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GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF LAND MANAGEMENT

P.O. BOX 621
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QUALITY CONTROL

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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

Ref.: PB:SL

MEMORANDUM

To: Gary Gill, Director
Office of Environmental Quality Control

From: Dean Y. Uchida, Administrator *[Signature]*
Land Division, Department of Land and Natural Resources

Subject: Final Environmental Assessment for Beach Nourishment at
Makaha, Oahu

The Department of Land and Natural Resources, Land Division, has reviewed the comments received during the 30-day public comment period which began on January 24, 1997. The Department has determined that the applicant has met the content requirements for a Final Environmental Assessment (FEA) for the project, and hereby issues a Finding of no Significant Impact (FONSI) to the environment. [Note: Acceptance of the FEA does not constitute the Department or Board's endorsement of the project.] Please publish this notice in the OEQC Bulletin as soon as possible.

We have enclosed a completed OEQC Bulletin Publication Form (on disk) and four copies of the final EA. Please contact Sam Lemmo at 587-0381 if you have any questions.

Attachments

cc: Chairmen's Office
Oahu Board Member
Warren Bucher

Makaha Surfside Beach
Nourishment

61



1997-06-08-0A-~~FEA~~-Makaha Surfside
Beach Nourishment Project
Oceanit Coastal Corporation

JUN 8 1997

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coastal engineering services

A subsidiary of Oceanit Laboratories, Inc.

**FINAL
ENVIRONMENTAL ASSESSMENT FOR
PROPOSED SHORE PROTECTION AT
MAKAHA SURFSIDE APARTMENTS
85-175 FARRINGTON HIGHWAY**

Prepared for:

Ind-Comm Management, Inc.

Prepared by:

Oceanit Coastal Corporation

MAY 1997

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I. GENERAL INFORMATION

Applicant: Makaha Surfside Apartments
c/o Ind-Comm Management

Landowner: State of Hawaii Department of Land and Natural Resources
Managed by Department of Parks and Recreation, City and County
of Honolulu, under Executive Order 3452

Accepting Agency: State of Hawaii Department of Land and Natural Resources

Project Location: Waianae, Oahu, Hawaii

Tax Map Key: 8-5-17:5

Land Area: Approximately 8,000 square feet from the certified shoreline to the
Makaha Surfside property line

State Land Use District: Conservation

Conservation Subzone: Resource

County Development Plan: No designation on project site/*Park* mauka of project site
See Figure 6 (Area Plan) of Conservation District Use Application

Zoning: No designation on project site/*P-2* mauka of project site

Existing Use: Public shoreline

Proposed Use: Beach nourishment with sand

Consulted Agencies: U.S. Department of the Army
State Department of Land and Natural Resources
Planning Branch
Engineering Branch
State Historic Preservation Division
Department of Land Utilization
Department of Parks and Recreation



II. DESCRIPTION OF PROPOSED ACTION

A. TECHNICAL

The Makaha Surfside Apartments are located on the leeward side of Oahu between Lahilahi Point and Waianae High School (see Figure 1). The proposed action involves sand nourishment below the certified shoreline and above the high tide line fronting the Makaha Surfside. The beach is within a small cove or bay. Severe erosion along the shoreline threatens the Makaha Surfside Apartments. The eroded shoreline has receded over 60 feet since 1970 at an average rate of approximately 3 feet per year. The beach receded very quickly in the early 1970s and continued somewhat slower in the 1980s and '90s. By 1995, the top of the shoreline was less than 10 feet from the property line of Makaha Surfside. The larger waves runup onto the property and are approaching the buildings, threatening damage during storms or large swells. Further erosion will endanger the buildings on the property. Because the proposed action would occur in the Conservation District, it falls under the jurisdiction of the State Department of Land and Natural Resources (TMK 8-5-17:5).

The parcel of land between the shoreline and the Makaha Surfside property line was placed under the control of the City & County of Honolulu Department of Parks & Recreation via State Executive Order 3452. It consists of a part of Mauna Lahilahi Beach Park and an access road along the shoreline. Most of the road has eroded away, and only a narrow beach surrounded by rocks and an eroding escarpment remains (see Figures 2 & 3). The escarpment continues to crumble towards the Makaha Surfside property line with some portions less than 10 feet away from the property line. The access road can no longer be used by motor vehicles for shoreline access. However, students still use this area as a path for access to and from Waianae High School. If erosion continues a few more feet, longshore access will become difficult and possibly dangerous.

The bay has dimensions of approximately 350 feet in the longshore direction and 240 feet in the cross-shore direction. Water depth at the mouth of the bay is approximately 6 feet. The nearshore bottom out to the mouth of the bay is relatively hard with dispersed boulders and very little sand. There are two small sandy beach areas. The sand cover on the beach is very thin, probably less than 2 feet. The base is a combination of volcanic rock and limestone, some consolidated and some existing as small boulders. A layer of topsoil covers the rock at the top of the beach. On both flanking sides of the bay, there are steep rocky areas with no sand cover. Trees were lost in this area, and vegetation lines continue to recede. Aerial photographs of 1972 and 1994 are shown in Figures 4 and 5 respectively.

The certified shoreline follows an embankment eroded into hard clay overlaying rock and boulders. There is no beach mauka of the certified shoreline. To protect the park land fronting Makaha Surfside, an erosion control system must be employed. Makaha Surfside requires DLNR concurrence on the proposed action, as sand nourishment will occur below the certified shoreline on State Conservation District land. Appendix B contains the certified shoreline survey map.



Studies discussed in the Final Environmental Impact Statement for Waianae Boat Harbor, Waianae, Oahu (1976) indicate that the area between Lahilahi Point and Kaneilio Point (south of Pokai Bay) probably comprises a littoral cell, a partially confined area where sand is created and circulates. The cause of accelerated erosion in the cove is not well understood but is probably due to several factors. Residents believe that hurricanes Iwa and Iniki made the situation worse. The beach is a pocket beach; sand transport is primarily onshore/offshore. Outside the cove, sand transport is primarily northwest toward Mauna Lahilahi Beach but can move in either direction along the coast. Mauna Lahilahi Beach is relatively large and apparently healthy. Between 1949 and 1988, Lahilahi Beach eroded approximately 9-12 feet - not nearly as much as in the cove (Sea Engineering, 1988). Most of this erosion probably resulted from Hurricane Ewa in 1982. Aerial photographs show numerous sand patches and channels in the reef indicating that sand from the beach may be in this area.

After evaluating several alternatives, discussed in Chapter IV, rebuilding the beach by adding sand is recommended to protect the shoreline and apartment buildings. The beach should be extended seaward at least 30 feet to minimize wave runup onto Makaha Surfside's property. Salt tolerant vegetation will be planted at the top of the beach. An artist's concept of the nourished beach is shown in Figure 6. A plan view map of the new beach area is shown in Figure 7. Approximately 5,000 cubic yards of sand are necessary to nourish the beach. Sand must be placed between the certified shoreline and the high tide line. Only approximately 1,000 cubic yards can be piled in this space until the sand is redistributed by wave action; therefore, sand placement will have to be done 4 to 5 times with time between each placement. Replacement sand must be similar to existing sand with median grain size greater than 0.4 mm. Larger grain size such as 1-2 mm is desirable because it will remain in place longer. At existing erosion rates, additional sand should be added every 5-10 years. The actual sand source will depend on price and availability when the material is purchased. Several possible sources of sand are being investigated including offshore sand mining and dune sand.

B. SOCIO-ECONOMIC

This project will improve the beach and make it better for recreational use. Beach nourishment reduces the threat to property from storm waves because it creates a buffer zone. Therefore, potential decreases in property values may be mitigated.



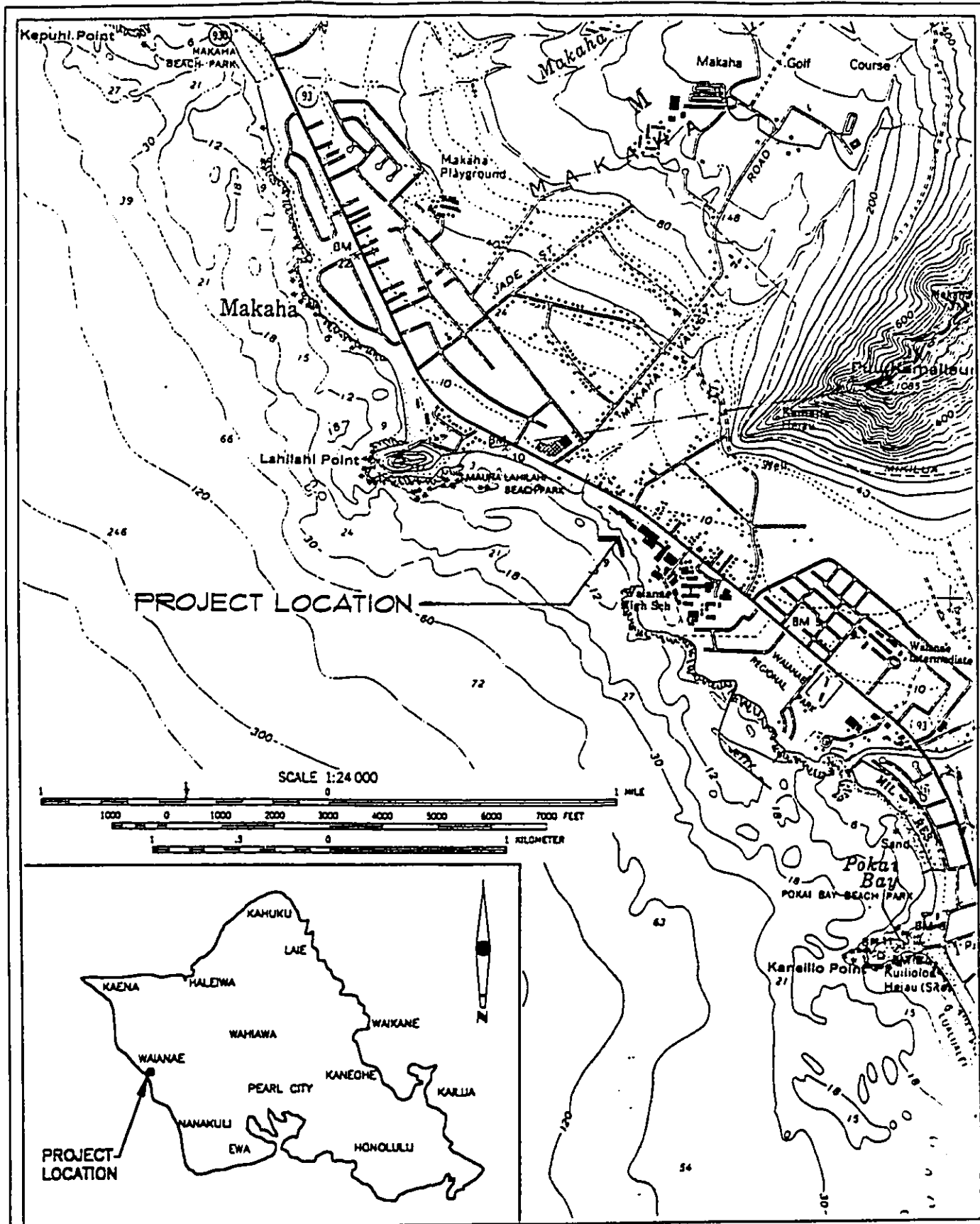


FIGURE 1 - SITE LOCATION MAP

85-175 FARRINGTON HIGHWAY
 WAIANAЕ, HAWAII 96792 T.M.K.: 8-5-17:5





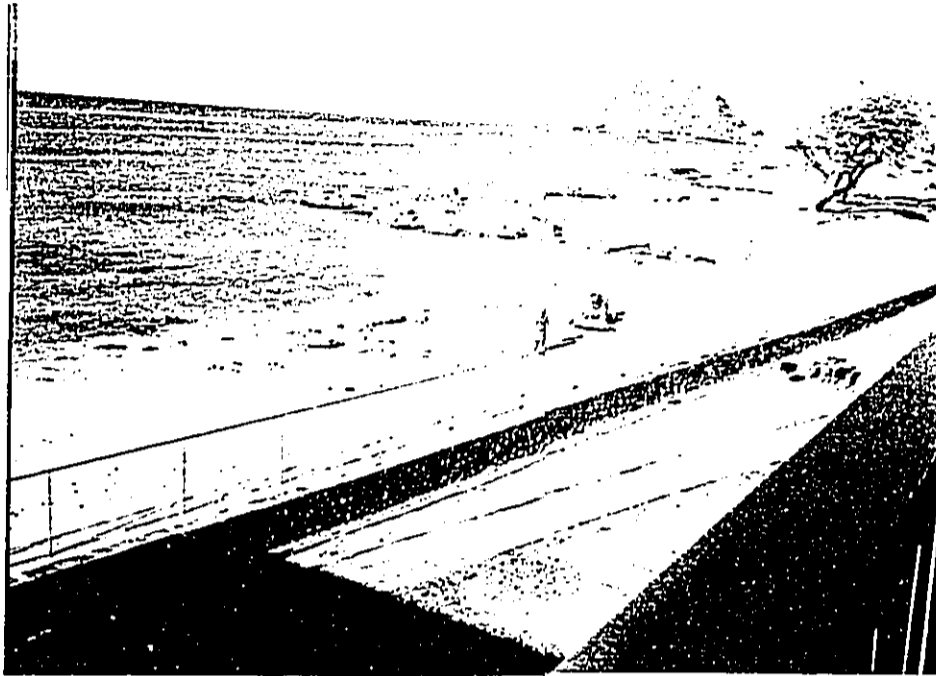
May 1 - 10, 1976



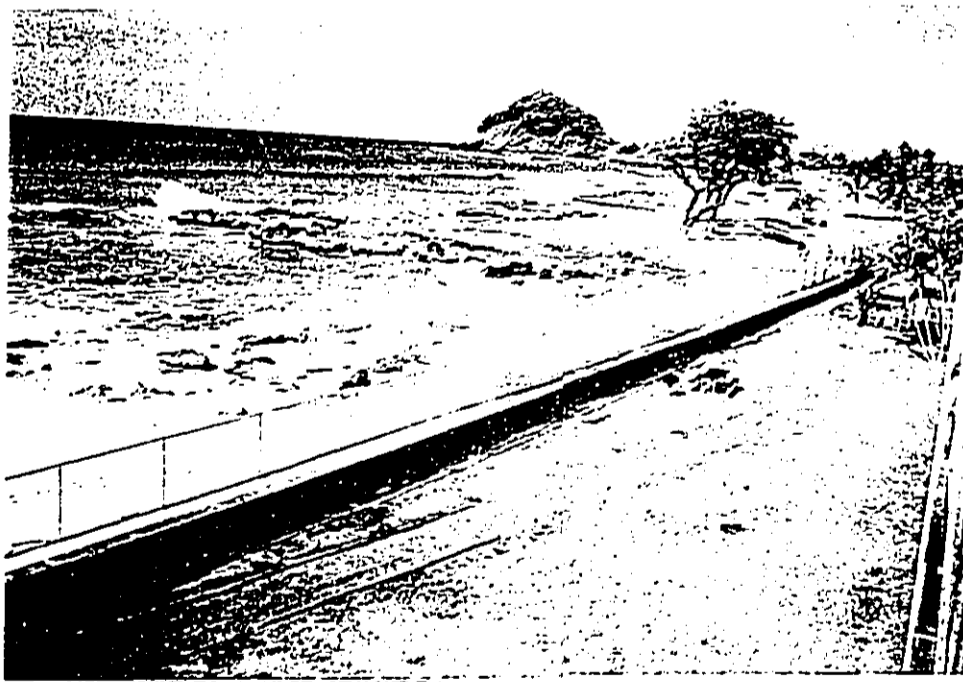
May 1- 10, 1976

FIGURE 2. SITE PHOTOGRAPHS, 1976





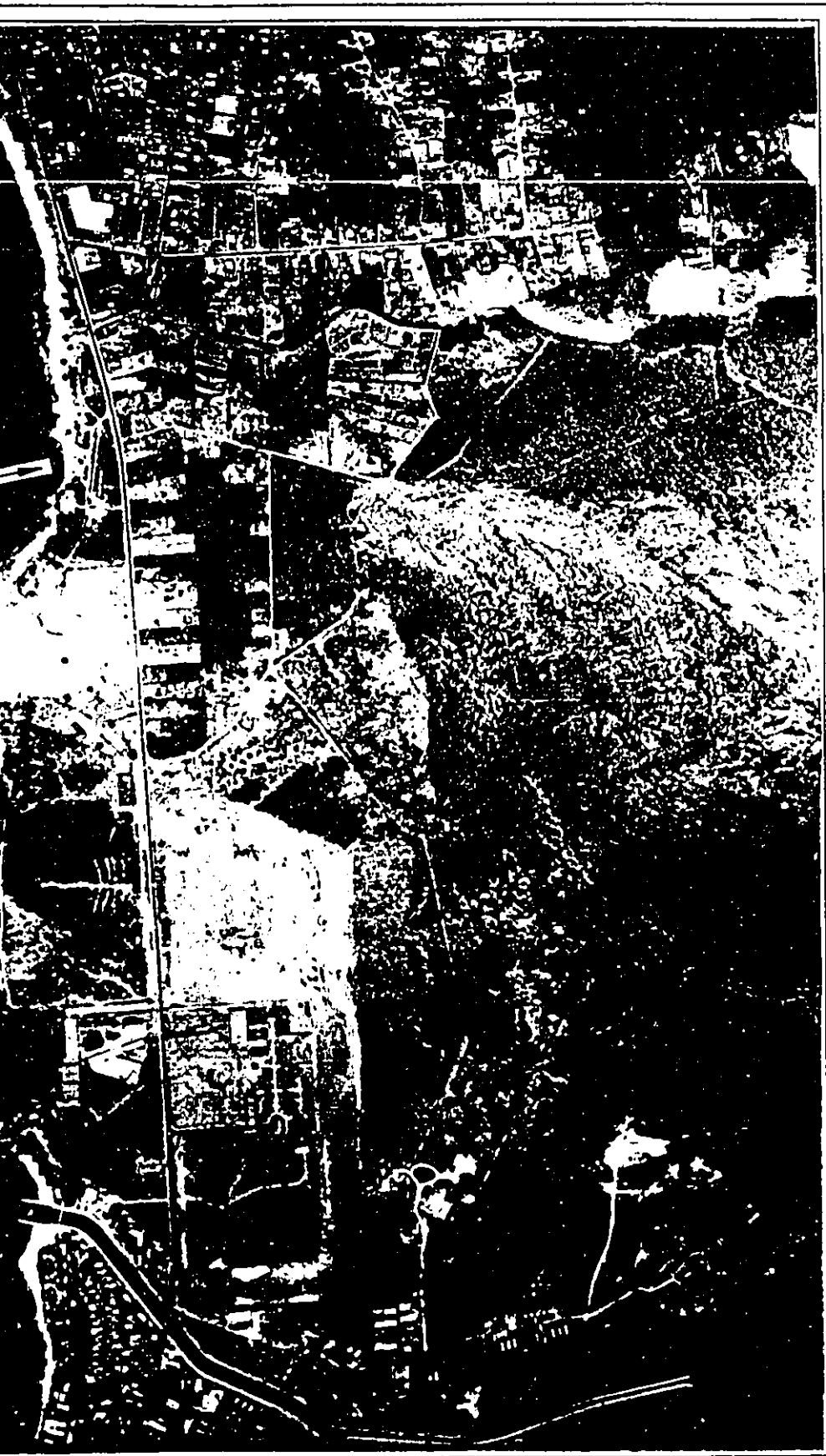
January 11 - 24, 1993



February 6 - 20, 1993

FIGURE 3. SITE PHOTOGRAPHS, 1993





AERIAL PHOTOGRAPH OF 26 MAY 1972

TON HIGHWAY
06792 T.M.K.: 8-5-17:5



Hawaii Coastal Corporation



FIGURE 5 - AERIAL PHOTOGRAPH OF 12 JULY 1994

85-175 FARRINGTON HIGHWAY
WAIANAE, HAWAII 96792 T.M.K.: 8-5-17:5

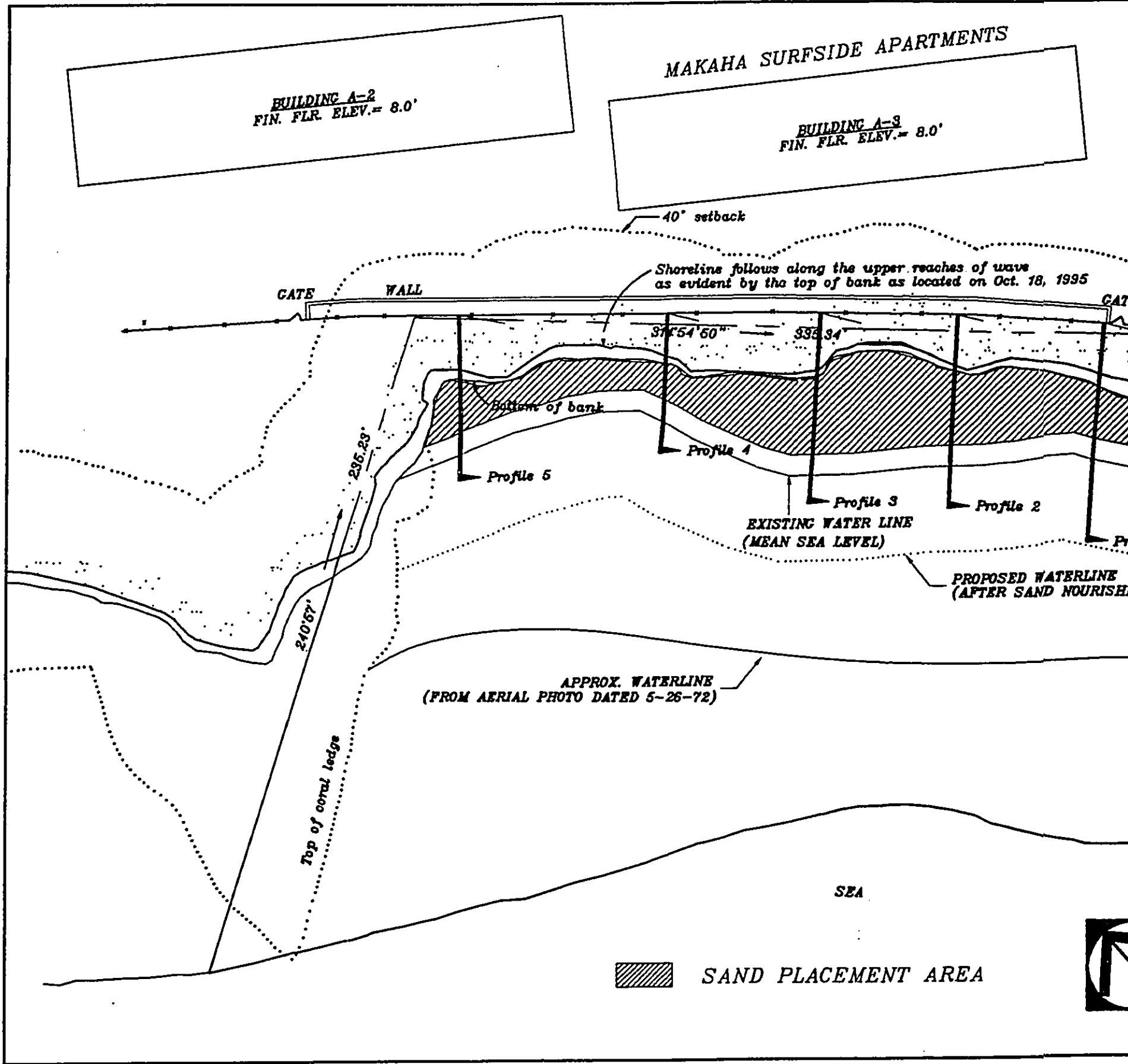


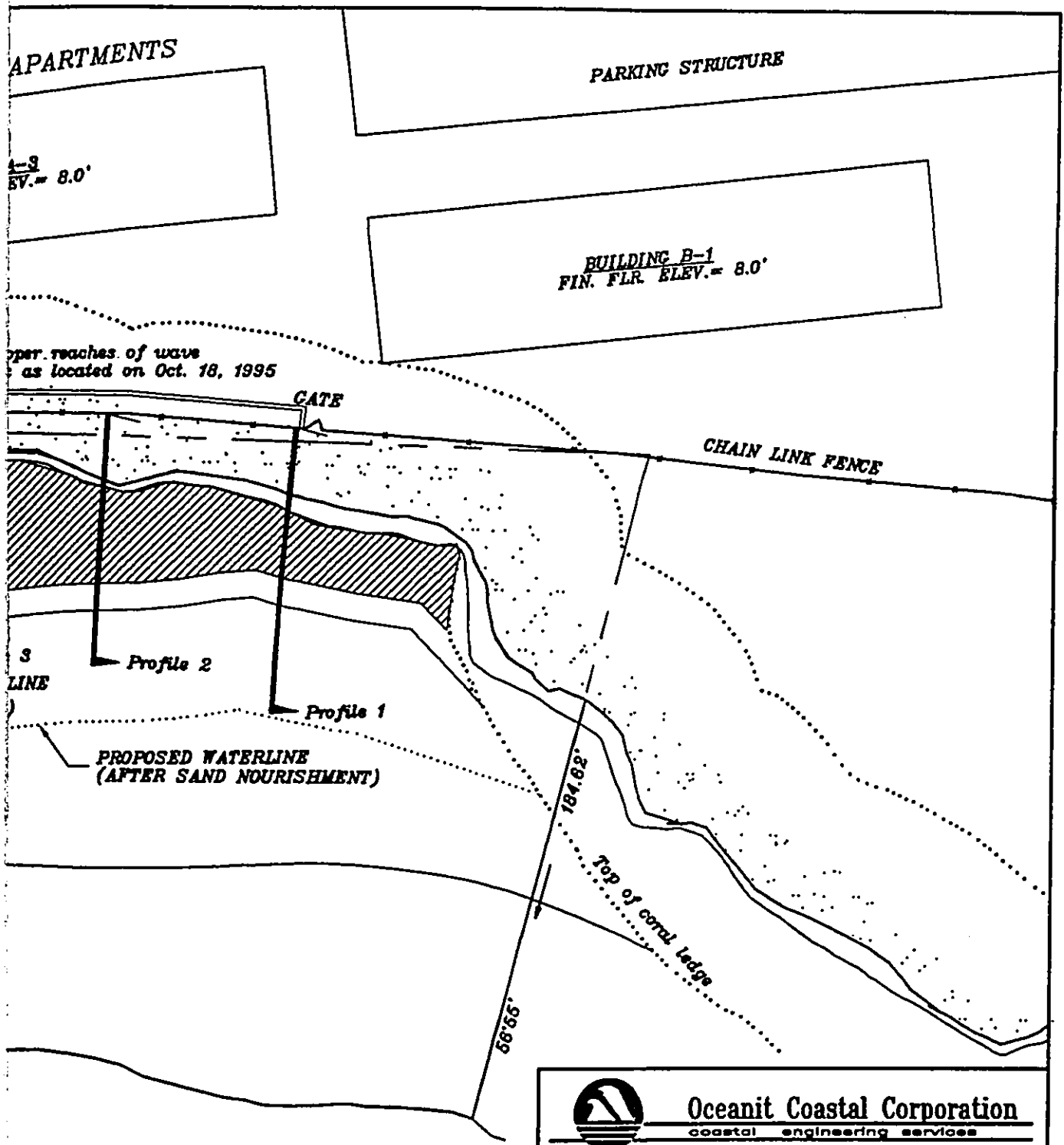
Oceanit Coastal Corporation
GENERAL ENGINEERING SERVICES



FIGURE 6. ARTIST'S CONCEPT, BEACH NOURISHMENT








NT AREA



 Oceanit Coastal Corporation coastal engineering services <small>1100 Altona Building 1100 Altona Street, 21st Floor Honolulu, Hawaii 96813</small>		
<small>TEL: (808) 531-3077 FAX: (808) 531-3177 TELEX: 7431404</small>		
FIGURE 7		
BEACH NOURISHMENT MAP		
SCALE 1" = 40' 05/08/97	APPROVED BY	DRAWN BY WTY REVISION JPM
DATE	DRAWING NUMBER 1 OF 1	

III. AFFECTED ENVIRONMENT

Environmental features of the site and surrounding area include the warm, sunny, dry climate that is a characteristic of the leeward shores of Oahu. The generally calm and clear adjacent coastal water is excellent for fishing, diving, surfing, and other water sports.

A. SEAWARD

The coastal shoreline of Waianae consists of basalt outcrops and uplifted limestone benches with stretches of white coralline sand beaches. There are no major estuarine areas along the coast, and streams and drainage ditches are of an intermittent nature due to low annual rainfall.

Waianae's shallow-water reefs are narrow. The offshore reef surface is comprised mainly of hard consolidated coralline pavement interspersed with sand channels and pockets, and coral growth. Basalt headlands are sometimes associated with offshore basalt formations. Water depths of several hundred feet can be reached about 200 yards from shore.

The beaches of the Waianae coast have their light colored coralline sand and seasonal high surf (Oceanic Institute, 1976). However, the subject property has lost most of its beach--having instead formed a pocket type, wave swept, rocky limestone shoreline.

Currents on the Waianae coast are weak and dominated by the tides. Though prevailing coastal currents flow northwest, a study by Oceanic Institute (1976) revealed strong current reversal over the tide cycle, flowing southeast during ebb and northwest during flood.

Waianae coastal waters are categorized Class A in the State Water Quality Standards. Sewer discharges and thermal discharges along the coast are the only major local deviations from Class A standards. Several intermittent streams and drainage ditches do discharge into coastal water; however, their influence on water quality is limited to periods of heavy rainfall. Existing water quality on the site has not been determined.

The Makaha Surfside is located on the leeward coast of Oahu where the beach is subject to waves from Kona storms, southern swells, and the wrap-around from North Pacific swells. A wave exposure window is shown in Figure 8. Deep water wave data inside this window were analyzed and the results are in Figure 9. The dominant wave directions are the south southwest (southern swell) and northwest (North Pacific swell). Kona storm waves locally generated with much shorter wave periods also contribute to the beach erosion at this site. The most probable wave period is 12 to 14 seconds and the most probable wave height is three feet. As these waves approach the shoreline they are transformed by refraction, friction, shoaling, and breaking. The breaking waves generate longshore currents and cross-shore currents that affect beach processes. Because the beach fronting the property has recessed from the neighboring rocky shorelines, refracted waves enter straight into the bay so that the longshore current is



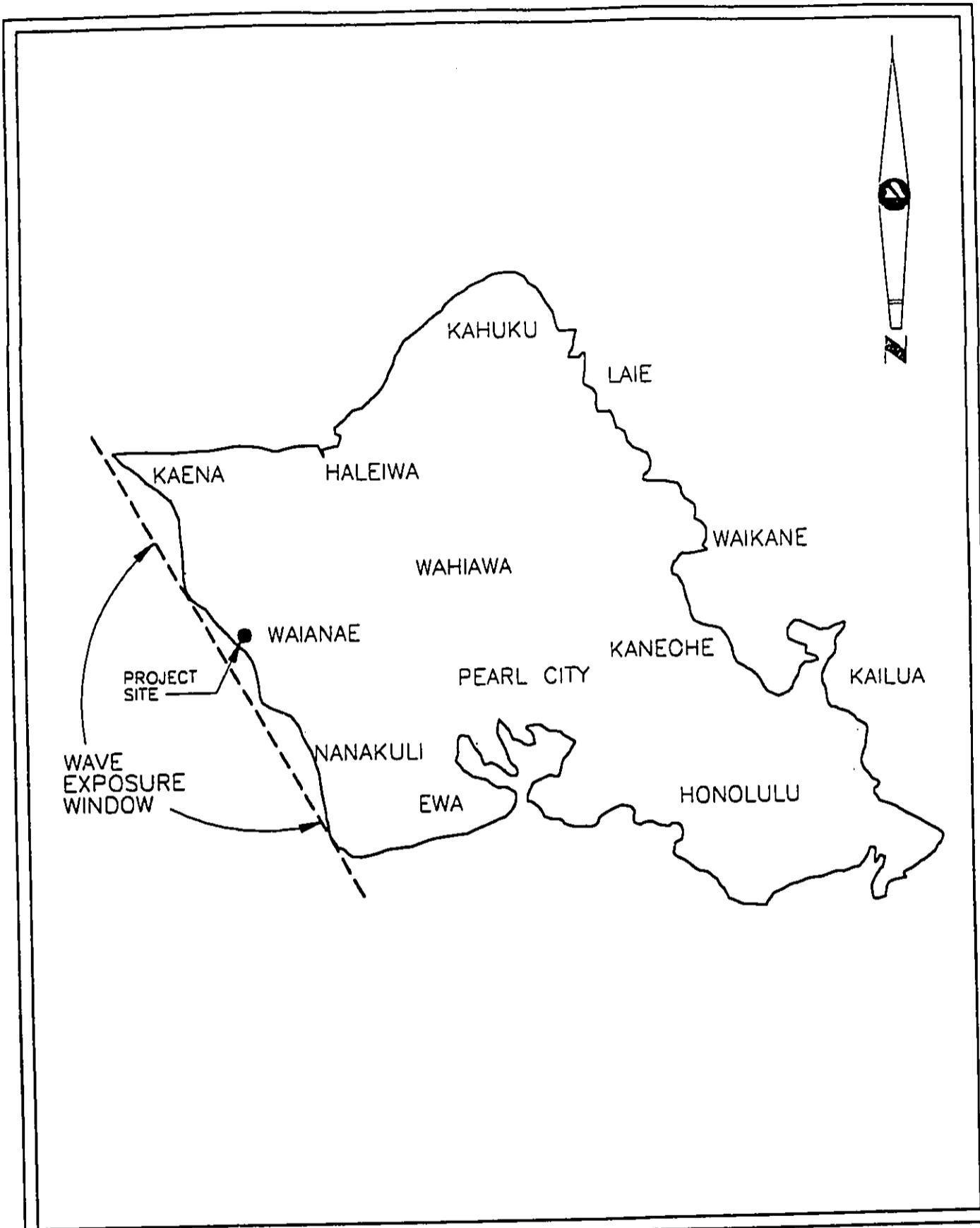
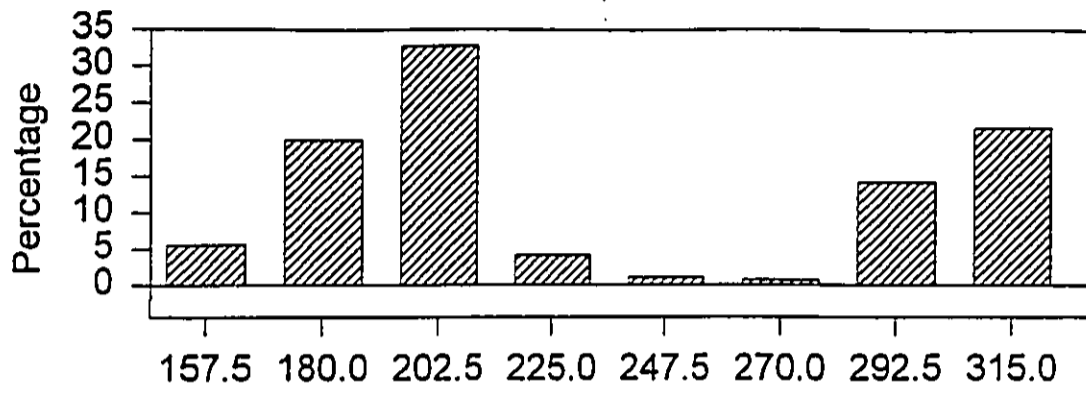


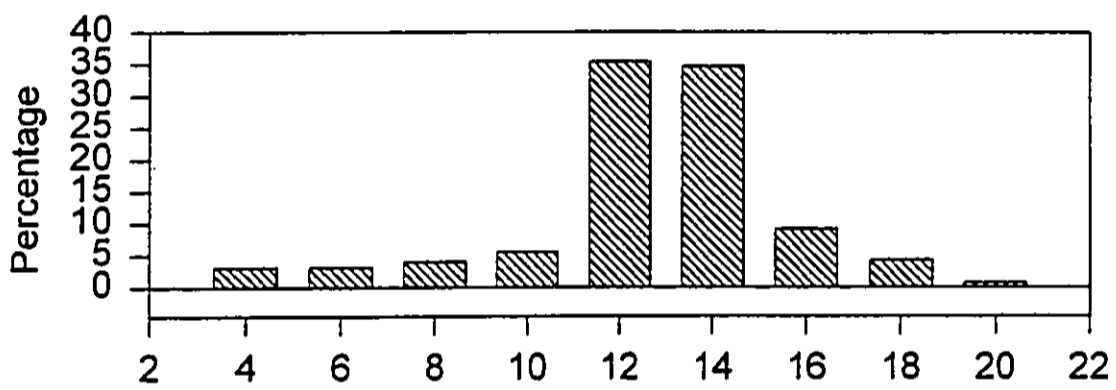
FIGURE 8. - MAP OF WAVE EXPOSURE WINDOW

85-175 FARRINGTON HIGHWAY
 WAIANAE, HAWAII 96792 T.M.K.: 8-5-17:5

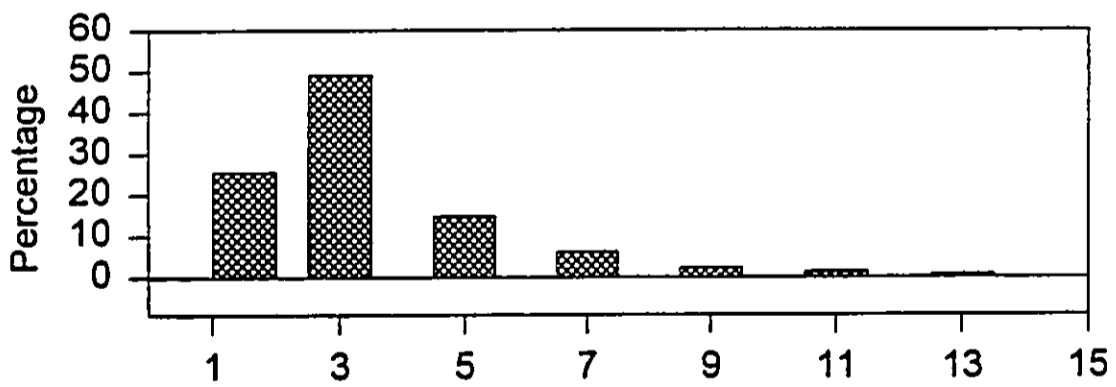




(a) Direction (0=North; 90=East)



(b) Wave Period (Seconds)



(c) Wave Height (ft)

FIGURE 9. DEEP WATER WAVE DATA

weak within the eroded bay. Cross-shore wave-induced currents are probably the primary cause of beach erosion. Sediments eroded from the beach will either deposit on the offshore bottom or move alongshore with the currents to neighboring beaches, most likely on Mauna Lahilahi Beach to the northwest and Pokai Bay to the southeast.

Five measured profiles along the bay are depicted in Figure 10. Instead of a smooth sloping beach, there is an abrupt escarpment of two to three feet then a rocky incline that drops an additional 5 to 7 feet from the non-eroded backshore toward the water. The sandy area is at the bottom of the slope. The average slope of the sand area is about 1:5. Beach slope depends on wave conditions and varies seasonally.

Sand samples were taken at mid-beach and beach toe, where some sand exists. Median size at the beach toe is 1 to 2 mm, relatively coarse, indicating strong wave energy exists at the beach toe. Median size at mid-beach is nearly 0.5 mm. Beach sand size gradation is shown in Figure 11.

B. LANDWARD

The project site is bounded to the southeast by Waianae High School and on the west by the Pacific Ocean. Abutting the project site to the northeast (mauka) is the Makaha Surfside, the applicants for the proposed action described herein. Further northwest along the coast is Lahilahi Point with its adjacent beach park, and urban/resort developments. Further southeast are the Waianae Boat Harbor and Pokai Bay. Mauka lands of the Waianae Valley are used for dairying, diversified agriculture, and low-density residential use with more densely populated neighborhoods closer to the coastline. Residential uses (single-family dwellings) predominate near the ocean around Waianae town.

The project area as viewed from the Makaha Surfside Apartments include the Pacific Ocean to the south and west and Kamaileunu Ridge of the majestic Waianae mountain range to the east and north. The project area itself is a rocky shoreline with an escarpment and cannot be seen from Farrington Highway.

A field reconnaissance was conducted to identify flora and fauna on the project site on October 15, 1996 (Oceanit). The rocks on the beach are home to several species of algae (*Grateloupia phukaensis* & *Symploca hydroides*) and snails (*Nerita picea* [pipipi] & *Littorina pintado* [pipipi kolea]). Neither sand crabs or sand dwelling birds were observed on the field reconnaissance.



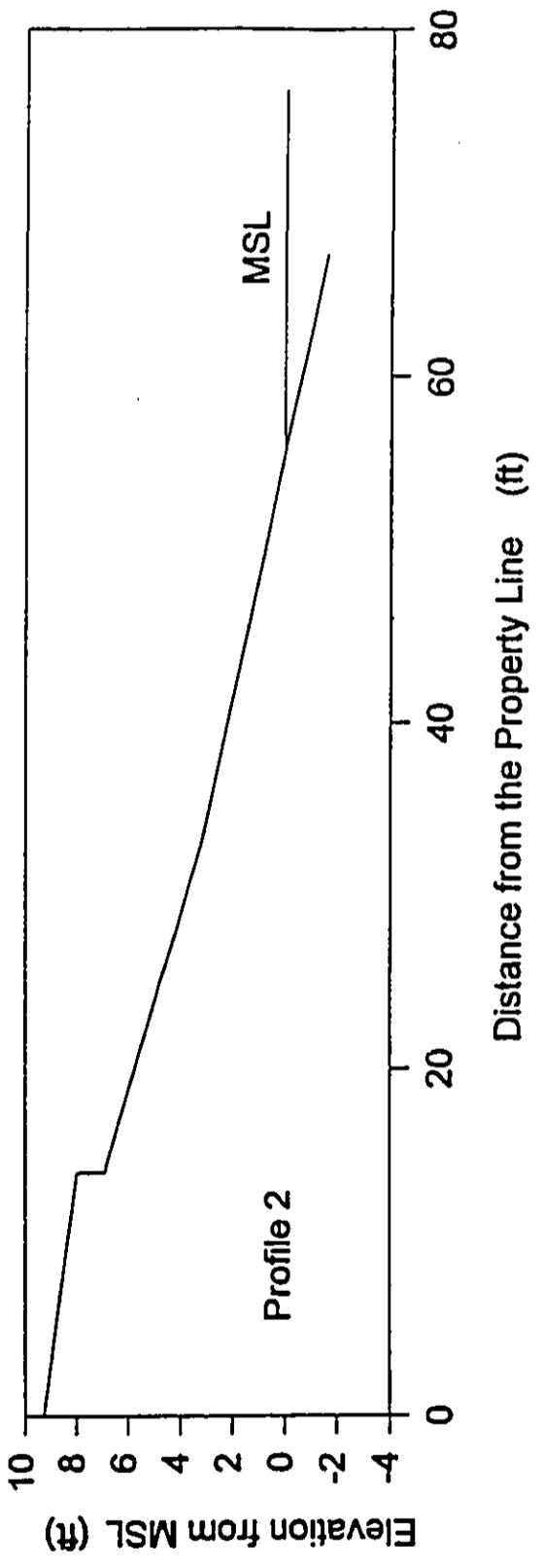
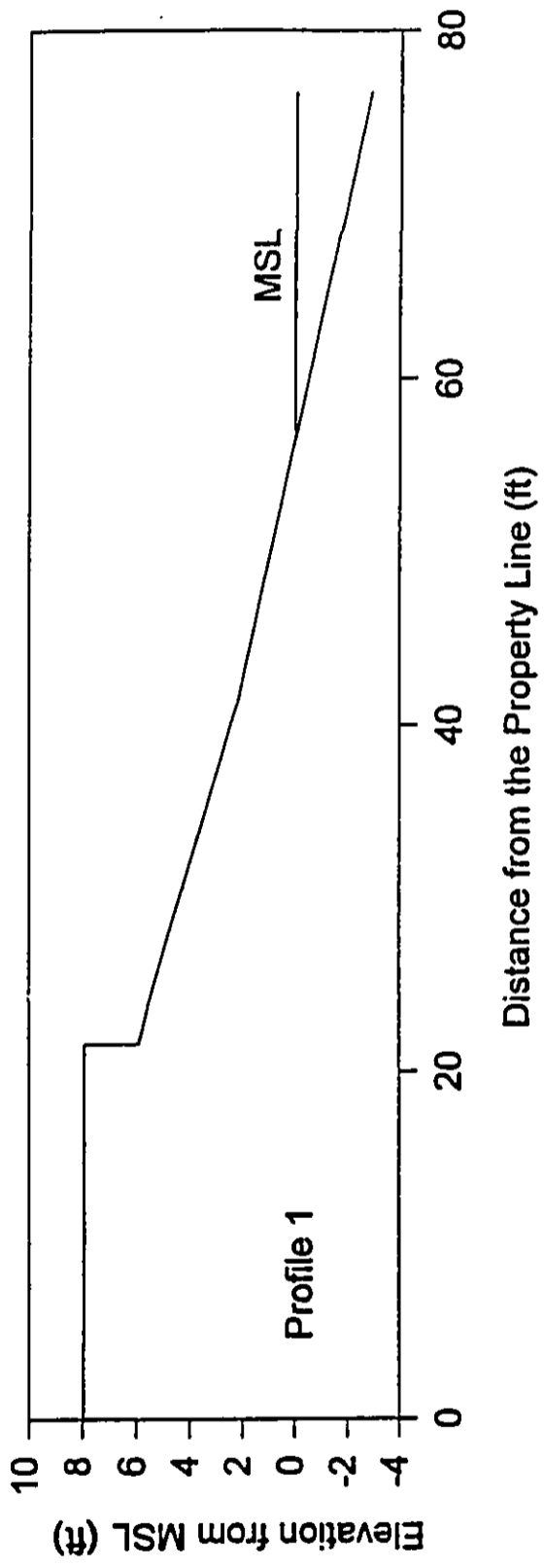


FIGURE 10. BEACH PROFILES, DECEMBER 15, 1995

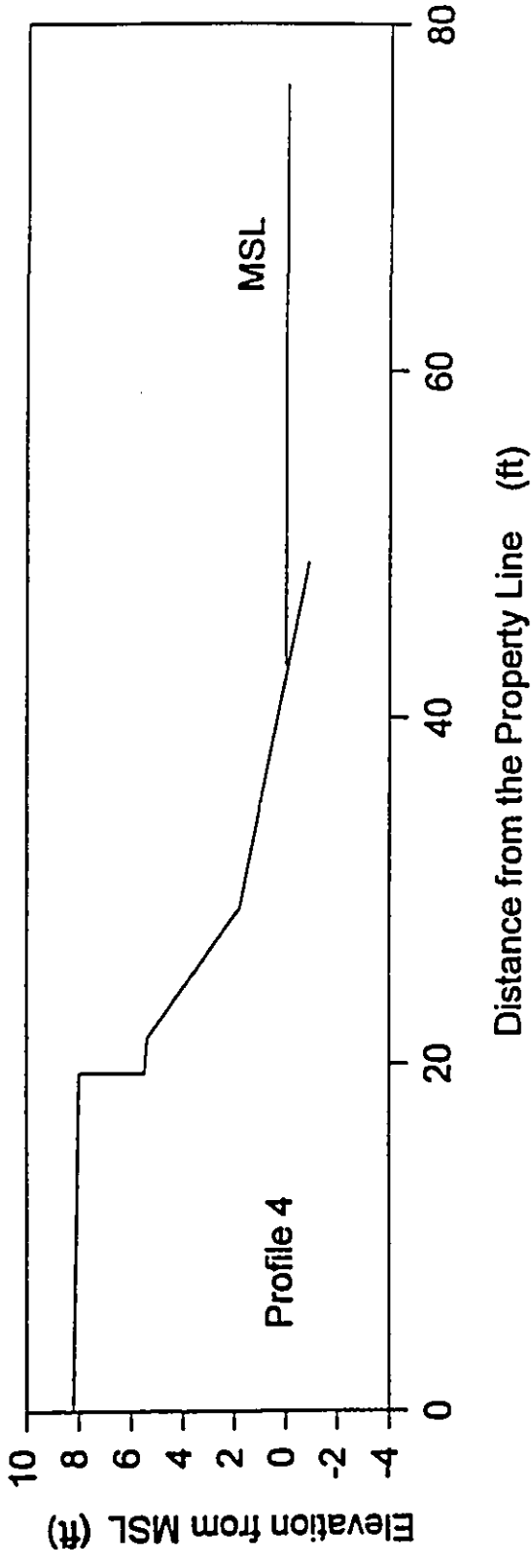
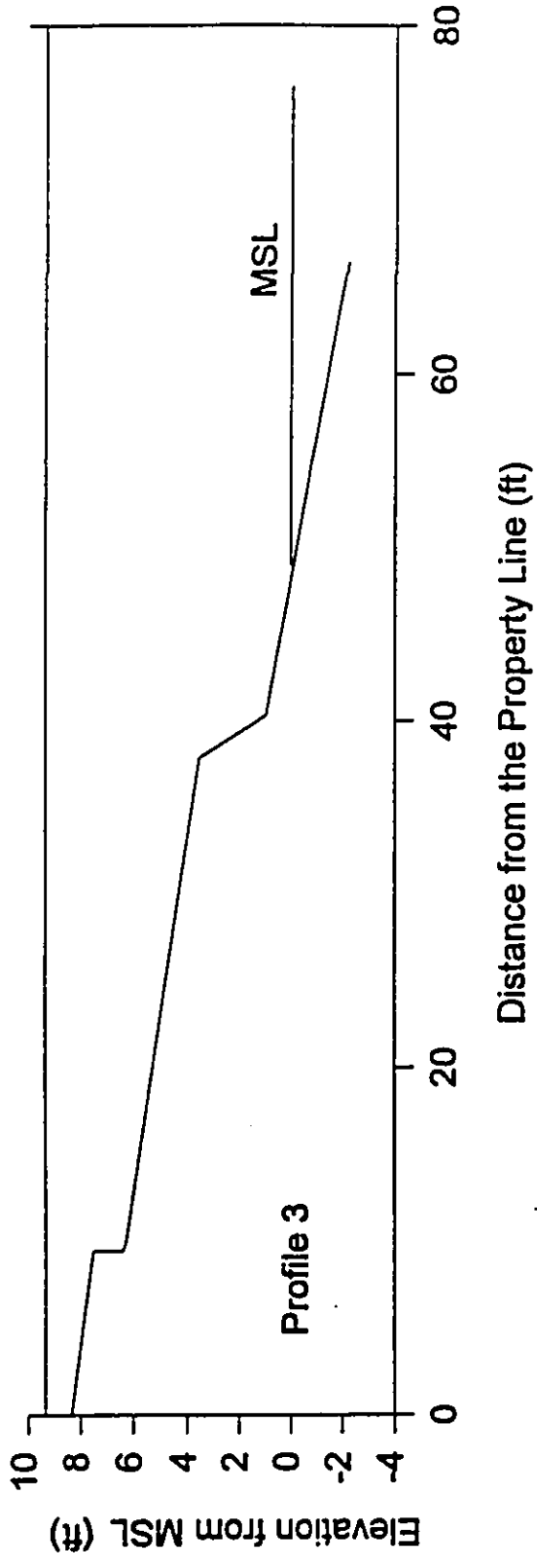


FIGURE 10. (Continued). BEACH PROFILES, DECEMBER 15, 1995

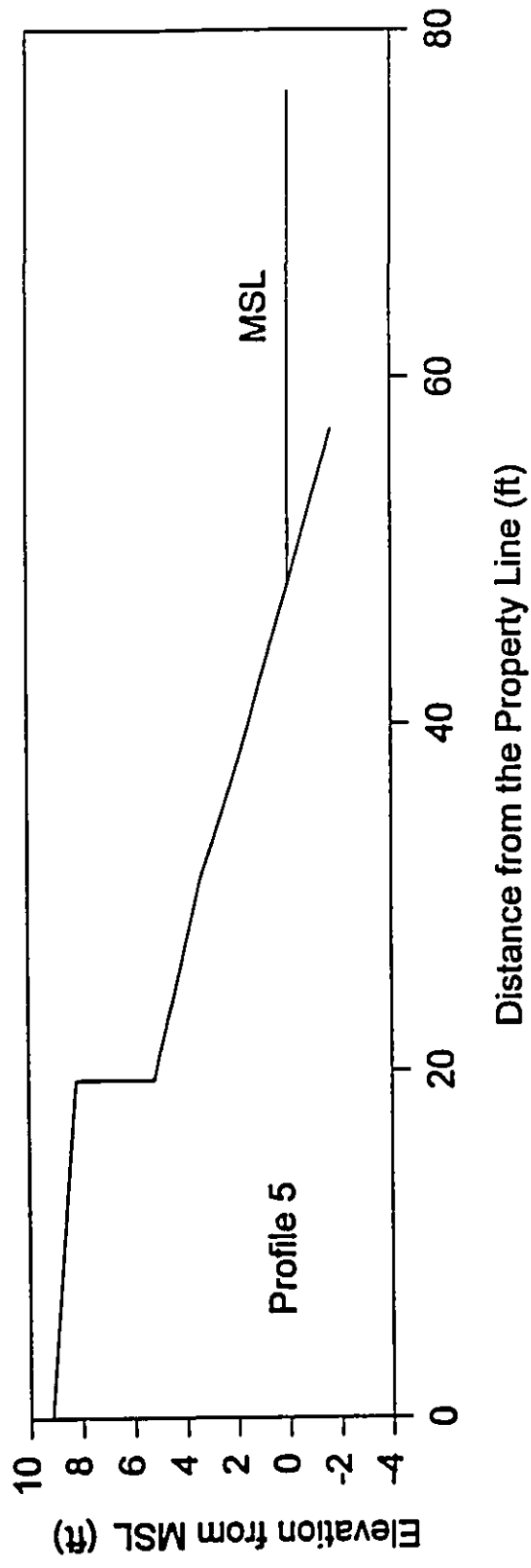


FIGURE 10. (Continued). BEACH PROFILES, DECEMBER 15, 1995

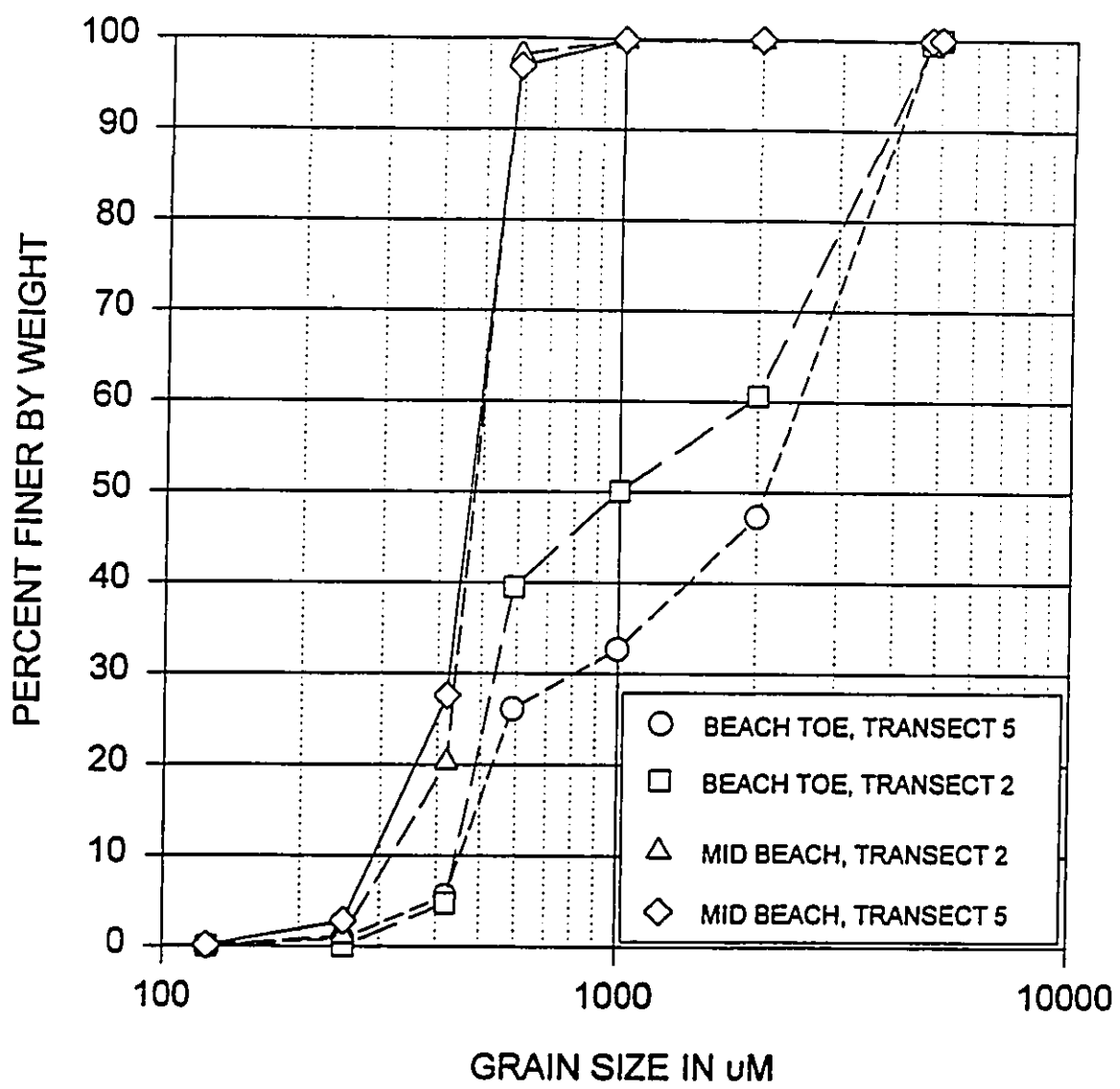


FIGURE 11. CUMULATIVE GRAIN SIZE DISTRIBUTION

Surrounding the project site on the remainder of the City and County park are several kiawe trees (*Prosopis sp.*) and turfgrass.

Even though sites do exist in the vicinity, this is not a known archaeological site. A human burial site, identified as 50-80-07-4064, was located on the beach. According to the State Historic Preservation Office, the burial was disinterred from the project site and reinterred at Lahilahi Beach. It is not known if other burials exist at the project site.

Although Farrington Highway is approximately 300 feet inland from the project site, ambient highway noise cannot be detected from the project site and, air quality is good due to trade winds and the rural nature of the area.

The Makaha Surfside is located in flood zones VE and AE, an area subject to tsunamis or other velocity hazards, with a base flood elevation of 13 feet.

C. SOCIO-ECONOMIC

The Waianae district has transformed from a rural to a semi-urban community since the 1970s. Trends in the Waianae district are characterized as follows:

- Over the years, gradual dissolution of community and neighborhood cohesiveness has occurred, particularly along ethnic and extended family lines.
- Increasing diversity on a number of dimensions -- demographic, economic, social structures, and physical.
- Blurring of boundaries between communities with the beginnings of a megalopolis extending from Honolulu to Makaha. Greater penetration and extension of influence by extra-community forces, political, commercial and social.

There is a uniqueness to the Waianae area that can be attributed in part to Hawaiian cultural life styles and concepts. Urbanization, however, of the Waianae district has occurred over the last several decades. Road access to the Waianae area has been improved, providing more interaction with island residents and visitors from other areas. Present and past activities of military installations in the area have resulted in rapid increases in population within the District. Luxury resort development within Makaha Valley set the trend for the planning and construction of other resort and housing developments along the coast. These actions in turn have resulted in land use changes from rural/agricultural to urban/resort, even though the main resort, the Makaha Sheraton, has closed due to a weak economy.



IV. IMPACTS, ALTERNATIVES AND MITIGATION

A. SHORT-TERM IMPACTS

Sand nourishment will result in the conversion of approximately 8,000 square feet of rocky shoreline into a sandy beach. About 350 feet of rugged coral shoreline will receive sand. The most likely method of transporting sand to the project site is by truck. Trucks would access the project site just north of the Makaha Surfside. The trucks would then travel approximately 300 feet to the edge of the shoreline and unload the sand above the high tide line and below the certified shoreline. Only 1,000 cubic yards can be placed on the beach at one time; therefore, there will be 4 to 5 nourishment periods of about 1-2 weeks each before the entire 5,000 cubic yards is placed and distributed by wave action. The park area in front of Makaha Surfside will be needed as a stockpiling/staging area, which will require authorization from the City & County Department of Parks & Recreation.

There will be little noticeable impact on shore birds and animals. Shoreline flora and fauna will be altered to the extent that algae and mollusks in the project site may be covered with sand.

There will be a temporary increase of heavy vehicle traffic on Farrington Highway between the source of sand and the project site. To minimize traffic impacts, arrivals and departures of sand hauling trucks shall be coordinated to avoid disruption of peak hour traffic flows. If necessary, flagmen or police officers will be employed to maintain traffic safety while sand is transported to the project site.

Air quality at the project site may be temporarily degraded by some fugitive dust from hauling and sand deployment activities, exhaust emissions from vehicles, and possible traffic disruptions. Dust is anticipated to be minimal.

During the nourishment process, noise is not expected to cause any significant impacts to neighboring residents. During sand deployment higher than normal noise levels will be generated by trucks and sand moving equipment. Mitigation of vehicle noise to inaudible levels may not be possible. However, hours will be restricted to daytime only.

B. LONG-TERM IMPACTS

Sand replenishment is expected to cause some changes in the nearshore/shoreline habitat. Since replenishment will occur below the certified shoreline, mollusks and algae along the shoreline may remain covered with sand. Replenishment will alter approximately 350 linear feet of intertidal shoreline.

Sand nourishment is ancillary to recreational uses in the surrounding park areas as designated by the City and County of Honolulu. The sand nourishment will not visually intrude on the regional park open space and, in fact, will improve the aesthetics and increase recreational usage of the beach, as well as provide some incentive to community and tourist usage.



Although a 1971 surfing site inventory does not show a surfing site here, the finished beach will provide easy access to adjacent surfing sites offshore where none now exists. Impacts to surfing are not anticipated.

The finished beach will not cause any displacement of communities or individuals.

Long-term noise and air quality will not be impacted by the proposed action.

C. ALTERNATIVES

The following alternative erosion control methods were considered when selecting a solution to the erosion problem. The first was to build an offshore breakwater at the mouth of the bay. The breakwater, with properly designed layout and stone size, would substantially reduce wave energy that impacts the beach. Gaps between sections of the breakwater would ensure water circulation preserves water quality inside the bay. In addition, sand nourishment is recommended to restore the beach. Generally, a breakwater, as a solution, is beyond the financial capability of a private homeowners, such as those at Makaha Surfside. An offshore breakwater is estimated to cost approximately \$500,000.

The second option considered was to construct a rubble revetment between the Makaha Surfside and the ocean along the certified shoreline. A revetment would stop the continued erosion of backshore soil and rocks. If the revetment was buried with sand through nourishment, it would have no negative effect on the beach but would remain as protection during extreme erosion events. The backshore is not a dune area, so the revetment would not block any potential sand source. This option, however, is generally not accepted by regulatory agencies, unless there is no other alternative. A rock revetment would be about 350-feet long and cost approximately \$1,000 per foot.

The third alternative is to use large sandbags for short-term protection of the eroding embankment. The sandbags would stop bank erosion until a long-term solution could be implemented. Due to the expense (\$100,000) and potential for vandalism, this alternative is not recommended unless a longer-term solution is not approved.

The fourth alternative is to build a shore protection structure, such as a buried revetment, on the Makaha Surfside property. This alternative is not recommended due to insufficient space between the property line and the buildings. During excavation, there is potential risk of damage to the building foundation. The cost would be approximately \$350,000.

The fifth alternative is to use beach nourishment. The disadvantage of this option is that the nourishment action may need to be repeated periodically, possibly at 5-10 year intervals. The cost depends on the sand source, but may range as much as \$50-60 per cubic yard for an approximate total of \$350,000. To replace annual erosion losses could cost \$25,000 per year unless wave energy is reduced.



A combination of offshore breakwaters and beach nourishment would reduce wave energy and reduce the frequency of additional nourishment. However, this alternative is beyond the financial capability of the Makaha Surfside, and should probably be sponsored by a governmental agency.

The no action alternative would result in no new sand and would leave the risk of further shoreline erosion. Leaving the shoreline as is creates the potential for property/building damage at the Makaha Surfside. Under the no action alternative, the objective of protecting the applicant's building from wave damage would not be achieved. The no action alternative is not considered a feasible option.

These options were presented to DLNR for consideration. DLNR supported the sand nourishment alternative (see letter dated July 3, 1996 in Appendix A). Revetments are currently in disfavor with both state and county regulatory agencies. Sand nourishment is recommended as quickly as possible while determining the feasibility of either the breakwater or revetment as a longer-term option.

D. MITIGATION

The objective of erosion control is to prevent further shoreline recession and to prevent waves from reaching and damaging the Makaha Surfside property. Coral sand of sufficient grain size will be specified to minimize fine particles. The source of sand must match or be coarser than the existing sand to minimize sediment transport. A sand beach will prevent erosion of the clay backshore and resulting turbidity. Salt tolerant vegetation will be planted at the top of the beach to help minimize further erosion.

V. REFERENCES

- Kay, E. Allison. Hawaiian Marine Shells - Reef and Shore Fauna of Hawaii. Bishop Museum Press, Honolulu, Hawaii. 1979.
- Magruder, William and Jefferey Hunt. Seaweeds of Hawaii. The Oriental Publishing Company, Honolulu, Hawaii. 1979.
- Oceanic Institute. Final Environmental Impact Statement Waianae Boat Harbor. Prepared for Harbors Division, Hawaii State Department of Transportation, November 1976.
- Oceanit Coastal Corporation. Preliminary Coastal Erosion Evaluation Makaha Surfside Apartments. February 1996
- Oceanit Coastal Corporation. Erosion Control Alternatives for Coastal Property Fronting Makaha Surfside Apartments. Prepared for Hawaii State Department of Land and Natural Resources. May, 1996.
- Sea Engineering. Oahu Shoreline Study, Part 1, Data on Beach Changes (1988). Prepared for City and County of Honolulu, Department of Land Utilization.
- Wilson Okamoto & Associates. Conservation District Use Application Namahana Farms Water Systems Improvements. Prepared for Namahana Farms, Inc. February 1991.



VI. AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED IN THE PREPARATION OF THE FINAL EA

The notice of availability of the Draft Environmental Assessment for the Makaha Surfside Beach Nourishment project was published in The Environmental Notice by the Office of Environmental Quality Control on January 23, 1997. As part of the preparation of the Final Environmental Assessment, the following agencies, organizations, and individuals sent written comments. A total of 12 comments were received as of March 13, 1997 and are included in this chapter.

Federal

Department of the Army - Pacific Ocean Division

State Agencies

Department of Health
Department of Land & Natural Resources
 Division of Aquatic Resources
 Division of Land Management
 State Historic Preservation Division
Office of Hawaiian Affairs

City and County of Honolulu

Department of Land Utilization
Department of Parks and Recreation
Department of Public Works
Planning Department

Others

University of Hawaii at Manoa
Sierra Club



DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

MAIL TO
ATTENTION OF

January 16, 1997

JAN 17 11 11 AM '97

Planning and Operations Division

Mr. Dean Y. Uchida, Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Uchida:

Thank you for the opportunity to review and comment on the Conservation District Use Application for the Beach Nourishment Project at Makaha, Oahu (TMK 8-5-17: 05). According to the information provided, work will be done near the high tide line. If any work, including the discharge of fill, occurs beneath the high tide line, a Department of the Army permit would be required. For the applicant's information, the Corps is proposing a Regional General Permit which would allow beach nourishment and restoration in the State of Hawaii.

For additional information regarding permit requirements, please contact Ms. Kathy Dadey at 438-9258 (extension 15) and refer to file number 9600000379.

Sincerely,

Paul Mizue, P.E.
Acting Chief, Planning
and Operations Division



Oceanit Coastal Corporation

coastal engineering services

A subsidiary of Oceanit Laboratories, Inc.

May 5, 1997

Mr. Paul Mizue, P.E.
Acting Chief
Planning and Operations Division
Department of the Army
Pacific Ocean Division, Corps of Engineers
Fort Shafter, HI 96858-5440

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha
Surfside Apartments 85-175 Farrington Highway
Ref File Number 96000000379

Dear Mr. Mizue:

Thank you for your letter of January 16, 1997 regarding the subject project. At present we plan to place all of the sand for beach nourishment above the high tide line; however, we could possibly use the new Regional General Permit for nourishment if it is in force in the near future.

If you have any questions, please call me or Ms. Robin Anawalt at our office.

Sincerely,

Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR

1100 Alakea Building • 1100 Alakea Street, 31st Floor • Honolulu, Hawaii 96813
TELEX: 7431404 • NCI OCEANIT • TEL: (808) 531-3017 • FAX: (808) 531-3177



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

RESOURCES
DIVISION OF
LAND MANAGEMENT

JAN 21 1 21 PM '97

LAWRENCE MIIKE
DIRECTOR OF HEALTH

IN REPLY, PLEASE REFER TO

January 13, 1997

97-003/epo

Dean Y. Uchida, Administrator
Land Division, Department of Land and Natural Resources
Lawrence Miike *Lawrence Miike*
Director of Health

CONSERVATION DISTRICT USE APPLICATION

Applicant: Makaha Surfside Association
File No: OA-2850
Request: Beach Nourishment
Location: Makaha, Oahu, Hawaii
THK: 8-5-17:05 (offshore)

for allowing us to review and comment on the subject
m. We do not have any comments to offer at this time.



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May 5, 1997

Dr. Lawrence Miike
Director of Health
Department of Health
P.O. Box 3378
Honolulu, HI 96801

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha
Surfside Apartments 85-175 Farrington Highway

Dear Dr Miike:

Thank you for your letter dated January 13, 1997 regarding the subject project. Your letter will be included in the Final Environmental Assessment.

If you have any questions, please call me or Ms. Robin Anawalt.

Sincerely,

Warren E. Bucher

Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR

STATE OF HAWAII
Department of Land and Natural Resources
Division of Aquatic Resources

SUSPENSE DATE: Thursday, January 23, 1997

MEMORANDUM

To: William Devick, Acting Administrator *WD*
From: Richard Sixberry, Aquatic Biologist
Subject: Comments on Conservation District Use Application OA-2850

Comments Requested By: Dean Uchida, Land Division

Date of Request: 1/2/97 Date Received: 1/3/97

Summary of Project

Title: Beach Nourishment

Proj. By: Makaha Surfside Association

Location: Makaha, Oahu

Brief Description:

Beach nourishment has been proposed and accepted by DLNR as the best alternative for preserving and protecting the state-owned shoreline and the Makaha Surfside Apartments buildings at Waianae, Oahu.

Comments:

Significant long-term impacts adverse to aquatic resource values is not expected from the proposed beach nourishment although some temporary displacement of some shoreline mollusks and algae will occur.

Finally, the sand replacement would expand and enhance the recreational opportunities for the public along this shoreline.

Richard Sixberry
Aquatic Biologist



Oceanit Coastal Corporation

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May 5, 1997

Mr. Richard Sixberry
Aquatic Biologist
Division of Aquatic Resources
Department of Land & Natural Resources
P.O. Box 621
Honolulu, HI 96809

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear Mr. Sixberry:

Thank you for your comments regarding the subject project. We concur that temporary displacement of shoreline mollusks and algae will occur as a result of sand nourishment. Although the primary objective of this project is to protect the Makaha Surfside apartment building from potential property damage, we agree that sand nourishment will also enhance public recreational opportunities in front of the subject property.

If you have any questions, please call myself or Ms. Robin Anawali.

Sincerely,

Warren E. Bucher
Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Top-Comm Management
Mr. Sam Lemmo DLNR

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

CJH



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF LAND MANAGEMENT

P O BOX 571
HONOLULU HAWAII 96809

REF ID JGD

MEMORANDUM

JUN 23 1997

To: Dean Y. Uchida, Administrator
Land Division

From: John Dooling, Land Agent
Oahu District Land Office

Subject: Conservation District Use Application for Beach
Nourishment, Waianae-Kai, Waianae, Oahu, Seaward
of THK 1st/ 8-5-17.05

The Oahu District Office of the Land Division is in favor of the Conservation District Use Application which involves the placement of approximately 5,000 cubic yards of sand makai of the beach escarpment located on State-owned lands. The Makaha Surfside Apartments are threatened by severe erosion on the beach area, in addition to longshore access along the beach area becoming hazardous.

We would like to point out that the lands located between the Makaha Surfside Apartments and the proposed fill area are encumbered by Governor's Executive Order No. 3452, which sets aside the land to the Department of Parks and Recreation, City and County of Honolulu for an addition to Mauna Lanihale Beach Park purposes. As such, we recommend that the Governor's Office and the Department of Parks and Recreation, City and County of Honolulu be given the opportunity to comment on the proposed action.

Additionally, we require that the applicant obtain all required Federal, State and County permits prior to the actual work being taken.

Should you have any questions, you may contact me at 7-0433.



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May 5, 1997

Mr. John Dooling
Land Agent
Division of Land Management
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear Mr. Dooling:

Thank you for your comment letter dated January 23, 1997. We are aware of Executive Order 3452 and have included the Department of Parks and Recreation as a consulted party on the subject project.

We are applying for all required Federal, State and County permits. Some required permits may depend on the final approved project plans.

If you have any questions, please contact me or Ms. Robin Anawahi.

Sincerely,

Warren E. Bucher
Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
 Mr. Sam Lemmo DLNR

1100 Alakea Building • 1100 Alakea Street, 31st Floor • Honolulu, Hawaii 96813
TELE: 743-1404 • MCI OCEANIT • TEL: (808) 531-3017 • FAX: (808) 531-3177

16 JAN 11 1997



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

ROBERTA S. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
SUBJECT: CELEBRATION
AGRICULTURE DEVELOPMENT PROGRAM
ACQUAKE REPAIRS
CONSERVATION AND
RESOURCES MANAGEMENT
INDUSTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER AND LAND USE UNIT

LOG NO: 18775 ✓
DOCNO: 9701EJ22

MEMORANDUM

January 23, 1997

TO: Dean Uchida, Administrator
Land Division

FROM: Don Hibbard, Administrator
Historic Preservation Division

SUBJECT: Historic Preservation Review Chapter 6E-42 Makaha Surfside Association
Beach Nourishment (File No. OA-2850)
Makaha, Waianae, O'ahu
TMK: B-5-17:005

The draft EA and CDUA application should be corrected. A review of our records shows that several human burials (Site 50-80-07-4064) have been recovered from the project location. The burials were exposed after high surf eroded the shoreline fronting the Makaha Surfside Apartments.

This project proposes extending the existing beach at least 30 feet seaward and does not involve the construction of any buildings, structures, facilities or dredging. The addition of sand to the shoreline fronting the Makaha Surfside will add needed protection to any existing burials in the vicinity. In order to avoid the possibility of an adverse effect on known and unknown burials in the Mauna Lahilahi beach park area, we encourage Hawaiian Cement and Grace Pacific to be used as sand sources rather than the stream outlet at Mauna Lahilahi beach park. We believe that the beach nourishment proposed in this project will have "no effect" on historic sites and will offer added protection to any burials in the area.

EJ:jk

c: Kai Markell, SHPD Burials Program



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May 5, 1997

Mr. Don Hibbard
Administrator
Historic Preservation Division
Department of Land & Natural Resources
33 South King Street, 6th Floor
Honolulu, HI 96813

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear Mr. Hibbard:

Thank you for your comments regarding the subject project. Your correction regarding the human burial site 50-80-07-4064 will be included in the Final Environmental Assessment.

Your suggestions regarding Hawaiian Cement and Grace Pacific as possible sand sources have been noted. We are in contact with both companies regarding sand types and cost. We concur that sand nourishment will have "no effect" on historic sites or burials in the area except to cover them with sand.

If you have any questions, please contact me or Ms. Robin Anawalt.

Sincerely,

Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
311 KAPOLAHU BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813-2118
PHONE (808) 584-1888
FAX (808) 584-1888

RECEIVED
FEB 24 1997
OCEANIT LABORATORIES, INC.

February 07, 1997

Oceanit Laboratories
Attn: Robin Anawalt
1100 Alakea Street, 31st Floor
Honolulu, HI 96813

Dear Ms. Anawalt:

Thank you for the opportunity to review the Environmental Assessment (EA) for the Proposed Shore Protection at Makaha Surfside Apartments, 85-175 Farrington Highway. The proposed action involves sand replenishment below the certified shoreline and above the tide line fronting the Makaha Surfside.

The Office of Hawaiian Affairs (OHA) concurs at this time with the proposed recommendation of sand replenishing as a temporary measure to protect the shoreline from further wave erosion. But OHA has some concerns about the lack of plans for long-term shoreline protection. Based on the data included in the EA (page 20), sand replenishment appears to be an expensive measure with a high likelihood of annual costs skyrocketing in the event of (i) highly erosive northern and southern storm waves reaching the shoreline, or (ii) a catastrophic occurrence such as a tsunami or hurricane. OHA urges the preparers to consider the use of wave energy reducers as part of strategies envisioned to control wave erosion along the Makaha Surfside shoreline. Please contact Lynn Lee, Acting Officer of the Land and Natural Resources Division, or Luis Manrique, should you have any questions on this matter.

Sincerely yours,
Marcha Ross
Marcha Ross
Deputy Administrator

LM lm



Oceanit Coastal Corporation

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May 5, 1997

Ms. Marcha Ross
Deputy Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813-1885

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear Ms. Ross:

Thank you for your comments regarding the subject project. If used, sand nourishment is a form of long-term shore protection, but it does require periodic maintenance through adding sand. Additional sand can be expensive, and additional sources, such as offshore sand, are being considered. Sand nourishment does have the risk of accelerated erosion during high wave or tsunami conditions, and this risk must be considered in the decision to use sand. The rate of erosion can be cut through the use of wave energy reducers such as offshore breakwaters. We recommended breakwaters; however, they are expensive and require a Department of the Army permit. Breakwaters would also require federal, state, or county participation in the planning and funding process. The issue of offshore breakwaters will be discussed further with the Department of Land and Natural Resources.

If you have any questions, please contact me or Ms. Robin Anawalt.

Sincerely,

Warren E. Bucher
Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR

1100 Alakea Building • 1100 Alakea Street, 31st Floor • Honolulu, Hawaii 96813
TELE: 743-1004 • HIC OCEANIT • TEL (808) 531-3017 • FAX: (808) 531-3177



University of Hawai'i at Mānoa

Environmental Center

A Unit of Water Resources Research Center

Oneohana 217 - 2158 Campus Road - Honolulu, Hawaii 96822

Telephone (808) 956-7851 - Facsimile (808) 956-3860

February 24, 1997
EA 0135

Mr. Richard Yamasaki
Maui Beach Association
c/o Inland-Cummins Management
681 South King Street
Honolulu, Hawaii 96811

Dear Mr. Yamasaki:

Draft Environmental Assessment
Maui Beach Association Beach Nourishment Project
Maui, Hawaii

The Maui Beach Association proposes to conduct a beach nourishment project to preserve the shoreline and protect the Maui Beach Apartments from further damage due to shoreline erosion. Located between Farrington Highway and the ocean, the project would involve the placement of approximately 5,000 cubic yards of sand on the seaward side of a beach escarpment in front of the apartments.

We reviewed this draft EA with the assistance of Rob Mulline, Hawaii Sea Grant Extension, Charles Fletcher, Geology and Geography, and Paul Bolowitz of the Environmental Center. While we support the beach restoration strategy over any shoreline hardening approaches, we have some additional comments on both the project and the document.

Supplementing Beach Nourishment

Although beach restoration appears to be the most effective and environmentally benign solution, beach nourishment by itself may not provide an adequate erosion buffer. Given that the site has been eroding at a rate of 5 feet/year since 1972 and is subject to large waves and strong currents (longshore and offshore) each winter, unenhanced beach nourishment does not appear to be a viable long-term solution. Our reviewers suggest that beach nourishment should be accompanied by an aggressive revegetation effort with native salt tolerant species, and that some sort of offshore structure should be employed to dissipate incoming wave energy. Artificial reefs constructed from boulders capable of withstanding large storms would increase the lifetime of the beach nourishment and reduce

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Mr. Richard Yamasaki
February 24, 1997
Page 2

the frequency of replenishment. Another option would be to set up offshore, detached breakwaters, although this alternative is aesthetically less appealing. In absence of any offshore structures, the initial sand nourishment is unlikely to remain in place for long.

Sand Sources

As stated on the final page of the document, the replenished sand should match the existing sand as closely as possible. Therefore crushed coral, which is chemically and physically incompatible with the existing sand, should not be considered. As crushed coral sand is highly reactive, other beaches nourished with this material (such as Fort DeFunny Beach and Keolu Lagoon Beach) have cemented. The Maui dune sand, with a grain size of approximately 0.2 mm, is also incompatible with the existing sand which has a grain size of 0.5 mm at mid-beach and 1-2 mm at the toe of the beach. The recommended grain size for the nourishment sand would be equal to or slightly larger than the existing sand. The only compatible sand mentioned in the EA is the sand from the stream outlet at Mauna Lanihale Beach. Before this source is used, the applicant should check for community opposition and regulatory difficulties. This sand should also be clean enough to avoid degrading water quality.

An alternative source not mentioned in the document is offshore sand deposits. A recent CZM study (Beach Nourishment Viability Study) identified a nearshore location in Maui as one of Oahu's best and most promising sources of sand for beach nourishment. Technology for mining, transport, and delivery of sand from offshore deposits is proven and simple, requiring minor expenses compared with mining, hauling, and delivery of land-derived sources. Additional information is available from the Ocean Engineering Department's Look Laboratory.

Water Quality Monitoring

As increased turbidity is almost always associated with beach replenishment, the proposed action should include a short-term and long-term water quality monitoring program. Such a program will help to assess any potential impacts to the nearshore benthic community. First baseline data should be obtained. Next a monitoring policy should be formulated and enacted. Before the project begins, a set of thresholds and mitigative measures should be established to ensure that any necessary mitigations occur at the appropriate moment.

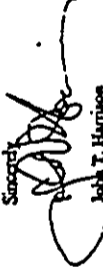
Document Presentation

The presentation of beach profile data is unsatisfactory, as the document fails to disclose the location of each of the profiles. The profiles should also include labels for survey points, the substrate (grass, coral platform, sand, etc.), and other points of significance (fences, scarps, berm crests, high water marks, etc.)

Mr. Richard Yamauchi
February 24, 1997
Page 3

All maps and aerial photographs should include North arrows and scales, depicted either numerically or graphically. Figures 1 lacks a scale, while Figures 4 and 5 have neither scales nor North arrows.

In conclusion, we hope that our suggestions on enhanced monitoring, sand sources, and water quality monitoring will be useful in refining the proposed action. Before continuing further with the project, these three issues as well as the minor omissions in presentation should be addressed. Thank you for the opportunity to comment on this draft EA.

Sincerely,

John T. Harrison
Environmental Coordinator

cc: OEQC
TMJ/R
Roger Fujioke
Rubi Malinao
Charles Fletcher
Paul Bertanovic



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May 5, 1997

John T. Harrison, Environmental Coordinator
Environmental Center
University of Hawaii at Manoa
Crawford 317, 2550 Campus Road
Honolulu, HI 96822

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear Dr. Harrison:

Thank you for your comment letter dated February 24, 1997 regarding the subject project. We offer the following in response to your comments:

1. Supplemental Beach Nourishment

We concur that sand nourishment will last longer if it is protected by vegetation and some type of offshore structure to reduce wave energy. In our report to DLNR, "Erosion Control Alternative for Coastal Property Fronting Makaha Surfside Apartments," we recommended a combination of nourishment and offshore breakwaters. DLNR chose nourishment alone as the option it would support. In addition, offshore structures are beyond the economic means of the Makaha Surfside. Also the beach area is part of Mauna Lanihale Park administered by the county Department of Parks and Recreation. We believe construction of offshore structures should be done by the state or county and we are currently exploring ways that this might be done.

2. Sand Sources

The sand sources mentioned are typical of those available on Oahu. Good beach sand of the proper size is difficult to find and the selected source will depend on availability and price at the time the sand is purchased. It is unlikely that crushed coral would be used because of the reasons listed in your letter unless the fines can be removed by washing. The sand at the stream outlet on Mauna Lanihale Beach is not sufficient to meet requirements, and its use would require intervention by the Department of Parks and Recreation.

The use of offshore sand deposits as a source was considered. Several leeward sand deposits were evaluated in the CZM "Beach Nourishment Viability Study." The deposits at Mailli, as mentioned in your letter, appears to have good sand although the median

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Environmental Center
May 5, 1997
Page 2

grain size is smaller than that desired for the Makaha Surfside Location. The sand could be used, but more than 5,000 cubic yards would probably be necessary because finer material will be carried offshore by wave action and lost. Dredging sand in the open ocean can be difficult because of wind, waves, and water depth. Dredging also requires additional regulatory permits. Therefore, we do not yet know if use of offshore sand is economically and legally viable for Makaha Surfside.

3. Water Quality Monitoring

A Department of the Army Permit is not required for this project; therefore, a 401 Water Quality Certification with its accompanying best management practices plan and water quality monitoring plan is not required. After reviewing the Environmental Assessment and CDUA permit application, the state Department of Health had no comments and requested no water quality monitoring program.

4. Document Presentation

Your comments regarding figures and the beach profile data have been noted. The Final Environmental Assessment will contain the "Beach Profile Map," which includes all survey points, substrate, and other points of significance.

A scale will be added to Figure 1. The aerial photographs have been enlarged from other photos and the scale is not known. North arrows will be placed where appropriate.

We hope we have satisfactorily addressed your comments. If you have any questions, please contact me or Ms. Robin Anawalt.

Sincerely,

Warren E. Bucher
Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR



CITY AND COUNTY OF HONOLULU



February 11, 1997

The Honorable Michael D. Wilson, Director
Department of Land and
Natural Resources
State of Hawaii
Malanissoku Building
1151 Punchbowl Street, Room 130
Honolulu, Hawaii 96813

Dear Mr. Wilson:

Conservation District Use Application (CDUA)
Beach Mourishment at the Makaha Surfside Apartments
Makaha, Oahu
Tax Map KAYI 8-5-171-DPK-05

We have reviewed the project information contained in the subject
application transmitted by your letter dated January 2, 1997, and
have the following comments on the Draft Environmental Assessment
(EA):

- 1. Section I, General Information
a. County General Plan: Although the Draft EA correctly
indicates that the subject property has no designation,
the General Plan for the City and County of Honolulu does
not specifically designate any particular parcel of land.
The General Plan instead, is a comprehensive statement of
the objectives and policies which sets forth the long-
range aspirations of Oahu's residents and the strategies
to achieve them.
b. Development Plan: The Draft EA does not disclose the
Development Plan (DP) designation for this property. We
note that this property is designated as Park on the
Waianae Development Plan Map. This information should be
verified by the Planning Department and included in the
Final EA.

The Honorable Michael D. Wilson, Director
Page 2
February 11, 1997

c. Zoning: The Draft EA incorrectly indicates that there is
no zoning designation for the subject property. The
portion of the property mauka of the certified shoreline
is zoned P-2 General Preservation.

2. Section II, Description of Proposed Action
Although the Draft EA indicates (page 2, paragraph 4) that the
project will occur on City and County Park land (Mauna
Lahilahi Beach Park), this fact is not reflected in Section I.
GENERAL INFORMATION. More importantly, it is our
understanding that this fact necessitates that the city's
Department of Parks and Recreation (DPR) authorizes the CDUA
(as a signatory).

This section should also be revised to include the
description, which is discussed in Section IV. IMPACTS,
ALTERNATIVE AND MITIGATION, of how the project is to be
conducted (i.e., truck deliveries and access, etc.). This
section should also elaborate on whether any
stockpiling/staging area will be necessary and if landscaping
or site restoration would be required after the project's
completion.

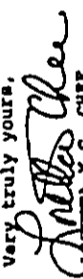
3. Shoreline erosion and its prevention is a complex and perhaps
unpredictable process. Although the Draft EA may not be
intended as a treatise on this matter, it should elaborate
upon a number of pertinent issues raised by this proposal:

- a. Durability: The Draft EA points out the rapid rate of
erosion (5 feet per year) which has occurred in this area
and notes that the proposed project is not intended to
alter this rate of erosion. Consequently, the restored
beach is likely to return to its present condition in 6
years. Insofar as grain size and beach profiles are
mentioned, the Final EA should elaborate on what is the
optimal parameters, as currently understood, which would
enhance the durability of the renourished beach.
Similarly, the Final EA should also discuss whether some
form of maintenance program is necessary, planned or
budgeted.

The Honorable Michael D. Wilson, Director
Page 3
February 11, 1997

b. **GOAL:** The Draft EA estimates that the project would cost as much as \$300,000. Inasmuch as the beach being nourished is owned by the State and managed by the City, the Final EA should discuss whether any funding, subsidization or other forms of support is being provided by these agencies. In addition, a discussion should be provided on the relationship between sand selection, beach durability and its cost implications relative to any continual nourishment efforts (i.e., larger grain size = less replenishment = lower costs, etc.).

Should you have any questions, please contact Steve Tagawa of our staff at 523-4817.

Very truly yours,

LORETTA K.C. CHEE
Acting Director of Land Utilization

LKCC:am
970608.001



Oceanit Coastal Corporation

coastal engineering services

A subsidiary of Oceanit Laboratories, Inc.

May 5, 1997

Loretta K.C. Chee
Deputy Director
Department of Land Utilization
630 South King Street, 7th floor
Honolulu, HI 96813

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear Ms. Chee:

Thank you for your letter dated February 11, 1997 regarding the subject project. We offer the following responses, in respective order, to your comments:

1. We acknowledge that the County General Plan is a statement of objectives and policies of long-range aspirations for the Island of Oahu. We also acknowledge that the Development Plan (DP) designation was not included in the Draft Environmental Assessment. The Final Environmental Assessment (Section I, General Information) will be changed to substitute the correct DP designation in place of the General Plan.
2. For clarification purposes, the Final Environmental Assessment will also disclose the zoning designation *Mauika* of the project site which is inclusive of the Makaha Surfside apartment building.
3. The Final Environmental Assessment will state that the proposed project will occur below the certified shoreline which is on State Conservation lands not City and County Park land. Because the project will occur on State Conservation District lands, the City and County may not need to authorize the CDUA as a signature. However, the stockpiling/staging area, which includes proposed sand deliveries and access on park land to the project site, may necessitate authorization from the City and County Parks Department. This will be discussed in the Section IV of the Final Environmental Assessment. We have discussed the project with the Department of Parks and Recreation and will continue to coordinate with them.
3. Beach nourishment projects such as this one are by their nature maintenance programs. Sand must be added as further erosion occurs, and Makaha Surfside Apartments is aware of this need and the approximate cost. To enhance the durability of the nourished beach, the new sand grain size must be as large or larger than the existing sand, and wave energy should be reduced. Methods of reducing wave energy such as offshore


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Department of Land Utilization
May 5, 1997
Page 2

breakwaters or artificial reefs could be used to slow the rate of erosion. However, breakwaters and reefs are beyond the means of the residents of Makaha Surfside. Offshore structures are usually sponsored by county, state, or federal governments. The use of breakwaters will be discussed further with DLNR, but they may have to be considered as a follow-on to the proposed beach nourishment project. Preliminary discussions show that neither the state nor the county has funds available for a nourishment program or to build offshore structures at this beach. These topics will be included in the Final Environmental Assessment.

We hope we have satisfactorily addressed your comments. If you have any questions, please contact me or Ms. Robin Anawalt. Thank you.

Sincerely,


Warren E. Buchler, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR



MAY 8-97 THU 13:20

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

1325 KUALA OPAWA STREET
HONOLULU, HAWAII 96813



MS (RET.) JOHN R. HILDEBRAND, JR.
Acting Director

RECEIVED
MAY 11 1997

February 4, 1997

Mr. Michael D. Wilson, Chairperson
Department of Land and Natural Resources
State of Hawaii
1131 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Wilson:

Subject: Conservation District Use Application (CDUA) No. OA-1850 for Beach Nourishment at Makaha, Oahu, Tax Map Key 8-5-17; 05

Thank you for the opportunity to review the CDUA and draft environmental assessment (DEA) for beach nourishment on State-owned land fronting the Makaha Surfside Apartments.

Generally, we are supportive of the proposed project since, as noted in the application, it will enhance public beach park land that has seriously eroded within the past 30 years or more. Also, the adjacent property owners of the Makaha Surfside Apartments are clearly threatened and need immediate remedy to the erosion problem. Beach nourishment is certainly a more preferred approach to solving the erosion problem than shoreline hardening, which is the most common remedy.

The CDUA and DEA do not indicate that the beach land to receive sand fill material is, in fact, part of a City park (Mauna Lahilahi Beach Park). The subject land, although owned by the State, is under the management and control of the City and County of Honolulu, Department of Parks and Recreation. The Governor's Executive Order No. 3452 of April 4, 1990 placed this land (and other adjacent lands comprising Mauna Lahilahi Beach Park) under our control. Our department, therefore, has a major interest in any decision regarding this beach park land.

Mr. Michael D. Wilson
Page 2
February 4, 1997

Our primary concern is that coastal erosion processes may cause the sand used to replenish the beach to be carried away once again at great cost to the project proponent and with no long-term gain to public park users. Also, we are interested in knowing more about the type and source of the sand that is planned to be used for the beach nourishment.

The CDUA and DEA are not clear as to the level of study and analysis this shoreline erosion problem has received. A thorough analysis and historical review of this portion of the shoreline may result in a better, more refined design for the project. We suggest that the coastal engineering consultant consider means to contain at least a portion of the sand at the forefront of wave energy impacting the beach to minimize the sand migration.

Please have your staff contact Terry Hildebrand of our Advance Planning Branch at 533-4346 if you need further assistance.

Sincerely,

For Me (RET.) JOHN R. D'ARAUJO, JR.
Acting Director

JHD:el (T. Hildebrand, Advance Planning)

enr

FEB 05 1997



Oceanit Coastal Corporation
coastal engineering services

A subsidiary of Oceanit Laboratories, Inc.

May 5, 1997

MG (ret.) John R. D'Arzujo, Jr.
Director
Department of Parks & Recreation
650 South King Street
Honolulu, HI 96813

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear MG (ret.) D'Arzujo:

Thank you for your letter dated February 4, 1997 regarding the subject project. We offer the following in response to your comments:

We concur that the Makaha Surfside Apartments are threatened by shoreline erosion and need a remedy. We understand that the parcel of land between the shoreline and the Makaha Surfside property line has been placed under the control of the City and County of Honolulu via State Executive Order No. 3452. At the present time, the proposed action is to nourish the beach with sand below the certified shoreline, which we understand falls within the jurisdiction of the State Department of Land and Natural Resources. Mobilization of equipment and delivery of sand will require access to park property. We plan to cooperate fully with your department on any and all decisions that will impact city park lands and operations.

We share your concern that sand nourishment may be carried away. Ideally we would like to have some method, such as offshore breakwaters, to dissipate wave energy before it reaches the beach. Although we recommended breakwaters during our initial review of alternatives, DLNR selected sand nourishment as the preferred alternative. In addition, the residents of Makaha Surfside cannot afford to build offshore structures. We believe that the county or state would have to participate in constructing any offshore structure to make that option viable.

The sand source for nourishment has not yet been determined and will depend on availability and price at the time it is needed. There are few supplies of good beach sand on Oahu. Offshore sand is possible; however, additional permits and a dredging system will be required. If your department becomes aware of available sand, please contact us.

1100 Alakea Building • 1100 Alakea Street, 31st Floor • Honolulu, Hawaii 96813
TELEX: 7431404 • AICI-OCEANIT • TEL: (808) 531-3017 • FAX: (808) 531-3177

Department of Parks and Recreation
May 5, 1997
Page 2

We hope we have satisfactorily addressed your comments. If you have any questions, please call me or Ms. Robin Anawalt. Thank you.

Sincerely,

Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR



Oceanit Coastal Corporation

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
840 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-3341 • FAX: (808) 523-3337



ATTEST:
CLERK

GENERAL SERVICES
DIVISION
97-14-0039

January 21, 1997

JAN 23 9 02 AM '97
DIVISION OF
MANAGEMENT

Mr. Michael D. Wilson, Chairperson
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Dean Y. Uchida, Administrator
Division of Land Management

Dear Mr. Wilson:

Subject: Your Letter, File No.: OA-2850, of January 2, 1997, Relating to a
Conservation District Use Application for Beach Nourishment at Makaha,
Oahu, Tax Map Ksr. 8-3-17-5

We have reviewed the above application and have the following comments:

How long is this measure expected to last? Will there be a need to
replenish at regular intervals? If so, provide estimates of life expectancy
and replenishing rates.

If there are any questions, please contact Gerald Takayesu at 527-6104.

Very truly yours,

KENNETH E. SPRAGUE
Director and Chief Engineer



Oceanit Coastal Corporation
coastal engineering services

A subsidiary of Oceanit Laboratories, Inc.

May 5, 1997

Jonathan K. Shimada, Ph.D.
Director
Department of Public Works
650 South King Street, 11th Floor
Honolulu, HI 96813

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha
Surfside Apartments 85-175 Farrington Highway

Dear Dr. Shimada:

This is in response to a letter dated January 21, 1997 and signed by Mr. Kenneth Sprague
regarding the subject project. We offer the following in response to the comments contained in
that correspondence:

Sand nourishment requires periodic maintenance. The proposed project will extend the beach
approximately 30 feet seaward by adding approximately 5,000 cubic yards of sand. At an
erosion rate of 5 feet per year, the beach will return to its present condition in about 6 years,
losing about 800 cubic yards per year. These numbers are approximate and depend on waves,
currents, and sand grain size. A large hurricane could totally change this beach in a matter of
hours.

We hope we have satisfactorily addressed your comments. If you have any questions, please
contact me or Ms. Robin Anawalt. Thank you.

Sincerely,

Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR

1100 Alakea Building • 1100 Alakea Street, 31st Floor • Honolulu, Hawaii 96813
TELE: 743-1404 • MIC/OCEANIT • TEL: (808) 531-3017 • FAX: (808) 531-3177

W

207

PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU
430 SOUTH KING STREET 8TH FLOOR HONOLULU HAWAII 96813-3017
 PHONE: (808) 525-4311 • FAX: (808) 525-4396



CHERYL D. SOON
 Chief Planning Officer
 650 South King Street, 8th Floor
 Honolulu, HI 96813-3017
 GW 197-0030

January 17, 1997

RECEIVED
 97 JAN 23 8 0: 12
 DEPT. OF LAND
 & NATURAL RESOURCES
 STATE OF HAWAII

Honorable Michael D. Wilson, Chairperson
 Board of Land and Natural Resources
 Department of Land and Natural Resources
 State of Hawaii
 P.O. Box 621
 Honolulu, Hawaii 96809

Dear Mr. Wilson:

Conservation District Use Application (OA-2850)
 for Beach Nourishment at Makaha, Oahu, Hawaii

In response to your department's request of January 2, 1997, we have reviewed the subject CDUA/DEA and offer the following comments:

1. The proposed project supports the objectives and policies of the General Plan and the Waianae Development Plan. This project is located on land designated as Park on the Waianae DP Land Use Map, and is consistent with that use.
2. We have two concerns: a) the proposed action may not represent a long-term solution to the problem of beach erosion at this site; and b) the applicant's research into the shore dynamics of the area may not allow accurate prediction of the effects beach nourishment at this site may have on adjacent sites. Although these concerns are briefly mentioned in the DEA, the development or suggestion of one or more long-term solutions, and discussion of potential corollary effects are not addressed in either the DEA or the application.

Should you have any questions, please call Gordon Wood of the Planning Department staff at 527-6073.

Sincerely,

Cheryl D. Soon
 CHERYL D. SOON
 Chief Planning Officer

CDS:lh



Oceanit Coastal Corporation
 coastal engineering services

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May 5, 1997

Mr. Patrick T. Onishi
 Chief Planning Officer
 Planning Department
 650 South King Street, 8th Floor
 Honolulu, HI 96813-3017

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear Mr. Onishi:

This is in response to a letter dated January 17, 1997 and signed by Ms. Cheryl D. Soon regarding the subject project. We offer the following in response to the comments contained in that correspondence:


1. We acknowledge that the proposed project supports the objectives and policies of the general plan. The Final Environmental Assessment will show the proposed project is located adjacent to land designated as Park on the Waianae DP Land Use Map.
 2. Beach nourishment, although it can be a long-term solution to shoreline erosion, requires periodic maintenance with additional sand. Sand nourishment as proposed at this site is not likely to have any effects on adjacent shoreline sites. The small cove forms a "pocket beach." Pocket beaches are often good locations for nourishment because sand is trapped by headlands on either side. A rocky shoreline is found to the south of the site and Mauna Lahihahi Beach is to the north. Sand can move along the coast in either direction. The amount of new sand that may be introduced to this environment from nourishment is small compared to the quantity that has already eroded. Therefore, we don't believe there will be any additional negative impact on adjacent areas.
- We prepared an evaluation of erosion control alternatives, including methods such as offshore breakwaters, for DLNR. Sand nourishment was the only alternative they supported. However, we will explore these topics further with them. Generally solutions such as breakwaters are beyond the financial capability of residents in a complex like Makaha Surfside. Offshore erosion control structures should be sponsored by county, state, or federal government.

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Planning Department
May 3, 1997
Page 2

We hope we have satisfactorily addressed your comments. If you have any questions, please call me or Mr. Robin Anawalt. Thank you.

Sincerely,


Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR



O'AHU GROUP
SIERRA CLUB, HAWAII CHAPTER
P.O. Box 2577, Honolulu, Hawaii 96813
(Phone: (808) 531-4416)

Sam Lamo
Department of Land and Natural Resources
1151 Punchbowl St., Room 130
Honolulu, HI 96813

Dear Mr. Lamo,

The O'ahu Group of the Sierra Club is pleased that Oceanit Engineering is proposing to renourish the former beach in front of the Makaha Surfside Condominiums. Beach renourishment is a far better choice for our islands than shoreline hardening.

The draft environmental assessment is inadequate, however. The EA should clearly describe the source of the sand -- including its size and fall velocity through water. The site of the sand source should be clearly identified.

We assume that the Board of Land and Natural Resources will place appropriate conditions upon any approval that is granted. These conditions would include continuing monitoring of beach profiles and unimpeded free public access to use the beach.

Thank you for considering our comments.

Sincerely,

Philip Bogetto
Philip Bogetto
Chair

1100 Alakea Building • 1100 Alakea Street, 31st Floor • Honolulu, Hawaii 96813
TELE: 743-1404 • FAX: 743-1404 • TEL: (808) 531-3017 • FAX: (808) 531-3177



Oceanit Coastal Corporation

coastal engineering services

A subsidiary of Oceanit Laboratories, Inc.

May 5, 1997

Mr. Philip Bogetto
Chair
Oahu Group, Sierra Club, Hawaii Chapter
P.O. Box 2577
Honolulu, HI 96803

SUBJECT: Draft Environmental Assessment for Proposed Shore Protection at Makaha Surfside Apartments 85-175 Farrington Highway

Dear Mr. Bogetto:

Thank you for your letter dated January 28, 1997 regarding the subject project. Your letter requests that the source of sand for nourishment should be clearly identified. Unfortunately, suitable beach sand is not always available on Oahu; therefore, the source used will depend on availability and cost when nourishment begins. Whatever the source, the sand must be clean and of sufficient size so that it will not be immediately transported away. This means that the median size must be equal to or larger than the existing sand, and that 85 percent of the sand should be larger than 74 microns. Fall velocity, mentioned in your letter, is used with several other parameters to calculate littoral drift. Fall velocity might be used during erosion analysis but would not normally be included in an environmental assessment.

A beach maintenance program, including measurement of beach profiles, will be recommended to the Makaha Surfside. The beach, as part of Mauna Lani Beach Park, is completely accessible to the public.

We hope we have satisfactorily addressed your comments. If you have any questions, please call myself or Ms. Robin Anawalt. Thank you.

Very truly yours,

Warren E. Bucher
Warren E. Bucher, Ph.D.

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lamo DLNR

BENJAMIN J. CAYETANO
GOVERNOR



FILE COPY

GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4185

February 24, 1997

Mr. Michael Wilson, Chair
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Wilson:


Subject: Draft Environmental Assessment for the Makaha Surfside
Beach Nourishment Project

This is in response to the review of the subject document. We have
the following questions and comments.

1. Please evaluate the impact of the beach nourishment project on
any adjacent coral reefs, mud flats, or fish spawning grounds.
2. Please provide details about mitigation measures to ensure
that no debris, petroleum products, or other wastes enter the
ocean during the term of the project.
3. Please consider the alternative of pumping sand from the
nearshore area directly onto the beach. Please compare the
cost/benefit of this alternative versus the preferred option.
4. Please show any nearby public beach access right-of-way and
describe who is paying for this project.
5. Please provide reasons for supporting the determination based
on an analysis of the significance criteria in section 11-200-
12 of the Hawaii Environmental Impact Statement Rules.

Should you have any questions, call Jeyan Thirugnanam at 586-4185.

Sincerely,


Gary Gill
Director

c: Richard Yamasaki



Oceanit Coastal Corporation

coastal engineering services

A subsidiary of Oceanit Laboratories, Inc.

July 21, 1997

Attn: Mr. Jeyan Thirugnanam
Mr. Gary Gill, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, HI 96813

RECEIVED
'97 JUL 24 P2:00

SUBJECT: Draft Environmental Assessment for the Makaha Surfside Beach Nourishment Project

Dear Mr. Gill:

Thank you for your letter dated February 24, 1997 regarding the subject project. We apologize for our late response. Inadvertently, your original letter was not sent to Oceanit. We offer the following in response to your comments:

1. The nearshore bottom consists primarily of rock and sand. Coral is sparsely located in the nearshore area. There are no mud flats in the vicinity. Environmental studies prior to constructing Waianae Boat Harbor did not indicate any fish spawning areas. The shoreline substrate is a combination of volcanic rock and limestone, some consolidated and some existing as small boulders. A layer of topsoil covers the rock at the top of the beach. Beach nourishment will minimize further erosion of topsoil and provide water quality conditions more conducive to coral and other marine life.
2. The construction phase of this project consists of dumping sand from trucks at the specified location. Clean sand without organic debris will be specified. Other than the sand trucks, there will be no petroleum products on site. Trucks will not be refueled or maintained on site. To minimize waste from entering the ocean, coral sand of sufficient grain size will be specified to minimize fine particles. The sand must match or be coarser than the existing sand to minimize sediment transport. A sand beach will prevent erosion of the clay backshore and resulting turbidity. Salt tolerant vegetation will be planted at the top of the beach to help minimize further erosion. No other waste material is anticipated as a result of this project.
3. The alternative of pumping sand from the nearshore area directly onto the beach was considered. In concept, this is a good idea; however, there are several factors that make this option difficult for Makaha Surfside. To pump from offshore, a sufficient quantity of appropriately sized sand must be located relatively near the beach. Results of sand sampling at several locations along the leeward coast are discussed in Beach Nourishment Viability Study, (Sea Engineering, 1993). The locations included Lahilahi Point,

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Waianae, Pokai Bay, and Maili. Of these, only Maili was judged to have sand in sufficient quantity for beach nourishment. Most of the Maili sand, however, is too small for the conditions at Makaha Surfside (less than 0.5 mm median grain size). Sand from any of these locations would have to be dredged and then transported to shore by barge. The distances are too great to pump directly. Offshore dredging would require a permit from the Department of the Army Corps of Engineers and permits from the State of Hawaii. The Conservation District Use Permit (CDUP) granted to Makaha Surfside does not cover dredging for sand. The Department of the Army is currently establishing a regional permit for beach nourishment, which should make the permit process simpler in the future. The cost of additional permits and an environmental assessment would exceed \$40,000. A minimum of 6 months would be required to process the permit applications. If sufficient acceptable sand was available, dredging and transporting the sand to the beach could be less expensive than trucking in sand from land sources. However, Oceanit believes that dredging offshore sand for beach nourishment should be sponsored by the state or county and should be a continuing operation rather than a one-time project. At this time, since the Makaha Surfside has received a CDUP, and since the new sand should be placed during the summer months to minimize loss, and since the Makaha Surfside has already spent a large sum on obtaining permits, Oceanit believes that it is not practical to start the permit and environmental assessment process over just to be able to use offshore sand.

4. The parcel of land between the shoreline (project site) and the Makaha Surfside property line was placed under the control of the City & County of Honolulu Department of Parks & Recreation via State Executive Order 3452. It consists of a part of Mauna Lahilahi Beach Park and an access road along the shoreline. Just north of the project site, Mauna Lahilahi Park is public accessible on its entire length along Farrington Highway. The project has been and will continue to be funded by the Makaha Surfside Association of Apartment Owners even though the erosion area is part of the beach park. No state or county funding has been offered.
5. Analysis of the Significance Criteria in section 11-200-12 of the Hawaii Environmental Impact Statement Rules shows that the proposed action will not have a significant impact on the environment. The criteria are discussed as follows:
 - (1) The proposed action does not involve an irrevocable commitment or loss or destruction of any natural or cultural resource. Sand nourishment will enhance the natural and scenic resource of the area.
 - (2) The proposed action would actually enhance the range of beneficial uses of the environment. The recreational shoreline area has diminished as a result of erosion, leaving little or no area for sunbathing, picnicking or other recreational activities. Beach



nourishment would also help to reduce beach and soil erosion by covering the eroded embankment.

(3) The State's long-term environmental policies or goals as expressed in Chapter 344 are not in conflict, as the proposed action would enhance the shoreline as a recreational resource while protecting the Makaha Surfside property.

(4) Unless the cost of sand nourishment and/or subsequent replenishment becomes prohibitive, the proposed action does not affect the economic or social welfare of the community or State.

(5) The proposed action has no effect on public health, other than reducing the potential for storm damage to homes at the Makaha Surfside.

(6) The proposed action will have positive impacts on public facilities. In this case, the public beach will be improved.

(7) Not only will a substantial degradation of environmental quality not occur, environmental quality will increase in nearshore waters by reduction of erosion.

(8) Additional actions may involve replenishment as the sand eventually washes offshore. This will cause additional costs every 5 to 10 years. This is not expected to have a considerable effect on the environment or involve a commitment for larger actions.

(9) The proposed action will not affect any rare, threatened or endangered species or its habitat. Shoreline flora and fauna will be altered to the extent that algae and mollusks in the project site may be covered with sand.

(10) Air quality and ambient noise levels will not be affected by the proposed action. Water quality is expected to improve with the addition of clean sand as the backshore escarpment will be protected from further erosion.

(11) The proposed action will occur in an environmentally sensitive area as it is in a flood plain, tsunami zone, erosion-prone area, and along coastal waters; however, the impact will be positive as stated above.



Office of Environmental Quality Control
July 21, 1997
Page 4

We hope we have satisfactorily addressed your questions. If you have any questions please do not hesitate to contact me. Thank you.

Sincerely,



Warren E. Bucher, Ph.D.
Senior Ocean Engineer

cc: Mr. Richard Yamasaki Ind-Comm Management
Mr. Sam Lemmo DLNR

APPENDIX A
CORRESPONDENCE FROM DLNR



Oceanit Coastal Corporation

coastal engineering services

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P.O. BOX 321
HONOLULU, HAWAII 96809

AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

REF:PB:RS

JUL 3 1996

RECEIVED
JUL 8 1996

OCEANIT LABORATORIES, INC.

Mr. Richard Yamasaki
Ind-Comm Management, Inc.
Makaha Surfside Condominium
85-175 Farrington Hwy.
Waianae, Hawaii 96792

Dear Mr. Yamasaki:

We have reviewed the beach erosion problem fronting the Makaha Surfside Condominiums at 85-175 Farrington Highway, and have the following relevant comments to offer.

On Sunday, June 2nd Mr. Roy Schaefer a Department of Land and Natural Resources (DLNR) planner with the Land Division conducted a site visit of the beach erosion, and subsequently met with your consultant Dr. Warren Bucher of Oceanit Laboratories, Inc. on June 6, 1996. The purpose of the meeting with Dr. Bucher was to find out what his preliminary conclusions were for a possible solution for the beach erosion problem.

Your Oceanit Consultant concluded in two studies submitted to the DLNR that beach nourishment is the best method of protecting the shoreline and the Makaha Surfside Condominiums 454 units. We agree with this conclusion and support the beach nourishment alternative as proposed. Unfortunately, the DLNR does not have a budget to provide financial assistance but can assist your consultant in meeting environmental and permitting requirements for the project. The DLNR is very concerned with the sustainability of the State's resources and particularly with coastal land loss problems that result in substantial beach erosion and subsequently threaten man-made structures.

In terms of permitting requirements, a Conservation District Use Application (CDUA) would need to be submitted to the DLNR with the appropriate environmental assessment documentation. In addition, this project would need approval by the Board of Land and Natural Resources for the CDUA. Also, there would be permitting requirements from the Department of Health and the Federal Government Army Corps of Engineers.

10
- Mr. Richard Yamasaki
Page - 2 -

If you have any questions regarding this response, please do not
hesitate to call Roy Schaefer of my Planning Branch staff at
587-0383.

Aloha,

Michael D. Wilson
f MICHAEL D. WILSON

cc: Dr. Warren Bucher

APPENDIX B
CERTIFIED SHORELINE SURVEY MAP



Oceanit Coastal Corporation
coastal engineering services

**OVERSIZED
DRAWING/MAP**

**PLEASE SEE
35MM ROLL**

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