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May 18, 1999

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR
BRENNECKE BEACH SHORE PROTECTION, POIPU,
KAUAI, HAWAII

The County of Kauai, Department of Public Works, has reviewed the comments received during the 30-day public comment period which began on March 8, 1999. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the June 8, 1999 OEQC Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the final EA. Please call Mr. David Takeyama of Oceanit, our environmental consultants at 531-3017 if you have any questions.

Very truly yours,


CESAR C. PORTUGAL
County Engineer

KK/cu

Enclosure

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**FINAL
ENVIRONMENTAL ASSESSMENT
BRENECKE BEACH SHORE PROTECTION
POIPU, KAUAI**

Prepared for:

**COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS**

Prepared by:

OCEANIT LABORATORIES, INC.

MAY 1999

EXECUTIVE SUMMARY

The County of Kauai Department of Public Works plans to remove an old masonry seawall at the west end of Brennecke Beach on the island of Kauai. In September 1992, Hurricane Iniki caused severe erosion of the sandy beach, which is a valuable recreational asset. Despite beach nourishment efforts, the beach has continued to erode, threatening to damage the coastal roadway and the low-lying land beyond the road. The presence of the masonry seawall, which impacts local sediment transport patterns, is believed to be partially responsible for the slow recovery of the beach.

The proposed project consists of removing the masonry seawall and replacing the fill behind the seawall with clean sand. The removal of the seawall will modify the local sediment distribution characteristics, resulting in a new beach shape, which should provide a much larger area for recreation.

In order to protect the coastal road from erosion, a 250-foot-long partially buried revetment is proposed to be constructed adjacent to the road. Demolition of the seawall and construction of the revetment will involve the use of heavy equipment. Construction related impacts include short-term impacts to water quality. These impacts will be minimized by utilizing appropriate mitigation measures including a best management practices plan and a water quality monitoring plan. The project should have a net positive impact on erosion and localized beach processes.

SUMMARY SHEET

Proposing Agency: County of Kauai, Department of Public Works
4444 Rice Street
Moikeha Building, Suite 275
Lihue, Kauai, Hawaii 96766
Contact: Mr. Ken Kitabayashi, Chief
(808) 241-6622

Consultant: Oceanit Laboratories, Inc.
1100 Alakea Street
31st Floor
Honolulu, Hawaii 96813
Contact: Ken Cheung, PhD
(808) 531-3017

Landowner: County of Kauai

Approving Agency: County of Kauai, Department of Public Works

Project Location: Poipu, Kauai

Tax Map Key: 4th / 2-8-18: 20 (See Appendix A)

Proposed Action: Removal of vertical masonry seawall at Brennecke Beach and construction of buried revetment to prevent erosion of Hoone Road.

Project Area: Approximately 0.5 acres (21,700 sq. feet)

State Land Use District: Urban (land)/Conservation (ocean)
Conservation Subzone: Protective

County General Plan: Resort

County Zoning District: Open

Special Designations: Special Management Area, Shoreline Setback Area

Existing Use: Public beach park

Trigger(s): Use of County Funds and Lands, Use of Land within Shoreline Setback Area, Use of Land in Special Management Area.

Anticipated Determination: Finding of No Significant Impact (FONSI)

Estimated Cost of Project: \$520,000

Time Frame: Construction is scheduled to begin as soon as the permitting process is complete and will last approximately 3 months.

Unresolved Issues: Source of Sand for Beach Nourishment
Environmental Permit Requirements

Consulted Agencies: County of Kauai
 -*Planning Department*
 -*Department of Water*
 State of Hawaii, Department of Land and Natural Resources
 -*Land Division*
 -*Division of Aquatic Resources*
 -*State Historic Preservation Division*
 State of Hawaii, Department of Health
 -*Clean Water Branch*
 State of Hawaii, Department of Land and Natural Resources
 -*Conservation District Use Permit*
 State of Hawaii, Department of Business, Economic Development, and Tourism, Office of Planning
 -*Hawaii Coastal Zone Management Program*
 State of Hawaii, Department of Transportation, Highways Division
 -*Right-of-Way Branch*
 State of Hawaii, Office of Hawaiian Affairs
 United States Army Corps of Engineers
 -*Operations Branch*
 United States Fish and Wildlife Service

Consulted Groups/
Individuals: Poipu Beach Resort Association
Koloa Community Association

ACKNOWLEDGEMENTS

Oceanit would like to acknowledge contributions made in the preparation of this study by the following: Mr. Kenneth Kitabayashi and the staff of Kauai County Department of Public Works, Ms. Margy Parker and the Poipu Beach Resort Association, and Dr. Dayananda Vithanage, Dr. Ken Cheung, Mr. David Takeyama, Mr. Robert Bourke, Mr. Ian Wasnich, Mr. Jeff Morrell, Ms. Liana Lee and Mr. Phillip Lui of Oceanit.

TABLE OF CONTENTS

Section	Page
EXECUTIVE SUMMARY	i
SUMMARY SHEET	ii
ACKNOWLEDGEMENTS	iv
LIST OF FIGURES	vii
I. DESCRIPTION OF PROPOSED ACTION.....	I-1
A. Introduction.....	I-1
1. Background on Project.....	I-1
2. Description of Project Site.....	I-1
3. Purpose of Document.....	I-5
4. Probable Permit Requirements.....	I-5
B. Technical Characteristics.....	I-6
1. Objectives of Project.....	I-6
2. Proposed Construction Sequence.....	I-7
II. CHARACTERIZATION OF AFFECTED ENVIRONMENT.....	II-1
A. Regional Overview.....	II-1
B. Social and Economic Characteristics.....	II-1
1. Socio-Cultural.....	II-1
2. Economic.....	II-2
3. Archaeology.....	II-2
4. Public Services and Utilities.....	II-3
C. Landward Environment.....	II-3
1. Climate.....	II-3
2. Surface Hydrology and Drainage.....	II-3
3. Flood Hazard/Tsunami and Hurricane.....	II-4
4. Soils.....	II-4
5. Flora and Fauna.....	II-4
6. Noise.....	II-7
7. Traffic.....	II-7
8. Surrounding Land Uses.....	II-7
9. Visual and Open Space.....	II-9
D. Marine Environment.....	II-9
1. Waves.....	II-9
2. Tides.....	II-13
3. Currents and Circulation.....	II-13

4.	Water Quality	II-15
5.	Erosion	II-17
6.	Marine Biology	II-23

III. IMPACTS AND MITIGATION III-1

A.	Land Impacts and Mitigation.....	III-1
1.	Visual and Open Space	III-1
2.	Flora and Fauna	III-1
3.	Noise	III-1
4.	Traffic	III-1
5.	Dust.....	III-1
6.	Runoff and Drainage.....	III-2
7.	Flood Hazard, Tsunami, Hurricane.....	III-2
8.	Archaeology/ Cultural.....	III-2
9.	Public Access.....	III-3
10.	Increased Beach Use	III-3
B.	Water Impacts and Mitigation.....	III-4
1.	Currents and Circulation	III-4
2.	Erosion and Sediment Transport.....	III-4
3.	Water Quality and Marine Biology.....	III-4
C.	Economic Impacts	III-5

IV. ALTERNATIVES..... IV-1

A.	No Action Alternative.....	IV-1
B.	Re-align Hoone Road.....	IV-1
C.	Beach Nourishment	IV-12
D.	Remove Seawall with No Revetment (with and without beach nourishment).....	IV-2
E.	Construct Revetment to Withstand Hurricane Runup.....	IV-2

V. DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION V-1

REFERENCES

APPENDICIES

- Appendix A. Tax Map Key
- Appendix B. Sand Grain Analysis
- Appendix C. Early Consultation Comments and Responses
- Appendix D. Comments and Responses to Substantive Comments on Draft Environmental Assessment

LIST OF FIGURES

Figure No.	Title	Page
I-1.	LOCATION MAP	I-2
I-2.	SITE MAP	I-3
I-3.	SITE PHOTOGRAPHS	I-4
I-4.	PROPOSED SCHEME OF WORK	I-8
I-5.	TYPICAL CROSS-SECTION OF REVETMENT	I-9
II-1.	FLOOD MAP	II-5
II-2.	SOIL MAP	II-6
II-3.	CONSERVATION DISTRICT USE MAP	II-8
II-4.	KAUAI GENERAL PLAN MAP	II-10
II-5.	KAUAI ZONING DISTRICT MAP	II-11
II-6.	WAVE EXPOSURE WINDOW FOR BRENNECKE BEACH	II-12
II-7.	DROUGUE AND CURRENT STUDY	II-14
II-8.	SEDIMENT AND WATER QUALITY LOCATIONS	II-16
II-9 (A)(B).	DOH SALINITY AND BACTERIAL COUNTS	II-18
II-10.	AERIAL PHOTOS BEFORE AND AFTER HURRICANE INIKI	II-21
II-11.	WAVE REFLECTIONS ON MASONRY SEAWALL	II-22
II-12.	BEACH PROFILE LOCATIONS	II-24
II-13.	BEACH PROFILES	II-25
II-14.	MARINE HABITAT REPRESENTATIVE PHOTOS	II-27
II-15.	BIOTYPES AND TRANSECT LOCATION	II-28
II-16.	PERCENT SAND/CORAL COVER AND EST. DEPTH	II-29

LIST OF TABLES

Table No.	Title	Page
II-1.	SUMMARY OF WATER QUALITY RESULTS	II-15
II-2.	SUMMARY OF GRAIN SIZE ANALYSIS	II-23

I. DESCRIPTION OF PROPOSED ACTION

A. Introduction

In January 1998, the County of Kauai Department of Public Works (Public Works) contracted Oceanit Laboratories, Inc. (Oceanit) to assist in technical services to remove remnants of an old masonry seawall on the western end of Brennecke Beach* and to develop an erosion protection scheme to safeguard Hoone Road from erosion.

1. Background on Project

Brennecke Beach is located in the town of Poipu on the south coast of Kauai (see Figure I-1). The project area is a typical "pocket beach" located at the shoreline boundary of a narrow deep bay and is bordered by Hoone Road to the north and east, Poipu Beach Park to the west, and the Pacific Ocean to the south.

The beach derives its name from Dr. Marvin Brennecke, a plantation doctor, who erected a beach house at this location in the 1930's. The house was protected from erosion by a vertical masonry wall. In 1982, waves from Hurricane Iwa assaulted the coastline, tore the house from its foundation, pushed it across Hoone Road, and damaged the road at this and other locations. Dr. Brennecke's house was never rebuilt (Clark, 1990). Today, the seawall protecting the house site and the land surrounding it is owned by the County of Kauai.

In September 1992, Hurricane Iniki passed directly over the island of Kauai inflicting over \$1.9 billion in property damage (State of Hawaii Databook, 1996). The heavy wave action associated with the hurricane resulted in the erosion of a significant portion of the sandy beach fronting Brennecke Beach. The hurricane also left portions of its foundation exposed. After six years, the beach shows little signs of recovery, and has continued to erode. If erosion is allowed to continue, Hoone Road will be threatened, resulting in potentially significant undermining and damage to the road and low-lying land beyond the road.

2. Description of Project Site

Brennecke Beach is located on the south coast of Kauai, approximately one quarter of a mile east of the main entrance to Poipu Beach Park. The project site is located between Nu Kumoi Point to the west and Makahuena Point to the east. Brennecke Beach is owned by the County of Kauai and is a dedicated public park (see Figure I-2 Site Location Map and Figure I-3 Site Photographs).

* Also referred to as "Brennecke's Beach"

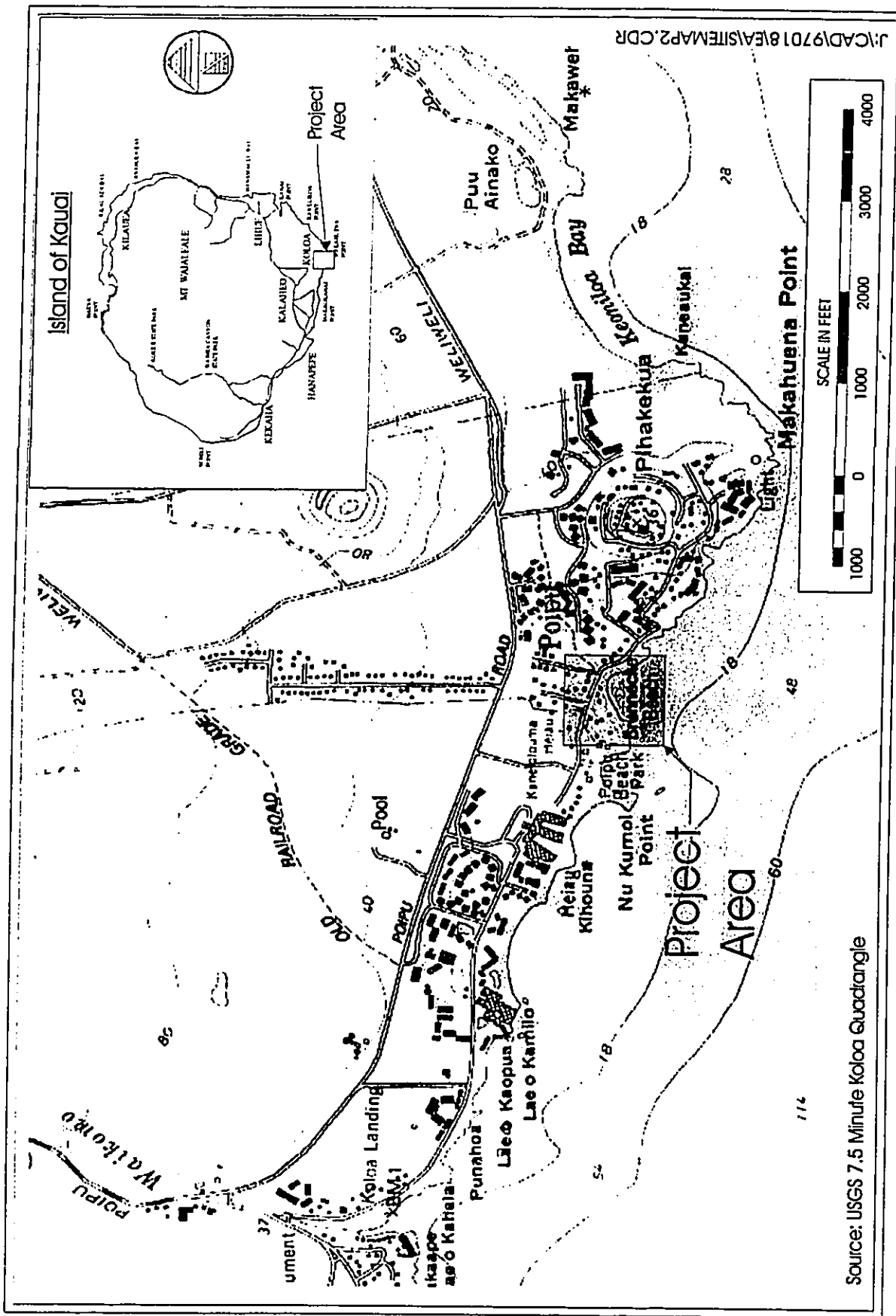


FIGURE I-1. LOCATION MAP

BRENNECKE BEACH SHORE PROTECTION EA



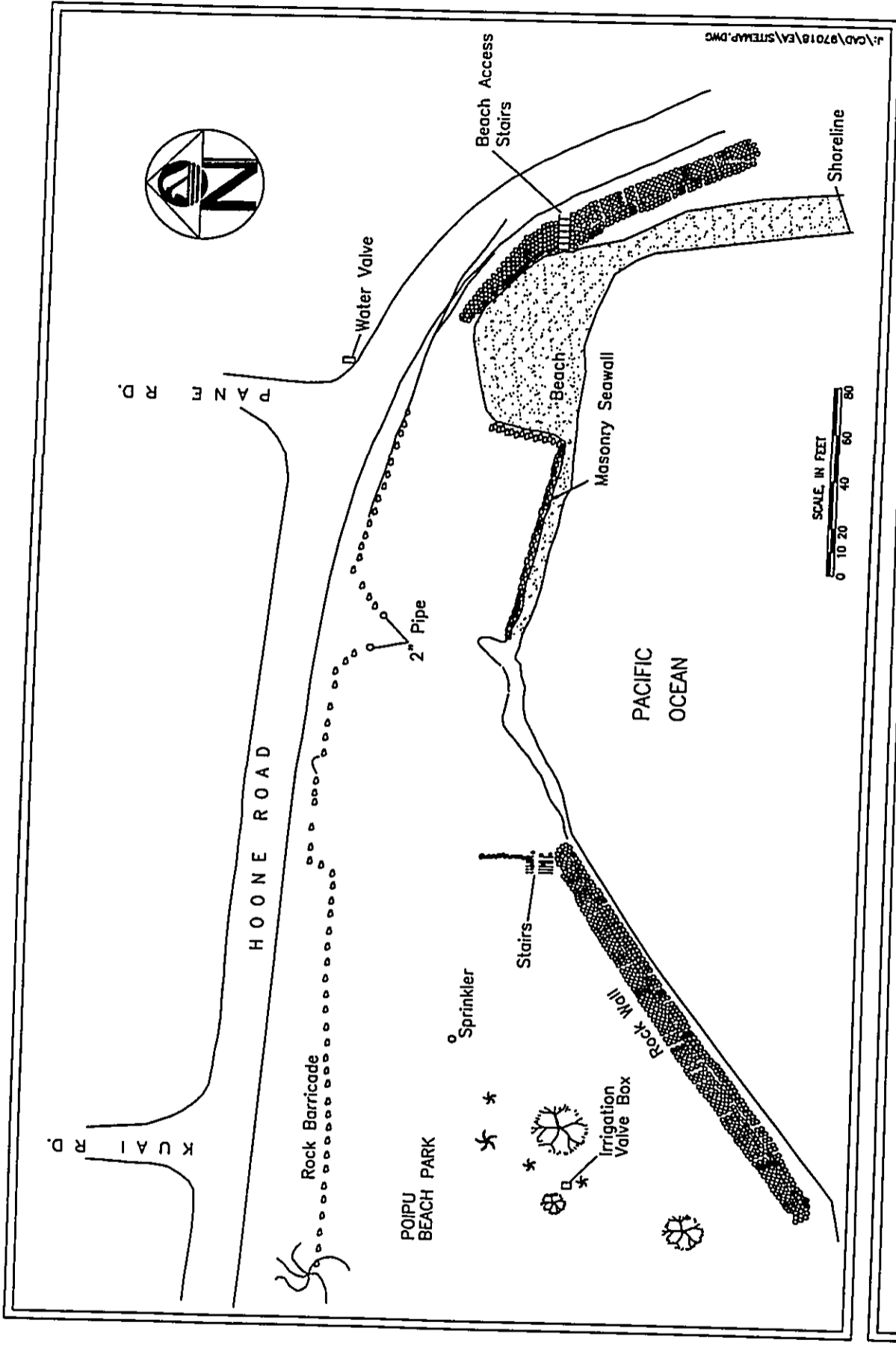
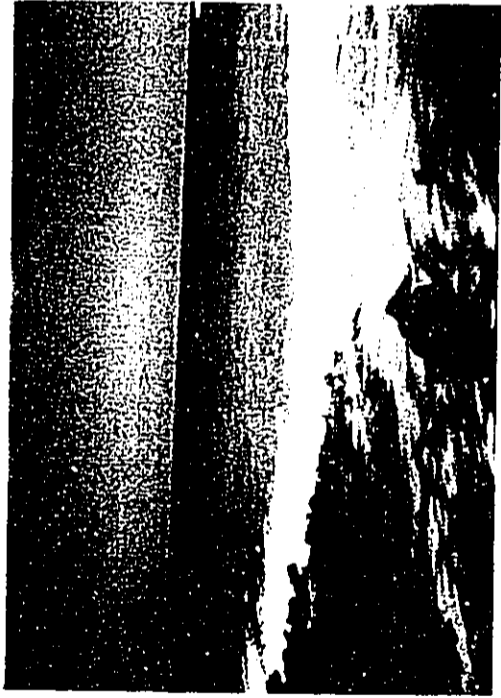


FIGURE I-2. SITE MAP

BRENNECKE BEACH SHORE PROTECTION EA



Oceanit Laboratories, Inc.
 1000 Kalia Road, Suite 1000, Honolulu, HI 96813
 Phone: (808) 943-8888 Fax: (808) 943-8889



View of Brennecke Beach Looking South.



View of Hoone Road and Eastern End of Project Site.



View From Wall Looking West.



View of Brennecke Beach and Masonry Seawall.

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FIGURE I-3. SITE PHOTOGRAPHS.

BRENNECKE BEACH SHORE PROTECTION EA



Oceanit Laboratories, Inc.

Environmental & Coastal Engineering, Planning, Research & Technology

The topography of the project site immediately behind the existing revetment is relatively flat, ranging between 9 to 10 feet in elevation. Landward of the road, the elevation drops before climbing the adjacent hillside.

A sandy beach, approximately 60-feet wide, is located next to Hoone Road. Erosion has left the beach with a relatively steep face, reducing the area available for recreational activities. The shoreline area to the east of the sandy beach consists of natural lava rocks and boulders. An old 90-foot-long masonry seawall is located immediately west of the sandy beach. Portions of the seawall foundation are exposed causing undesirable wave reflections that hamper beach recovery and create hazardous conditions in front of the wall, especially at high tide. West of the seawall the shoreline is lined with rocks for approximately 90 feet before reaching a rock wall revetment at Poipu Beach Park. Hoone Road forms the shoreward boundary of Brennecke Beach. The area between Hoone Road and the shoreline to the west of Brennecke Beach is primarily sand fill, which was added after Hurricane Iniki eroded most of the sand from the area.

Brennecke Beach is used extensively by visitors and residents of Kauai. The loss of its sandy beach to erosion has had a substantial effect on its recreational value and has indirectly caused economic loss to area businesses. The beach is known as a popular bodysurfing and bodyboarding spot. The loss of a portion of the beach during Hurricane Iniki and the wave reflections caused by the exposed masonry wall has adversely affected the previously ideal surfing characteristics of the nearshore waves. Preliminary studies show that it may be possible to develop a scheme to recover the recreational wave characteristics that made this beach an excellent body surfing site. However, a detailed investigation of this possibility was outside the scope of this project.

3. Purpose of Document

The purpose of this environmental assessment (EA) is to provide information and analysis to help determine whether the impacts of the proposed action are significant enough to warrant the preparation of an Environmental Impact Statement (EIS). The EA has been prepared in compliance with the requirements of Chapter 343, Hawaii Revised Statutes (HRS), and the regulations adopted pursuant thereto.

4. Probable Permit Requirements

Anticipated permits and approvals for the proposed action include:

- Department of the Army Corps of Engineers
 - ✓ Nationwide Permit 33, 13, and 18 (or Section 404 of Clean Water Act).

- State of Hawaii Department of Health
 - ✓ 401 Water Quality Certification
- Department of Business, Economic Development and Tourism, Office of Planning
 - ✓ Coastal Zone Management Consistency
- County of Kauai, Planning Department
 - ✓ Special Management Area Use Permit
 - ✓ Shoreline Setback Variance

During early consultation for the DEA, the U.S. Army Corps of Engineers made a preliminary determination that Nationwide Permits 33, 13, and 18 may apply for this project. Nationwide permits are general permits issued on a nationwide basis to authorize minor activities with minimal impacts on the environment. If the Nationwide Permit's do not apply, an individual permit may be required. The project will also require a 401 Water Quality Certification, which includes a best management practices plan (BMP) and water quality monitoring plan (WQMP) from the State Department of Health. A Coastal Zone Management Consistency (CZM) Determination from the Department of Business, Economic Development and Tourism, Office of Planning will also be required. The project is consistent with the objectives and policies of the CZM program relating to recreation, historic, scenic and open space, coastal ecosystems, economic uses, coastal hazards, and managing development. Since the project is within the shoreline area, a special management area use permit and shoreline setback variance will also be required by the County of Kauai Planning Department.

B. Technical Characteristics

1. Objectives of Project

In November 1998, Oceanit submitted the report entitled, *Brennecke Beach Erosion Control* to the County of Kauai Department of Public Works. The report developed erosion control alternatives to minimize erosion at the project site. The recommended alternative consisted of removing the existing masonry wall, installing a buried revetment in front of Hoone Road to protect it from storm-induced erosion, and nourishing the beach with appropriate sand.

After completion, the project will accomplish the following objectives:

- Protect Hoone Road from erosion;
- Eliminate hazardous wave reflections;
- Minimize beach loss by allowing natural beach processes to occur;
- Increase the beach area available for recreation;
- Improve aesthetics by removing masonry wall.

The proposed revetment is not designed to prevent the overtopping of waves and the resulting inundation of Hoone Road due to hurricanes, tsunamis, exceptionally large swells or combinations of severe events. To do so would require an exceedingly large revetment wall, which would be exorbitantly costly and would detract from the aesthetic value of the beach. Furthermore, such a revetment would only protect the limited stretch of the road adjacent to Brennecke Beach, and would not prevent the inundation of the road and surrounding low-elevation areas flanking the proposed revetment site. The rising surge of water due to a hurricane or tsunami would merely flow around and behind any revetment or wall regardless of structure height.

The initial removal of the existing masonry seawall will result in erosion until the beach reaches its equilibrium shape. Sand nourishment and construction of the partially buried revetment is designed to protect Hoone Road from erosion.

2. Proposed Construction Sequence

Construction of the proposed erosion control scheme will occur in the following order:

- Install a temporary cofferdam in the vicinity of the sandy beach, *makai* of the excavation required for the revetment;
- Excavate a ~250-foot-long trench adjacent to Hoone Road for construction of proposed revetment to depth 4 feet below MSL;
- Construct revetment and remove cofferdam;
- Remove dirt/fill behind the masonry seawall;
- Backfill the excavated area behind the masonry seawall with clean sand;
- Remove masonry seawall.

The contractor will use backhoes or similar equipment to excavate a 26 feet wide by ~ 250 foot long trench adjacent to Hoone Road (see Figure I-4). The trench will extend from the existing rubble revetment marking the eastern boundary of the beach along Hoone Road westward approximately 250 feet, up to near the rock wall and stairs located west of the masonry seawall (to be removed). The excavation will extend approximately 4 feet below mean sea level. A temporary cofferdam will be constructed between the trench and the sandy beach to prevent waves from pushing sand into the excavation and to prevent material from the trench from entering the ocean. The proposed cofferdam will be approximately 60 feet long, extending from the northwestern edge of the existing masonry seawall to the existing revetment near Hoone Road. After construction, the cofferdam will be removed.

A partially buried revetment will be constructed in the excavated trench (see Figure I-5). Approximately 35 cubic yards of the revetment will be located

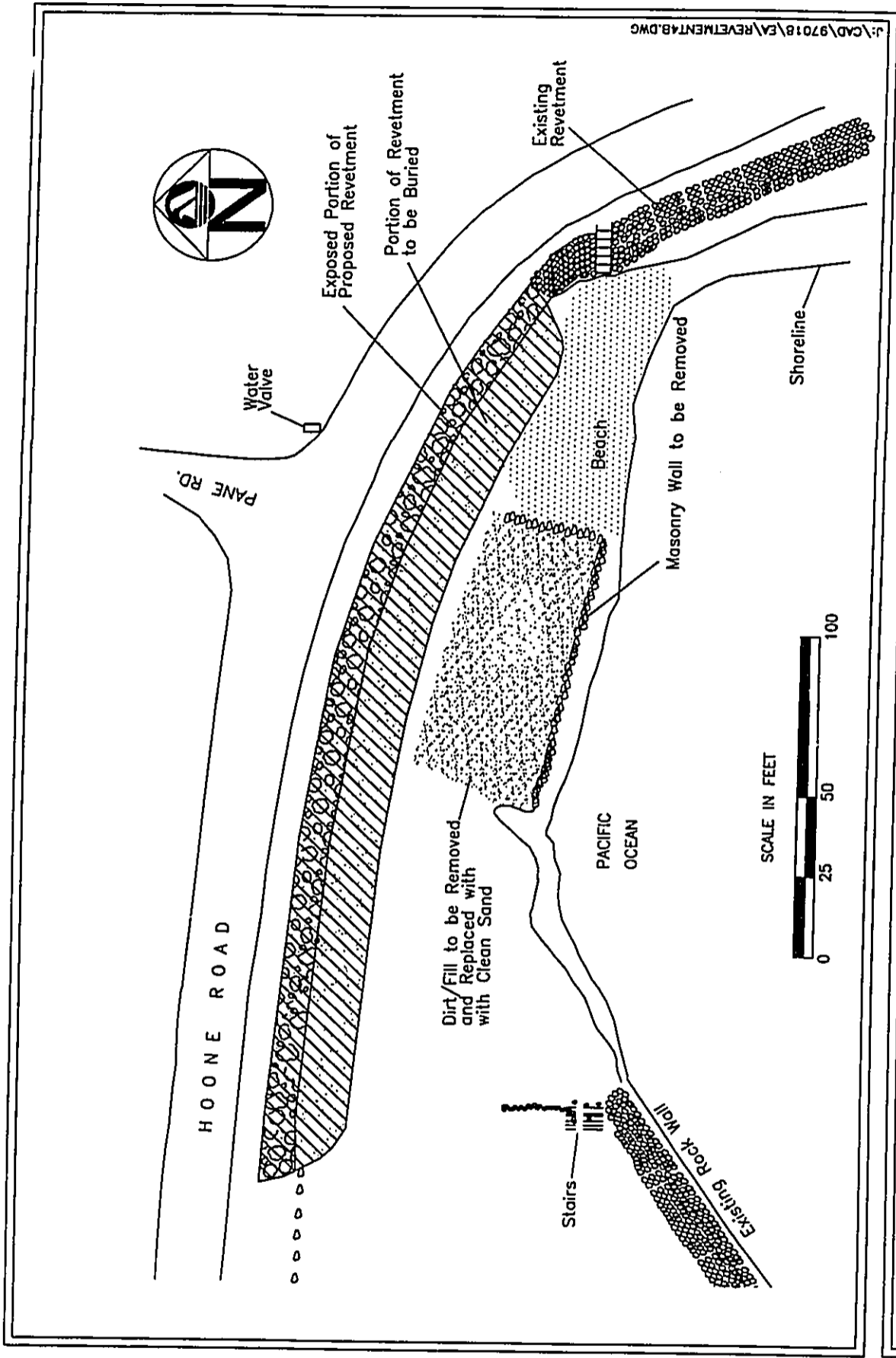


FIGURE I-4. PROPOSED SCHEME OF WORK

BRENNECKE BEACH SHORE PROTECTION EA



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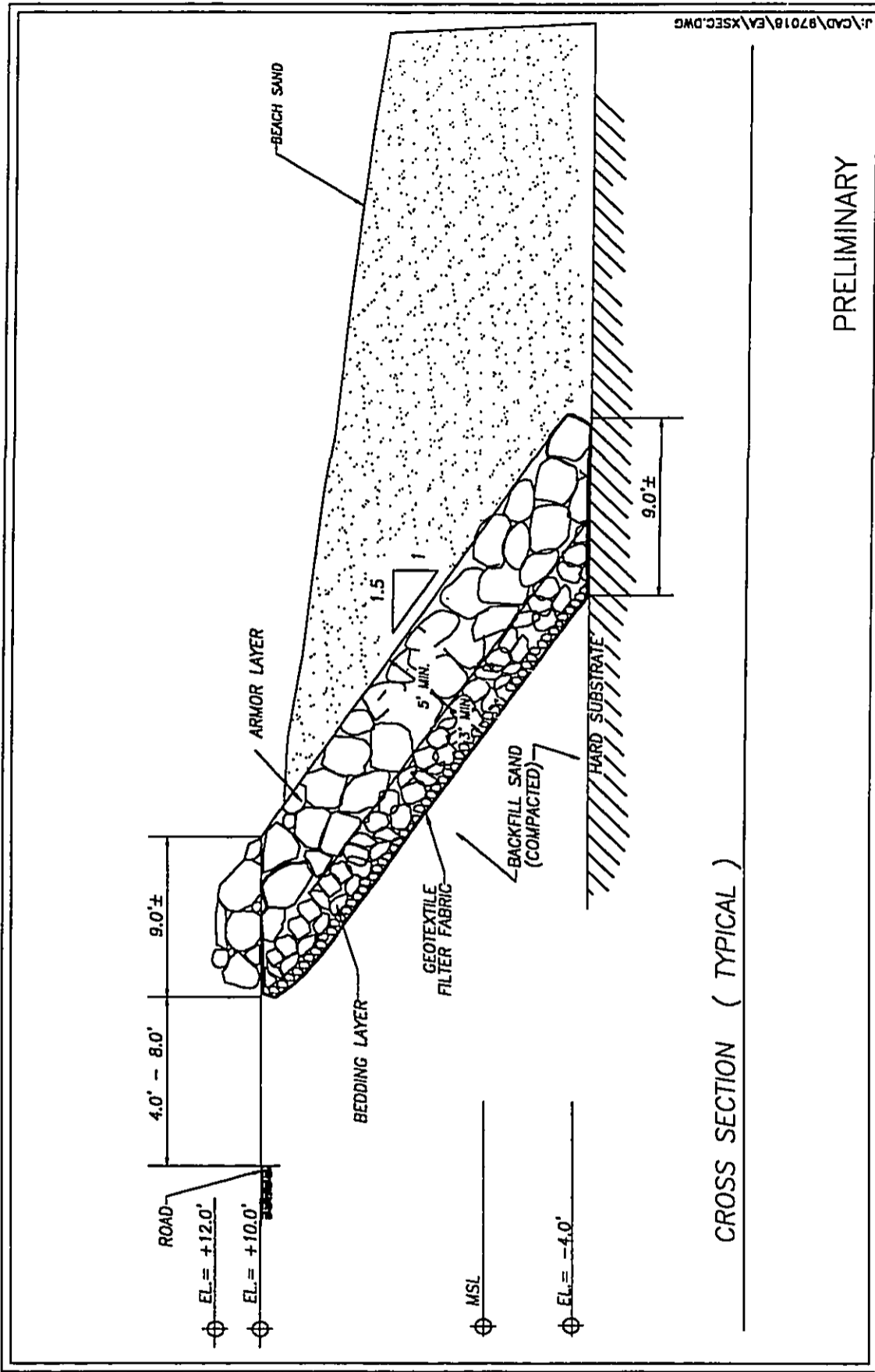
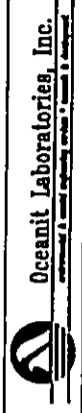


FIGURE I-5. TYPICAL CROSS-SECTION OF REVETMENT

BRENNECKE BEACH SHORE PROTECTION EA



Oceanit Laboratories, Inc.
INCORPORATED IN THE STATE OF CALIFORNIA

seaward of the ordinary high water mark. In the event that beach sand is removed by a storm, the revetment will protect Hoone Road from erosion. Since the foundation of the revetment is below mean sea level, in-water construction may take place. If dewatering is necessary, a discharge pit may be created at the site landward of the shore. The revetment will be set to a slope of 1:1.5 (vertical:horizontal) and will be armored with 2 layers of armor stones 1 to 1.5 tons in weight. The bed layers of the revetment will consist of a layer of geotextile filter fabric laid on prepared slope and an intermediate layer of 6-inch to 9-inch rocks. An 8-foot easement from Hoone Road to the edge of the armor layer will be maintained. After completion, the major portion of the revetment will be approximately 2 feet above ground level. *Naupaka* or other salt-tolerant plants is recommended to be planted on portions of the makai-side of the revetment to stabilize the beach berm and improve aesthetics.

Approximately 1,300 cubic yards of dirt/fill will be removed from behind the masonry seawall to prevent it from polluting the ocean after the seawall is removed. Approximately 1,500 cubic yards of imported sand will be used to nourish the area behind the seawall. Imported sand will be comparable to the existing sand at Brennecke in color and grain-size distribution. The proposed sand source for nourishment is Kekaha on the west end of Kauai. In the past, sand for Brennecke Beach was obtained from Mana and Kawaiete beaches in Kekaha. It is anticipated that the contractor will use shallow excavation burrowing and skimming to extract the sand. However, the exact extraction method may vary depending on the contractor and type of equipment available. Sand will be transported by trucks and placed in piles above the high water line. Bulldozers or other comparable equipment will be used to distribute the sand along the beach. Short-term annual sand replenishment between 400-800 cubic yards is anticipated to be required to maintain a good sandy beach.

Finally, the masonry seawall will be removed using backhoes or other similar equipment. The volume of the masonry seawall is approximately 160 cubic yards. A detailed Best Management Practices (BMP) plan and water quality monitoring plan will be included as required by the State of Hawaii Department of Health (DOH), Clean Water Branch.

The removal of the existing seawall will cause the beach behind the wall to recede until it reaches a new equilibrium shape, which may take several weeks.

II. CHARACTERIZATION OF AFFECTED ENVIRONMENT

The island of Kauai is the oldest of the main islands in the Hawaiian chain and is approximately 33 miles long and 25 miles wide with a total area of 553 square miles. The northern and eastern portions of the island consist of broadly eroded valleys, while the western portion of the island is mostly mountainous. The southern area of the island, where the project site is located, slopes gradually downward from the Koloa Basin to the Koloa plain.

A. Regional Overview

Brennecke Beach is located on the Koloa plain along the southern shoreline of Kauai. Brennecke Beach is located in the town of Poipu, which is a popular visitor destination characterized by extensive hotel and resort development. The Poipu shoreline consists of rocky lava outcroppings with pocket beaches along the coastline. Brennecke Beach is a small pocket beach located between Pane and Kuai Road. Immediately west of Brennecke Beach, a natural tombolo shoreline structure creates the horseshoe-shaped Poipu Beach adjacent to Poipu Beach Park. East of Brennecke Beach is a natural lava headland with extensive tidepools.

B. Social and Economic Characteristics

1. Socio-Cultural

Brennecke Beach is popular for general recreation, especially for bodysurfing, bodyboarding, and fishing. Both residents and visitors use this popular recreational facility. Prior to Hurricane Iniki, Brennecke Beach was noted as one of the best bodysurfing beaches. While the beach is still extensively used for bodysurfing and bodyboarding, the loss of a portion of the beach from the hurricane has adversely affected the previously ideal surfing characteristics of the nearshore waves. Others have proposed remodeling the subsurface topography to re-create the pre-Iniki wave conditions.

The beaches in the vicinity of Brennecke are also used extensively by residents and visitors. User counts of nearby Poipu Beach Park taken in 1989 revealed that the park averaged 1,900 users a day (Kauai Shoreline Management Study, 1990). The white sandy beach on the eastern end of Brennecke Beach is approximately 60-feet wide and is used extensively by sunbathers. However, its steep wave up-rush zone and narrow width limits the number of sunbathers to a small area.

2. Economic

Brennecke Beach is located in Koloa district, which had a population of approximately 12,586 in 1995 (State of Hawaii Databook, 1996). The project site is located in the town of Poipu. According to census data, the population of Poipu town was 1,068 in 1990.

The leading industry in Kauai is tourism. In 1994, there were 5,870 hotel and apartment-hotel units available on Kauai to accommodate 846,000 arrivals (State of Hawaii, 1995). Following Hurricane Iniki, hotels spent millions of dollars in renovations to reopen. In 1997, occupancy rates in south Kauai ranged from a low of 55 percent in December to a high of 87 percent in April (County of Kauai Office of Economic Development, 1998).

The County General Plan for Kauai, adopted in 1971, specified that Poipu should be developed as a principal visitor destination. Today, the Poipu area is primarily a beach resort area dominated by hotel and condominium time-share units. According to a June 1998 survey by the Poipu Beach Resort Association, 75 percent of the visitors at Poipu had planned to swim in the ocean during their stay, with 66% planning to snorkel and 12% planning to surf (Poipu Beach Resort Association, June, 1998). While it is difficult to quantify the economic impacts erosion has on the reduced visual appeal of the beach, its diminished value as a recreational asset has resulted in a significant social and economic impact.

3. Archaeology

Brennecke Beach is in the *Ahupua'a* of Koloa. Koloa was a highly populated area in prehistoric times as indicated by the large number of *heiau*. The Lahainaluna schools listed 14 *heiau* and 1 fishing shrine for Koloa. At least 5 of the *heiau* were associated with fishing (Cultural Surveys Hawaii, Inc., 1994).

Although there are no documented archaeological studies conducted specifically in the project area, Cultural Surveys Hawaii, Inc. performed archaeological testing and monitoring for the County of Kauai at adjacent Poipu Beach Park following Hurricane Iniki (Cultural Surveys Hawaii, Inc., 1994). The cultural layer near the shoreline at Poipu Beach Park falls under the National Register significance criterion "C" and the cultural layer is considered the single largest coastal beach deposit in the Koloa *ahupua'a*. Near the center of Poipu Beach Park, bordering Hoone Road, is a walled cemetery (State Site #50-30-10-1871). Although the cemetery contains marked burials of this century and a modern mortared wall, it is believed that the site has been used for human burial for a long time. A rich and largely

undisturbed prehistoric cultural layer was also documented at 9 locations along the wave-cut bank. The cultural layer suggests shoreline occupation contemporaneous with the development of the Koloa Field System (Cultural Surveys Hawaii, 1994).

4. Public Services and Utilities

Above-ground utility poles line the mauka side of Hoone Road from Kuai Street to Pane Road. Just south of Pane Road the utility lines cross over the top of the southern portion of the project site and continue along the makai side of Hoone Road. No public services or utilities are anticipated to be impacted by this action.

C. Landward Environment

1. Climate

The climate in the Poipu area is mild with moderate northeast tradewinds averaging 18 to 20 miles per hour throughout most of the year. The temperature in Poipu averages approximately 72° F during winter months and 79° F during summer months. Average annual precipitation at Poipu is approximately 35 inches (Atlas of Hawaii, 1993, The State of Hawaii Data Book, 1996).

2. Surface Hydrology and Drainage

Hoone Road and Poipu Beach Park form a slightly elevated ridge between the shoreline and the backshore area. Runoff from normal storms is prevented from flowing directly into the sea by this formation. However, runoff from severe storms inundates the low-lying land behind the backshore and occasionally flows over Hoone road to discharge into the ocean. Under normal circumstances, runoff flowing across the project site is limited to rainfall that occurs at the site.

There are no perennial streams or surface drainage channels running across the project site. Most of the upland surface runoff percolates into the ground before it reaches the project site. Existing reports also suggest the presence of subsurface freshwater outflow via lava tubes coursing beneath the nearshore lava flows (U.S. Army Corps, 1982). However, after major rainfall events problems with water impoundment occurs along Hoone Road near the intersections of Pane and Kuai Road (Ecospirit Institute, 1992). Impounded water recedes by percolation, evaporation and sometimes by flowing to the sea through the Kauai Sheraton lagoon and drainage system. Flooding of the unpaved main parking lot for Poipu Beach Park reportedly takes 1-3 weeks to percolate into the ground. Backshore flooding following storm events is

common along this coastline from Poipu to Kukuiula Bay approximately 4 miles to the west.

3. Flood Hazard/Tsunami and Hurricane

The project site is located in a coastal flood zone as defined by Flood Insurance Rate Maps from the Federal Emergency Management Agency (FEMA) (see Figure II-1). The project site is listed in Zone VE, a coastal flood zone with velocity hazard (wave action). The base flood elevation at the site was determined to be 14 feet, 4 to 5 feet above the existing land elevation. While the weather on Kauai is generally mild most of the year, the island has been impacted by five major hurricanes since 1950. In August 1950, Hurricane Hiki hit Kauai with sustained winds of 82 miles per hour (mph). In December 1957, Hurricane Nina with peak gusts of 92 mph resulted in one death. Hurricane Dot with sustained winds of 81 mph and peak gusts of 103 mph resulted in property damage exceeding \$5.5 million in August 1959. In November 1982, Hurricane Iwa caused \$234 million in property damage and resulted in one death as peak gusts reached 117 mph. On September 11, 1992, Hurricane Iniki hit the shores of Kauai with sustained winds of 92 mph and peak gusts of 143 mph. Iniki resulted in 8 deaths and property damage was estimated at \$1.9 billion. Storm surge from Iniki reached the residential subdivision mauka of Brennecke Beach. The flood water mark in a house on Pane Road was measured at approximately 14.4 feet above mean lower low water (MLLW) (Fletcher, et. al., 1993).

4. Soils

The soils at the project site are considered "Waikomo very rocky silty clay" by the United States Department of Agriculture Soil Conservation Service (see Figure II-2) (SCS, 1972). The Waikomo series generally consists of well-drained, stony and rocky soils on uplands. Prior to Hurricane Iwa, Brennecke Beach was completely covered with light-colored calcareous sand derived from corals and seashells. Hurricane Iwa resulted in the loss of a large portion of the sand and exposed lava outcroppings and rocks at the shoreline. A portion of the lost sand returned to the beach after Hurricane Iwa.

5. Flora and Fauna

The land portion of the project site is dominated by sand and sand mixed with soil fill. A small portion of the project site behind the seawall, adjacent to Hoone Road contains a small patch of grass (approximately 800 square feet) with two tall coconut trees. West of the project site is Poipu Beach Park, which contains manicured grass, *naupaka*, mature Coconut, and Ironwood trees, and immature landscape trees that appear to have been recently planted. The shoreline east of the project site is relatively barren of land vegetation, as

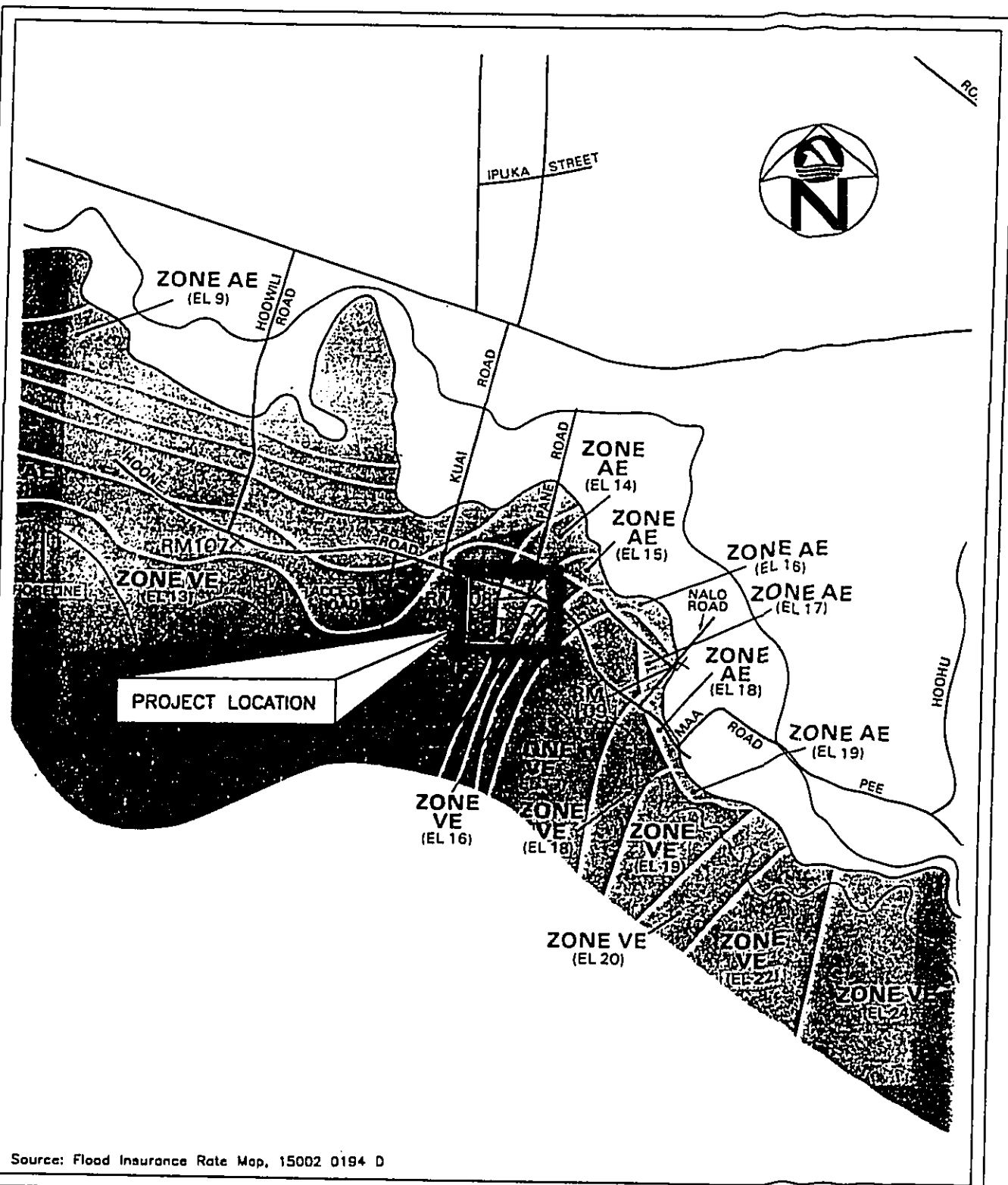


FIGURE II-1. FLOOD INSURANCE RATE MAP

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FIGURE II-2. SOIL MAP

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a boulder and lava headland follows along the shoreline. A relatively large expanse of tide pools exists on the lava shoreline immediately east of Brennecke beach.

Because of the minimal anticipated impact to land habitat, no faunal survey was conducted. The seawall and protected shoreward land to the highway do not appear to offer any permanent cover or foraging habitat to any vertebrate animals. The domestic dog (*Canis familiaris*) and cat (*Felis catus*), and rat (*Rattus rattus*) are probably all present in residential areas in the vicinity and may transit the project site. No waterfowl or shorebirds were seen perched on or near the site, although these species doubtless fly over and occasionally may land in the limited area of the project site. (A faunal survey was conducted approximately 4 miles to the west of the project site at Kukuiula near a wetland in February, 1998. That survey identified six individuals of three water bird species (Common Moorhen, Hawaiian Coot, Hawaiian Duck), 56 individuals of three migratory species (Pacific Golden-Plover, Ruddy Turnstone, Wandering Tattler) and over 200 individuals of 12 individuals of introduced bird species (Bruner, 1998).

6. Noise

Existing ambient noise levels at the project site are characteristic of a shoreline park setting. Existing noise sources include traffic from Hoone Road, shoreline surf, and human activity at the beach. Noise impacts are anticipated to be short-term and limited to the construction phase of the project.

7. Traffic

Brennecke Beach is located near the intersection of Pane and Hoone Road. Hoone Road is a two-lane paved road that runs parallel to the shoreline of Poipu from the Embassy Vacation Resorts at Poipu Point in the east to Poipu Beach Park to the west. Traffic is generally light during the weekdays but increases during weekends. There are several unpaved areas along the *makai* side of Hoone Road at Poipu Beach Park that Brennecke Beach visitors use as parking spaces. When these spaces are full, users of the beach generally park at an unpaved lot across the street from Poipu Beach Park.

8. Surrounding Land Uses

The Poipu area is zoned Urban under the State Land Use classification. The portion of the project site in the water is zoned conservation and is within the protective subzone (see Figure II-3. Conservation District Use Map).

The County of Kauai General Plan designated the Poipu shoreline area as "Resort" and specified that the Poipu area should be developed as a principal visitor destination (see Figure II-4). The project site and the entire shoreline area in the Poipu area is part of the County of Kauai "Open" zoning district. Lands mauka of the project site are designated "Residential" and "Special Treatment" (see Figure II-5).

The County of Kauai owns and operates Poipu Beach Park, which is located to the west of Brennecke Beach. The park is a popular recreational destination for local residents and contains picnic tables, barbecue equipment, shade pavilions, and comfort stations with restrooms. Several commercial establishments including the Brennecke Beach Broiler are found along Hoone Road near the project site. Residential and resort-type condominium units are also found mauka of Hoone Road.

9. Visual and Open Space

Brennecke Beach provides significant scenic and open-space resources. The ocean frontage in the Poipu area has arguably some of the most scenic and shoreline-accessible beaches in the State. Coastal views are available from Hoone Road, the nearest coastal roadway.

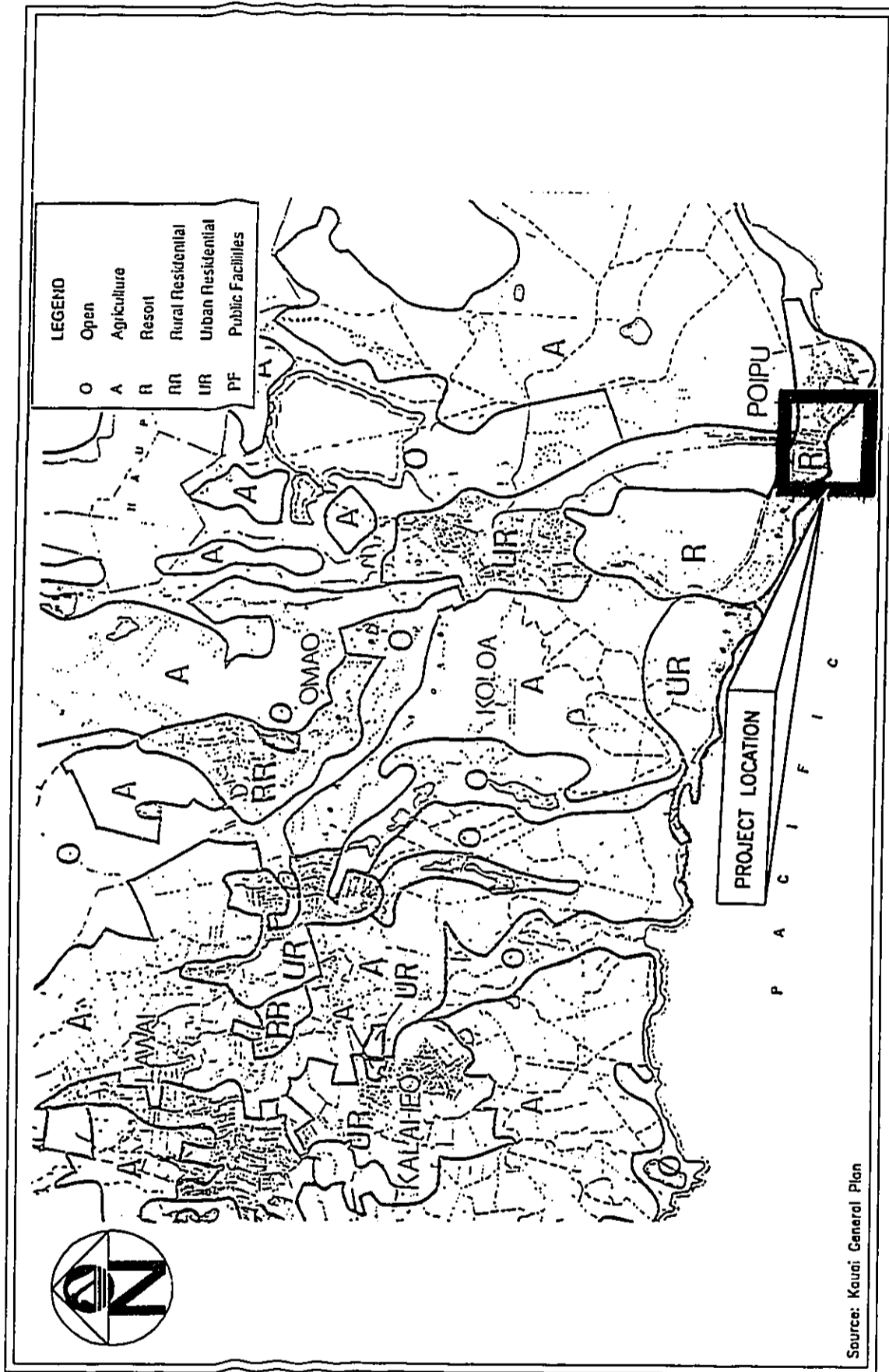
The proposed demolition of the existing seawall and construction of a portion of the buried revetment will take place within the 20-foot Shoreline Setback area as designated by the County of Kauai Planning Department. The removal of the masonry wall will improve the view from the beach. The partially buried revetment will not significantly impact the visual and open space characteristics of this site.

D. Marine Environment

1. Waves

Brennecke Beach is exposed to southern swells during summer and hurricane-generated and Kona storm waves from a southerly direction. The project site is exposed to waves approaching from 111° west of north through south to 124° east of north (see Figure II-6). Waves from other directions are blocked by land and the other islands in the Hawaiian chain.

The wave exposure window was used to help analyze wave conditions at the project site. Design wave conditions were determined by analyzing deep-water wave data and evaluating nearshore wave conditions.



II-10

FIGURE II-4. KAUAI GENERAL PLAN MAP

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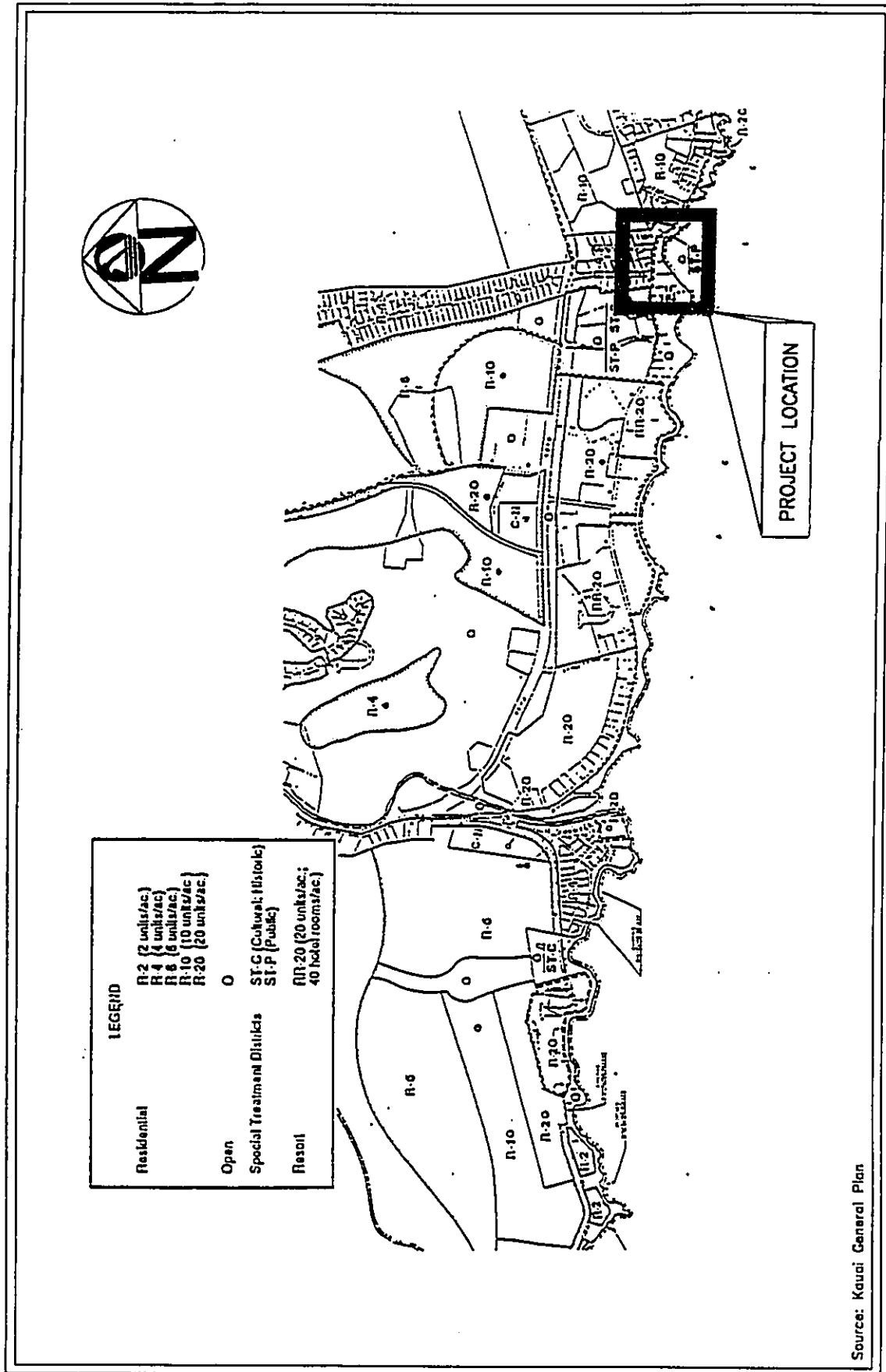


FIGURE II-5. KAUAI ZONING DISTRICT MAP

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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

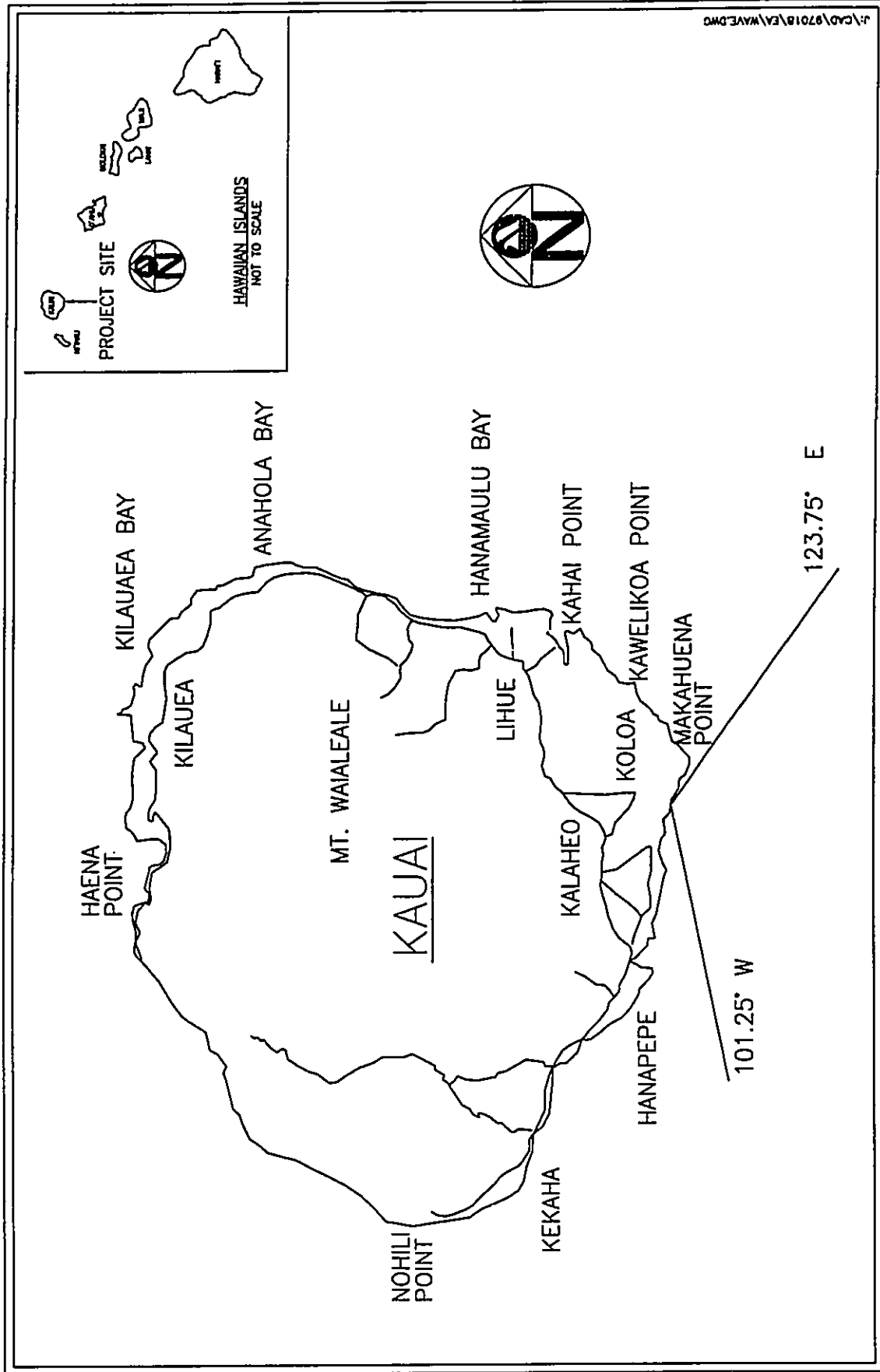
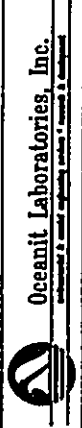


FIGURE II-6. WAVE EXPOSURE WINDOW FOR BRENNECKE BEACH.

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The U.S. Army Corps of Engineers shoreline-change simulation model GENESIS was utilized to estimate the impact different combinations of wave heights and periods had on erosion protection alternatives. The proposed erosion protection scheme was developed in part based on the results of this model (Brennecke Beach Erosion Control Report, 1988).

Wave climate at Brennecke Beach is dominated by low swells. Deep-water wave heights less than 3 feet and wave periods between 12 to 14 seconds occur approximately 78 percent of the time. These are long low swells that arrive from storms that occur at distances as far as the southern Indian Ocean. Wave heights of 5 to 7 feet and periods of 5 to 10 seconds occur approximately 21 percent of the time. These waves originate from local storms immediately south of the Hawaiian Chain. Waves with extreme heights and intermediate periods occur less than 0.5 percent of the time. These originate from hurricanes and other extreme storms that occur close the islands.

Wave climate in the vicinity of Brennecke Beach is dominated by the long swells that contribute to wave characteristics conducive for body surfing and body boarding. Wave periods do not change during the deep to shallow transformation. Wave heights change due to shoaling, refraction, reflection and diffraction in the nearshore area.

2. Tides

In Hawaii, tides are mixed semi-diurnal and have a range of approximately 2 feet. Two high tides and two low tides occur each day. At Brennecke Beach the estimated highest tide water level is 3.3 feet above Mean Sea Level and the estimated lowest is -2.0 feet below Mean Sea Level.

3. Currents and Circulation

Nearshore currents were measured during ebb and flood tides to evaluate the circulation patterns in the bay. Designed to follow currents below water surface, drogues were constructed with a submerged sail and a surface float with a marker flag for identification and tracking. A total of five drogues were released at predetermined locations within the bay at 8 to 10 feet below the water surface. Drogue locations were tracked with shore-based instruments and plotted on a chart.

Figure II-7 displays the results of the drogue study. During ebb tide conditions, water moves from offshore towards the beach and diverges to west and east in the nearshore area. A more dominant easterly drift was observed during the ebb tide. Currents in the littoral zone were weak and do not show a

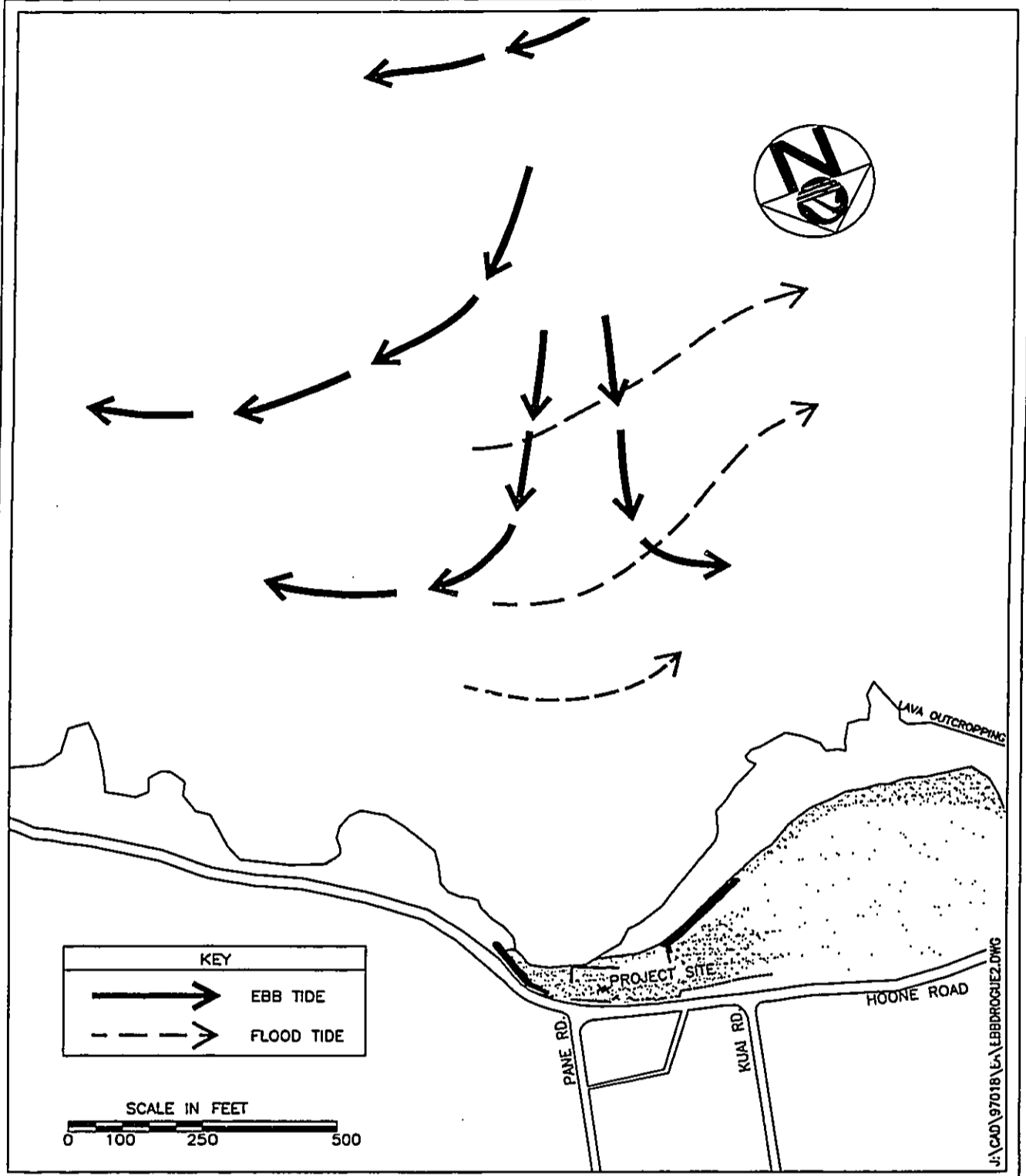


FIGURE II-7. DROGUE AND CURRENT STUDY

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dominant drift direction. Measured current speeds ranged from 2.5 to 33.1 feet per minute. During flood tides, currents move in a southwesterly direction at speeds ranging from 2.2 to 41.1 feet per minute.

4. Water Quality

Water-quality measurements were performed on February 27, 1998. The waters offshore of Brennecke Beach are classified as Class AA Open Coastal Waters. A total of 5 sampling stations were established to measure chemical and physical parameters of water (See Figure II-8). The water temperature at the time of the measurement was approximately 76° F at all of the sample stations. Salinity at the stations was also consistent at approximately 34.5 parts per thousand (ppt). pH measurements were similar at all of the locations (8.7 pH units) and dissolved oxygen ranged from 6.28 mg/L to 6.61 mg/L. Total nitrogen measurements ranged from 119 to 166 µG / N/L. Total phosphorous measurements ranged from 13 to 28 µG / N/L with a geometric mean of approximately 19 µG / N/L. Turbidity was observed to range from a low of 0.13 to a high of 1.8 NTU. The highest turbidity values were found at station 1, immediately offshore of the beach.

Water-quality values are generally within the Hawaii State Department of Health standards, for dry open coastline as shown in Table II-1.

**Table II-1.
Summary of Water Quality Results**

Sample Number	Temp °F	Salinity (ppt)	pH	Dissolved Oxygen (mg/L)	Total Nitrogen (µG / N/L)	Total Phosphorous (µG / P/L)	Turbidity (NTU)
1-Top	76.44	34.5	8.73	6.61	165	26	1.80
1-Bottom	-	-	-	-	144	28	1.70
2-Top	76.30	34.5	8.72	6.42	166	24	0.60
2-Bottom	-	-	-	-	119	15	0.45
3-Top	76.37	34.5	8.72	6.44	132	20	0.40
3-Bottom	-	-	-	-	130	14	0.13
4-Top	76.37	34.5	8.72	6.28	143	16	0.20
5-Top	-	-	-	-	136	13	0.27
Max		34.5	8.73	6.61	166	28	1.80
Min		34.5	8.72	6.28	119	13	0.13
GeoMean		34.5	8.72	6.44	141	19	0.47
Standard Deviation		0.0	0.01	0.14	17	6	0.67
State of Hawaii Water Quality Standards - Open Coastal Waters Geo. Mean Not to Exceed Given Value Wet/Dry	N/A	N/A	N/A	N/A	150/110	20/16	0.50/0.20
Not to Exceed Given Value More than 10% of the Time - Wet/Dry	N/A	N/A	N/A	N/A	250/180	40/30	1.25/0.50

Note: "-" = No Data Available, N/A = Not Applicable

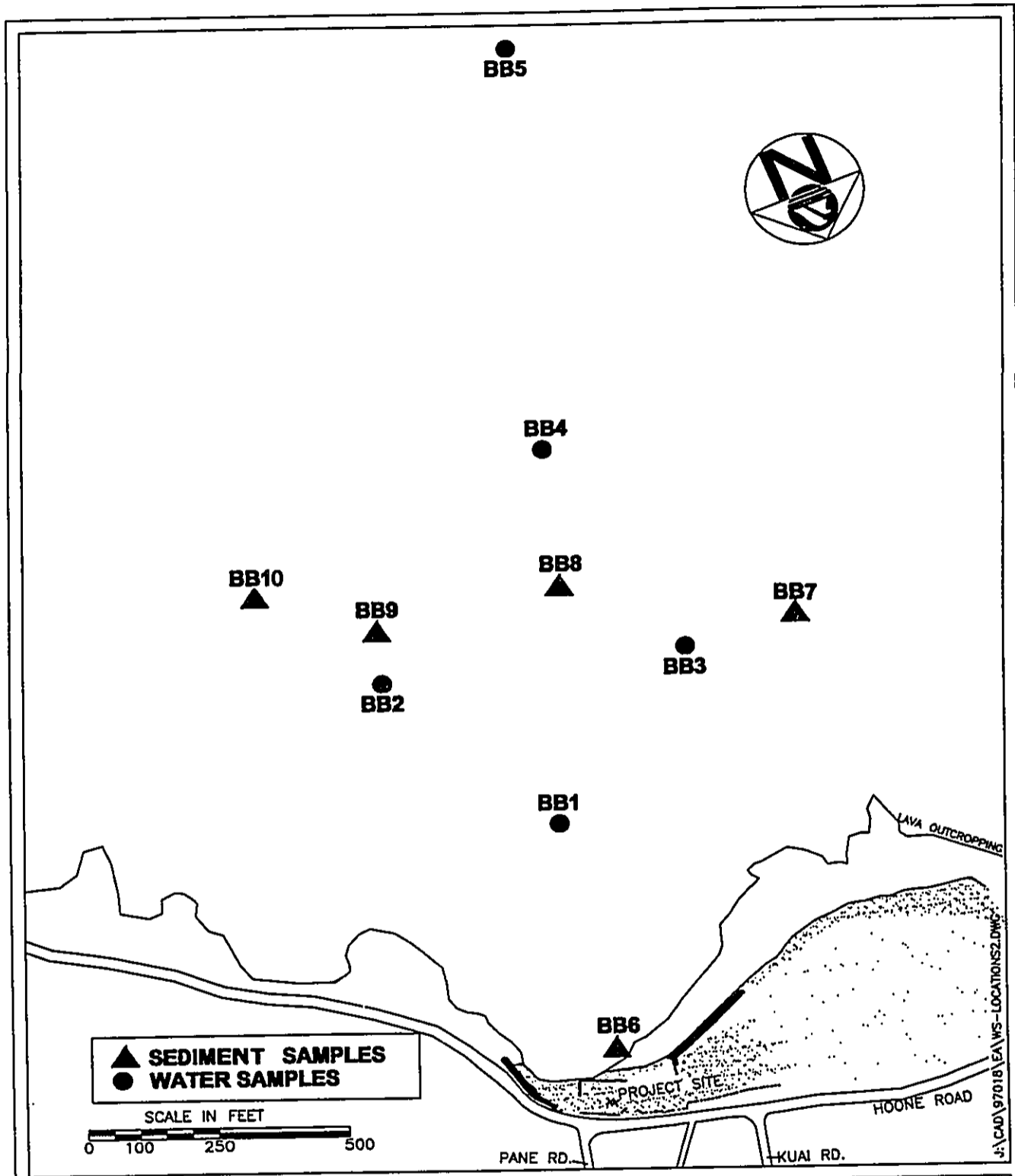


FIGURE II-8. SEDIMENT AND WATER QUALITY SAMPLE LOCATIONS

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However, it should be noted that these water-quality measurements were taken on a relatively calm day with no recent incidence of significant rainfall events. Heavy surf will impact nearshore turbidity, and recent rain events would increase flow of high-nutrient groundwater to nearshore areas.

The State of Hawaii Department of Health maintains water-quality monitoring stations at Brennecke Beach and Poipu Beach. Their data is primarily limited to bacterial counts for indicator species associated with contamination from human fecal matter. Enterococcus bacteria counts are standard for water quality measurements across the United States as an indicator of contamination from human sewage. However, in Hawaii, enterococcus bacteria often occur naturally in the soil. This often results in high enterococcus counts following rain and runoff events, regardless of whether there has been contamination from human fecal matter. Therefore, in Hawaii, another indicator species, *Clostridium perfringens*, is also used in conjunction with enterococcus. In Hawaii, clostridium counts appear to be a better indicator of contamination from human sewage than enterococcus counts.

The data displayed in Figure II-9 (A and B), show the Enterococcus, and Clostridium bacterial counts, and salinity readings from Brennecke Beach and Poipu Beach (State of Hawaii Department of Health, 1998). Regular Clostridium counts were only begun in mid-1997. There was no observed correlation between salinity and bacterial counts. Although a few samples measured above the State standard for bacterial counts, there does not appear to be any trend in the data, and the overwhelming majority of samples are either 'zero' or well below the State standard of 7 counts per deciliter.

5. Erosion

The shoreline adjacent to the study area is mostly irregular and rocky except for a few pocket beaches that are suspended between hard headlands. Brennecke Beach is a relatively small pocket beach nestled deep between Makahuena Point and Poipu Beach Park. The shoreline consists of lava flows with a relatively thin layer of coralline sand of marine origin. At present the beach at Brennecke is approximately 40 feet wide and is bounded on the east by the rocky headland flank of Makahuena Point and a masonry wall to the west. Beach slope is relatively steep (1 to 10) and the beach material consists of coral sand with a medium grain size. The offshore bottom is relatively uniform with a slope of approximately 1 vertical to 40 horizontal.

The seabed up to depths exceeding 40 feet consists of fine sand. This beach is dependent on the littoral drift for its stability. Sand on this shoreline moves from east to west across the headlands and is moved on shore by wave action. Long low swells generally accrete beaches and short steep storm waves cause erosion. Analysis of historical information of aerial photographs indicate that

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

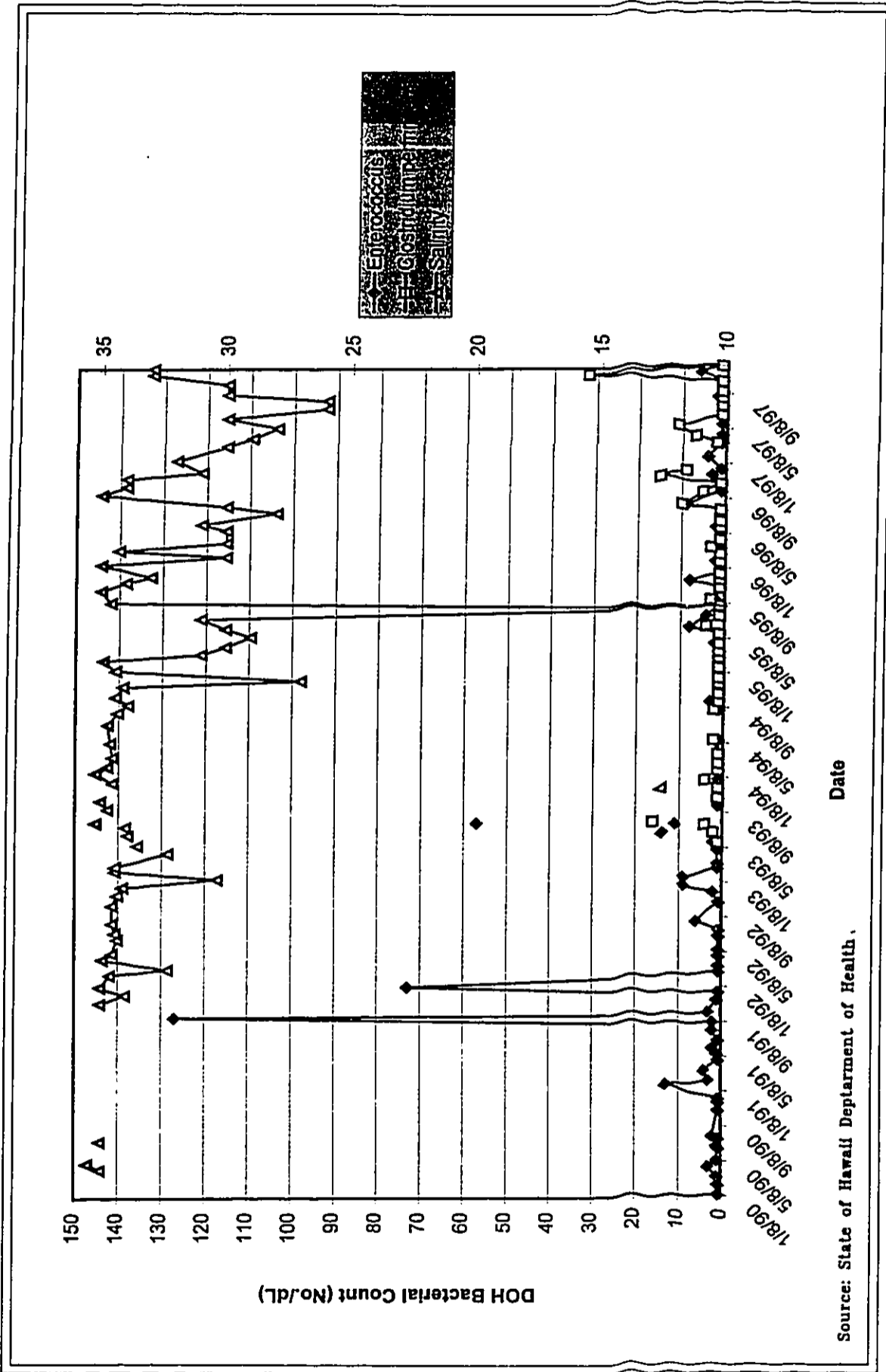


FIGURE II-9 B. DOH SALINITY AND BACTERIAL COUNTS AT POIPU BEACH

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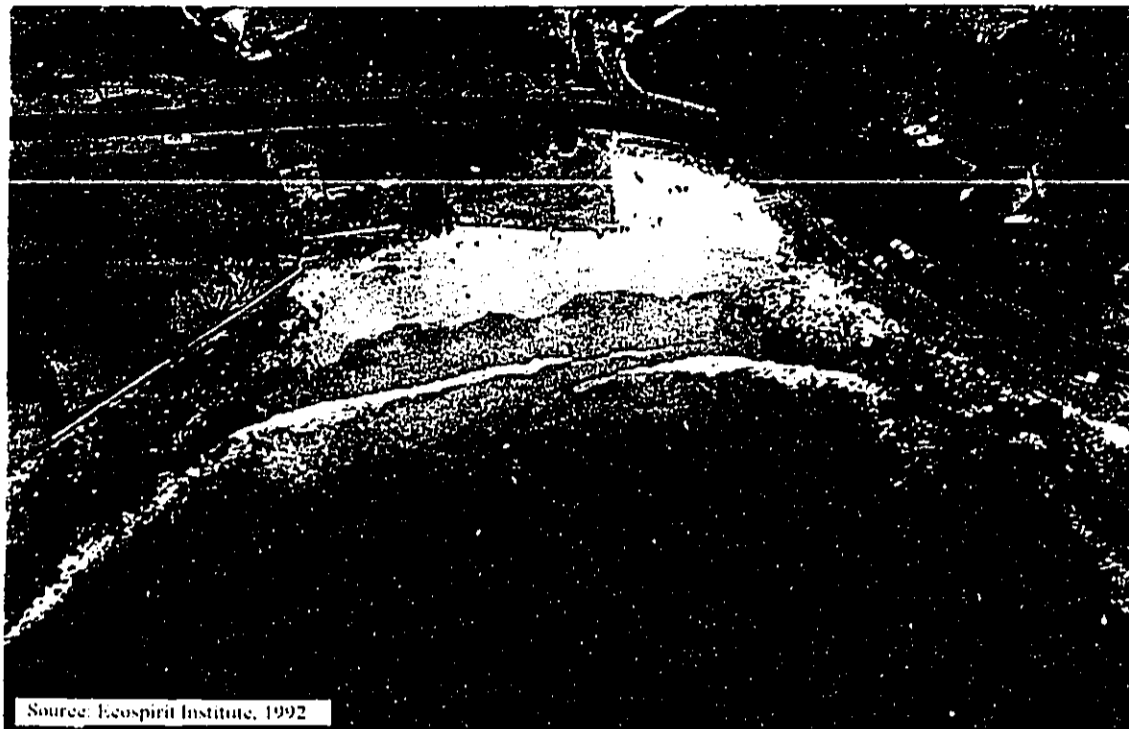
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Brennecke Beach is stable under normal wave climates but undergoes severe erosion from occasional hurricanes and Kona storms. This was especially evident from aerial photographs of this beach taken before and after Hurricane Iniki that occurred on September 11, 1992. Photographs made before and after Hurricane Iniki are shown in Figure II-10.

Historical aerial photograph analysis conducted between 1960 and 1990 show that Brennecke Beach is susceptible to severe erosion from storms and shows recovery in the aftermath. However, the limited study span shows a slow erosion trend. (Ecospirit Institute, 1992). The average sand loss at Brennecke Beach calculated from aerial photographs is approximately 400 cubic yards per year. However, this beach is stable under normal sea conditions but undergoes severe erosion during storms.

Recovery of the beach after Hurricane Iniki has been slow. Even after 7 years since Iniki made landfall in Kauai, Brennecke Beach has not been recovering at former rates. This is perhaps due to the presence of the vertical masonry wall that was built at the western part of the beach in the 1950's. The wall is now exposed to direct wave action most of the time. Wave reflections that occur at the wall modify local sediment transport patterns and adversely affect beach recovery. Waves that reflect from the wall create a circular reflected wave that propagates seaward. This causes a local offshore sediment transport and lowers the beach face at the wall. Sediment moved by the breakers into the depression does not settle in the area because of the offshore drift. This combined with the limited supply of sand from offshore slows down or even halts beach recovery. Figure II-11 shows the wave reflection at the wall. Removal of the wall and replenishing the beach with sand was recommended in the erosion control study (Oceanit, 1998).

Sediment samples were taken at 10 locations onshore and offshore Brennecke Beach as noted in Figure II-8. Samples were analyzed for grain size to determine the physical properties of the sand to understand beach processes and to develop specifications for nourishment materials. Table II-2 summarizes the results of the grain size analysis.



Source: Teospirit Institute, 1992

Photograph taken on
February 10, 1992
Before Hurricane
Iniki



Source: R.M. Towill Corporation

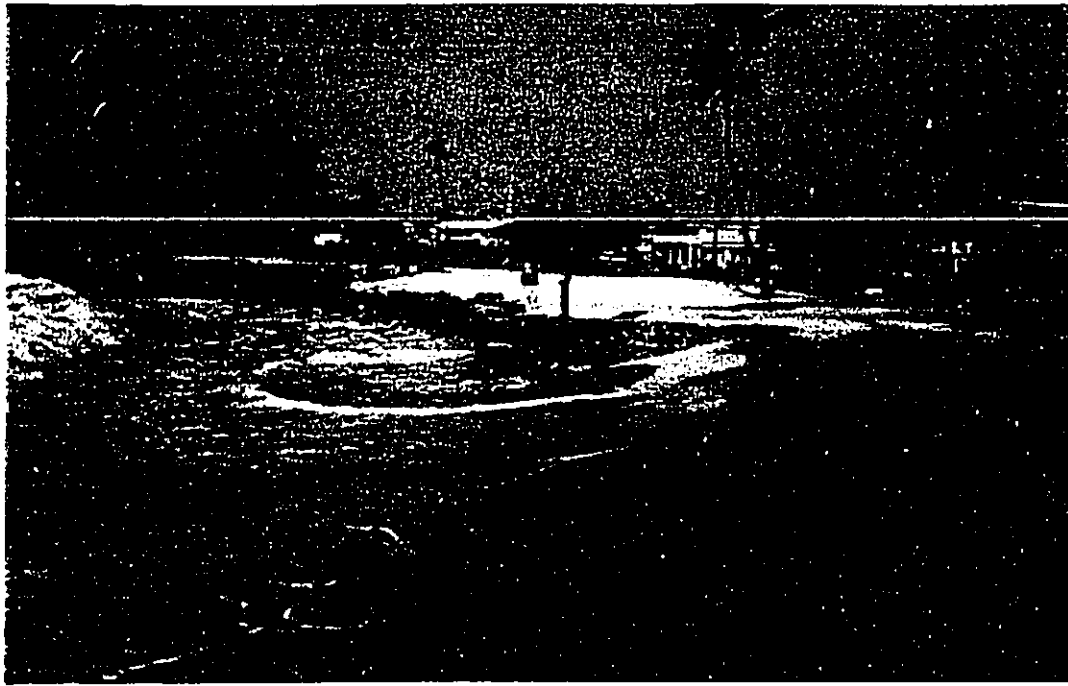
Photograph taken on
November 2, 1992
After Hurricane
Iniki

FIGURE II-10. AERIAL PHOTOGRAPHS BEFORE AND AFTER HURRICANE INIKI

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FIGURE II-11. WAVE REFLECTIONS ON MASONRY SEAWALL

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Table II-2.
Summary of Grain Size Analysis

Grain Size (mm)	Description	Percent
<.063	Silt/Clay	0.7%
.063-.125	Very Fine Sand	1.7%
.125-.25	Fine Sand	25.0%
.25-.5	Medium Sand	32.9%
.5-1	Coarse Sand	31.4%
1-2	Very Coarse Sand	5.4%
2-4	Fine Gravel	1.4%
>4	Gravel	1.5%

A more detailed grain size analysis of the individual samples can be found in Appendix B.

Beach profiles were measured in May 1998. Figure II-12 notes beach profile locations. Figure II-13 shows the results of the beach profiles.

6. Marine Biology

The site was surveyed on two occasions, February 26 and August 6, 1998. On the first occasion the observer, using face mask and fins, swam directly out from Brennecke Beach, across the nearshore boulder substrate and over the existing offshore sand patch out to a depth of approximately 30 feet until water turbidity prevented clear observation of bottom characteristics. The observer then swam across the submerged basalt rock headland to the east of Brennecke Beach, crossed the sand patch and swam across the basalt rubble headland to the west of Brennecke Beach. During this survey general observations were made of substrate characteristics, coral cover, and dominant macro-invertebrate and fish species present.

During the second survey, a single transect was performed over the submerged headland to the west of Brennecke Beach. The purpose of this transect was to document the abundance and distribution of corals in the area that could be impacted by excess turbidity or improper sand placement resulting from the proposed action. The transect began at the edge of the sand/basalt substrate at a depth of approximately 18 feet, and extending approximately 100 feet directly towards shore to a depth of approximately 5 feet. Observations shallower than this depth were prevented due to surf conditions. Photographs of a 10 inch (16 in. x 24 in. in 8 inch sections) grid were taken every 6 feet along the transect. Additional photographs were taken near the transect to document the representative substrate type. Following completion of the quantitative transect the observer continued

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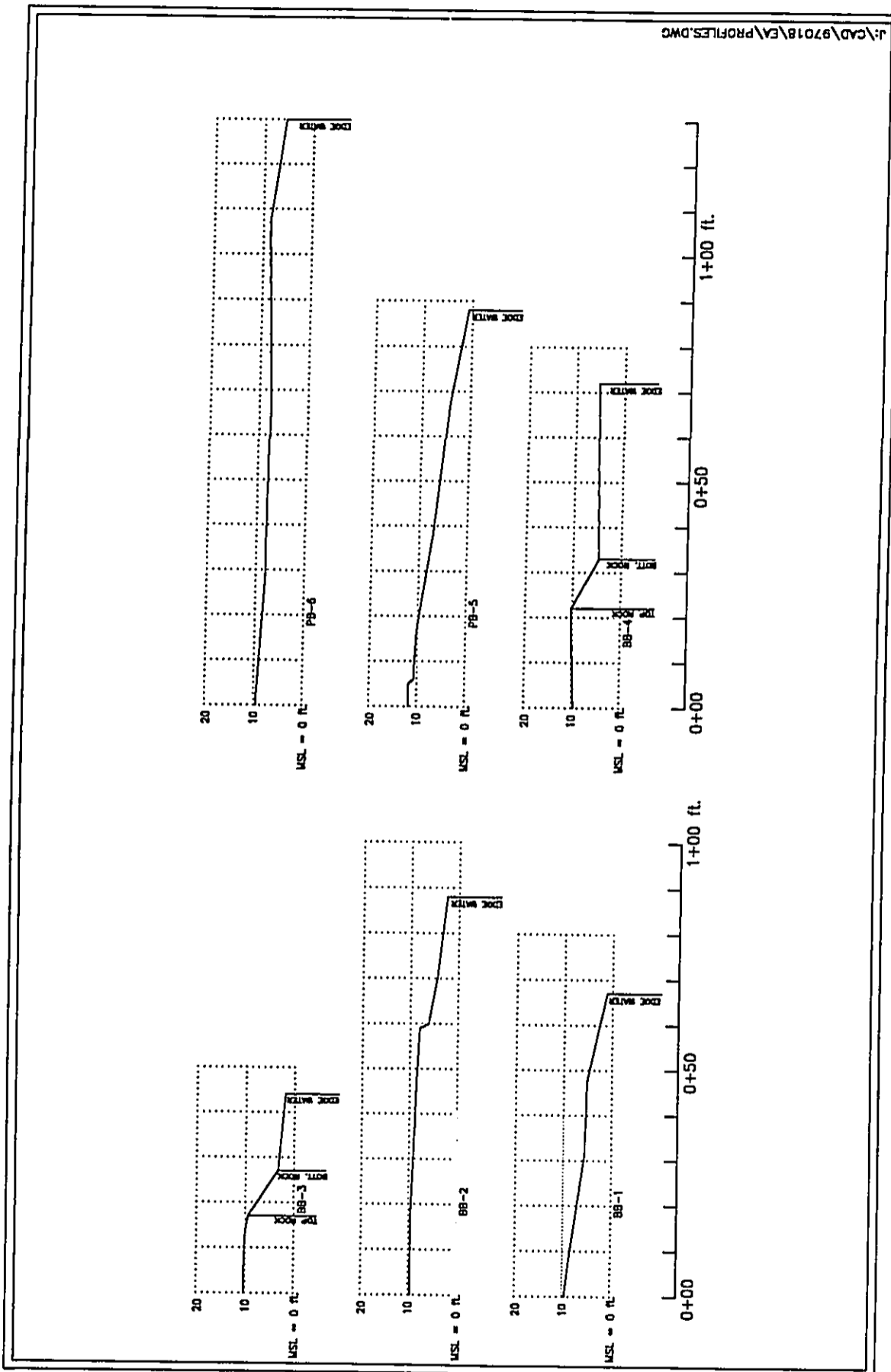
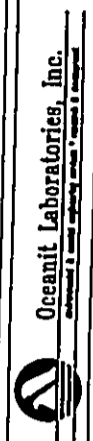


FIGURE II-13. BEACH PROFILES

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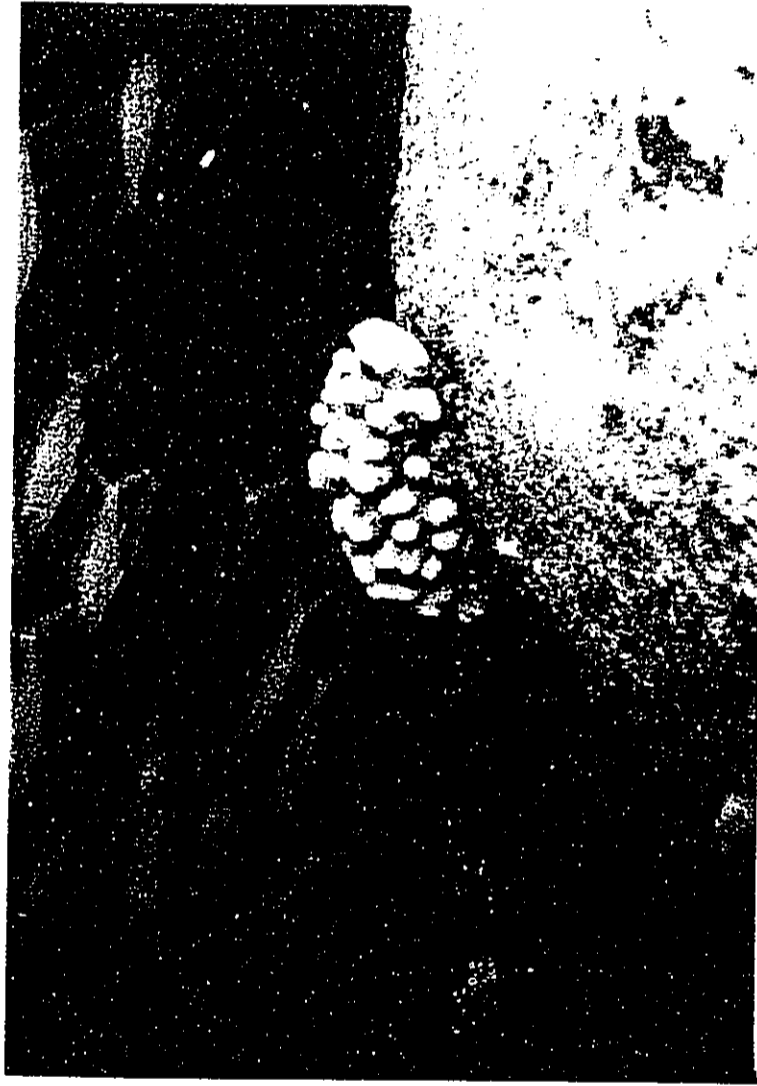


along the shoreline to Poipu Beach, making qualitative observations concerning substrate type, coral cover and fish abundance.

The primary substrate off of Brennecke Beach appears to be sand. There seem to be significant sand reserves offshore that visibly move in response to wave action. Just offshore of the sand beach the bottom is strewn with rocks interlaced with sand. The rocks range in estimated diameter from 6 inches to 2 feet. Most of the rocks appear rounded and smooth, probably due to tumbling in large surf and the abrasive action of sand. At a water depth of approximately 5 feet most of the rocks are covered with sand and this sand bed continues almost unbroken out beyond the 30-foot contour where observations ended. The depth of the sand bed was not tested. Along the eastern border of the sand bed the substrate is solid basalt broken into faults and ridges roughly perpendicular to the shoreline. Little or no rubble or boulders were present over much of the area. Coral cover was light, estimated visually at only 1 to 2 percent, and consisted primarily of cauliflower coral, *Pocillopora meandrina*. Small patches of encrusting *Montipora* coral, and a few isolated colonies of soft coral *Simularia* were also noted. Occasional urchins were noted in the limited number of cracks and fissures of the basalt substrate.

In contrast, the basalt substrate immediately to the west of Brennecke Beach was strewn with a large number of rocks and boulders. Once again, cauliflower coral was the most common coral with colonies of *Montipora*, *Porities compressa*, and *Simularia* noted in the vicinity. The photograph in Figure II-14 shows the *Pocillopora* coral and a school of weke in the background. Because of surf conditions no attempt was made to quantify the fish species, however, fish were not observed to be plentiful on the site. Species noted (in rough order of abundance) include the weke'ula (*Mulloides vanicolensis*), blue-striped snapper (*Lutjanus kasmiri*), various small wrasses, damselfish, and occasional butterfly fishes. Pencil urchins (*Heterocentrotus mammillatus*), rock-boring urchins (*Echinometra*), and long-spined wana (*Echinothrix*), were common in cracks and crevasses between the rocks.

Information collected on the transect (Figure II-15) indicates that the *Pocillopora* occurs primarily at depths of 6 to 10 feet, well above the depth of the sand. Coral coverage in the 16 quadrants averaged 1.1% and ranged from 0% to 6.5% (see Figure II-16). This suggests that additional sand that might bury the toe of the existing basalt reef would have little or no long-term impact on the coral living at a higher elevation on the basalt slope.



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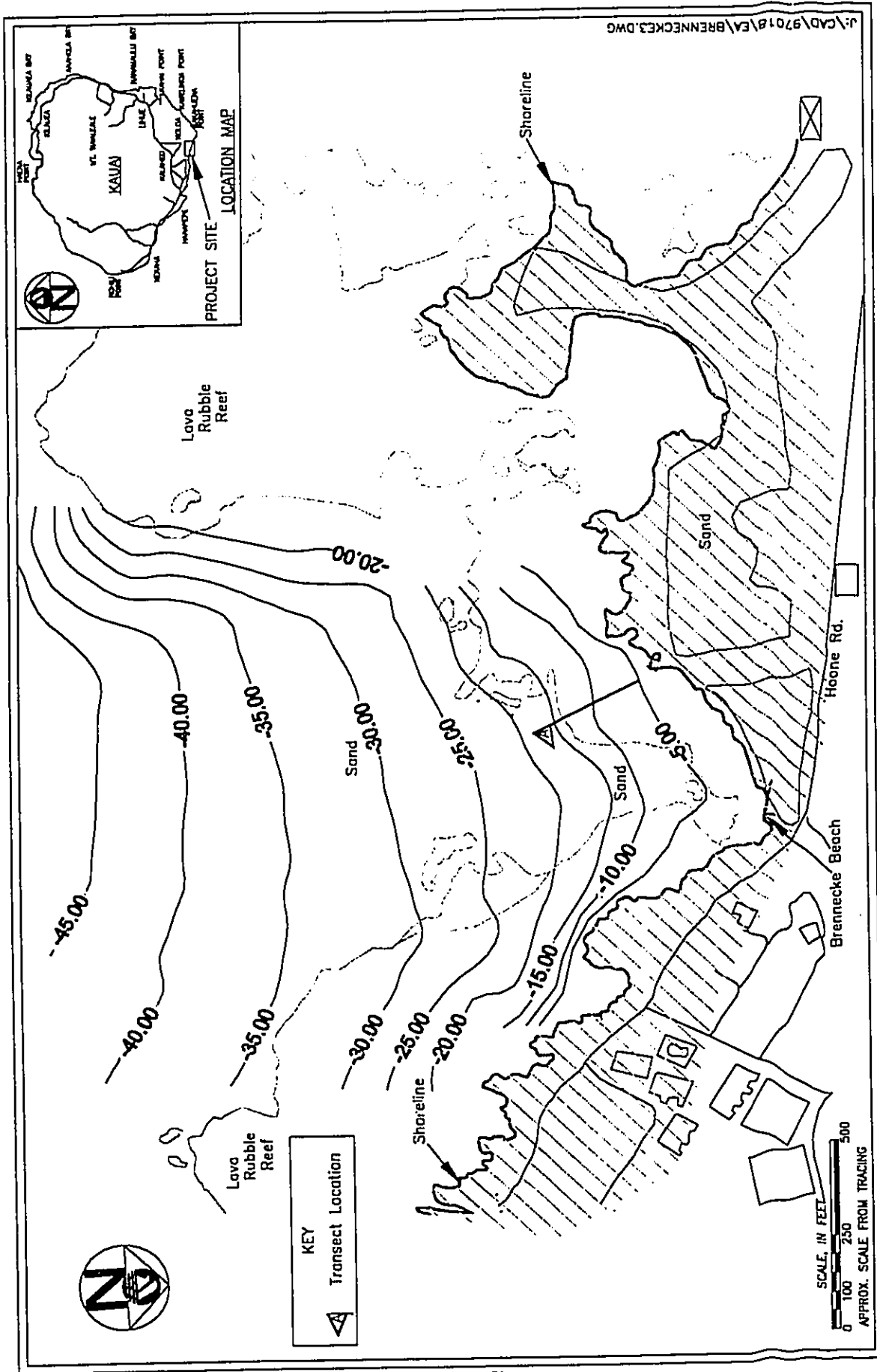
Pocillopora coral and a school of weke in the background.

FIGURE II-14. MARINE HABITAT REPRESENTATIVE PHOTOS

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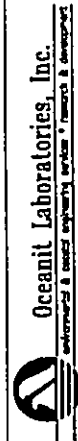
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II-28

FIGURE II-15. BIOTYPES AND TRANSECT LOCATION

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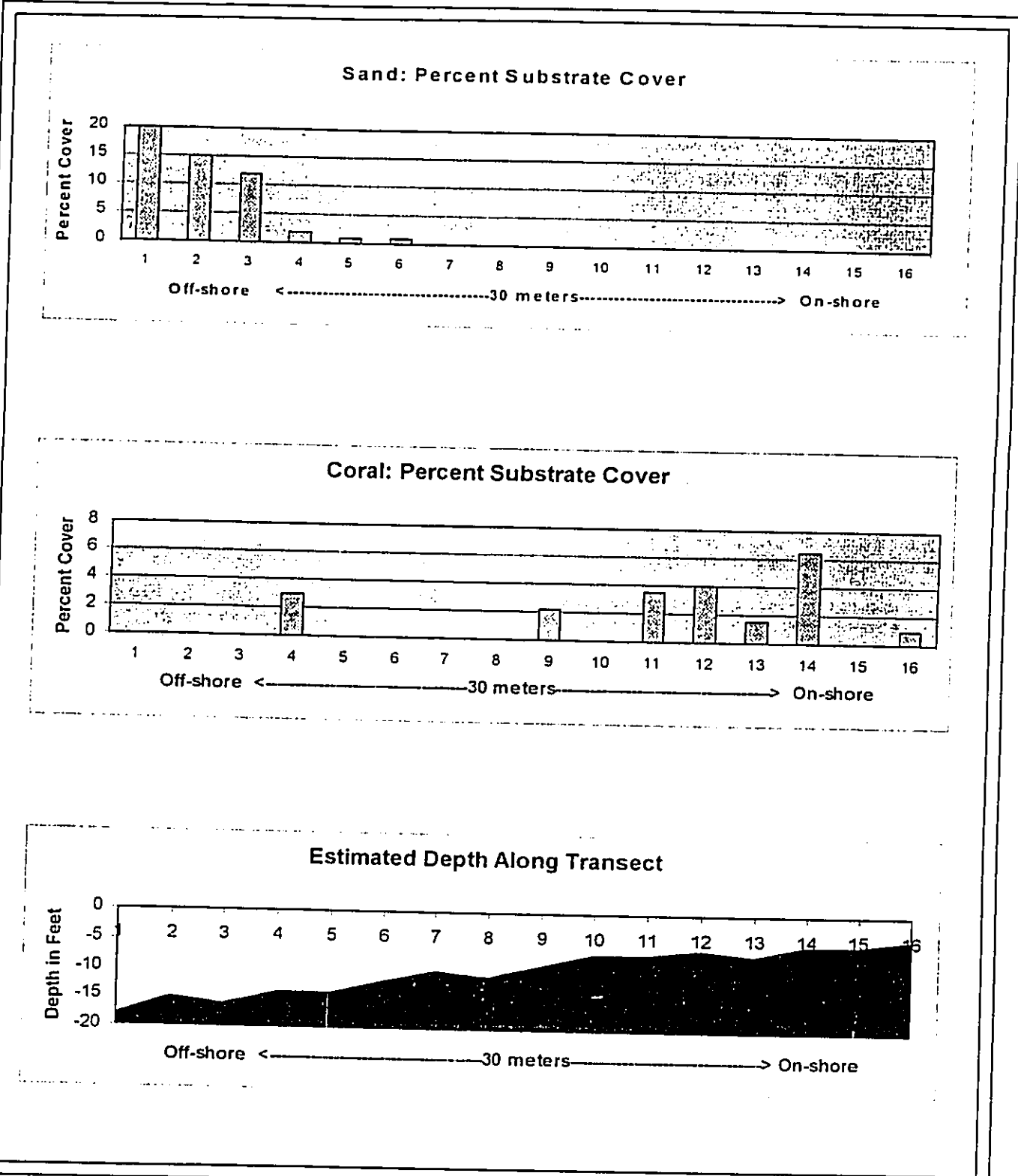
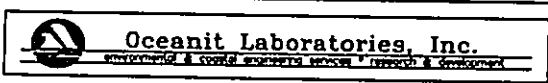


FIGURE II-16. PERCENT SAND/CORAL COVER AND ESTIMATED DEPTH

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Substrate closer to Poipu Beach was noted to consist primarily of solid basalt lava flows with fewer boulders, similar to the substrate to the east of Brennecke Beach.

No protected or endangered species were seen during the survey. It is known that sea turtles (protected green sea turtle, *Chelonia mydas*, and endangered Hawksbill turtles, *Eretmochelys imbricata*), and monk seals (*Monachus schauinslandi*) transit these waters and may forage along nearby reef areas. A school of porpoise (probably spinner porpoise, *Stenella longirostris*) frequent the nearshore waters on some days.

III. IMPACTS AND MITIGATION

A. Land Impacts and Mitigation

1. Visual and Open Space

After construction, the proposed action should result in improved shoreline open space and scenic resources. The vertical design of the existing masonry seawall inhibits views of the shoreline. After the seawall is removed, the slope of the beach face in front of the old seawall will slope more gradually down towards the shoreline, opening up viewing areas of the shoreline.

The top two feet of the proposed revetment will be above ground level. *Naupaka* or other low-lying salt tolerant plants is recommended to be grown to cover portions of the exposed revetment to promote visual unity with the manmade and natural environment. Currently, a line of boulders along the edge of Hoone Road and the project site were placed there to prevent vehicles from entering the beach. The boulders will be replaced by the revetment and vegetation. The net impact on visual resources is anticipated to be positive.

2. Flora and Fauna

The immediate demolition and construction site does not support any significant flora or fauna. There is no significant impact predicted to any existing flora or fauna on or near the site from any construction activities. *Naupaka* or other suitable plants is recommended to be introduced on the sea side along the revetment.

3. Noise

Significant noise impacts should be limited to the construction period. Noise will be generated by equipment and heavy machinery working in the project area engaged in construction operations. The Contractor will meet the State Department of Health's noise regulations as noted in the State of Hawaii Administrative Rules, Title 11.

The improvement of the beach may attract more visitors to Brennecke Beach resulting in cumulative increases in noise. These increases are not anticipated to be significant.

4. Traffic

Hoone Road is the only roadway access to Brennecke Beach. During the construction period, traffic in the vicinity of the project may be impacted by the movement of supply and construction vehicles as well as workers.

In order to minimize traffic impacts during construction, the arrival and departure of vehicles will be coordinated to avoid peak hour traffic. If necessary, flagmen or off-duty police officers will be used to direct traffic during peak periods of traffic.

Cumulative and indirect impacts on traffic as a result of the project are anticipated to be minimal.

5. Dust

Dust from construction will potentially be generated during the demolition of the existing seawall, during excavation and filling for the buried revetment, and by movement of construction equipment. The total amount of excavated material is estimated to be approximately 1,300 cubic yards. The amount of sand for nourishment is estimated to be approximately 1,500 cubic yards. Winds come from the northeast and average approximately 18 miles per hour. The site is close to the ocean and part of the construction will be below water level. Minimum dust levels are expected due to these conditions. However, the dust concentrations may temporarily increase due to heavy vehicles and equipment working at the site.

The Contractor will comply with the DOH regulations for dust concentrations during the construction period.

6. Runoff and Drainage

The revetment is designed as a permeable structure. A permeable geo-textile filter membrane that will allow groundwater flow across it will be used as a bedding layer. Subsequent layers will consist of different sized rock. These layers will allow water to flow across. The top two feet of the revetment that will be above the level of Hoone Road will consist of boulders. This layer will not prevent water flow across should the road get flooded during heavy storms. The proposed structure is not expected to impact drainage of the upland area behind Hoone Road.

7. Flood Hazard, Tsunami, Hurricane

The proposed erosion control scheme is not designed to withstand a hurricane. Following Hurricane Iniki it was discovered that poorly constructed seawalls created a hazard as debris from these seawalls damaged structures behind the wall. Since a major part of the proposed revetment is buried, it will reduce the risk of this hazard. However, if the revetment is totally exposed due to sand loss, some of the rocks may be moved inland by waves. Although there is a risk of this occurring, it is more probable that overtopping and flooding that would occur

under these conditions would cause a collapse-type of revetment failure where the rocks will roll seaward into the eroded foreshore.

8. Archaeology/ Cultural

The majority of the project area has been disturbed by natural and human activity during this century. However, since the proposed action will require extensive excavation in an archaeologically sensitive area, monitoring will be required during the construction period. The State of Hawaii Department of Land and Natural Resources, Historic Preservation Division (SHPD) has been contacted regarding the project (SHPD, 1998).

SHPD has determined that in order for this project to have a "no adverse effect" on significant cultural sites, a qualified archaeologist will be hired to conduct on-site monitoring work during the trenching for the revetment. Prior to commencement of monitoring work, an acceptable monitoring plan will be submitted to SHPD for review and approval. The plan will indicate sites likely to be present, planned documentation procedures, and the process for treating sites that are found (including procedures for stoppage of construction in order to evaluate and treat any finds, the need for a burial treatment plan if burials should be found, and including consultation with SHPD). The plan will also include provisions for an acceptable monitoring report (and a schedule for the report's submission) to be approved by SHPD.

An archaeological monitor will be selected that is sensitive to the historical and cultural background of the project area. If a suitable archaeologist can not be found to meet these needs, a respected member(s) of the community will be consulted to assist in determining cultural impacts from the proposed project.

9. Public Access

Beach access over the existing revetment on the eastern boundary of the project site will remain. The proposed revetment will include gaps for public access from Hoone Road. These gaps will not be wide enough to accommodate vehicles.

10. Increased Beach Use

The proposed improvements at Brennecke Beach are anticipated to result in increased beach use by the public. The proposed beach nourishment and removal of the existing seawall will add an additional 90 feet of sandy beach, which can be used by the public. A portion of the flat area behind the existing seawall that is currently used for sunbathing and other recreational activities will turn into a sloping sandy beach. The existing public facilities in Poipu Beach Park are anticipated to be sufficient to accommodate any increased beach use at Brennecke Beach.

B. Water Impacts and Mitigation

1. Currents and Circulation

Removal of the wall is expected to form a sloping beach that will allow gradual wave energy dissipation without reflections. This will reduce energy in the immediate vicinity of the beach resulting in milder currents and lower hazards. Removal of the wall will improve safety conditions by removing the hazards of surfers hitting the wall, swimmers and waders being pushed on to the wall and also beach-goers from falling from the top of the wall onto the hard footing.

2. Erosion and Sediment Transport

The scheme is designed to improve beach stability and reduce erosion. The project is anticipated to have a positive impact on erosion.

3. Water Quality and Marine Biology

Any time that significant construction activity or excavation occurs near the seashore there is potential for impact to nearshore resources, primarily from pollution from construction vehicles, machinery, and materials used during construction. In this project, excavation of the fill behind the existing seawall and excavation along the roadway for the new buried revetment will expose soils and make them prone to erosion if heavy rains or high surf impacts the site.

Upon completion of the project, no long-term detrimental impacts to the environment, flora, fauna, marine biological resources, or water quality are anticipated.

Prevention is obviously the best method to avoid environmental contamination during construction. This dictates that construction should occur during the dry months of the year, and during that portion of the year when high surf is not anticipated. It also means that some premium must be placed upon an expedient construction schedule once ground is broken. Measures should be taken to minimize the possibility that excavation soils removed from the revetment trench is washed into the ocean in the event of an unanticipated storm. Excavated sediments could be stored on the land-side of the road, or be covered with a tarp to prevent erosion in case of a rain storm. A cofferdam may have to be constructed in the area where construction is exposed to the beach.

Vehicles working in the shoreline zone should be inspected daily for signs of oil or hydraulic fluid leaks. Maintenance and fueling of the vehicles should not take place on the project site where unanticipated spills could wash into shoreline waters. A detailed best management practices plan (BMP) and water quality

monitoring plan is anticipated to be prepared for the State of Hawaii Department of Health.

C. Economic Impacts

The proposed plan will have a positive economic impact on the area by allowing the sandy beach to rebuild itself to accommodate more visitors. The proposed revetment would help to protect Hoone Road from erosion during high-surf conditions.

While it is extremely difficult to put a dollar amount on the economic impacts suffered by the visual degradation of a sandy beach, such impacts are real. Tourism is the most important economic engine driving the town of Poipu. A Poipu Beach Resort Association survey reported that over 75 percent of the Poipu visitors plan to swim in the ocean during their stay, and that the Poipu Beach Park area, including Brennecke Beach, is the only public beach park in the Poipu area (Poipu Beach Resort Association, 1992). In a report on Poipu Beach Park Erosion, Ecospirit Institute noted that the economic impact of beach erosion at Poipu Beach Park would result in a loss of millions of dollars in lost revenues if tourists decided not to come back to the island because of the eroded beach conditions (Ecospirit Institute, 1992). Approximately 90 truckloads of sand have already been placed above the waterline at Brennecke Beach, only to be lost to the ocean during high surf. The proposed plan will allow the beach to rebuild itself into a new plan shape that will be visually more appealing than the existing beach.

IV. ALTERNATIVES

This section is an evaluation and analysis of alternatives to the proposed action.

A. No Action Alternative

The "no action" alternative would be to do nothing and allow existing undesirable littoral processes to continue affecting beach recovery. The existing vertical seawall at Brennecke Beach causes waves to reflect off the wall, resulting in seaward movement of the sand and dangerous wave reflections to surfers and swimmers. Despite beach nourishment efforts on several occasions after Hurricane Iniki, a local depression on the beach caused by the seawall has modified natural littoral processes, thereby decreasing beach stability. Presently, Hoone Road faces potential damage even under moderate storm conditions. If no action is taken, Brennecke Beach will remain narrow and hazardous and Hoone Road will be exposed to undermining and erosion damage more frequently.

B. Re-align Hoone Road

Another alternative would be to re-align Hoone Road to move the road away from the eroding coastline. This alternative could be used in conjunction with the "no action" alternative, in combination with removal of the masonry seawall, or in combination with beach nourishment. Re-alignment of the road would require the County to acquire land that is presently privately owned. Some of this land is low-lying and would require fill to raise the elevation prior to paving.

Relocation of the road would remove the immediate danger to the roadway. However, continued erosion and eventual undermining at the present Hoone Road location would result in the discharge of terrigenous material (dirt, soil) into the ocean even if this option is combined with beach nourishment. Also, shifting the road will have to conform with the master plan and other road improvements expected in the area. This alternative would be costly, and without action to halt erosion, would not prevent further erosion of the shoreline from reaching the new road location. Hoone Road has been in its present location for many years and the County has no plans at this time to relocate it.

C. Beach Nourishment

Beach nourishment has been attempted on several occasions since Hurricane Iniki. However, the presence of the seawall at Brennecke Beach significantly alters natural beach processes, reducing the effectiveness of beach nourishment. The transportation of sand offshore due to wave reflection significantly increases the amount of sand required for nourishment. It was determined that beach nourishment would be much more effective if the natural "cusp" formation Brennecke Beach were restored by removing the seawall and backfill.

D. Remove Seawall with No Revetment (with and without beach nourishment)

The removal of the masonry seawall will initially cause the beach immediately behind it to recede until an equilibrium beach shape is established. Currently, Hoone Road is exposed to damage from even a moderate storm. If the existing seawall is removed and Hoone Road is not protected, it will be even more exposed to possible erosion and undermining.

Sand nourishment would offer only limited protection to Hoone Road. During storm conditions, the sand would not provide adequate protection to the road from erosion. The purpose of the proposed revetment is to protect the road and upland areas when storm waves deplete the beach of sand. Under normal conditions, the revetment would be buried under the beach berm, out of reach of wave action, and will have minimal effect on the beach. If a storm does remove beach sand to expose the revetment to waves, and if the sand is not replaced by beach nourishment, the recovery of the shoreline may be retarded due to the decreased wave-dissipation characteristic of the revetment compared to the original beach. In the absence of the proposed revetment, erosion of the beach sand would still result in an unstable shoreline due to the naturally hard coastline. The natural coastline, however, would not prevent the undermining and damage to Hoone Road. Removal of the masonry seawall is the key to improving beach shoreline stability. The purpose of the proposed revetment is to protect Hoone Road and will have minimal effect on beach stability. Therefore, the removal of the seawall without having an option to protect the roadway during storm conditions was considered unacceptable.

E. Construct Revetment to Withstand Hurricane Runup

Under the guidelines by the United States Army Corps of Engineers Shore Protection Manual, a revetment was designed so that the maximum runup due to a design wave would not overtop the structure and flood the protected areas. However, the potential flooding area at Brennecke Beach due to a hurricane is so high that this level of protection is impractical, aesthetically unacceptable, and cost prohibitive (see Brennecke Beach Erosion Control Report, Oceanit, 1998). A 12-foot high revetment along Hoone Road would be required to contain maximum runup. In addition, during a hurricane, flooding along the flanks of the revetment would cause flooding of Hoone Road, rendering any structure ineffective.

V. DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION

Based on the information contained in this document, the anticipated determination for the proposed action is a Finding of No Significant Impact (FONSI). When a FONSI is issued, a project may proceed without further study. In making a FONSI determination certain "significance criteria" has been established. An action shall be determined to have a significant effect to the environment if it meets any of the following criteria:

- (1) **Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;**

Removal of the existing vertical masonry seawall at Brennecke Beach will have a net positive impact on the natural resources in the area by allowing natural beach processes to shape the beach. Cultural or historic resources are not anticipated to be significantly impacted by the proposed project (see Section III-A(8)).

- (2) **Curtails the range of beneficial uses of the environment;**

The proposed project will improve beneficial uses of the environment by removing the existing seawall, which produces hazardous wave reflections to swimmers, and allowing a larger natural beach to form in the area of the removed seawall.

- (3) **Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;**

The proposed project is consistent with Hawaii's State Environmental Policy as established in Chapter 344, Hawaii Revised Statutes (HRS) to encourage conservation of natural resources and the quality of life. The proposed project is consistent with the goals of HRS 344-4(4) to preserve and maintain park and recreation areas for public recreational uses.

- (4) **Substantially affects the economic or social welfare of the community or state;**

The proposed project will have a positive impact on the economic and social welfare of the community and state by improving the beach at Brennecke. Although difficult to quantify, erosion at Brennecke Beach has probably had a negative economic impact on the value of the beach as a recreational asset. In 1992, Ecospirit Institute prepared a report entitled, "Environmental Analysis and Restoration Plan for Poipu Beach Park Erosion" (Ecospirit Institute, 1992). The report noted that the economic impact of beach erosion on the visitor industry in Kauai was significant and that it was "an indisputable point that beach erosion can

be very costly to our beach communities and to the island at large" (Ecospirit Institute, 1992).

(5) Substantially affects public health;

As noted in Section III of this report, the project will have impacts on air, noise, and water quality. However, these impacts will be limited to the construction period of the project and are not anticipated to substantially affect public health.

(6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

The proposed improvements at Brennecke Beach are anticipated to increase park usage, which is consistent with the goals of HRS 344-4. These changes are not anticipated to have a significant impact on existing public facilities.

(7) Involves a substantial degradation of environmental quality;

The proposed project will improve the environmental quality of the area by removing the vertical seawall and allowing natural beach processes to shape the shoreline.

(8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

By planning ahead, the proposed revetment is designed to prevent the commitment of resources in the future for larger actions to protect Hoone Road from erosion and costly repairs.

(9) Substantially affects a rare, threatened, or endangered species, or its habitat;

No rare, threatened, or endangered species or habitat exists in the project area.

(10) Detrimentially affects air or water quality or ambient noise levels;

As noted in Section III, impacts on air, water quality, and noise are not anticipated to be significant and will be limited to the construction period.

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

The proposed scheme is designed to reduce damage caused to existing facilities during a rare event. The since the majority of the proposed revetment is buried, its susceptibility to damage by tsunami or hurricane is lower than an exposed vertical seawall.

- (12) **Substantially affects scenic vistas and viewplanes identified in county or state plans or studies; or**

The project will have no significant negative impacts on scenic vistas and viewplanes identified in county or state plans or studies. Visual impacts are addressed in more detail in Section III of this report.

- (13) **Requires substantial energy consumption.**

Construction of the proposed project will not require substantial energy consumption relative to other similar projects.

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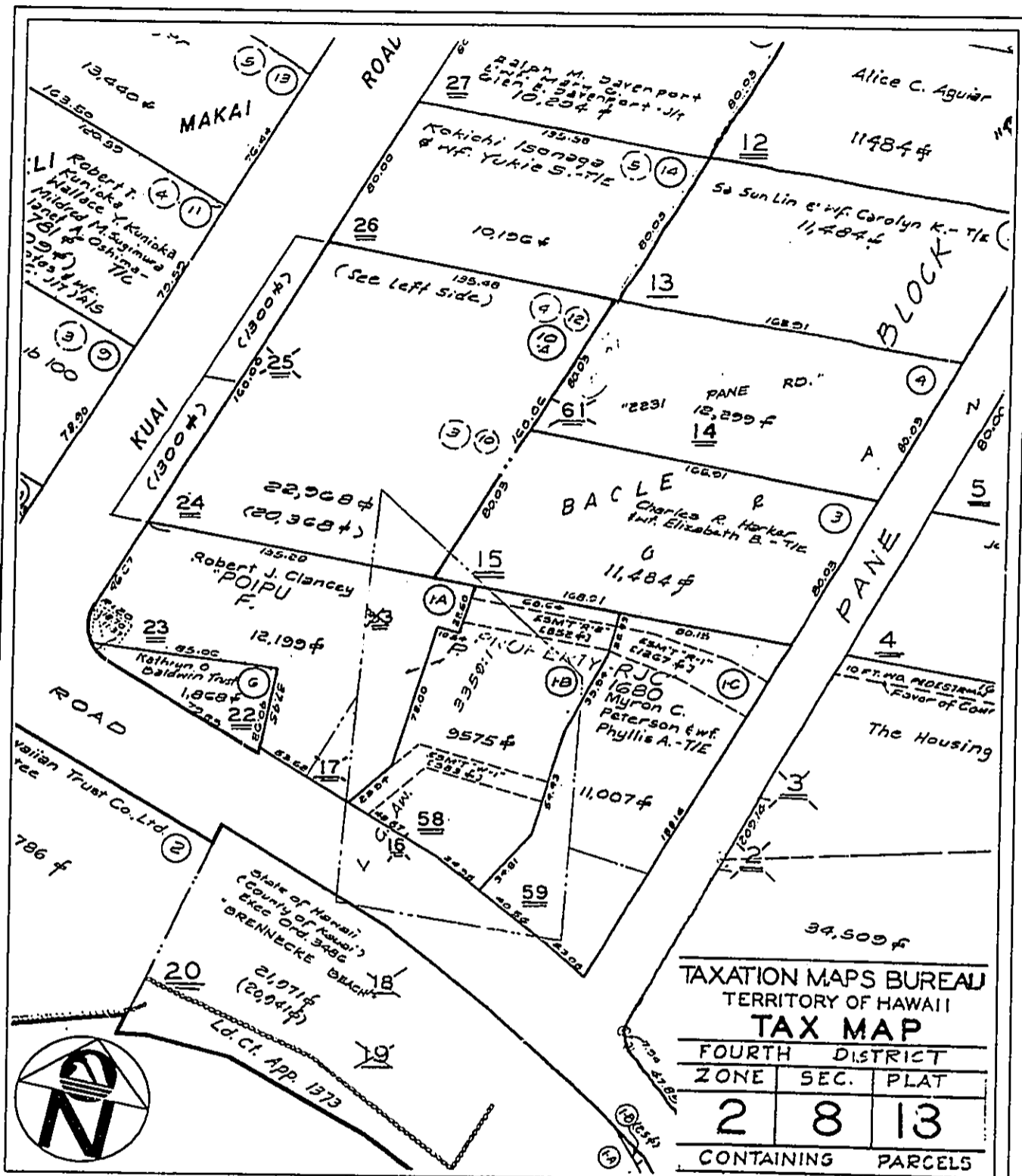
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APPENDICIES

**APPENDIX A.
TAX MAP KEY**



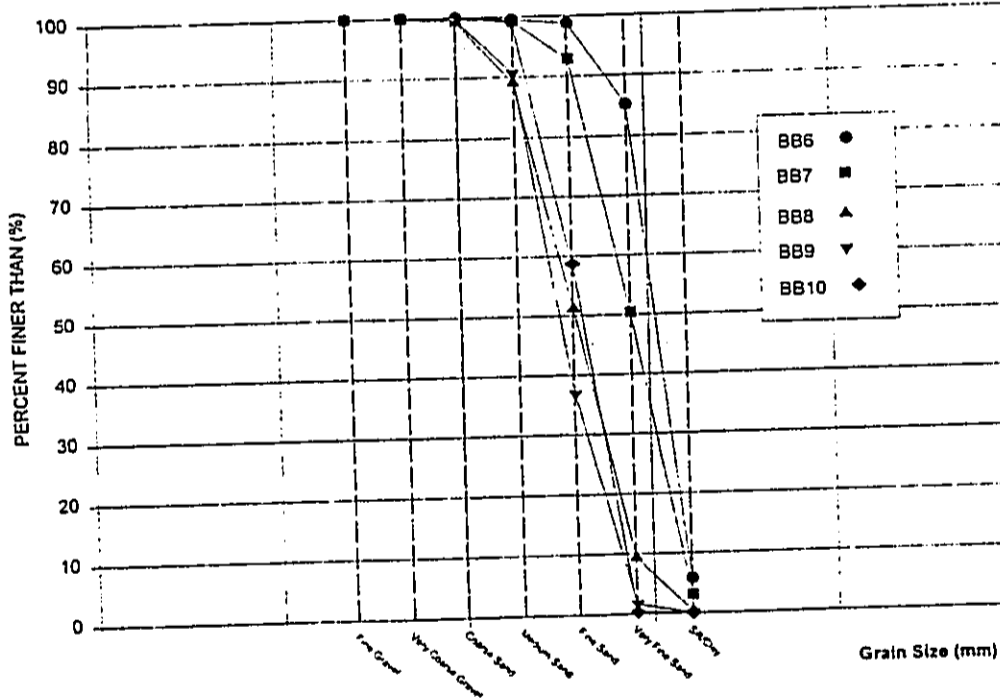
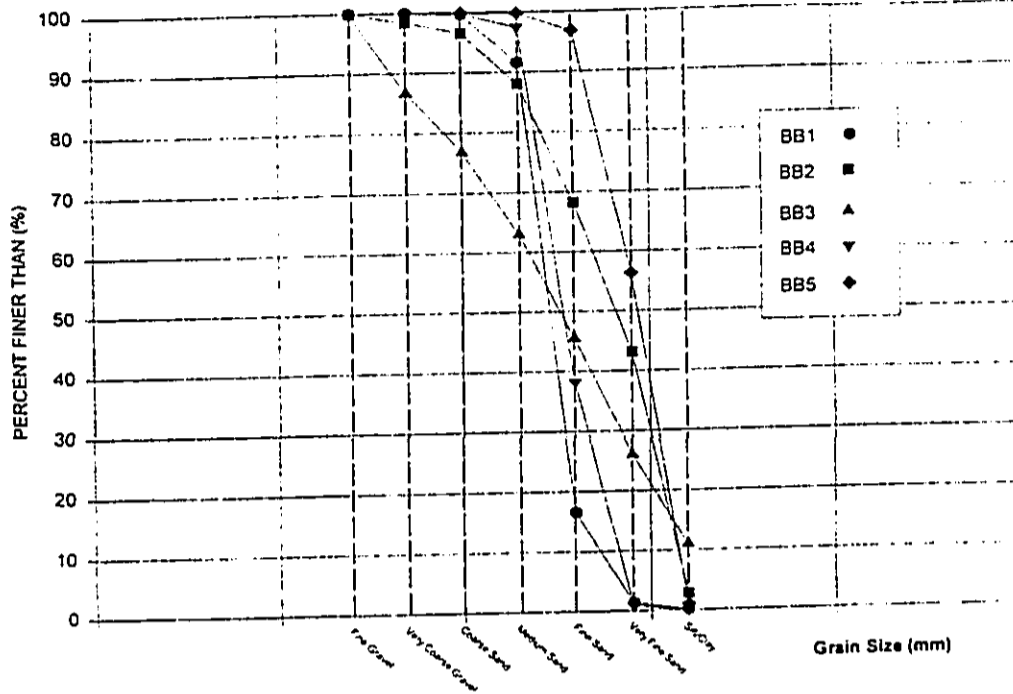
TAX MAP KEY

BRENNECKE BEACH SHORE PROTECTION EA

Oceanit Laboratories, Inc.
environmental & coastal resources services • research & development

**APPENDIX B.
SAND GRAIN ANALYSIS**

Brennecke Beach
Grain Size Analysis



GRAIN SIZE ANALYSIS

BRENNECKE BEACH SHORE PROTECTION EA



Oceanit Laboratories, Inc.

environmental & coastal resources research & engineering

**APPENDIX C.
EARLY CONSULTATION COMMENTS AND RESPONSES**

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MARYANNE W. YAMCA
SECRET



DLE M. CROWELL
PLANNING DIRECTOR
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HAWAII, HONOLULU

PLANNING DEPARTMENT

December 1, 1999

Mr. Cesar Portugal, County Engineer
Department of Public Works
1415 Puna Street, Suite 275
Honolulu, HI 96814

Aloha to Kunihiko Kishiyama,
Chief, Engineering Division

Subject: Draft Environmental Assessment
Brennecke Beach Shore Protection, September 1994
Polpu, Kauai

Dear Mr. Portugal:

Thank you for the opportunity to comment on the above identified Draft Environmental Assessment for shore protection at Brennecke Beach in Polpu. According to the EA, the Department of Public Works proposes construction of a 250 foot long partially buried revetment adjacent to Hoone Road, removal of dirt fill from behind an existing vertical seawall located adjacent to the shore, the placement of approximately 1,500 cubic yards of imported sand behind the wall, and removal of the vertical seawall.

We offer the following comments regarding the Draft EA.

As noted on page 1-5, the proposed project will require a Special Management Area Permit, and a Shoreline Setback Variance. A Public Hearing before the Planning Commission will be required in connection with these permits.

The last paragraph on page 1-7 states that in the event that sand is removed by a storm, the wall will protect the road. It may be appropriate to include a plan for periodic sand replenishment in the proposed alternative.

The first paragraph on page 11-7 notes that "a relatively large expanse of tide pools" are located in the area. Are impacts on these tidepools expected from the proposed project?

Section 17, Alternatives, discusses beach nourishment with the existing seawall remaining. It may be appropriate to address an alternative using beach nourishment after removal of the seawall.

Mr. Cesar Portugal
December 2, 1999
Page 2

The EA states on page 11-5 that after removal of the seawall and construction of the revetment, the beach will rebuild itself. A similar revetment constructed on the west side of the island was expected to encourage beach rebuilding. However, nearly four years after construction of the structure, there is still no usable sandy beach in front of the revetment. A sloping rock revetment similar to the proposed project is located adjacent to Hoone Road to the east of the project location. That revetment has not encouraged beach building, and remains fringed by an exposed lava rock shelf.

Section 11 of the Draft EA discusses the impacts of the proposed project and mitigation measures. It may be appropriate to note that following removal of the existing seawall, the flat area behind the wall, which is used for sunbathing and other recreational activity, may turn into a sloping sandy beach.

Section 11.2.1 notes that removal of the wall will remove the hazard of surfers and swimmers hitting the wall. Are any other impacts to surfers or swimmers expected from changes in currents and circulation resulting from the removal?

We hope these comments are of assistance. Please contact Patrick Kallish at 211-5677 if you have any questions.

Sincerely,

Dee M. Crowell
Planning Director

c: Oceanit
OFCC
State Office of Planning

MARYANNE W. KUSANA
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W. L. CLARKE, SR.
LIBRARY ASSISTANT



AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
HONOLULU BUILDING, SUITE 275
1101 E. KAUAI, HAWAII 96760

February 4, 1999

Mr. Dee Crowell
Planning Director
Planning Department - County of Kauai
Kapule Building
1441 Rice Street, Suite 473
Lihue, Kauai, Hawaii 96766

Dear Mr. Crowell:

SUBJECT: RESPONSE TO EARLY CONSULTATION COMMENTS
ON DRAFT ENVIRONMENTAL ASSESSMENT FOR
BRENNECKE BEACH SHORE PROTECTION

Thank you for your letter dated December 2, 1998 regarding early consultation comments on the draft environmental assessment (DEA) for Brennecke Beach Shore Protection, Poipu, Kauai. We understand that a SMA Permit will be required for this project. Permit applications will be submitted in due time.

The average sand loss at Brennecke Beach calculated from historical information is approximately 400 cubic yards per year. However, this beach is stable under normal sea conditions and undergoes severe erosion during storms. Wave reflections at the masonry seawall is one of the leading factors inhibiting beach build up. The proposed project is expected to have a positive long-term impact on beach stability. Short-term annual sand replenishment of between 400 - 800 cubic yards of sand is anticipated to maintain a good sandy beach. The County of Kauai will be responsible for periodic sand nourishment.

The proposed project will have no impact on the tide pools immediately east of Brennecke Beach. The broad shelf of pools exists on a lava rock promontory. These pools are exposed at low tide but are well flushed at high tide, primarily through wave action across the shelf from the open sea. In the event of some unforeseen action during construction that discharges material in the ocean fronting the beach, there is no physical mechanism for the transport of the materials to the tide pools in any amount that could conceivably cause long-term damage to the tide pools.

CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 241-0000

IAIK COSTA
DEPUTY COUNTY ENGINEER

Mr. Dee Crowell, Director
Planning Department
February 4, 1999
Page 2

An alternative discussing beach nourishment with the seawall removed will be addressed in the DEA.

We can not respond to your comment about the revetment referred to on the west side of the island, without more detailed information. To expand on the comment made on page III-5 of the DEA: Wave reflection at the masonry seawall is one cause that affects the natural rate of beach recovery. The removal of the masonry seawall is expected to have a net positive effect on beach recovery and shoreline stability at Brennecke Beach. With the proposed project, long-term recovery of the beach is expected. The objective of the proposed revetment is to protect the road and upland areas when storm waves deplete the beach of sand. The revetment will be buried by the beach berm under normal conditions and will be out of reach of wave action and will have minimal effect on the beach. If a storm does remove beach sand to expose the revetment to waves, and if the sand is not replaced by beach nourishment, the recovery of shoreline may be retarded due to the decreased wave-dissipation characteristic of the revetment compared to the original beach. In the absence of the proposed revetment, erosion of the beach sand would result in an unstable shoreline due to the naturally hard coastline; the natural coastline, however, will not prevent the undermining and damage to Hoone Road. The removal of the masonry seawall is the key to improving beach shoreline stability. The purpose of the revetment is only to protect Hoone Road; the revetment will have minimal effect on beach stability.

The revetment east of the project location, adjacent to Hoone Road, is exposed to different wave fronts than the proposed revetment. Beaches align with the direction of dominant wave fronts. The sloping revetment immediately east of the proposed project flanks the project site causing waves to impinge on this structure obliquely. Beach build up at this existing revetment does not occur because the sand movement is towards the project area.

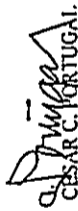
Section III of the preliminary DEA will be amended to note that the flat area behind the existing seawall, which is used for sunbathing and other recreational activities, will turn into a sloping sandy beach.

Prediction of wave and current patterns at Brennecke Beach after seawall removal is beyond the scope of the present project. However, it is very likely that wave and current conditions in front of the seawall will be less hazardous because of the additional dissipation of wave energy on the new beach.

Mr. Dee Crowell, Director
Planning Department
February 4, 1999
Page 3

If you have any questions, please do not hesitate to call Dr. Ken Cheung of Oceanit Laboratories, Inc., our environmental consultants at 531-3017.

Very truly yours,


CESAR C. PORTUGAL
County Engineer

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DEPARTMENT OF THE ARMY
7 5 ARMY ENGINEER DISTRICT HONOLULU
FT SHAFTER HAWAII 96855-500

MEMO
ATTENTION 4

DATE: 11/11/77

TO: SAC, HONOLULU

FROM: SA [Name Redacted]
SUBJECT: [Name Redacted]
RE: [Name Redacted]

On 11/11/77, [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77.

It is noted that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77.

[Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77.

[Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77.

Replacement of existing [Name Redacted] with [Name Redacted] and [Name Redacted] is being [Name Redacted] by [Name Redacted]. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77.

It is noted that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77.

[Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77. [Name Redacted] advised that [Name Redacted] was [Name Redacted] at [Name Redacted] on 11/11/77.

Sincerely,

[Handwritten Signature]
[Name Redacted]
[Title Redacted]

Very Respectfully,

[Name Redacted]
[Title Redacted]
[Address Redacted]

MARYANNE W. KUSAKA
MAJOR

WALLACE REZENTES, SR.
ADMINISTRATIVE ASSISTANT



AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4444 KOLE STREET
MO'OLEKA BUILDING, SUITE 275
LIRYE, KAUAI, HAWAII 96720

February 4, 1999

George P. Young, P.E.
Chief, Operations Branch
Department of the Army
U.S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858-5440

Dear Mr. Young:

SUBJECT: RESPONSE TO EARLY CONSULTATION COMMENTS
ON DRAFT ENVIRONMENTAL ASSESSMENT FOR
BRENECKE BEACH SHORE PROTECTION

Thank you for your letter dated December 11, 1998 (File #980000181) regarding early consultation comments on the draft environmental assessment (DEA) for Brennecke Beach Shore Protection, Poipu, Kauai.

We understand that the installation and removal of the temporary cofferdam may be authorized under NWP 33 (Temporary Construction, Access and Dewatering). The proposed cofferdam will be approximately 60 feet long starting at the northwestern edge of the existing masonry seawall and will extend nearly parallel to the shoreline to the existing revetment near Hoonie Road (see attached Figure). The bottom of the cofferdam will be 2 to 3 feet below the bottom of the trench (approximately 7 feet below MSL) and will rise approximately 4 feet above the beach level. The cofferdam will be made out of untreated lumber planks or comparable material held in place by grooved wooden posts spaced apart every 5-7 feet. The volume of the cofferdam material is approximately 18 cubic yards, all of which will be seaward of the high water mark. About 280 cubic yards of clean sand from the excavated trench will be placed *makai* (ocean side) of the cofferdam to reinforce the structure. The remaining material from the trench will be stockpiled above the high water mark. After construction of the revetment is completed the cofferdam will be removed.

CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 241-9000

IAN K. COSTA
DEPUTY COUNTY ENGINEER

George P. Young, P.E.
Chief, Operations Branch
Department of the Army
February 4, 1999
Page 2

According to your comments, construction of the partially buried revetment may be authorized under NWP 13 (Bank Stabilization). The regulatory limit for the Army Corps of Engineers (Corps) is the ordinary high water mark. During a pre-consultation meeting with the Corps, the location of the ordinary high water mark at Brennecke was estimated (August 19, 1998). Based on this estimate, the portion of the proposed revetment in the Corps jurisdiction is approximately 35 cubic yards. The average volume of fill to be discharged per running foot for the portion of the work below the plane of the high tide line is approximately 150 cubic feet per running foot, including sand volume required to fill the trench and cover the foot of the revetment.

It is also our understanding that the replacement of existing dirt/fill with clean sand and removal of the existing masonry seawall may be authorized under NWP 18 (Minor Discharges). The volume of the masonry seawall to be removed is approximately 160 cubic yards. Netting will be placed seaward of the wall prior to removal to capture broken debris before it is lost to the ocean. The volume of material to be discharged seaward of the existing high tide line will not exceed 25 cubic yards. Clean sand will be placed at a slope toward the base of the existing seawall to minimize slumping of sand into nearshore waters during seawall removal.

A contractor for this project has not been selected at this time. If the selected contractor elects to use methods not equivalent to those mentioned herein, the contractor will obtain approval for the new construction methods from the Corps and DOH prior to construction.

If you have any questions, please do not hesitate to call Dr. Ken Cheung of Oceanit Laboratories, Inc., our environmental consultants at 531-3017.

Very truly yours,

CESAR C. PORTUGAL
County Engineer

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DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM

OFFICE OF PLANNING

235 South Beretania Street, 6th Fl., Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2151, Honolulu, Hawaii 96804

Ref. No. P-7722

September 30, 1998

Mr. Cesar C. Portugal
County Engineer
Department of Public Works
County of Kauai
4111 Rice Street, Suite 275
Lihale, Hawaii 96765

Attn: Kenneth Kiriabayashi, Chief
Engineering Division

Dear Mr. Portugal:

Subject: Draft Environmental Assessment for Brennecke Beach Shore Protection,
Poipu, Kauai

We are aware that beach erosion has been a serious problem at Brennecke Beach since Hurricane Iniki struck the area in 1992. As set forth in Chapter 205A, Hawaii Revised Statutes, protecting Hawaii's beaches is a principal objective of the Coastal Zone Management (CZM) Program. We, therefore, support the proposed project entailing removal of the existing masonry wall and filling with beach-quality sand. In our view, these actions will likely help restore and protect Brennecke Beach.

To further assist the County of Kauai's Planning Department in reviewing the applications for the required Shoreline Setback Variance and Special Management Area Use Permit, an assessment of the proposed project's compliance with the CZM objectives and policies should be included in the environmental impact statement in conformance with the administrative rules of the Office of Environmental Quality Control.

If there are any questions or concerns, please contact Jeffrey Walters of our CZM Program at 587-2583.

Sincerely,

Bradley J. Mossman
Bradley J. Mossman
Director
Office of Planning

BENJAMIN CAVETANO
COUNTY ENGINEER
SEAL NUMBER
BRADLEY J. MOSSMAN
DEPUTY DIRECTOR
OFFICE OF PLANNING

Tel: (808) 587-2846
Fax: (808) 587-2824

MARYAINE W. KUSAKA
MAYOR

WALLACE REZENTES, SR.
ADMINISTRATIVE ASSISTANT



AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MOTOMEA BUILDING, SUITE 275
LILUOPE, KAUAI, HAWAII 96766

February 4, 1999

Mr. Bradley J. Mossman, Director
Office of Planning
Department of Business, Economic Development & Tourism
235 South Beretania Street, 6th Floor
Honolulu, Hawaii 96804

Dear Mr. Bradley J. Mossman:

SUBJECT: RESPONSE TO EARLY CONSULTATION COMMENTS
ON DRAFT ENVIRONMENTAL ASSESSMENT FOR
BRENNECKE BEACH SHORE PROTECTION

Thank you for your letter dated September 30, 1998 (Ref. No. P-7722) regarding early consultation comments on the draft environmental assessment (DEA) for Brennecke Beach Shore Protection, Poipu, Kauai.

As per your recommendation, an assessment of the proposed project's compliance with the CZM objectives and policies will be included in the DEA in conformance with the administrative rules of the Office of Environmental Quality Control (OEQC).

We shall continue to seek your comments as a consulted party during the public review process for the DEA.

If you have any questions, please do not hesitate to call Dr. Ken Cheung of Occamit Laboratories, Inc., our environmental consultants at 531-3017.

Very truly yours,

Cesar C. Portugal
CESAR C. PORTUGAL
County Engineer

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STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

PO BOX 521
HONOLULU, HAWAII 96809

AGRICULTURE, FORESTRY, AND RANGELANDS
PUBLIC UTILITIES
WATER RESOURCES
WILDLIFE AND BIRDS
WATER QUALITY
WATER SUPPLY
WATER USE
WATER RIGHTS
WATER TREATMENT
WATER TRANSPORTATION
WATER UTILITIES
WATER UTILIZATION

Memorandum:

To: Nick Vaccaro
From: Sam Lemmo *Sam Lemmo*
Subject: Brennecke Beach Shore Protection

It is difficult to comment on this application without having visited the site to get an appreciation of the shoreline conditions and the existing built environment in the vicinity of the project.

On the surface, the project appears to be a reasonable alternative if the net result is a good sand beach with good access. However, these comments are made without having actually visited the site.

One problem with the EA is that it fails to discuss a sand source. All projects that involve beach nourishment must disclose potential sand sources as well as extraction, delivery and placement methods. In addition, the project must identify optimal fill volumes as well as a replenishment schedule based on projected annual sand losses from the beach. The proposal, in its current form, fails to meet an acceptable standard for disclosure and analysis.

Another concern is the size of the revetment structure and the large quantity of sand that would be needed to bury it in order to maintain the public beach. Is this type of structure necessary in this situation or can something less imposing be built? How much sand will be required to maintain a good public beach?

The Planning Branch, which is also developing the DLHR's Coastal Lands Program, does not object to combination armoring/nourishment projects where there are few, if any, alternatives. However, this proposal leaves too many unresolved questions regarding the future of Brennecke Beach. For instance, what will be the long-term effect of the revetment on beach width and sand volume and who will be responsible for periodic replenishment? How much sand is initially needed, where will it come from and how often will it need to be replenished? Without such information, and a strong replenishment commitment from the County or some entity, we find the EA unacceptable.



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

PO BOX 521
HONOLULU, HAWAII 96809
October 20, 1998

AGRICULTURE, FORESTRY, AND RANGELANDS
PUBLIC UTILITIES
WATER RESOURCES
WILDLIFE AND BIRDS
WATER QUALITY
WATER SUPPLY
WATER USE
WATER RIGHTS
WATER TREATMENT
WATER TRANSPORTATION
WATER UTILITIES
WATER UTILIZATION

TO: Mr. Kitabayashi

FROM: Kenneth Kitabayashi, County Engineer
Department of Public Works
County of Kauai
1441 Rice Street, Suite 275
Lihou, Hawaii 96766

RE: Draft Environmental Assessment

PROJECT: Brennecke Beach Shore Protection
LOCATION: Poipu, Kauai, Hawaii
TAX MAP: 1-14th/2-8-18; Parcel 020

Thank you for the opportunity to review and comment on the subject Draft Environmental Assessment.

Attached herewith is a copy of our Land Division Planning and Technical Services' comment on the proposed project.

The Department of Land and Natural Resources has no other comments to offer on the subject matter at this time. Should you have any questions, please contact Mr. Sam Lemmo at 1-808-587-0381 or Nicholas Vaccaro at 1-808-587-4438.

HAWAII: Earth's best!

Aloha.

Michael D. Wilson

MICHAEL D. WILSON, Chairperson
of the Board of Land and
Natural Resources

Honolulu District Land Office
Honolulu Land Board Member
1-808-587-0381

CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 241-9000

IAN K. COSTA
DEPUTY COUNTY ENGINEER



AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4444 HICE STREET
MOIWA BUILDING, SUITE 275
LIMA, KAUAI, HAWAII 96768

MARYANN W. KUSAMA
PLANNING ASSISTANT

VALACE REZENTES, SR.
PLANNING ASSISTANT

February 4, 1999

Mr. Timothy E. Johns, Chairperson
Department of Land and Natural Resources
P.O. Box 621
Hanalei, Hawaii 96721

Dear Mr. Johns:

SUBJECT: RESPONSE TO EARLY CONSULTATION COMMENTS
ON DRAFT ENVIRONMENTAL ASSESSMENT FOR
BRENNECKE BEACH SHORE PROTECTION

Thank you for your letters dated October 20, 1998 (Ref. BRENNBSP.RCM) and October 28, 1998 (BRENNBSP.2RC) regarding early consultation comments on the draft environmental assessment (DEA) for Brennecke Beach Shore Protection, Poipu, Kauai.

In response to the letter dated October 20, 1998:

Approximately 1,500 cubic yards of sand will be imported for initial beach nourishment.

The proposed sand source for beach nourishment is located in Kekaha on the west end of Kauai. In the past, sand for Brennecke Beach was obtained from Mana and Kawaiea beaches in Kekaha. Approximately 90 truckloads of sand from these locations have been utilized for beach nourishment over the past few years.

We anticipate the contractor to use shallow excavation burrowing and skimming to extract the sand. The exact extraction method may vary depending upon the selected contractor and the type of equipment available. The sand will be transported by trucks and placed in piles above the high water line. Bulldozers or other comparable equipment will be used to distribute the sand along the beach.

Mr. Timothy E. Johns, Chairperson
Department of Land and Natural Resources
February 4, 1999
Page 2

Sand losses at Brennecke Beach average approximately 400 cubic yards per year. However, the pattern of sand losses at the beach are not steady and highly storm dependent. A renourishment schedule of 400 - 800 cubic yards of sand per year for several years can be anticipated to maintain a good sandy beach. This will be required until the beach can sustain and recover from substantial sand loss due to a large storm. The long-term effect of removing the existing masonry seawall should be positive on beach width and stability. The County of Kauai will be responsible for periodic beach nourishment.

Under normal conditions most of the proposed revetment will be buried under the sand and will be out of reach of waves. The purpose of the proposed partially-buried revetment is to protect Hoone Road from erosion under storm conditions, when the beach sand will erode and expose the road to erosion. In order to accomplish this goal, the revetment should have a good foundation and extend to an elevation at least level with the road. The size of the revetment will not be overly imposing since the majority of it will be buried. Only the top two feet of the revetment will be exposed above beach level. Given the existing sand losses of approximately 400 cubic yards a year, the 1,500 cubic yards of sand initially required for the project is small considering the positive effects the project will have on long-term shoreline stability.

In response to the letter dated October 28, 1998:

As noted in the comment letter, the existing coastal roadway, Hoone Road, makes a relatively sharp bend near the confluence with Pane Road. The State of Hawaii Department of Transportation (DOT), Highway's Division was contacted regarding the noted 50-foot wide roadway easement for Hoone Road adjacent to the bend in the road. The State DOT noted that Hoone Road is a County road not a State road and it is not in their jurisdiction (DOT, January 1999). The roadway has been at its present location for many years, and the County has no plans at this time to relocate Hoone Road. Relocation of Hoone Road would remove the immediate danger to the roadway. However, continued erosion and eventual undermining at the present Hoone Road location would still result in the discharge of terrigenous material (dirt, soil) into the ocean. Terrigenous materials used as backfill on the mauka side of the existing revetment will be removed prior to seawall removal to prevent discharge into the ocean. Nearshore water-quality testing has been performed as part of the DEA, and water-quality monitoring will continue during construction. Beach restoration in the form of sand nourishment is recommended. Along with removal of the seawall, sand nourishment is expected to improve shoreline stability, leading to long-term sand accretion and beach growth.

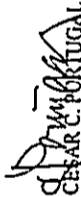
Mr. Timothy E. Johns, Chairperson
Department of Land and Natural Resources
February 4, 1999
Page 3

Wind and waves associated with Hurricane Iniki resulted in the erosion of a majority of the beach sand at Brennecke Beach. The recommended plan is to replace a portion of the lost sand and to remove the seawall to promote natural beach recovery. The natural substrate composition at Brennecke Beach consists of large boulders beneath small boulders and stones; beach recovery will prevent exposure of the underlying boulders which can be a hazard for beach users. Planting of shoreline vegetation is also recommended to help reduce beach erosion upland of the shoreline. We will continue to consult with the U.S. Fish and Wildlife Services and other relevant agencies regarding shoreline vegetation selection.

We agree that the future use of terrigenous material for backfill in areas near shoreline areas should be discouraged. For the current project at Brennecke Beach, fill material will consist of clean sand.

We shall continue to seek your comments as a consulted party during the public review process for the DE.A. If you have any questions, please do not hesitate to call Dr. Ken Cheung of Oceanit Laboratories, Inc., our environmental consultants at 531-3017.

Very truly yours,


CESAR C. PORTUGAL
County Engineer

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 2ND FLOOR
HONOLULU, HAWAII 96813

DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF
GABRIEL LOPEZ, CHAIRMAN
AGRICULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES CONSERVATION AND RESTORATION
CONSERVATION AND RESTORATION
FORESTRY AND WILDLIFE RESTORATION DIVISION
LAND DIVISION
STATE PARKS
WATER AND LAND DEVELOPMENT

October 2, 1988

Mr. Cesar Portugal, County Engineer
County of Kauai/Department of Public Works
1414 Rice Street, Suite 275
Lihue, Kauai, Hawaii 96766

Dear Mr. Portugal

SUBJECT: Chapter 6E-42, Historic Preservation Review -
Draft Environmental Assessment - Brennecke Beach Shore Protection
Poipu, Kauai

LOG NO: 22293
DOC NO: 9809NM12

Thank you for submitting the draft EA for our review. We agree with the reports wording on page II-2-3. Unfortunately, the Cultural Surveys Hawaii report has never been completed, so it is unclear how extensive archaeological deposits are in this area and whether they extend into the area at all. We strongly urge you to press Cultural Surveys Hawaii to complete this report, so its findings can be used for EA's in future projects. These findings may well eliminate the need for any future archaeological work in some areas.

Without the findings of that report, as a contingency, archaeological monitoring would seem to be necessary to identify, document and treat any significant historic sites in your project area. On page III-3, the report recommendations that an archaeological monitor be present. We agree with this recommendation. In order for this project to have a "no adverse effect" on significant historic sites, we recommend the following condition:

1) A qualified archaeologist shall be hired to conduct on-site monitoring during the trenching of the irrigation line. Prior to starting the monitoring work, an acceptable monitoring plan (scope of work) shall be submitted to the State Historic Preservation Division for review and approval. That plan will indicate sites likely to be present, planned documentation procedures, and the process for treating sites that are found (including procedures for stoppage of construction in order to evaluate and treat any finds, the need for a burial treatment plan if burials should be found, and including consultation with the State Historic Preservation Division). The plan must include provisions for an acceptable monitoring report (and a schedule for that report's submission), to be approved by the State Historic Preservation Division.

C. Portugal
Page 2

If you have any questions, please call Nancy McMahon 742-7033.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division
Niihama

MARYAINE W. KUSAKA
MAYOR

WALLACE REZENIES, SR.
PARTICIPATIVE ASSISTANT



AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4444 HEE STREET
HOONAHU, KAUAI, HAWAII 96700

CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 241-9000

IAN K. COSTA
DEPUTY COUNTY ENGINEER

Mr. Don Hibbard, Administrator
Dept. of Land and Natural Resources
February 4, 1999
Page 2

We shall continue to seek your comments as a consulted party during the public review process for the DEA.

If you have any questions, please do not hesitate to call Dr. Ken Cheung of Oceanit Laboratories, Inc., our environmental consultants at 531-3017.

February 4, 1999

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

Dear Mr. Hibbard:

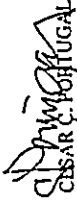
SUBJECT: RESPONSE TO EARLY CONSULTATION COMMENTS
ON DRAFT ENVIRONMENTAL ASSESSMENT FOR
BRENNECKE BEACH SHORE PROTECTION

Thank you for your letter dated October 2, 1998 (Log No: 22293, Doc No 9809NM12) regarding early consultation comments on the draft environmental assessment (DEA) for Brennecke Beach Shore Protection, Poipu, Kauai.

In order for this project to have a "no adverse effect" on significant cultural sites, the following condition will be included in the DEA:

A qualified archaeologist will be hired to conduct on-site monitoring during the trenching for the revetment. Prior to commencement of monitoring work, an acceptable monitoring plan will be submitted to the State of Hawaii Department of Land and Natural Resources, State Historic Preservation Division for review and approval. The plan will indicate sites likely to be present, planned documentation procedures, and the process for treating sites that are found (including procedures for stoppage of construction in order to evaluate and treat any finds, the need for a burial treatment plan if burials should be found, and including consultation with the State Historic Preservation Division). The plan will also include provisions for an acceptable monitoring report (and a schedule for the report's submission) to be approved by the State Historic Preservation Division.

Very truly yours,


CESAR C. PORTUGAL
County Engineer

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**APPENDIX D.
COMMENTS AND RESPONSES TO SUBSTANTIVE
COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT**

DOCUMENT CAPTURED AS RECEIVED

PHONE (808) 594-1848

FAX (808) 594-1848



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
111 KAPUOLANI BOULEVARD, SUITE 600
HONOLULU, HAWAII 96813

April 6, 1999

Mr. Cesar C. Portugal, County Engineer
County of Kauai
Department of Public Works
444 Rice Street
Lihue, Hawaii 96766

Re: Draft Environmental Assessment, Brennecke Beach Shore Protection, Poipu, Kauai

Dear Mr. Portugal:

Thank you for the opportunity to review the draft Environmental Assessment (DEA) for the Brennecke Beach Shore Protection Project. As indicated in the DEA, the property is under the jurisdiction of the County of Kauai. The project involves the demolition and removal of an old seawall and the construction of a revetment wall.

The seawall is all that remains from an older home built on the property but destroyed during Hurricane Iwa. The revetment wall is meant to protect the roadway from storm damage.

At this time, the Office of Hawaiian Affairs has no objection to the project. However, we caution that the sensitive nature of the area increases the likelihood that human remains could be found. In addition to the archaeological monitoring which is a part of the plan, we suggest that a cultural monitor be added to the project. In addition, if any burials are encountered the Kauai Burial Council should be notified immediately.

If you have any questions, please contact Lynn Lee, EIS Planner at 594-1936.

Sincerely

C. Sebastian Alcott
C. Sebastian Alcott

Colin Kippen
Deputy Administrator

cc: Board of Trustees
Kauai Community Affairs Office

MARYANNE W. KUSAKA
MAYOR



CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 741-6620

JAN K. COSTA
DEPUTY COUNTY ENGINEER
TELEPHONE 741-6640

WALLACE G. REZERTEES, SR.
ADMINISTRATIVE ASSISTANT

AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
444 RICE STREET
LIHUE, KAUAI, HAWAII 96766

April 28, 1999

State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Blvd., Suite 600
Honolulu, Hawaii 96813

Dear Mr. Colin Kippen and C. Sebastian Alcott:

SUBJECT: RESPONSE TO COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT FOR BRENNECKE BEACH SHORE PROTECTION

Thank you for your letter dated April 6, 1999 (Ref. No. Eis (99) 288) regarding comments on the draft environmental assessment (DEA) for Brennecke Beach Shore Protection, Poipu, Kauai.

An archaeological monitor will be selected that is sensitive to the historical and cultural background of the project area. If a suitable archaeologist can not be found to meet these needs, a respected member(s) of the community will be consulted to assist in determining cultural impacts from the proposed project.

If any burials are encountered during the project, the Kauai Burial Council and the State DLNR Historic Preservation Division will be notified immediately.

If you have any questions, please do not hesitate to call Dr. Ken Cheung of Oceanit Laboratories, Inc., our environmental consultants at 531-3017.

Very truly yours,

Cesar C. Portugal
CESAR C. PORTUGAL
County Engineer

DOCUMENT CAPTURED AS RECEIVED

DEPARTMENT OF WATER
County of Kauai

"Water has no substitute - Conserve it"

March 19, 1999

Mr. Cesar C. Portugal
County Engineer
County of Kauai
Lihue, HI 96766

Dear Mr. Portugal:

SUBJECT: Draft Environmental Assessment Brennecke Beach Shore Protection, Poipu, Kauai, February, 1999, Prepared by Oceanic Laboratories, Inc.

Thank you for allowing the Department of Water, County of Kauai, to review the subject draft environmental assessment.

The Department of Water does not have any objections to the proposed project. However, the Department of Water's water system facilities along Hoone Road, fronting Brennecke Beach, include a 12-inch diameter distribution mainline located on the mauka side of the roadway. The Department recommends that any construction improvements along Hoone Road be reviewed and approved by the Department of Water prior to actual construction activities.

Should you have any questions, please feel free to call me or Gregg Fujikawa of my staff at 245-5416.

Sincerely,



Ernest Y.W. Lau
Manager and Chief Engineer

GF

cc: Mr. Kenneth Kibayashi, Chief, Department of Public Works
Dr. Ken Cheung, PhD, Oceanit Laboratories, Inc. ✓

A/E/Architect/Engineer/Planner

MARYANNE W. KUSAKA
Mayor

WALLACE G. REZENTES, SR.
Administrative Assistant



AN EQUAL OPPORTUNITY EMPLOYER

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MOHEHA BUILDING, SUITE 275
LIHUE, KAUAI, HAWAII 96766

April 28, 1999

Department of Water
P.O. Box 1706
Lihue, HI 96766-5706

Dear Mr. Ernest Y.W. Lau:

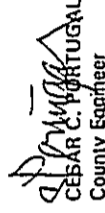
SUBJECT: RESPONSE TO COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT FOR BRENNKE BEACH SHORE PROTECTION

Thank you for your letter dated March 19, 1999 regarding comments on the draft environmental assessment (DEA) for Brennecke Beach Shore Protection, Poipu, Kauai.

Any construction improvements along Hoone Road will be submitted to the County of Kauai Department of Water for review and approval prior to construction activities.

If you have any questions, please do not hesitate to call Dr. Ken Cheung of Oceanit Laboratories, Inc., our environmental consultants at 531-3017.

Very truly yours,


CESAR C. PORTUGAL
County Engineer

CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 731-5600

IAN K. COSTA
DEPUTY COUNTY ENGINEER
TELEPHONE 731-5640



STATE OF HAWAII
LAND DIVISION
P.O. BOX 211
HONOLULU, HAWAII 96825

APR 8 1999

Ref: PS:EH

Mr. Caesar C. Portugal
County Engineer
Department of Public Works
County of Kauai
4444 Rice Street
Lihue, Kauai, HI 96766

Dear Mr. Portugal:

Subject: Draft Environmental Assessment (DEA)
Brennecke Beach Shore Restoration
Poipu, Kauai

We have reviewed the subject DEA and wish to advise you to refer to our earlier comments made on the proposed project which should be addressed in the Final Environmental Assessment. Further, it is important for you to realize that any work conducted makai of the certified shoreline must obtain an approved Conservation District Use Permit approved by the Board of Land and Natural Resources.

Should you have any questions, please contact our Coastal Lands Program in the Planning Branch of the Land Division at 587-0381.

Thank you for your attention and cooperation regarding this matter.

Very truly yours,

Alan G. Uchida
Dean Uchida,
Administrator

LAND AND NATURAL RESOURCES
COUNTY ENGINEER
DEPARTMENT OF PUBLIC WORKS
COUNTY OF KAUAI
4444 RICE STREET
LIHUE, KAUAI, HAWAII 96766

MARYANNE W. KUSAKA
MAYOR

WALLACE G. REZENTES, SR.
ADMINISTRATIVE ASSISTANT



AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MOKOHA BUILDING, SUITE 275
LIHUE, KAUAI, HAWAII 96766

April 28, 1999

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

Dear Mr. Dean Uchida:

SUBJECT: RESPONSE TO COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT FOR BRENNECKE BEACH SHORE PROTECTION

Thank you for your letter dated April 8, 1999 (Ref: PS:EH) regarding comments on the draft environmental assessment (DEA) for Brennecke Beach Shore Protection, Poipu, Kauai.

Early consultation comments made by DLNR on letters dated October 20, 1998 and October 28, 1998 have been incorporated, where appropriate, into the DEA.

Since the project involves work makai of the certified shoreline, a Conservation District Use Permit approved by the Board of Land and Natural Resources will be required for this project.

If you have any questions, please do not hesitate to call Dr. Ken Cheung of Oceanit Laboratories, Inc., our environmental consultants at 531-3017.

Very truly yours,

Caesar C. Portugal
Caesar C. Portugal
County Engineer

DOCUMENT CAPTURED AS RECEIVED

Koloa Community Association
P. O. Box 1313
Koloa, HI 96756
Rick Haviland, Land Use Committee Chairperson

TO: Mr. Cesar Portugal, County Engineer
Dept. of Public Works
4444 Rice St., Suite 275
Lihue, HI 96766
Attention: Ken Kitabayashi, Chief, Engineering Division

DT: April 5, 1999
RE: Draft Environmental Assessment, Brennecke Beach Shore Protection, February 1999

Dear Mr. Portugal,

The Koloa Community Association Board of Directors has voted to express it's strongest support for the proposed Brennecke Beach Shore Protection Plan. We are in agreement with the objectives as stated in the Draft Environmental Assessment, February 1999.

The community has an overwhelming desire to see this site restored to what it formerly was. It is of the very highest priority to us. The importance of the socioeconomic benefits this restoration will bring to the people of our community cannot be overstated.

We were pleased to see that near shore resources will receive due protection from damage by siltation during the construction process. A wooden coffer dam and inland discharge pit will be prudent. Nearby residences will need to be protected from construction generated dust damage.

We were also happy to see the 1500 yd initial beach sand nourishment included in the plan. We would like to emphasize the importance of using CLEAN sand of a similar size and texture to the existing material. We are very appreciative of the statements made by Mr. Portugal in letters to Mr. Timothy Johns, BLNR Chair, and others, "A renourishment schedule of 400-800 cubic yards of sand per year for several years can be anticipated to maintain a good sandy beach...the County of Kauai will be responsible for periodic beach nourishment." This is just the kind of long term commitment that we need to restore Brennecke Beach to the wonderful community resource that it once was.

Most sincerely in appreciation,



Rick Haviland,
Koloa Community Association, Land Use Committee Chairperson

BERNARD J. CATELANO
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION
KALANIANA'OLA BUILDING, ROOM 555
1555 ALI'OLE DRIVE
HONOLULU, HAWAII 96813

THOMAS E. JONES, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
BOARDS
JANET E. LAVERGNE

ACQUINE BARRON
ALANNAH BARRON
BRENDA BARRON
CONSERVATION AND RESTORATION
ENFORCEMENT
CONTRACTS
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND USE
PLANNING
WATER RESOURCE MANAGEMENT

March 24, 1999

Mr. Cesar Portugal, County Engineer
County of Kauai/Department of Public Works
4444 Rice Street, Suite 275
Lihue, Kauai, Hawaii 96766

LOG NO: 23121 ✓
DOC NO: 9903NM10

Dear Mr. Portugal:

SUBJECT: Chapter 6E-42, Historic Preservation Review -- Draft Environmental Assessment - Brennecke Beach Shore Protection
Poipu, Kauai

Thank you for submitting the draft EA for our review. Our recommendations (l. dated October 2, 1998) have been implemented in the wording for this DEA.

Aloha,



DON HIBBARD, Administrator
State Historic Preservation Division

NM.amk



STATE OF HAWAII
DEPARTMENT OF HEALTH
151 KALEIA
HONOLULU, HAWAII 96813

April 28, 1999

99-0417/epo

Mr. Ken Kiribayashi
April 28, 1999
Page 2

99-0417/epo

2. If the project involves construction deactivating effluent discharging into State waters, an NPDES general permit will be required for each activity.

Should you have any questions regarding this matter, please contact Mr. Hong Chen, Engineering Section of the Clean Water Branch, at (808) 586-4309.

Sincerely,


GARY GILL

Deputy Director for
Environmental Health

c: CWB
KDHO

Mr. Ken Kiribayashi, Chief
Department of Public Works
County of Kauai
Makaha Building, Suite 275
4444 Rice Street
Lihue, Hawaii 96766

Dear Mr. Kiribayashi:

Subject: Draft Environmental Assessment (DEA)
Biremecke Beach Shore Protection Project
Ewa, Kauai
TKM: 2-4-18-20

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Water Pollution

1. A Section 401 Water Quality Certification (WQC) is required from the Department of Health for "Any applicant for Federal license or permit or conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters."

JARYAHNE W. KUSAKA
MAYOR

WALLACE G. REZENDES, SR.
ADMINISTRATIVE ASSISTANT



CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 241-1443

JAN K. COSTA
DEPUTY COUNTY ENGINEER
TELEPHONE 241-1443

AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
444 DUCE STREET
MOTOMEA BUILDING, SUITE 375
LILUOKE, KAUAI, HAWAII 96766

May 7, 1999

Mr. Gary Gill, Deputy Director
Environmental Health
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Dear Mr. Gill:

Thank you for your comments (Letter dated April 28, 1999, File: 99-0471) on the Draft Environmental Assessment (DEA) for the Brennecke Beach Shore Protection Project, Poipu, Kauai.

Response to Comment 1:

The proposed activity will comply with Section 401 of the Clean Water Act.

Response to Comment 2:

If the project will require dewatering effluent to be discharged into State waters, an NPDES general permit will be obtained.

Should you have any questions, please contact Dr. Ken Cheung of Oceanit Laboratories, Inc., our environmental consultants at (808) 531-3017.

Very truly yours,


CESAR C. PORTUGAL
County Engineer

KK/cu