluhiwa

Facilities Users:

Alice Hewitt

Hula Halau:

Pat Gooch

Steve Reelitz (Alternate)

Cultural Representative:

Mapuana Ringler as proxy for Frank Hewitt

Kupuna:

Lillian Kakalia

Friends of He'eia State Park chose not to participate in the CAC.

Bill Gorst, planner for DLNR Parks, although not a member, was present at all the CAC meetings.

The Community Advisory Committee met in October and November, 1992. The meetings were facilitated by Alice Paet-Ah Sing of the Neighborhood Justice Center. The CAC developed a Goal Statement for He'eia State Park and recommendations for a preferred alternative. In February, 1993, the CAC held a community meeting to present its recommendations. The recommendations, together with the comments from the February community meeting, are presented on the following pages as the community's preferred alternative, as sent to DLNR Parks.

# **HE'EIA STATE PARK MASTER PLAN ADVISORY COMMITTEE**

**FEBRUARY 4, 1993**

## **RECOMMENDED MASTER PLAN FOR HE'EIA STATE PARK**

### **GOAL STATEMENT:**

**"He'eia State Park should recognize and perpetuate the cultural heritage of the site known as, Lae O Ke Alohi, and serve the entire community as a social, educational, and cultural gathering place".**

**After much discussion, the group chose to work with the proposed Illustrative Plan Alternative. Advisory Committee recommendations use this as a "base map". Our recommendations are as follows:**

### **MAIN INTERPRETIVE AREA:**

- \* An Elevated Platform Tower to incorporate a permanent display area and multi-purpose classroom/meeting room(s), office area.**
- \* New Restrooms would be incorporated into the structure**
- \* A Full Kitchen area would be incorporated into the design to allow for development of kitchen facilities at a later date.**
- \* An "Interpretive Platform" (as in Hi-Intensity Alternative) would extend out over reef area fronting the Main Interpretive Area.**
- \* The existing "stage" (the cement slab) would be demolished and replaced with a new stage to accommodate Hula performances and other activities.**
- \* Native trees, where possible will be preserved in their present locations; if this is not possible and survival of**



special plants can be accomplished, plants may be moved to the nursery/Ethno-Botanical Garden site (see below)

**SHORELINE INTERPRETIVE AREA (He'eia Kea-side facing Pier):**

- \* A "finger pier" would follow the edge of the fringing reef located to the windward side of the channel as shown in the inset drawing on the Illustrative Map.
- \* The Interpretive Area adjacent to the Finger Pier would be designated as a site for canoe activities.

**LOWER PICNIC SHORELINE-STREAM INTERPRETIVE AREA (Fishpond-side):**

- \* An Open-Air, enclosable structure, with storage space & restrooms incorporated, would be constructed in this area.
- \* Outdoor shower(s) would be built in this vicinity.
- \* An Interpretive Board or Display would be included, relating to the Fishpond etc.
- \* Picnic Tables, to be used in conjunction with Interpretive Programs and for public use.
- \* A Meadowlands Trail, connecting the State Park with mauka He'eia Uli would begin here.
- \* The trail would pass through the Ethno-Botanical Garden, as shown on the Illustrative Plan. In addition, the garden would include space for a Nursery for medicinal and other plants.

**RECOMMENDED POLICY FOR HANDLING OF BURIAL SITES:**

- \* (See Attachment)

**UPPER PICNIC AREA/LUAU PAVILION:**

- \* An open-air, enclosable Luau Pavilion would be constructed to accommodate about 100 people; bathrooms would be built into the new structure.
- \* Space to allow for future construction of an Amphitheater would be set aside, as described in alternative C (Hi-Intensity Map).
- \* A Walkway connecting He'eia State Park to He'eia Pier would be constructed.
- \* Parking would basically remain as shown in the Illustrative Plan with the following changes recommended:

Construct Vehicular access/path from the main parking area to the Main Interpretive Center and kitchen.

Pedestrian Access to He'eia Pier would also allow for additional parking at the pier for large events.

#### **PARK HEADQUARTERS:**

A "Park Headquarters" building would be located in the vicinity of the "Drop-off/Bus Stop", as shown on the Illustrative Plan.

#### **LIVE-IN CARETAKERS FACILITY:**

Two potential sites for re-location of the existing Caretaker's Cottage were identified by the Advisory Committee (see map):

- 1) Area between He'eia State Park and He'eia Pier, along Kamehameha Highway.
- 2) Area near, overlooking the Ethno-Botanical Garden Area.

#### **PHASING OF PLANNING, ENGINEERING AND CONSTRUCTION:**

The group recommendation is for the first phase to begin with the Lower Picnic Area/Shoreline Interpretive Area near the

## **Fishpond.**

### **Recommended Policy for Handling of Burial Sites:**

In recognition of and with respect for the sanctity of Lae O Kealohi, site of known burial grounds and of a heiau that pre-date the State's interest in the area, the State, and any others permitted to make use of the subject area, shall adhere to the following procedure with regard to the discovery, handling or re-interment of remains found on site:

1. Immediate notification as to the discovery of remains, or any action relating to placement and handling of same, shall be given to both the State's "Burial Council" and the designated representative of descendants of the original Hawaiian families of He'eia Ahupua'a. This notification shall take place prior to any action taken with regard to said remains.
2. Any decisions relating to handling of said remains shall be made only when done in consultation with the designated family representative and the Burial Council.
3. This policy shall be framed in legal language that will become a perpetual condition attached to the use of the area by either the State of Hawai'i or any subsequent user.
4. The site currently known to the State Parks planners as the designated burial site shall be referred to as the "re-burial site".
5. The location of this "re-burial site" shall not be disclosed in any document, map or brochure that is to be routinely printed or displayed for public use, providing, however, that a record of all burials be maintained by the State & the Burial Council for use in planning around the designated site; by this means the peace, sanctity and reverence for the final resting place of ancestors shall be preserved.

**SHORELINE INTERPRETIVE AREA & PIER**  
**(Kualoa side of Lae O Kealahi/He'eia State Park)**

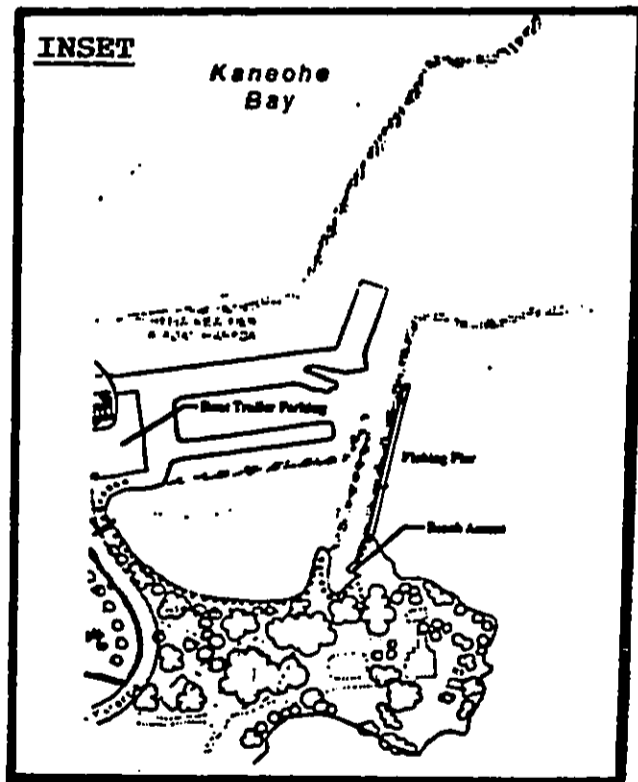
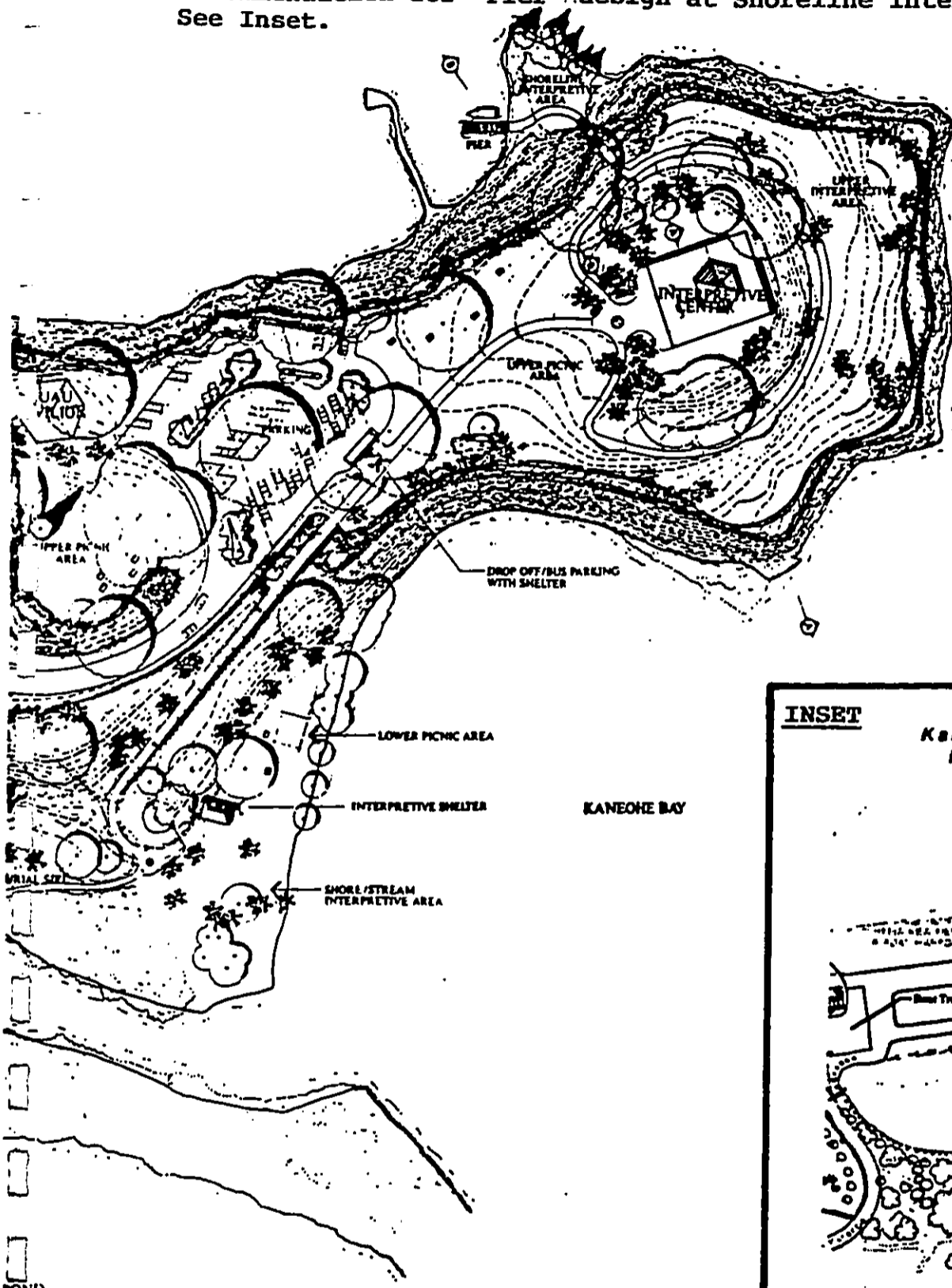
**ADVISORY COMMITTEE RECOMMENDATION:**

The Advisory committee recommends construction of a "finger pier", in the "Shoreline Interpretive Area" (as shown in the "inset" of the attached map.) The Pier would be constructed with posts and decking that will not restrict flow-through of water.

Unlike the pier as shown in the Illustrative Plan, the Advisory Committee recommends a pier that would follow the edge of the reef & be located to the windward side of the channel leading into this cove. This will allow for recreational opportunities such as pole fishing, pedestrian viewing of He'eia Kea Pier, while still providing for limited docking of canoes and other small boats associated with the Interpretive area. Access to the area from the Park would be by pedestrian path only. The Interpretive Area adjacent to the pier would also double as a site for outrigger canoe activities.

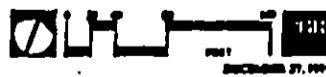
(map attached)

HE'EIA STATE PARK ADVISORY COMMITTEE  
 Recommendation for "Pier" design at Shoreline Interpretive Area  
 See Inset.



ILLUSTRATIVE PLAN

**HEEIA STATE PARK MASTER PLAN**  
 KANEOHE, HAWAII



#### **Additional Comments:**

The Advisory Committee presented their recommendations at a public meeting sponsored by the Kaneohe & Kahalu'u Neighborhood Boards on February 4, 1993. The following comments were recorded and grouped according to topic headings used above.

#### **Shoreline Interpretive Area (He'eia Kea side facing Pier):**

- \* Consider placement of fishing pier on downwind side of "channel"; better reefs on upwind side would be preserved. Later, another access can be made by wrapping pier around
- \* Is this pier meant to be a walking pier? Pier need only be about 15-to-20+ feet long and should be parallel to channel.
- \* Reconfiguration of pier parallel to wind should occur with design to make it work for outrigger canoes.

#### **Lower Picnic Shoreline - Stream Interpretive Area:**

- \* Designate an area for placing a "permanent" imu site. Comment made that DLNR has, in the past, discouraged this; maybe a permanent imu area would make sense near the Main Interpretive area near where events are held. DLNR/Parks will explore possibilities.
- \* Have imu close to pavilions; concern expressed that archaeologists should check out potential sites, especially in the lower picnic area due to proximity to burial sites etc.

#### **Upper Picnic Area/Luau Pavilion:**

- \* Parking - basically leave as is; keep things closer to the main interpretive building for easier access; use monies for other purposes.
- \* consider parking along the highway going to pier
- \* consider other uses in and around the park, ie: additional need for

safety is an underlying criteria.

- \* DLNR should explore negotiating with neighboring properties for more parking area
- \* More parking area is needed.
- \* Parking must take into consideration American Disabilities Act
- \* Picnic area should be more to the side
- \* Leave parking as it is
- \* Move proposed new pavilion site to allow for future consideration of an amphitheater area (facing He'ela pier)
- \* Leave the pavilion where it now is; refurbish it to best use funds - i.e. fix the parking lot.

**Park Headquarters:**

**Live-in Caretaker's Facility:**

- \* What is wrong with it now - currently able to see parking lot; Able to call police when caretaker notices trouble
- \* Area now used for caretaker cottage is "prime"; could be used as a park
- \* Criteria for caretaker's quarters - safety and security
- \* Park headquarters was placed on map if quarters are moved would have person placed there for security
- \* Use an interpretive board instead for park info.
- \* No agreement as far as location of caretaker's quarters

**Other Comments:**

- Interpretive "observation" pier, would need gate to be locked up for kids' safety.

Need to look into the abatement of the erosion around the point.  
Losing land by old taro patch side and by stream

- In regards to the other park issues that were previously brought up, such as lease performance clause, maintenance, management etc., it was suggested that another committee be established or this one be re-authorized to continue to explore these issues.
- Any comments or suggestions regarding this should be submitted to:



**Neighborhood Justice Center**

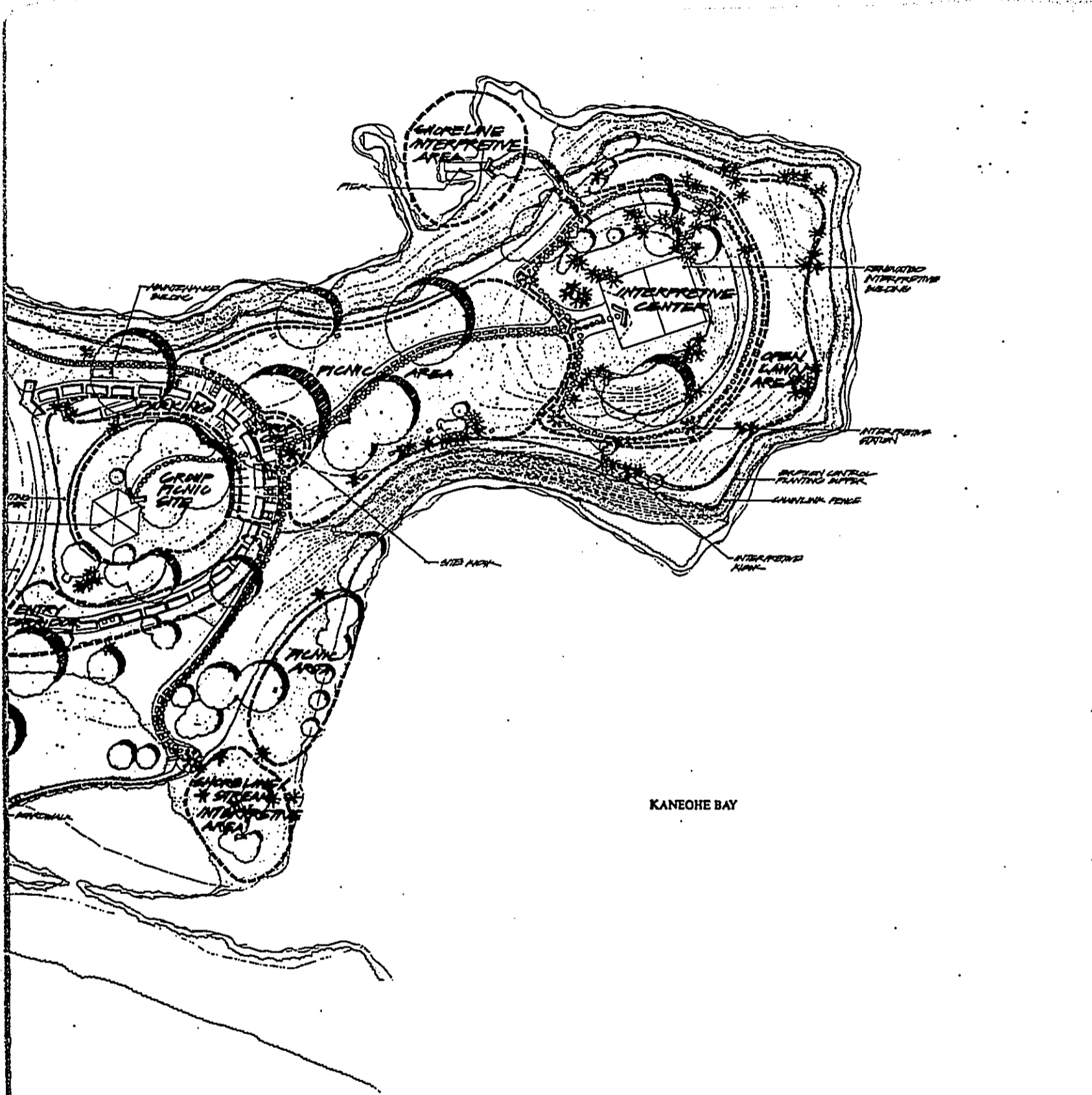
**ALICE PAET-AH SING**  
Director  
Conflict Management Program

200 N. Vineyard Blvd. • Suite 320 • Honolulu, Hawaii 96817  
Telephone: (808) 521-6767 • Fax: (808) 538-1454

**Comments received at Neighborhood Board Meeting of Feb 10, 1993: The following two comments were recorded at the Kahalu'u NB #29 meeting following a report on the status of & recommendations by the Advisory Committee:**

- It was suggested that the Lower Picnic area, given the proximity of Burial/Sacred grounds, may not be appropriate for activities planned, especially construction of Facilities; it was also suggested that siting of said facilities and/or any planning in this area should be done only when deferring to the wishes of or when in coordination with He'eia Family descendants' input/wishes.

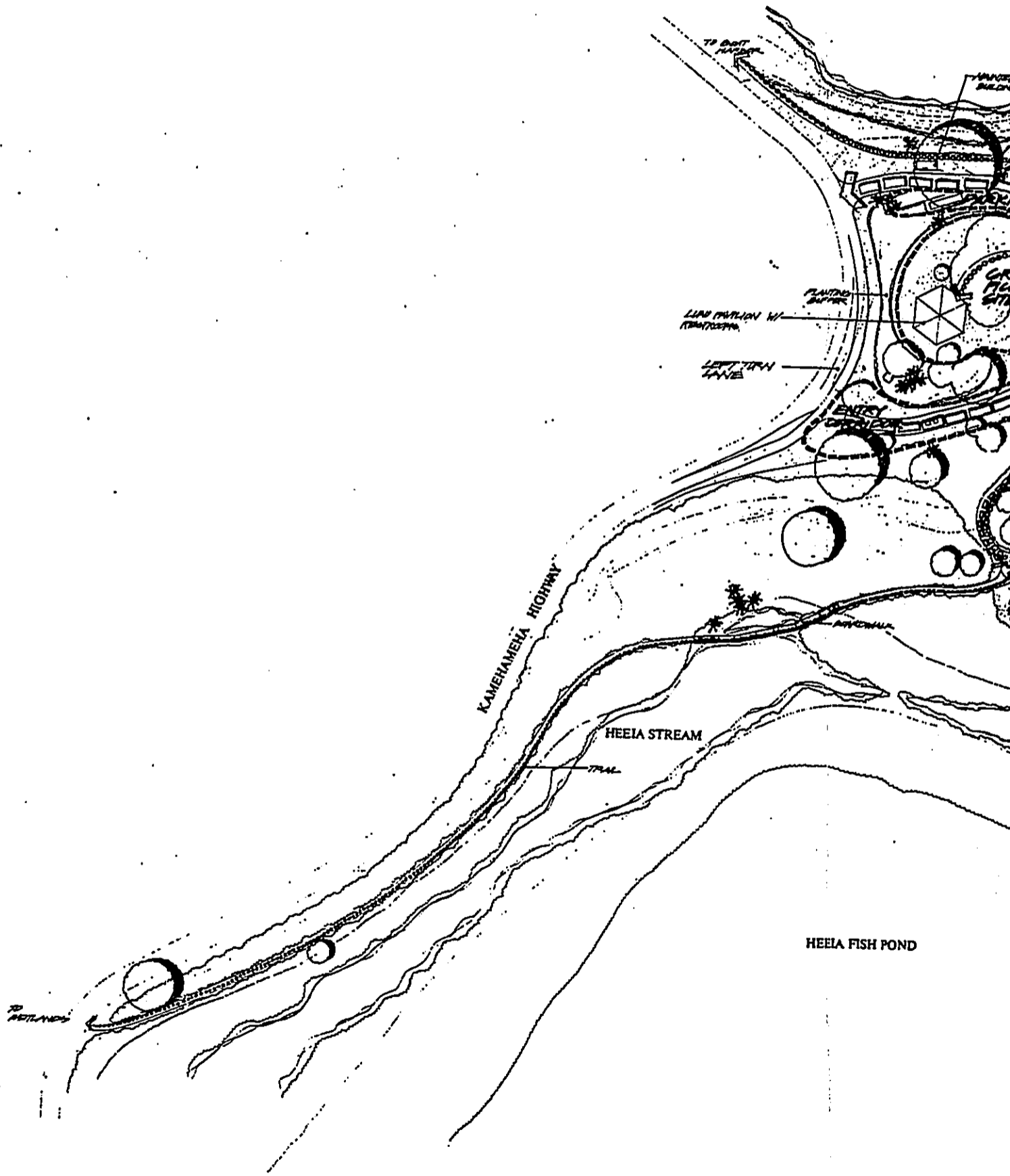




HEE'IA FISH POND

FIGURE 3  
 ALTERNATIVE CONCEPTUAL PLAN A  
HEE'IA STATE PARK MASTER PLAN  
 KANEOHE, HAWAII





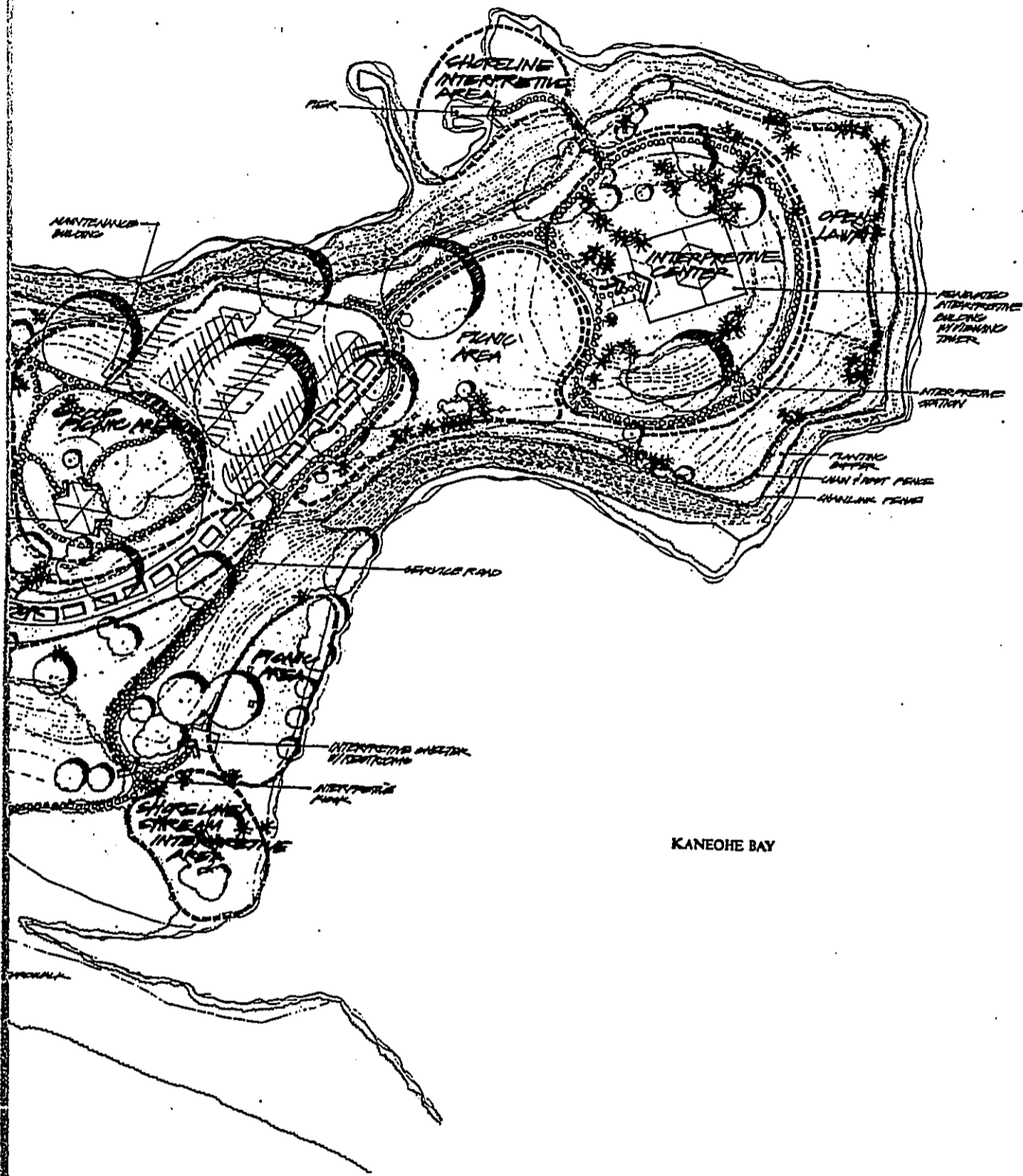
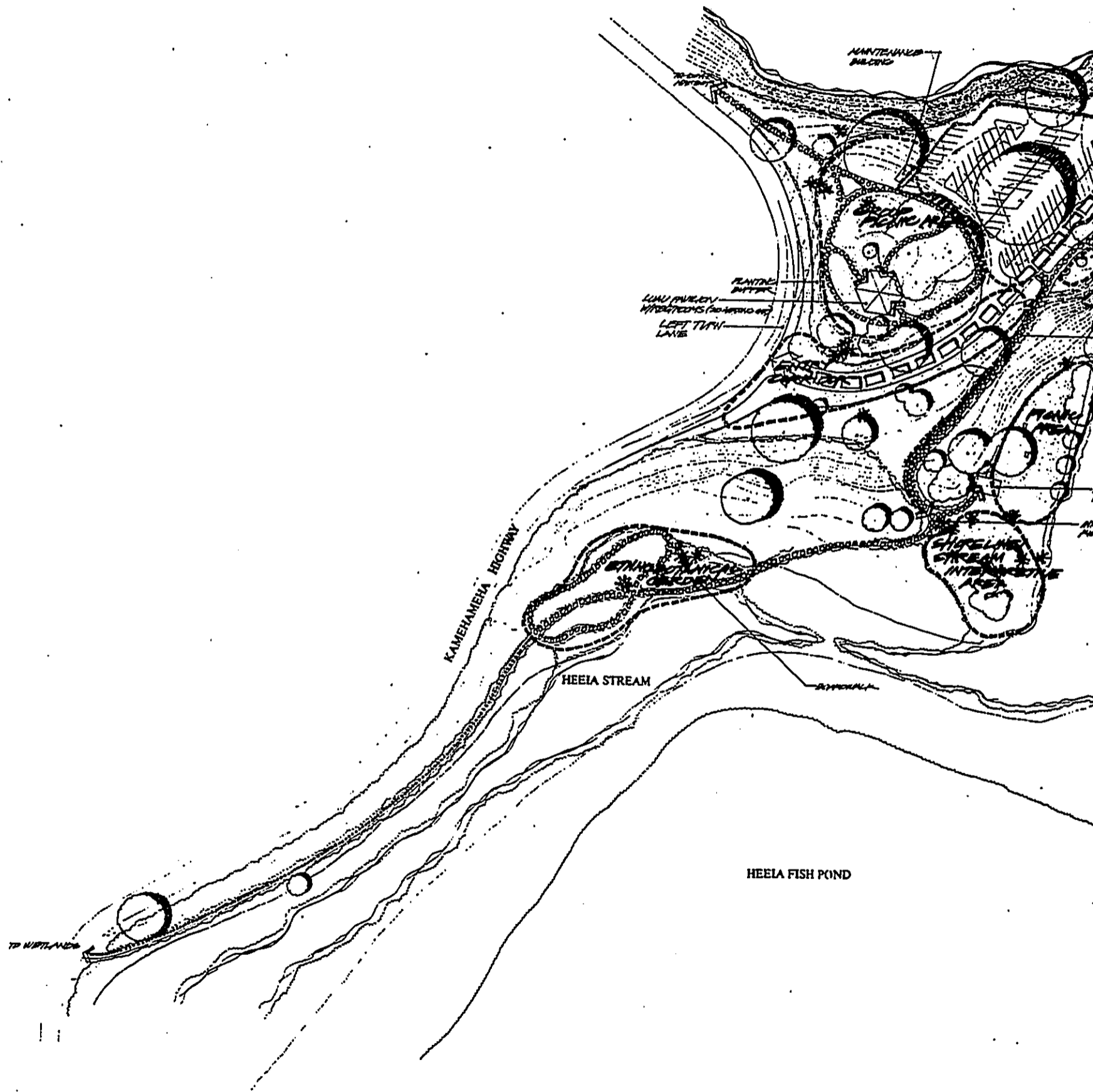


FIGURE 4  
 ALTERNATIVE CONCEPTUAL PLAN B  
**HEE'IA STATE PARK MASTER PLAN**  
 KANEOHE, HAWAII



ND



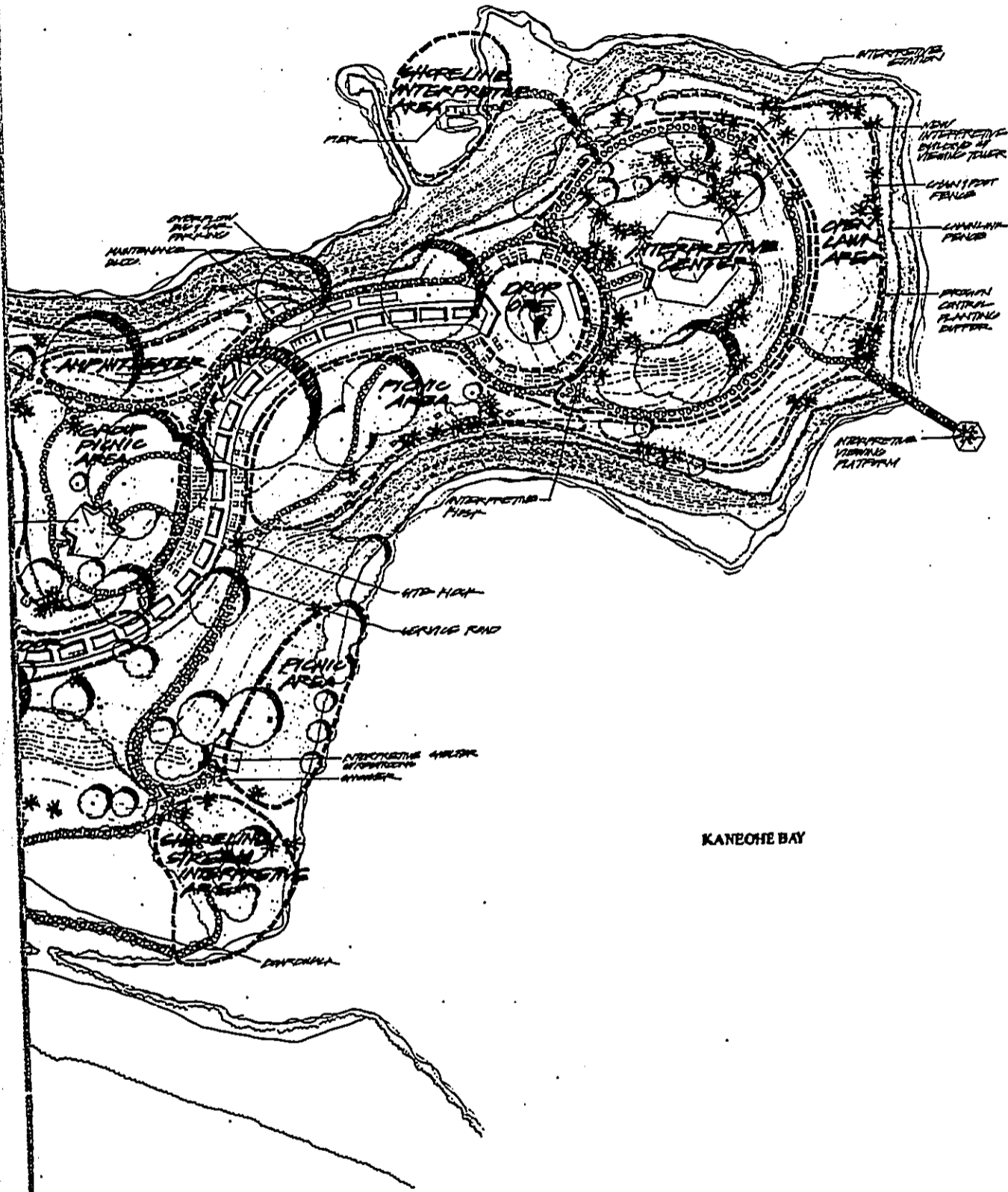
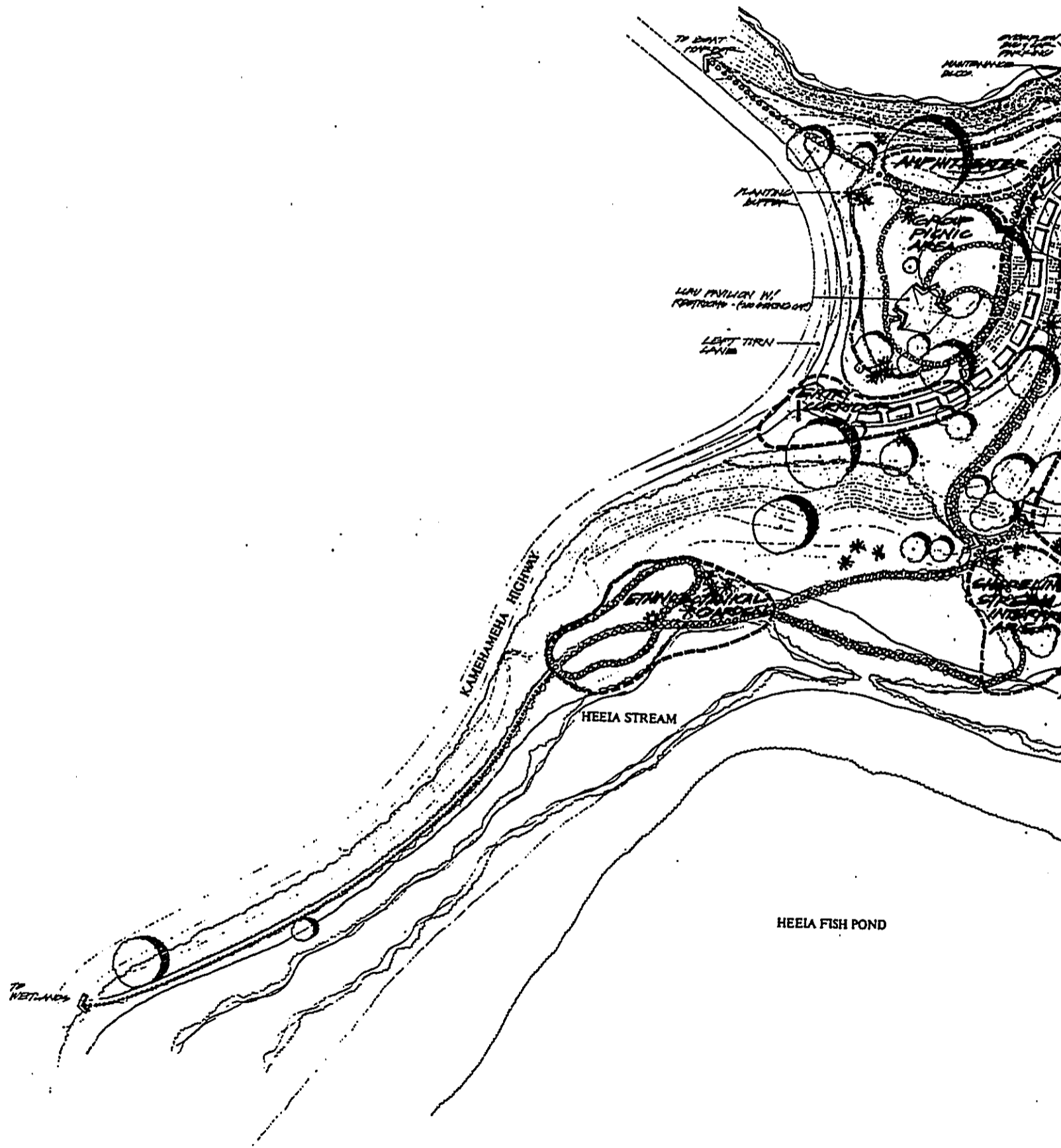
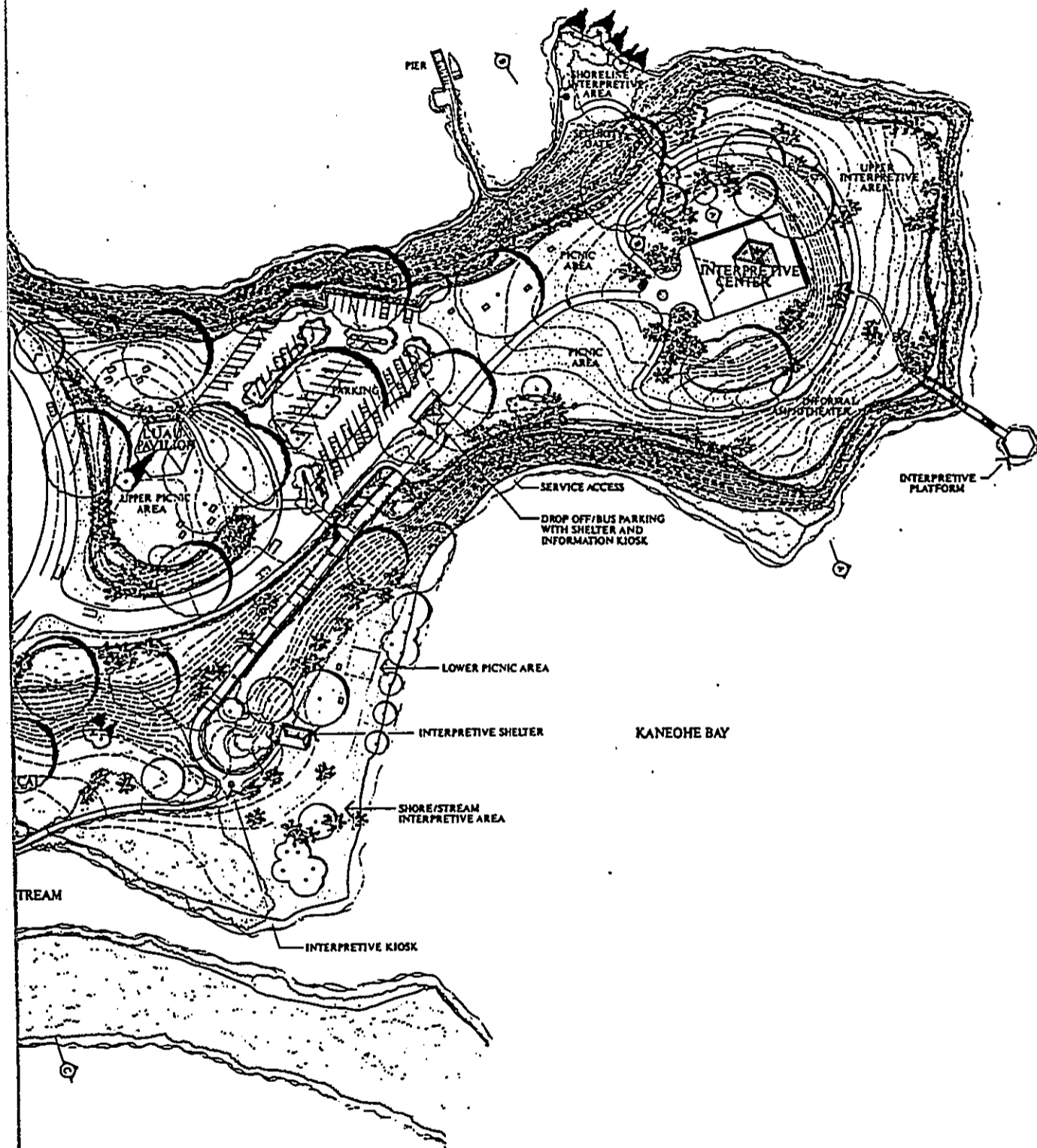


FIGURE 5  
 ALTERNATIVE CONCEPTUAL PLAN C  
 HEEIA STATE PARK MASTER PLAN  
 KANEHOE, HAWAII


















**FIGURE 6**  
**PREFERRED ALTERNATIVE**  
**HEEIA STATE PARK MASTER PLAN**  
 KANEOHE, HAWAII


  
 DECEMBER 27, 1991  
 REVISED APRIL 15, 1992  
 REVISED MARCH 4, 1993

**LEGEND**

-  LARGE CANOPY TREES
-  MEDIUM TO SMALL CANOPY TREES
-  PINE OR PINE LIKE TREES
-  FLOWERING TREES
-  COCONUT TREES
-  ETHNOBOTANICAL TREES
-  LAWN
-  GROUNDCOVERS
-  MANGROVE/EXISTING SHRUBS & GROUNDCOVERS
-  ETHNOBOTANICAL SHRUBS-GROUNDCOVERS
-  SHRUBS

