1991-08-01-OA-FEA - Perry Revetment CDUA

FILE COPY

CONSERVATION DISTRICT USE APPLICATION FOR REVETMENT AT 622 KAIMALINO ST. KAILUA, HAWAII

APPLICANT: Michael W. Perry
Address: 622 Kaimalino St.
Kailua, Hawaii 96734

SUBMITTED: APRIL 16, 1991

February 1983

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

FOR DLNR USE ONLY
Reviewed by _____
Date _____
Accepted by _____
Date _____
Docket/File No. _____
180-Day Exp. _____
EIS Required _____
PH Required _____
Board Approved _____
Disapproved _____
Well No. _____

DEPARTMENT MASTER APPLICATION FORM

(Print or Type)

I. LANDOWNER/WATER SOURCE OWNER (If State land, to be filled in by Government Agency in control of property)

Name State

Address _____

_____

_____

Telephone No. _____

SIGNATURE _____

Date _____

II. APPLICANT (Water Use, omit if applicant is landowner)

Name Michael Perry

Address 622 Kaimalino St.

Kailua, HI. 96734

_____

Telephone No. 254-5193

Interest in Property Owner of lot TMK 4-4-39:34

(Indicate interest in property; submit written evidence of this interest)

*SIGNATURE Michael Perry

Date April 15 1991

*If for a Corporation, Partnership, Agency or Organization, must be signed by an authorized officer.

III. TYPE OF PERMIT(S) APPLYING FOR

(X) A. State Lands

(X) B. Conservation District Use

( ) C. Withdraw Water From A Ground Water Control Area

( ) D. Supply Water From A Ground Water Control Area

( ) E. Well Drilling/Modification

IV. WELL OR LAND PARCEL LOCATION REQUESTED

District Mokapu

Island OAHU

County Honolulu

Tax Map Key 4-4-39:34

Area of Parcel 10,660 SF (Indicate in acres or sq. ft.)

Term (if lease) Fee Simple

V. Environmental Requirements See Attachment A

Pursuant to Chapter 343, Hawaii Revised Statutes, and in accordance with Title 11; Chapter 200, Environmental Impact Statement Rules for applicant actions, an Environmental assessment of the proposed use must be attached. the Environmental assessment shall include, but not be limited to the following:

(1) Identification of applicant or proposing agency;

(2) Identification of approving agency, if applicable;

(3) Identification of agencies consulted in making assessment;

(4) General description of the action's technical, economic, social, and environmental characteristics;

(5) Summary description of the affected environment, including suitable and adequate location and site maps;

(6) Identification and summary of major impacts and alternatives considered, if any;

(7) Proposed mitigation measures, if any;

(8) Determination;

(9) Findings and reasons supporting determination; and

(10) Agencies to be consulted in the preparation of the EIS, if applicable.

VI. Summary of Proposed Use (what is proposed) See Attachment B

INFORMATION REQUIRED FOR ALL USES See Attachment C

I. Description of Parcel

A. Existing structures/Use. (Attach description or map).

B. Existing utilities. (If available, indicate size and location on map. Include electricity, water, telephone, drainage, and sewarage).

C. Existing access. (Provide map showing roadways, trails, if any. Give street name. Indicate width, type of paving and ownership).

D. Vegetation. (Describe or provide map showing location and types of vegetation. Indicate if rare native plants are present).

E. Topography; if ocean area, give depths. (Submit contour maps for ocean areas and areas where slopes are 40% or more. Contour maps will also be required for uses involving tall structures, gravity flow and other special cases).

F. If shoreline area, describe shoreline. (Indicate if shoreline is sandy, muddy, rocky, etc. Indicate cliffs, reefs, or other features such as access to shoreline).

G. Existing covenants, easements, restrictions. (If State lands, indicate present encumbrances.)

H. Historic sites affected. (If applicable, attach map and descriptions).

II. Description: Describe the activity proposed, its purpose and all operations to be conducted. (Use additional sheets as necessary). See Attachment D

III. Commencement Date: 1982

Completion Date: 1983

IV. TYPE OF USE REQUESTED (Mark where appropriate) (Please refer to Title 13, Chapter 2)

1. Permitted Use (exception occasional use); DLNR Title 13, Chapter 2, Section _____; Subzone _____.

2. Accessory Use (accessory to a permitted use): DLNR Title 13, Chapter 2, Section _____; Subzone _____.

3. Occasional Use: Subzone _____.

4. Temporary Variance: Subzone _____.

5. Conditional Use: Subzone R_____.

Area of Proposed Use 230 square feet
(Indicate in acres or sq. ft.)

Name & Distance of Nearest Town or Landmark Kailua; Kawainui Canal outlet

Boundary Interpretation (If the area is within 40 feet of the boundary of the Conservation District, include map showing interpretation of the boundary by the State Land Use Commission).

Conservation District Subzone R
County General Plan Designation N/A State Conservation areas not designated by County

V. FILING FEE

1. Enclose $50.00. All fees shall be in the form of cash, certified or cashier's check, and payable to the State of Hawaii.

2. If use is commercial, as defined, submit additional public hearing fee of $50.00.

INFORMATION REQUIRED FOR CONDITIONAL USE ONLY See Attachment E

I. Plans: (All plans should include north arrow and graphic scale).

A. Area Plan: Area plan should include but not be limited to relationship of proposed uses to existing and future uses in abutting parcels; identification of major existing facilities; names and addresses of adjacent property owners.

B. Site Plan: Site plan (maps) should include, but not be limited to, dimensions and shape of lot; metes and bounds, including easements and their use; existing features, including vegetation, water area, roads, and utilities.

C. Construction Plan: Construction plans should include, but not be limited to, existing and proposed changes in contours; all buildings and structures with indicated use and critical dimensions (including floor plans); open space and recreation areas; landscaping, including buffers; roadways, including widths; offstreet parking area; existing and proposed drainage; proposed utilities and other improvements; revegetation plans; drainage plans including erosion sedimentation controls; and grading, trenching, filling, dredging or soil disposal.

D. Maintenance Plans: For all uses involving power transmission, fuel lines, drainage systems, unmanned communication facilities and roadways not maintained by a public agency, plans for maintenance shall be included.

E. Management Plans: For any appropriate use of animal, plant, or mineral resources, management plans are required.

F. Historic or Archaeological Site Plan: Where there exists historic or archaeological sites on the State or Federal Register, a plan must be submitted including a survey of the site(s); significant features; protection, salvage, or restoration plans.

II. Subzone Objective: Demonstrate that the intended use is consistent with the objective of the subject Conservation District Subzone (as stated in Title 13, Chapter 2). See Attachment F

DOCUMENT FOR PUBLICATION IN THE OEQC BULLETIN

Date: 4/16/91 Prepared by: Nancy S. Conyard

The document is a (check all that apply)

Chapter 205A Document	( )	Negative Declaration	(X)
Chapter 343 Document	(X)	EIS Preparation Notice	( )
NEPA Document	( )	Draft EIS	( )
		Final EIS	( )
		Acceptance Notice	( )

Is the document a supplemental EIS? Yes ( ) No (X)

Title of Proposed Action or Project: Conservation District Use Application requesting minor easement for portions of revetment extending into State Conservation District.

Location: Island OAHU District MOkapu

Type of Action (check one): Applicant (X) Agency ( )

Name of Proposing Applicant or Agency: Michael W. Perry
Name of Contact: Michael W. Perry
Address: 622 Kaimalino St.
City: Kailua State: HI Zip Code: 96734
Phone: (808) 2545193

Name of Preparer or Consultant: Nancy S. Conyard
Name of Contact: Nancy S. Conyard
Address: 2499 Kapiolani Blvd. No.1705
City: Honolulu State: HI Zip Code: 96826
Phone: (808) 951-5104

Accepting Authority: Office of Conservation and Environmental Affairs

Estimated Project Cost:

Federal Funds	$
State Funds	$
County Funds	$
Private Funds	$ 1,000
TOTAL	$ 1,000

Document Preparation Cost:

Neg Dec/EA	$ 1,700
Draft EIS	$
Sup Draft EIS	$
Sup Final EIS	$
TOTAL	$ 1,700

EA Trigger (check all that apply)

(x) Use of State or County Lands or Funds
(x) Use of Conservation District Lands
( ) Use of Shoreline Setback Area
( ) Use of Historic Site or District
( ) Use of Lands in the Waikiki Special District
( ) Use Requiring an Amendment to a County General Plan

NOTE: For answers to any question on Page 10 or 11, please contact the Office of Environmental Quality Control at (808) 548-6915.

[OEQC Form 89-01 (1/89)
Page 1 of 2]

( ) Use Requiring the Reclassification of Conservation Lands
( ) Construction or Modification of Helicopter Facilities
( ) Other _____

Brief Description of the Proposed Action or Project which will be Published in the OEQC Bulletin (limit of 500 words or less):

This CDUA requests after-the fact approval for portions of an existing revetment which encroaches on State Conservation District lands. The encroachment is approximately 230 square feet (46 by 5 feet) The encroachment will also require Division of Land Management approval when this CDUA is granted. The CDUA requests that the revetment be allowed to remain in place for the continued protection of the applicant's and adjacent properties.

(Continue on another sheet if necessary)

Tax Map Key(s): TMK 4-4-39:34 _____ _____

_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____
_____ _____ _____

FOR OEQC USE ONLY

Date of Submission:
Date of Publication:
Last Day for Consulted Party Request:
Comment Period Ends:
Acceptance Date:
Publication Date of Acceptance:

OEQC # _____
Planner:

[OEQC Form 89-01 (1/89)
Page 2 of 2]

ATTACHMENT A

ENVIRONMENTAL ASSESSMENT FOR A REVETMENT LOCATED AT 622 KAIMALINO ST., KAILUA

I. IDENTIFICATION OF APPLICANT

The applicant, Michael W. Perry is the property owner of lot TMK 4-4-39:34. The applicant files this environmental assessment in conjunction with a Conservation District Use Application (CDUA) for after-the-fact approval of the use of State Conservation District land, which is occupied by major portions of a mortared stone revetment, located along the shores of Kailua Hawaii. The street address of the structure is 622 Kaimalino St., Kailua. The applicant has been the property owner since December, 1989. The builders of the structures were the original owners of the referenced property. The original owners no longer live on the property.

II. IDENTIFICATION OF APPROVING AGENCY

This CDUA is being submitted to the Department of Land and Natural Resources (DLNR) for after-the-fact approval for the existing placement of those portions of the revetment that extend into the State Conservation District. The CDUA requests the Board of Land and Natural Resources (The Board) grant its approval for those existing portions of the revetment that extend into the State Conservation District. The DLNR is requested to file a negative declaration with the Office of Environmental Quality Control subsequent to a review of this assessment.

III. IDENTIFICATION OF CONSULTED AGENCIES.

The Land Management Division and the Office of Conservation and Environmental Affairs (OCEA), both offices of the DLNR, were informally consulted regarding this CDUA.

IV. GENERAL DESCRIPTION OF THE ACTION

This CDUA requests after-the-fact approval for portions of the revetment that encroach into State Conservation District. The encroachment, approximately 230 square

feet (46 ft. by 5 ft.), will also require approval from the Land Management Division, DLNR, when this CDUA is granted.

This CDUA includes: (1) drawings of the structure in question (Exhibit A-5) and drawing showing the areal extent of the revetment (Exhibit A-4), (2) Location maps for the property (Exhibits 1 to 3), (3) photographs documenting existing conditions of the area (Plates 1-12), and (4) a detailed chronology of the events associated with this revetment (Exhibit B-1).

The proposed action is the result of extensive discussions with the Office of Conservation and Environmental Affairs (OCEA) and the Division of Land Management, both of the DLNR, and the Department of Land Utilization (DLU).

V. SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT

The general location of the study area is near the north edge of Kailua Bay, between Kapoho Point and the Kaiwainui Canal. This general location is indicated in Exhibit A-1, which is a copy of part of Mokapu Quadrangle, 7.5 Minute Series Topographic Map prepared in 1973 by the U.S. Geological Survey. The property lies on the leeward side of the Mokapu Peninsula. The revetment is located on the makai side of the applicant's property, identified on the Tax Map Key Nos. 4-4-39:34. The property is located on the makai side of Kaimalino Drive, Kailua. The property is bounded immediately in the west by a 3.5 by 3.5 reinforced concrete box (RCB) drainage pipe. This drainage pipe was constructed in 1976. Exhibit A-2 indicates the detailed location of the study area. Exhibit A-3 is a location map (tax map key) which also show the location of the subject property.

The structure is in an almost fully developed environment. It is located in subdivision land formally called the Kailua Bay Estates.

The land area of the property on the mauka side of the revetment is landscaped and relatively flat, sloping slightly to toward the ocean. It has an elevation of approximately 4 to 5 feet mean sea level (msl). The property has an area of 10,660 square feet and has been developed with a single family residence. The property drawing which includes delineation of the revetment is included in this assessment as Exhibit A-4.

The land area on the makai side of the revetment is gently sloping sandy beach. The revetment is almost entirely covered by the sand. The sandy beach remains partially exposed at high tides. Plates 4,7 and 9 clearly show the unrestricted access and beach exposure at high tide (+1.8 msl).

The ocean area adjacent to the applicant's property consists a shallow reef flat area. The area is apparently a turtle feeding area due to the rich nutrients entering from Kaiwainui stream. Turtles are frequently seen frequenting the area. Plates 5 and 11 provide a view of the nearshore waters adjacent to the subject property.

Kailua Beach, like most coastal areas, undergoes cyclic trends of erosion and accretion. These trends are most noticeable at both ends of the beach, at Kapoho point and Alala Point. In the area of the Beach where the cited lot is located, localized wave action dominates the coastal processes. The wave action induces a significant longshore

current which seems to affect the longshore transport of sand. Tradewind conditions result in a current toward the northwest. A wind shift to the west combined with a North West Pacific swell causes the longshore current to shift to toward the southeast. Under either current condition sand accretion would occur at this lot. Tradewinds prevail approximately 70 per cent of the time. The dominant feature of the shoreline affecting the accretion and erosion of sand is the City and County RCB drain. The drain acts as a groin and interrupt the longshore current causing the deposition of sand on the east side of the drain. This groin effect is clearly shown in Plates 8,9, and 10.

A detailed coastal study conducted in 1989 (Bail, 1989) for a previous environmental assessment for the general study area has been revised for inclusion in this environmental assessment. For ease of reading, this report is attached as Appendix A of this assessment.

A final significant fact affecting this assessment is that for Federal Flood Insurance purposes the FIRM zone requirement for all residences in the Kailua Bay Estates dictates that the finished floor in every seaside residential have a minimum elevation of +7.5 MSL.

VI. IDENTIFICATION OF MAJOR IMPACTS AND ALTERNATIVES

In completing an environmental impact assessment alternatives must be considered, and the "no action" alternative must always be examined in the study. When the structures are in existence and do not conform to law and regulation, removal of them is not a "no action " alternative. The "no action" alternative in this case is then the proposed action which is to leave the revetment in place. The alternatives for this actions are: (1) Removal of the structure, (2) removal of the revetment and replacement of the structure with a similar structure located entirely on the applicant's property, and (3) removal of the revetment and replacement of the structure with a vertical seawall located entirely on the applicant's property. The third alternative of construction of a vertical seawall has already been suggested by the applicant and rejected by the City and County Department of Land Utilization. Therefore, only the proposed action, the "no action" alternative and first two alternatives will be considered herein.

A. No Action/leave Revetment in Place

The structure has existed on the cited lot for at least 8 years. It was built well after the RCB drainage, the dominant coastal structure, and about the same time as seawalls built on private property on adjacent lots to the east. The structure provides necessary bank stabilization and erosion protection. Deposition of sand on the shoreline of the cited property has resulted from the RCB drainage acting as a groin (see Plates 8,9 and 10). This has in turn has resulted in almost the complete covering of the cited revetment.

The environmental conditions described in this report along with the photographic evidence have demonstrated that no significant adverse impacts have resulted from the construction of the revetment. The primary concern related to coastal structures besides their impact on the coastal and ecological conditions is their effect on public access. Public access and utilization of the area has not been impeded because the revetment is

almost entirely covered by sand. The present situation is not likely to change significantly due to the local current conditions and the existence of the RCB. This conclusion was reached by the previous coastal study (Bail, 1989) and the decision in the Matter of Shoreline Variance for this property by the DLU in 1990. Although the revetment is illegal, the public may not benefit, and may be injured, from the removal of the revetment. Removal of the structure may result in some beach erosion from surface runoff, which will in turn result in loss of beach area. It will also result in sedimentation of the nearshore waters.

The potential for negative impact from leaving this structure in place is minimal at best.

B. Removal of the Revetment

The structure is illegal and if conditional use of State land and variances are not granted, and building permits not issued; its removal is required. If total removal is required on this property, the removal would generate more serious problems for the affected environment, including the sandy beach area, the nearshore waters, and the applicant's property.

The removal of the revetment would result in a shoreline elevation difference between the cited lot and the lot immediately to the east. This elevation difference would result in erosion along the boundary from tidal ebb and flow. This would continue until some kind of stability inland is established.

This alternative would have potentially severe impacts on the environment during the removal activity. Extensive mitigation measures would be required to prevent sedimentation of the nearshore waters, property erosion from surface runoff drainage, and contamination of the sandy backshore area. Sedimentation of the nearshore waters would adversely impact both the flora and fauna of the aquatic environment. While sedimentation can be minimize through structural means and use of silt curtains, no method is 100% effective. It is also a costly undertaking for a private individual.

The sedimentation of the nearshore waters would also continue to occur periodically due to property erosion from surface runoff.

C. Removal of Revetment and Replacement with a Similar Structure Entirely on Applicants Property

The only other possible alternative is the replacement of the existing structure with a similar structure located entirely on the applicant's property. To accomplish this the revetment would be removed, and a structure toe established just inside the property lines as originally platted. The grass, topsoil, and underlying sand would have to be removed several feet horizontally inland from the property line. A filter cloth would be placed at an elevation of about +2 msl. the cloth would be topped with 1 -20 pound stone underlayer and 50-100 pound upper layer. The elevation of the stone would reach

and elevation slightly above +4 msl. This structure and elevation should accomplish the same bank stabilization and inland erosion protection as the existing structure.

This alternative would have potentially severe impacts on the environment during construction. Extensive mitigation measures would be required to prevent sedimentation of the nearshore waters, property erosion from surface runoff drainage, and contamination of the sandy backshore area. Sedimentation of the nearshore waters would adversely impact both the flora and fauna of the aquatic environment. While sedimentation can be minimize through structural means and use of silt curtains, no method is 100% effective. It is also a costly undertaking for a private individual.

The alternative would remove more than 300 square feet from the applicant's property. The alternative would also result in the fragmentation of the property if the 40 foot shoreline setback is required. The setback in conjunction with the new revetment would nearly eliminate the owner's usable property except for that where the residence occupies. Furthermore, the action would not increase or improve public access or utilization of the shoreline. These would be severely hindered during the removal and construction process.

VII. PROPOSED MITIGATION MEASURES

The preferred alternative of no action requires no mitigation measures as the present revetment is not adversely effecting the environment or resource utilization. Alternatives of revetment removal and inland seawall construction would require extensive mitigation measures to prevent excessive sedimentation of the nearshore areas.

The applicant has undertaken extensive efforts to comply with City and County and State of Hawaii procedures and regulations and to ensure that no adverse environmental impacts would result from the revetment. No adverse environmental impacts have resulted from the construction of the revetment. The revetment's construction has, in fact, reduced the adverse impacts from surface drainage runoff that would result if the it were not in place.

H. DETERMINATION

Maintaining the revetment at its present site will cause no adverse environmental impact. The revetment provides bank stabilization necessary to prevent soil erosion from surface drainage runoff. Further, the structure does not restrict public access or public usage of the sandy beach area and adjacent nearshore waters.

Other alternatives have much greater potential for major adverse environmental impact. They will also result in unnecessary expense and loss of property by the applicant.

The approval of this CDUA, and other approvals which will be requested to legalize the structure, will establish no precedence to other cases on Oahu.

I. FINDINGS AND REASONS SUPPORTING DETERMINATION

The photographs and drawings submitted by the applicant show that the revetment is substantially covered by the sandy beach and that public access and public usage of the area is not limited by the revetment. The reader is again referred to the attached plates, particularly plates 1,6,7,8 and 9, to see the minimal exposure of the revetment and the lack of restricted public access. The applicant has further demonstrated that maintaining the revetment at its present site will result in minimal, if any, environmental impact and much less adverse impact than any of the available options.

The determination as to the potential for adverse impact has been made by other government agencies. The applicant recognizes the sensitivities of after-the-fact approvals of coastal structures, however, maintains it is in the public's interest to grant the requested approval. Such approval would ensure the public interest by avoiding potential negative environmental impacts of the alternatives.

Finally, the applicant has made every effort to comply with applicable regulations and has expended considerable resources in his efforts. Requiring the applicant to proceed with either alternative would result in significant and unreasonable loss of private property as well as damage to the natural environment.

J. AGENCIES TO BE CONSULTED FOR EIS

This environmental assessment is submitted for a negative declaration. It is not anticipated that an EIS will be required.

EXHIBIT A-1

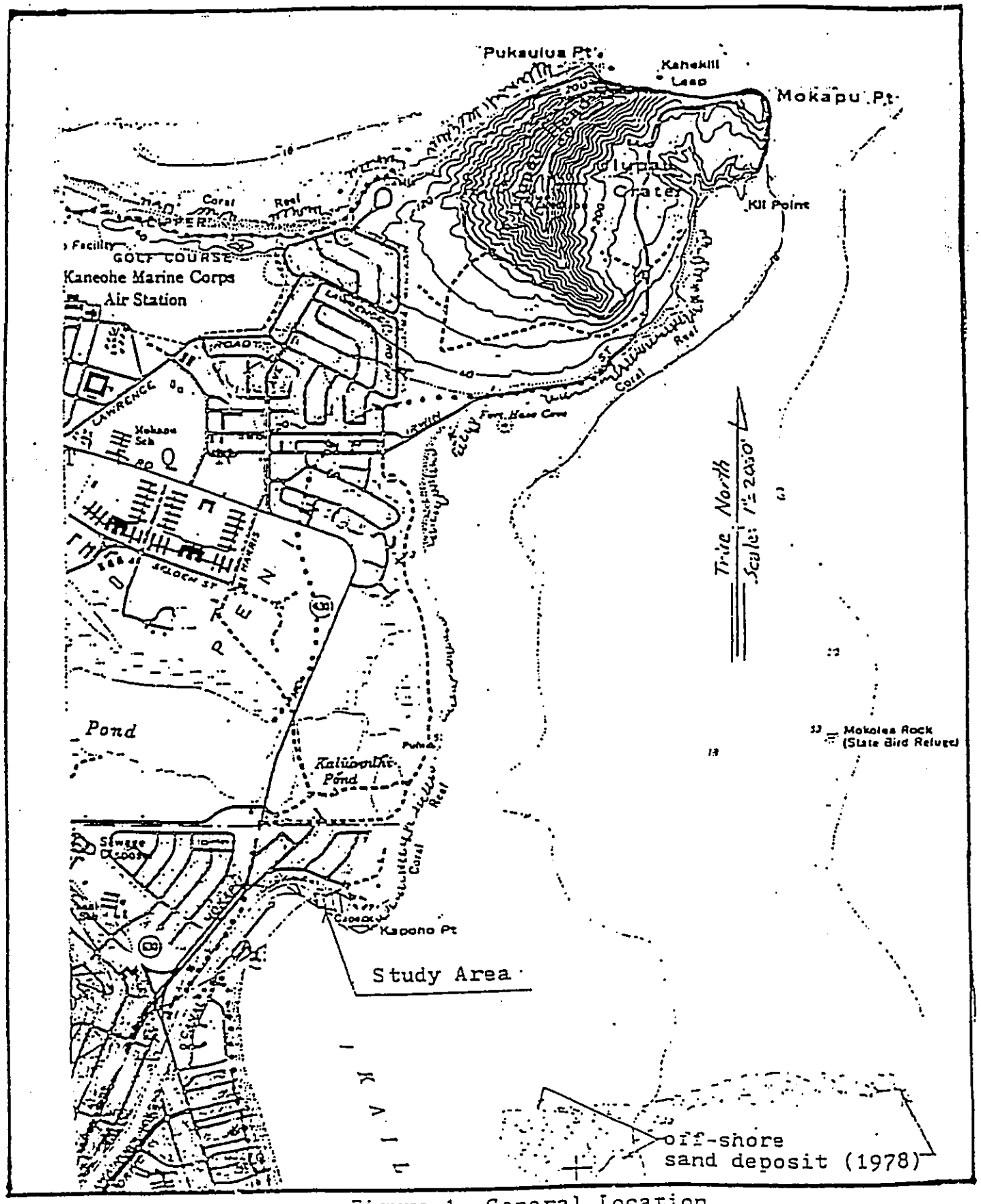


Figure 1 General Location

EXHIBIT A-1

EXHIBIT A-2

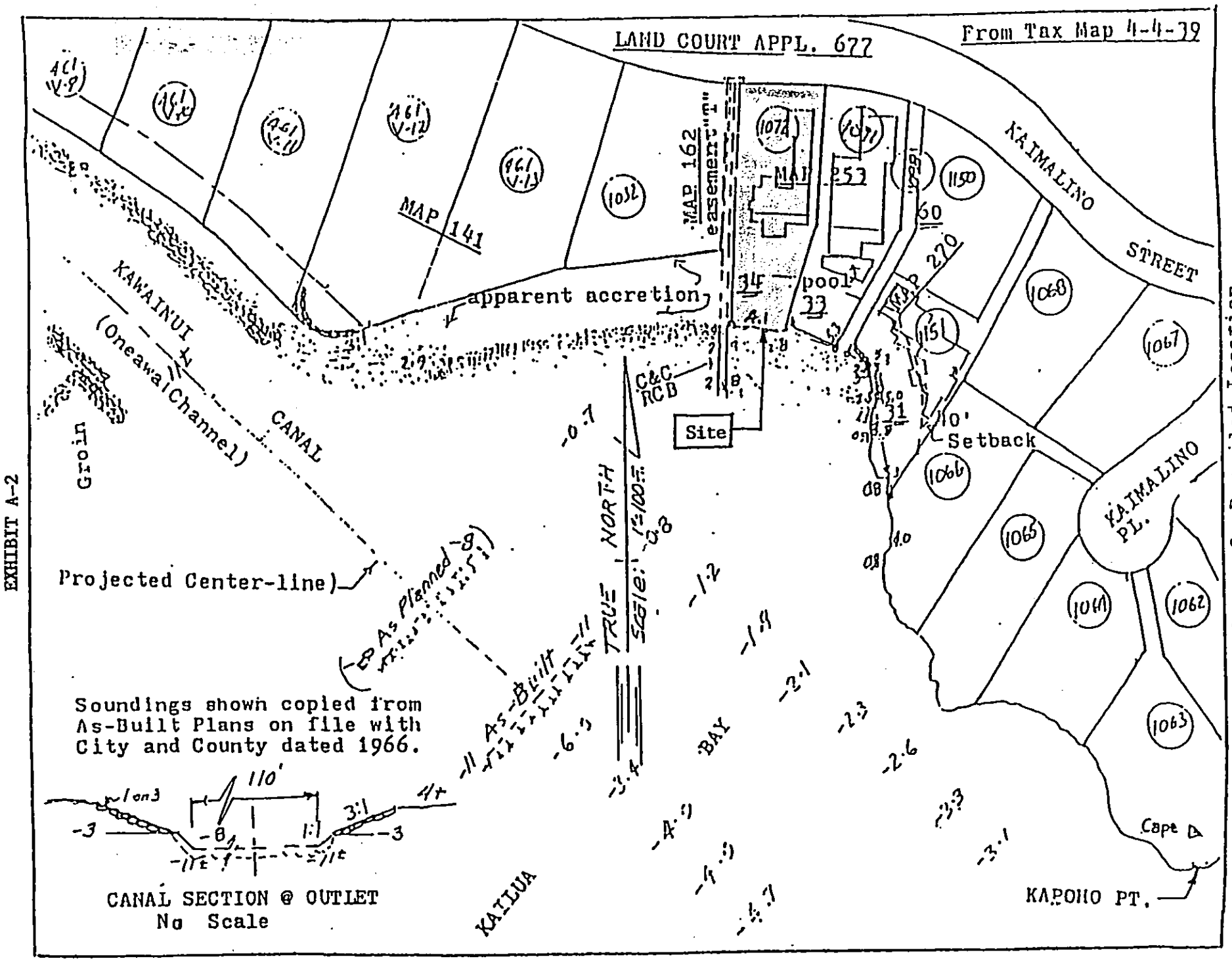
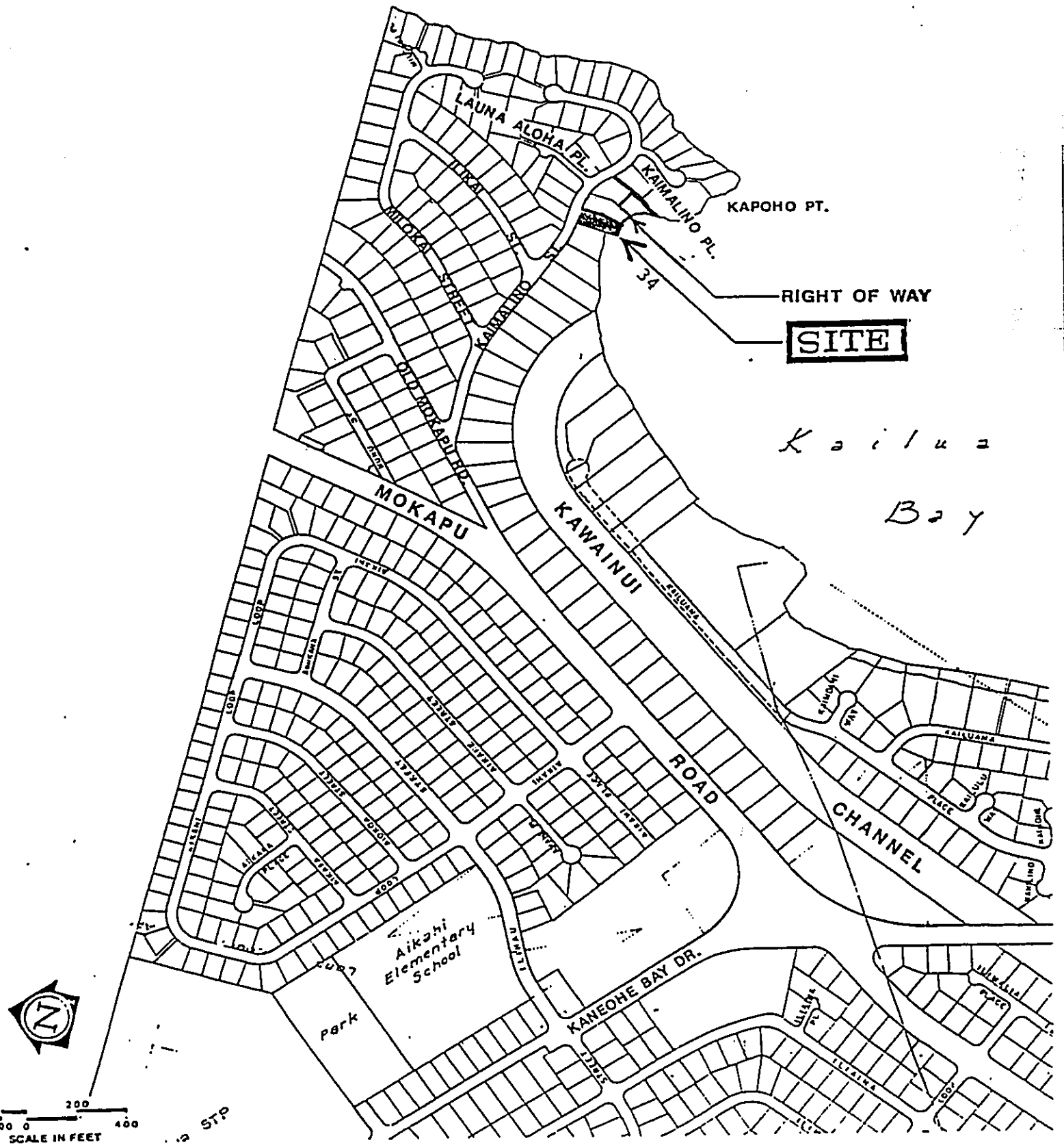

LAND COURT APPL. 677
From Tax Map 4-4-39
MAP 141
MAP 162
easement "1"
apparent accretion
KAIMALINO STREET
KAWAINUI CANAL
(Oneawa Channel)
Projected Center-line)
Groin
Site
C&C RCB
10' Setback
pool
KAIMALINO PL.
NORTH TRUE
SCALE: 1"=100'
As-Built
As Planned
Soundings shown copied from As-Built Plans on file with City and County dated 1966.
CANAL SECTION @ OUTLET
No Scale
KAILUA BAY
KAPOHO PT.
Cape
Detailed Location
Figure 2

EXHIBIT A-3



LOCATION MAP

TMK: 4-4-39 : 31,33,34

EXHIBIT A-3

EXHIBIT A-4

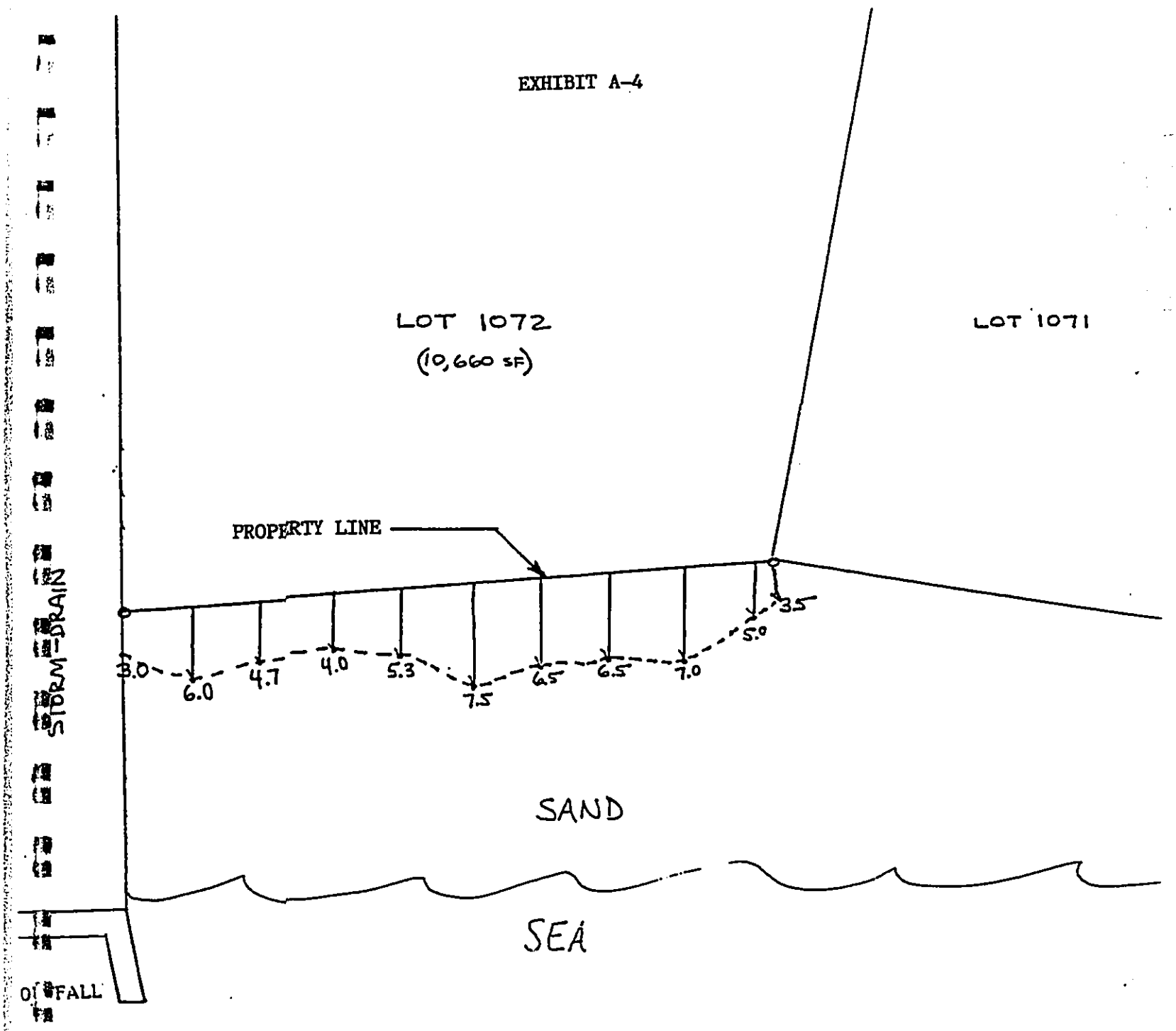


EXHIBIT A-4

MAP SHOWING EXTENT OF REVETMENT (in feet from shoreline boundary)

Soundings taken at 5 foot intervals with metal pipe March 30, 1991.

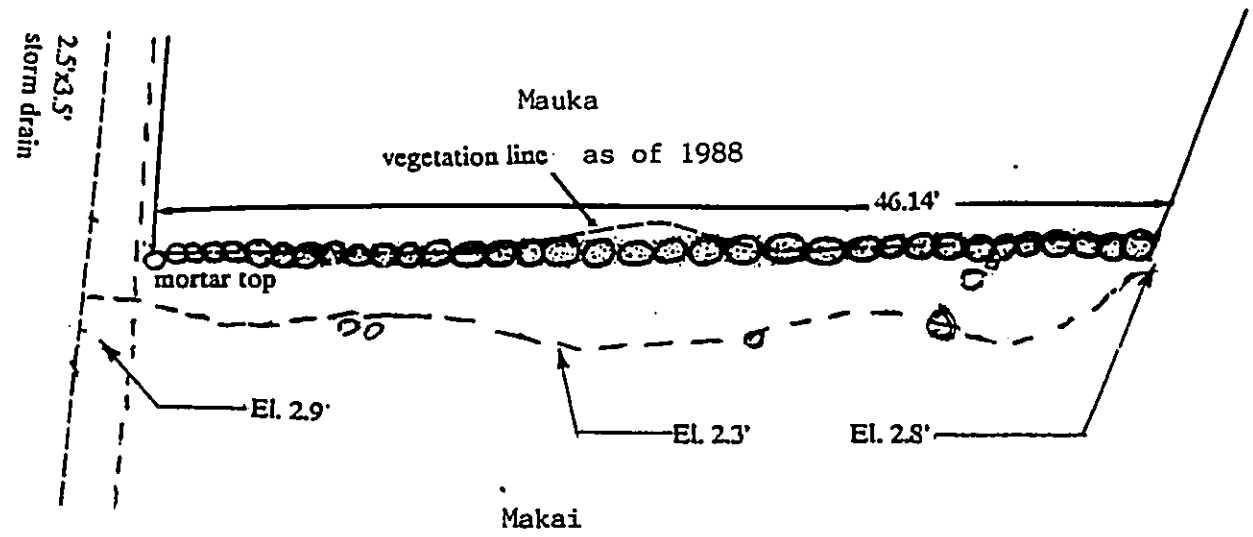
Note: 1. Slope of revetment varies from 1-on-1.5 to 1-on-3.
2. Previous owner and long-time residents state that there were some bluerock stones already in place at shoreline. Origin unknown.

Map prepared by applicant.

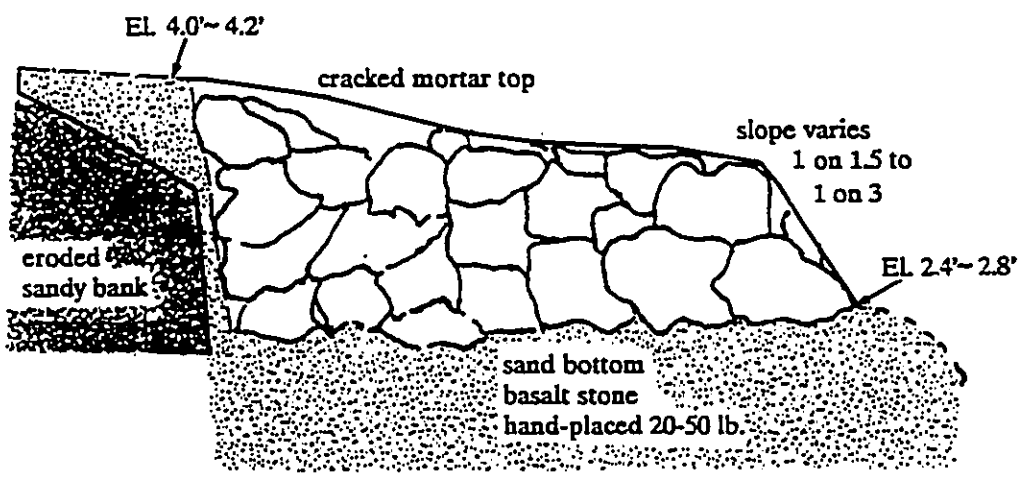
EXHIBIT A-5

Figure 3
Existing Structure

Plan View



Section View



scale: 1" = 3 ft.

All elevations shown are based on City & County B.M. El. 5.70 in the center of Kaimalino St. at the west edge of storm drain easement "T" Ld.Ct. Map 162.

EXHIBIT A-5

PLATE 1: OVERALL PLAN VIEW OF SUBJECT PROPERTY
Low to Mid Tide; March 28, 1991; 17:30 hrs.
(Natural litter due to storm of March 23-24, 1991)

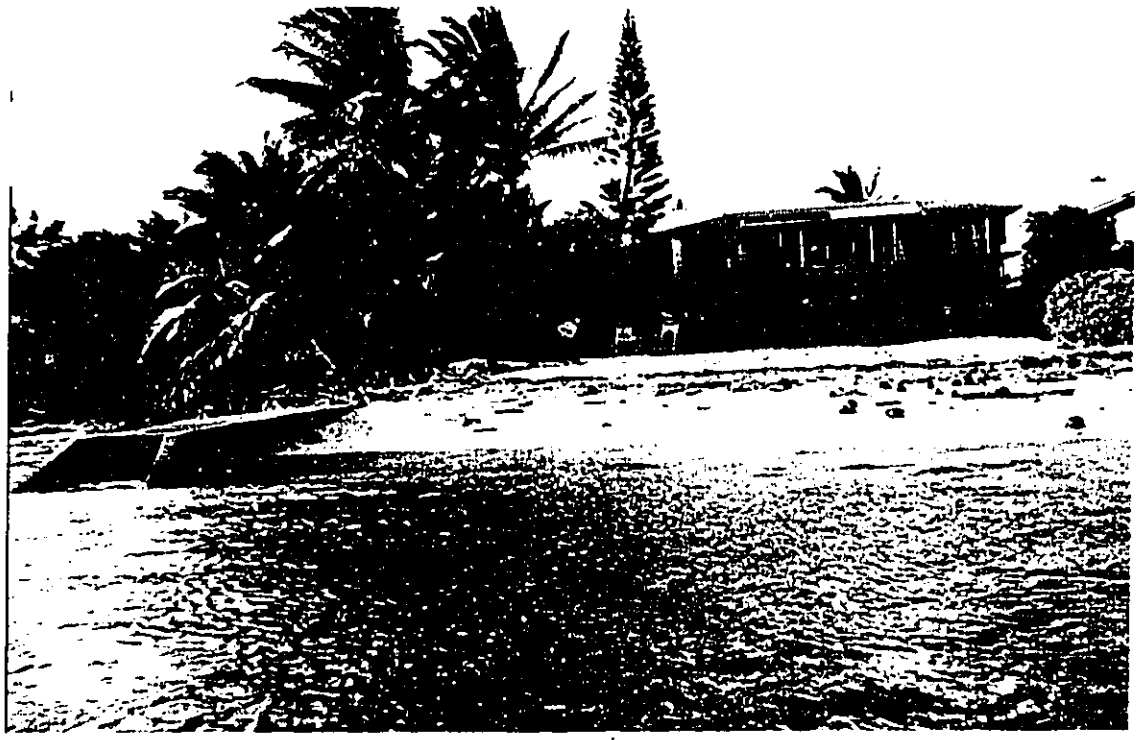


PLATE 2: OVERALL VIEW OF SUBJECT PROPERTY AND RBC CULVERT
Low to Mid Tide; March 28, 1991; 17:30 hrs.
(Natural litter due to storm of March 23-24, 1991)

Photos by Daniel Kailukaitis for N.S. Convard

PLATE 3: OVERALL PLAN VIEW OF SUBJECT PROPERTY
High Tide (+1.8 msl); April 2, 1991; 16:30 hrs.

PLATE 4: OVERALL VIEW OF SUBJECT PROPERTY AND RBC CULVERT
High Tide (+1.8 msl); April 2, 1991; 16:30 hrs.

Photos by Daniel Kailukaitis for N.S. Convard

PLATE 5: VIEW FROM PROPERTY TO MAKAI
Low tide; March 28, 1991; 17:30
(Natural litter due to storm of March 23-24, 1991)

PLATE 6: EXPOSED PORTION OF REVETMENT, WEST END OF PROPERTY; LOOKING MAUKA
Note damaged mortar; March 28, 1991; 17:30 hrs
(Natural litter due to storm of March 23-24, 1991)

Photos by Daniel Kailukaitis for N.S. Convard

PLATE 7: SHORELINE AT SUBJECT PROPERTY AT HIGH TIDE
LOOKING EAST TO WEST
Note unrestricted access; April 2, 1991; 16:30 hrs.

PLATE 8: AREA SHORELINE AT LOW TIDE
March 28, 1991; 16:30 hrs.
(Natural litter due to storm of March 23-24, 1991)

Photos by Daniel Kailukaitis for N.S. Convard

PLATE 9: RBC CULVERT AT HIGH TIDE
LOOKING EAST AND MAUKA
Note groin effect unrestricted access; April 2, 1991; 16:30 hrs.

PLATE 10: RBC AREA SHORELINE AT LOW TIDE
March 28, 1991; 16:30 hrs.
(Natural litter due to storm of March 23-24, 1991)

Photos by Daniel Kailukaitis for N.S. Convard

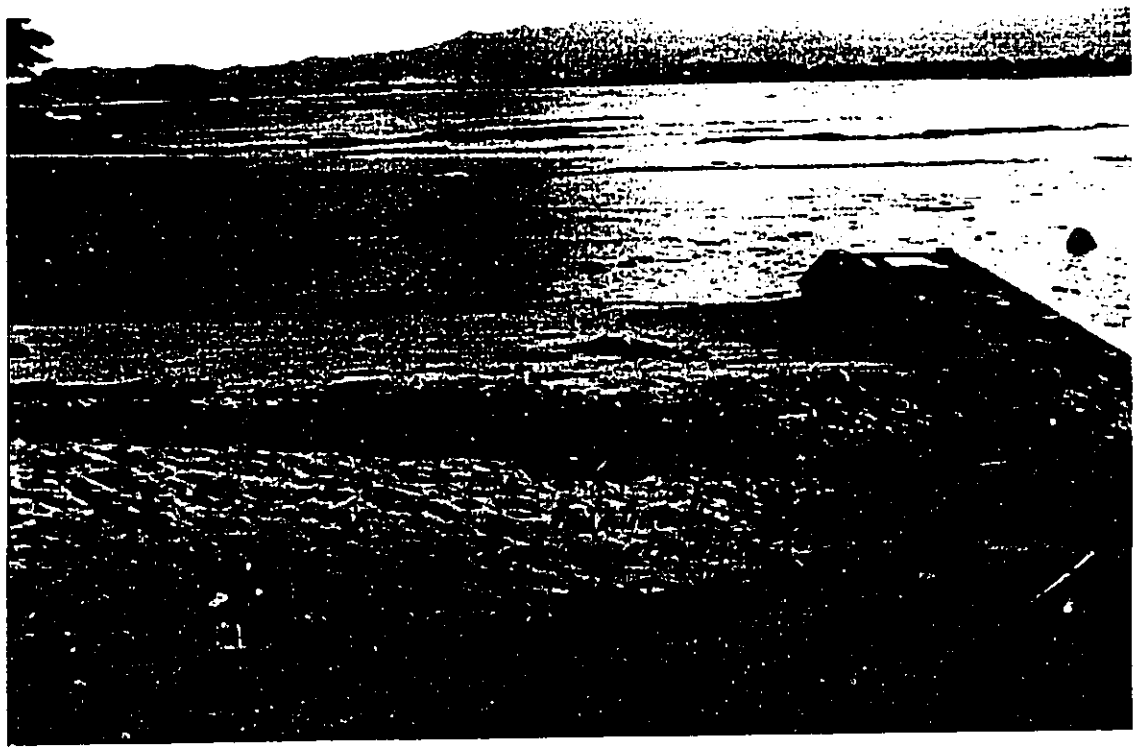


PLATE 11: MINIMAL EXPOSURE OF REVETMENT, WEST END OF PROPERTY; LOOKING MAKAI FROM PROPERTY
Note unrestricted access; April 2, 1991; 16:30 hrs.

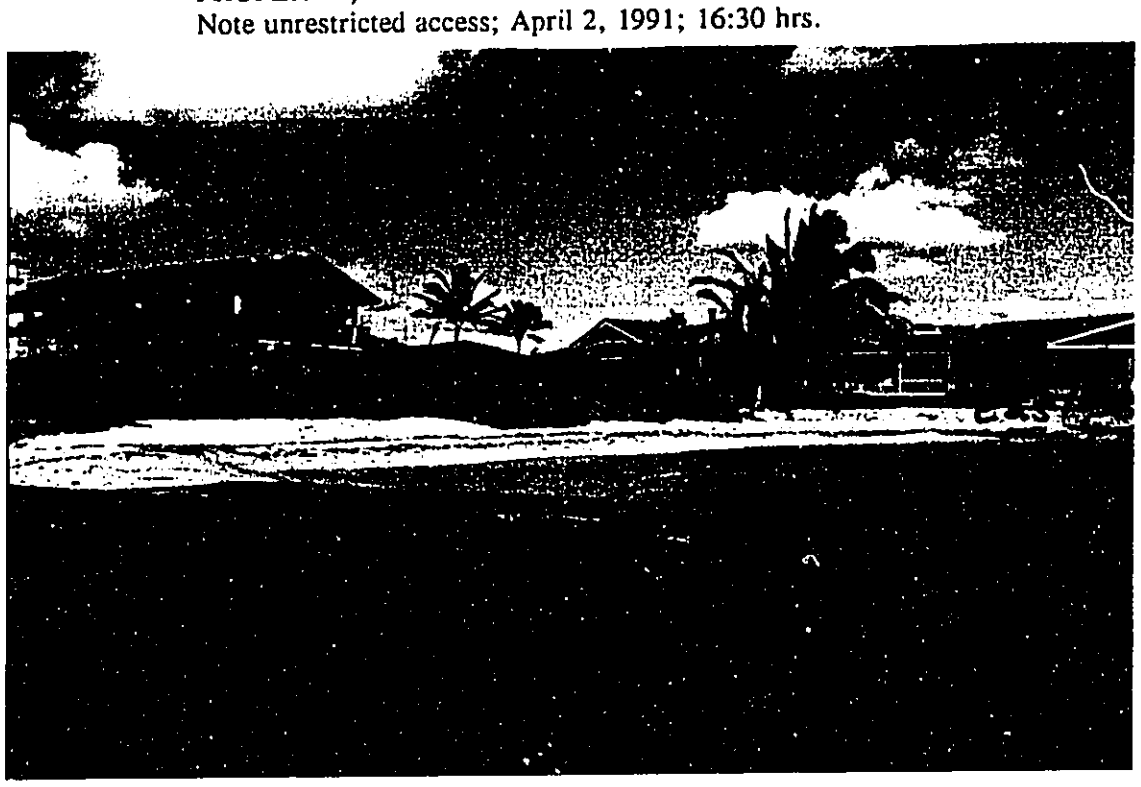


PLATE 12: AREA SHORELINE AT HIGH TIDE
Note: Unrestricted access, seawalls on adjacent properties
April 2, 1991; 16:30 hrs.

Photos by Daniel Kailukaitis for N.S. Convard

ATTACHMENT B
SUMMARY OF PROPOSED USE

The CDUA is submitted to request that the existing revetment at the subject lot which infringes on State lands be allowed to remain in place for the continued protection of the applicant's and adjacent property. In order to maintain the revetment as presently placed and constructed, an after-the-fact approval for the use of State land is required. Approval is required from DLNR because portions of the revetment are located within the State Conservation District. The encroachment is approximately 46 ft in length and varies from 1 to 7.5 feet in width. The encroachment area is approximately 230 square feet. It will require an easement from the Division of Land Management.

This request for approval is the result of extensive discussion with agencies of DLNR and DLU is submitted only after the applicant has studied all possible alternatives. It is the applicant's and consulted environmental professionals' sincere belief that this after-the-fact approval is the most environmentally acceptable solution. Public use of the shoreline is also not adversely impacted by the maintenance of the revetment.

The revetment has a history dating back to the construction of the Oneawa Channel Flood Control Project by the U.S. Army Corps of Engineers, Honolulu District in 1966. This may have been the first time that stone was placed for the purposes of erosion control on the shoreline area under study. It is not certain if, and to what extent stone, was placed at the site of the existing revetment. In 1982 the then owners hand placed stone to prevent erosion on what they mistakenly believed was their own property. Later when the owners realized children could too easily move the stones, they placed a mortar covering on the stones. A chronology of the history of this revetment is attached to this narrative.

The legality of the structure was not questioned until October, 1988, when the then owners were cited for building the structure without a building permit. In the time since the citation from the original owners and the new owner, the applicant, have attempted to bring the structure into compliance by obtaining shoreline setback variance, shoreline certification, building permit, and approval for use of Conservation District Land. This has involved numerous discussions and other communications with the relevant agencies. (See chronology, Exhibit B-1)

The necessary approvals have not been received because these approvals are interdependent and more difficult to process after-the-fact because of these interrelationships.

Through the above mentioned communications, it has been determined that this CDUA approval is necessary and must be received prior to receiving relevant approvals from the other involved agencies.

Most notable of the applications made and decisions rendered regarding this matter is that of the DLU. In its decision of December 22, 1989 the DLU determined that: (1) the revetment did serve as necessary protection of the property from soil erosion from surface drainage runoff, (2) such erosion could contaminate the sandy backshore area and increase turbidity in nearshore waters, and (3) public access was not impeded by the revetment, and structure. However, the structure was also determined

to be illegal and the then owner was ordered to remove the revetment which lies within the State of Hawaii's jurisdiction, or obtain the State's approval to allow that portion of the revetment to remain. The applicant was further ordered to pay a one time civil fine of $500.00 to the City and pay a daily fine of $5.00 for each day beyond one year that the revetment is not removed or approval from the State to allow the revetment within State Land.

EXHIBIT B-1

CHRONOLOGY OF EVENTS REGARDING THE REVETMENT LOCATED AT 622 KAIMALINO DRIVE

Date	Event
1966	The Oneawa Channel Flood Control Projects was constructed by the U.S. Army Corps of Engineers, Honolulu District. This may be the time at which stones were first placed on the cited shoreline.
1982-3	Loose stone revetment placed by the then owners, Robert T.Y. Lee and Sandra L. Lee.
1982-3	Thin top of mortar was placed on the stone when the owners discovered children were digging and moving stones at the upper portion of the revetment.
1988, Sept. 30	The then owners received a Notice of Violation from the Building Department for failure to obtain a building permit for the construction of the wall. The violation also stated that the structure was within the shoreline setback area and that Department of Utilization (DLU) approval was required. (See Exhibit B-2, Notice of Violation from the Building Department)
1988, Oct. 19	Original shoreline survey conducted by Mr. Maitland C. Dease for the purpose of obtaining shoreline certification.
1988, Nov. 10	Mr. Dease received as agent for the owners a notice of a possible encroachment violation on State property, from the State Land Surveyor. This possible encroachment had to be rectified with the DLNR, prior to processing of the shoreline application. (See Exhibit B-3, Letter from Chief Land Surveyor)
1989, March 23	Application for Variance in Shoreline Setback submitted to the DLU. (See Exhibit B-4)
1989, May 3	Letter from the Chief, Operations Branch, U.S. Army Corps of Engineers, stating that the after-the-fact construction of the revetment/seawall is considered permitted under the Corps Nationwide permit authority in accordance with Federal Regulations 33 CFR 330.5 (a) (13).
1989, May	Communications between the owner's agent and Division of Land Management, DLNR regarding the State's interest in shoreline certification when encroachment along shorelines is involved. The District Land Agent indicated the State was in the processes of developing procedures to resolve such encroachments. If the owners required a shoreline certification prior to

	the development of those procedures the encroachment must be removed. (See Exhibits B-5 to B-8)
1989, July 17	The DLU determined that no EIS was required for the request for a Variance in Shoreline Setback. (See Exhibit B-10)
1989, August 8	A Negative Declaration was published in the "OEQC Bulletin" for the requested Variance in Shoreline Setback. (See Exhibit B-10)
1989, August 14	Original owner, through its agent, submitted a Statement of Hardship to the DLU. (See Exhibit B-9, Statement of Hardship)
1989, Nov. 22	Property in question purchased by the applicant and present owner, Michael W. Perry.
1989, Dec. 22	Approval for Variance in Shoreline Setback approved only for those portions of the revetment on the applicant's property. This decision ordered the removal of those portions of the revetment within the State of Hawaii's jurisdiction, or obtain the State's approval to allow that portion of the revetment within the State's jurisdiction to remain. (See Exhibit B-10, Letter from DLU with "Decision" in the matter).
1990, March 15	Applicant in conjunction with owners of 2 adjacent properties proposed to DLU the replacement of existing structures with a continuous coral rock wall to be built completely within their property boundaries . (See Exhibit B-11) letters from applicant)
1990, May 30	Applicant's request for substitution of the coral rock wall was denied by the DLU. (See Exhibit B-11, Letter from DLU)
8/20/1990	CDUA submitted for after-the-fact revetment approval.
1990, Sept. 19	CDUA application rejected as incomplete. (See Exhibit B-13, Letter from DLNR)
9/1990 to present	Applicant has discussions with DLNR representatives and searches for qualified agent to complete CDUA and environmental assessment. He also has unofficial discussions with Federal fisheries official.

EXHIBIT B-2

NO. BV 88-09-233

Date 9-30-88

BUILDING DEPARTMENT
CITY AND COUNTY OF HONOLULU

NOTICE OF VIOLATION

TO: Owner/~~Contact/Agent~~ Mr. Robert T.Y. Lee

Mailing Address 622 Kaimalino St., Kailua, HI 96734

RE: Building Code Violation

ADDRESS 622 Kaimalino St.

TAX MAP KEY 4-4-39:34 PERMIT NO. None

I have inspected the above described structure and/or premises and have found the following violations of City and County of Honolulu's laws and regulations governing same:

Codes and/or Ordinance (s) and Section (s)	Violation (s)
ROH, Sec. 18-3.1 Permit Required	Building permit required for constructing a seawall at the rear of your property.
ROH, Sec. 18-6.2(d) Building Permit Fees	Because work was done before the building permit was obtained, the fees specified shall be doubled.
	PLEASE OBTAIN THE BUILDING PERMIT WITHIN THE TIME SPECIFIED BELOW. IF THE BUILDING PERMIT CANNOT BE OBTAINED, ALL CONSTRUCTION WORK DONE MUST BE REMOVED.
Ord. 4631 Rule 12, Sec. 1 Shoreline Setback	Seawall is in the shoreline setback area. Department of Land Utilization approval required.

You are hereby ordered to:

- [XX] Obtain permit (s) for the work performed as required by law, within thirty (30) days from date of notice.
- [ ] Stop Work! Please contact _____ as soon as possible, but no later than _____ 19 ____ before doing any more work.
- [ ] Start making corrections immediately and complete all work within _____ ( ) days from date of notice. Please call the undersigned after corrections have been made.
- [XX] You are reminded that if no action is taken within the specified time, this matter will be referred to the prosecutor's office for appropriate action.
- [ ] If the work is not commenced within thirty (30) calendar days after the date of this notice, and diligently prosecuted to completion without interruption, the work will be done by the City and the cost thereof shall be charged to the owner.

Inspector: Clinton Ching Ph. 523-4277
CLINTON CHING

BSD-1 (Rev. 8/87)

JOHN WAIHEE
GOVERNOR

RUSSEL S. NAGATA
COMPTROLLER

Recd Nov 10, 1988 MCD.

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING
AND GENERAL SERVICES
SURVEY DIVISION
P. O. BOX 119
HONOLULU, HAWAII 96810

November 7, 1988

Response Refer to:

FILE NO. O-465(88)

EXHIBIT B-3

Mr. Maitland C. Dease
22 S. Kainalu Drive
Kailua, HI 96734

Dear Mr. Dease:

Subject: Shoreline Determination
TMK: 4-4-39:34
Kaneohe, Koolaupoko, Oahu, Hawaii

This is in reference to your November 4, 1988 letter of transmittal together with the subject shoreline map and photos.

A review of the shoreline reveals that the "rockwall with cement mortar face" is located seaward of your client's shoreline boundary. This is a possible encroachment violation on State property and must be rectified with the Department of Land and Natural Resources before your shoreline application can be processed. The person to contact is Mr. Dean Uchida, Oahu District Land Agent, Land Management Division (DLNR) at phone 548-3262.

Your shoreline map and photos are being returned. Should there be any questions, please contact me at 548-7422.

Very truly yours,

PAUL T. NUHA
State Land Surveyor

Enclosures

cc: Dean Uchida, Ld. Mgt.

Nov 11/88 - Shoreline Map Copies 4 and 5 of 5 to Alan Bail

EXHIBIT B-4

Alan Bail
824-D North Kalaheo Ave.
Kailua, HI 96734
November 21, 1988

State of Hawaii
Department of Land and Natural Resources
attention: Mr. Dean Uchida
Oahu District Land Agent
Land Mangement Division (DLNR)
P. O. Box 621
Honolulu, HI 96809

Dear Mr. Uchida:

Subject: Request for Easement Seaward of Shore
TMK: 4-4-39:34. and 4-4-39:33
Kaneohe, Koolaupoko, Oahu, Hawaii

Please refer to the copy furnished you of Mr. Paul T. Nuha's letter of November 7, 1988, to Mr. Maitland C. Dease , Subject: Shoreline Determination, TMK: 4-4-39:34. Advised of the information you furnished in reply to my telephone inquiry of November 14, 1988, Robrt T. Y. and Sandra L. Lee, owners of Lot 33, and Richard J. and Barbara K. Dahl, owners of Lot 34, the adjacent lot, request that the State of Hawaii grant easements seaward of their lots to enclose existing structures,owner-built 5-10 years ago, part of which encroach on state property. They have been cited by the City & County of Honolulu and are seeking permits from the Building Department by means of a variance from Shoreline Setback rules based on State of Hawaii law.

The owners of these lots and the next adjacent one, Lot 34,have designated me as their agent to perform and submit the environmetal impact assessment including coastal engineer report required by the C & C Department of Land Utilization, DLU, and copies of their letters are attached.

The following color photo prints and related drawings are also enclosed to amplify details leading to this request:

a. Shoreline survey of 4-4-39:34 by Mr. Dease
b Shoreline survey of 4-4-39:33, certified July, 19, 1988
c. Color Print, Plate I showing both encroachments
d. Color print, Plate IV showing Lee property from air in 1985-86 and shoreline as of Oct. 26, 1988.
e. Sketch titled Figure 3, Plans and Sections, intended for use in coastal engineer report.
f. Sketch titled Figure 2, Detailed Location, from report.
g. Figure 1, General Location from U.S. Geologic Survey Map, intended to show the general location of the lots in the enviromental impact draft.

In the above-listed enclosures, Figure 1 shows that the problem lots are located in the northwest corner of Kailua Bay and are sheltered by Kapoho Point to the east and the rest of Mokapu Peninsula northward. The seawall on Lot 31, which does not encroach on public land, ends at a point where the sand barrier on which the houses are built shoreward of Kaimalino Street encounters a reef face which is exposed the rest of the way around Kapoho Point on to the north and slightly eastward toward Mokapu Point. This can be seen at the lower edge of Figure 3 where the steps ending the seawall frame into the reef face on Lot 31. In the upper photo on Plate I and the upper edge of the lower photo on Plate IV you can see rip-rap type bank protection visible apparently all the way from the C&C storm drain to the Kawainui Canal outlet and beyond. This is shown on Figure 2. However, by visual inspection while walking the bank from access beyond lot 469-V9 along the canal right-of-way toward the storm drain a short stretch of sand beach was seen just beyond the existing concrete wall which is the end of the Federal Oneawa Channel project as shown on Honolulu District as-built plans on file with the C & C Department of Public Works. This little beach is not noticeable in the photos on Plates I and IV.

The draft coastal engineer report concludes that except for disaster from tsunami, earthquake, or hurricane, the beach along Lots 34,33, and 31 is very unlikely to sustain serious damage from wave action. The dominant influences appear to be the concrete storm drain acting as a low groin perpendicular to the shore and the condition of the Kawainui Canal with respect to shoaling, storm outflow from heavy rains, tidal ebb and flow, and longshore current action. On the Kailua Bay side of the lots, only a very narrow sector to the southeast provides a fetch long enough to set up waves big enough when breaking to produce longshore currents able to move much sand seaward away from Kapoho Point. Accretion of sand toward Lots 33 and 34 seems more likely because the higher velocity trades prevail in the sector spanning from northeast to east-northeast. A northerly set is likely to carry some sand to the southeast and could combine with a sort of drag or rip which might occur for some time following removal of shoaling in the Kaiwanui Canal between the outlet and the bridge on Kalaheo Avenue.

The upper photo on Plate IV is a reduction of a large aerial photograph taken by a friend of the Lees from a helicopter several years ago. It shows the beach in the condition that residents of the area say is most prevalent under normal trade wind conditions. Early in the 1980s--1982-83, a strong northerly wind set caused severe erosion of Kailua Beach in the area marked "See coastal report narrative" in Fig.1 At this time, pronounced erosion is also reported to have occurred in the study area of this report. C&C maintenance dredging of shoals in the canal around the same time seemed to have magnified the problem

in Lot 34 and erosion was cutting into bank within the property line. The stones comprising the seawall structure on Lot 34 were placed by the Lee family in what they thought was an emergency. A single truckload of crushed basalt, probably from the Kapaa Quarry was used. To retain the hand-size stone and stop removal by beach visitors, a thin mortar top was placed some time later by the family.

Lot 33 was purchased by the Dahls about a year ago from the original owners. The concrete wall along the shore was placed by the owner-builder of the house to get a flatter, more erosion resistant slope away from the house when it was built in 1978-79. The shoreline was certified along the seaward face of the wall July 19, 1988 and the Dahls were issued a building permit to construct a swimming pool. In construction of the pool in August, attempting to pump the excavation dry led to the use of a large number of pumps, a 10 inch, an 8 inch, and assorted 4" and 2" sizes for a couple of days producing flow which damaged the walls on both properties before the futility of the effort was recognized. This caused the recent repairs evident in both structures. It is posible that some of the sand which would otherwise be on the beach now was removed by this heavy flow but but this is not apparent now. To protect the seaward toe of the wall and act as a sort of sand-grabber, excess coralline stone from wall construction in Lot 31 has been placed against the wall and causes the encroachment from Lot 34 seaward of the recently-established shoreline.

It is obvious that parts of both sea walls encroach on the public beach. However, the public may not benefit from removal and it seems likely that neither of these structures will be very noticable most of the time. Although illegal, they retard sedimentation by providing a flat slope for heavy rain run-off. Their removal will cause increased sedimentation as long as the houses currently on these properties exist. The sheltered location of these lots serves to minimze the landward erosion along the sides which makes most seawalls of this type so damaging. There might be a problem in the public access between Lots 34 and 31 under extreme conditions. If this should occur, the owners could be required to repair any damage due to the presence of their walls.

The easement requested is outlined and shaded in red pencil on attached copy of Figure 3. It can be described as starting at the southwest corner of Lot 34 and thence along the shoreward boundary of Lot 34 to the southwest corner of lot 33 thence along the seaward face of the concrete wall at the shoreline to intersection with the eastern boundary of lot 34 thence 4 feet southwest along the projection of this line on State of Hawaii property thence northwest to intersection with a point on the projected western boundary of lot 33 4 feet along the line from the southeast corner of lot 33 thence 2 feet along the same

projected line to a point, thence northwesterly parallel to the southern boundary of lot 34 to a point on the wall of the C&C storm drain thence 6 feet along the wall to a point 3 feet along the azimuth of the southern boundary of Lot 34 to the point of beginning.

Loose stone that appears in the photos on Plates I and IV can be placed within the outline described if this easement is granted. Granting this request for the encroaching parts of these structures would allow full examination of all aspects of the proposed variances at the public hearing which will be required by the DLU for lot 31 in any event.

Your consideration of this request will be appreciated. If you wish to review it, a copy of the draft in its present stage will be furnished. I can be contacted by telephone at 262-7266 and at the above address. The owners request your response be furnished to them through me.

Very Truly Yours,

Alan Bail
Registered Professional Engineer
Civil Branch
Hawaii PE 5534

Enclosures: 3 letters & items a-g (7 ea.)

cf: Mr. Paul T. Nuha, State Land Surveyor, ltrs only
Mr. Maitland C. Dease
C&C, Mr. Clinton Ching, Bldg. Dpt.
C&C, Mr. Robin Foster, DLU
Lee, Dahl, Huntley

Robert T.Y. and Sandra L. Lee
622 Kaimalino Street
Kailua, HI 96734
Phone: 254-3453
November 17, 1988

City & County of Honolulu
Department of Land Utilization
650 South King Street, 7th Floor
Honolulu, HI 96813
attn: Mr. Robin Foster

Subject: Application for Variance in Shoreline Setback
Tax Map Key 4-4-39-34
Designation of Agent for Application

Dear Mr. Foster

We are the recorded fee owners for the subject property and have designated Mr. Alan Bail, Registered Professional Engineer,Civil Branch, Hawaii PE-5534, to be our agent in this application to prepare and submit it in accordance with your requirements. His address is:

Alan Bail
824-D North Kalaheo Ave.
Kailua, HI 96734
Phone: 262-7266

Please contact Mr. Bail for any questions regarding our application. As you suggested the report and impact assessment will cover all three lots involved if possible.

Yours Very Truly,

Sandra L. Lee
For: Robert T.Y. and Sandra L. Lee

ab

Alan Bail
824-D North Kalaheo Ave.
Kailua, Hawaii, 9734
November 17, 1988
Phone: 808-262-7266

City & County of Honolulu
Department of Land Utilization
650 South King Street, 7th Floor
Honolulu, HI 96813
attn: Mr. Robin Foster

Subject: Application for Variance in Shoreline Setback
Tax Map Keys: 4-4-39:31,33, and 34
Designation of Agent for Application

Dear Mr. Foster

The fee owners (Huntley, Dahl,Lee) of the subject properties have designated me as Agent for their Applications for Variance within the Shoreline Setback Zone in order to apply for building permits for existing structures at the shoreline. I am enclosing their letters which designate me to prepare and submit the Environmental Impact Assessment to include the Coastal Engineer report and related documents including shoreline surveys red-lined by the State Surveyor.

Please contact me at the above address or at 262-7266 with any questions or other information regarding these aplications.

Alan Bail
Registered Professional Engineer
Civil Branch
Hawaii PE 5534

Enclosures (3)

cf: Mr. Clinton Ching
C&C Bldg. Dpt.

Alan Bail
824-D North Kalaheo Ave.
Kailua, HI 96734
Phone: 808-262-7266
November 21, 1988

EXHIBIT B-5

State of Hawaii
Department of Accounting and General Services
Survey Division
attn: Mr. Paul T. Nuha
State Land Surveyor
P.O. Box 119
Honolulu, HI 96810

Dear Mr. Nuha:

Subject: Shoreline Determination
TMK: 4-4-39:34 and TMK 4-4-39:33

Please refer to your letter of November 7, 1988, to Mr. Maitland Dease, File No. O-465(88), same subject.

Enclosed is a copy of my letter of November 21, 1988 to Mr. Dean T. Uchida and copies of the letters from the fee owners of Lots 34, 33, and 31 designating me as their agent in making application for variance from the Shoreline Setback rules of C&C of Honolulu. Also enclosed for your information is a copy of Figure 3 with the easement requested from Mr. Uchida marked in red. From your letter to Mr. Dease, we concluded that an easement for the toe stone against the seaward face of the concrete wall certified July19, 1988 as the shoreline of Lot 33 also would have to be requested.

Very Truly Yours,

Alan Bail
Registered Professional Engineer
Civil Branch
Hawaii PE 5534

Enclosures (4)

cf: Mr. Maitland C. Dease

EXHIBIT B-6

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

MAY 3 1989

ATTENTION OF Operations Branch

Mr. John P. Whalen, Director
Department of Land Utilization
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Whalen:

Mr. Alan Bail contacted us in response to the letter forwarded to your office dated April 26, 1989 concerning the after-the-fact construction of three seawalls at Kapoho Point, Kailua, Oahu (TMK 4-4-39: 34, 33 & 31). That project is considered permitted by the Corps Nationwide permit authority in accordance with Federal Regulations 33 CFR 330.5(a)(13). By copy of this letter, Mr. Alan has been notified of this determination. Excerpts of the Federal Regulations which list the conditions and management practices of this authorization are also being forwarded to Mr. Bail for his information and compliance.

Sincerely,

Stanley T. Arakaki
Chief, Operations Branch
Construction-Operations Division

Enclosure

Copies Furnished:

(w/Enclosure)
Mr. Alan Bail, 824-D N. Kalaheo Avenue, Kailua, Hawaii 96734

(w/out Enclosure)
DLNR, State of Hawaii, Honolulu, Hawaii

JOHN WAIHEE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF LAND MANAGEMENT
P. O. BOX 621
HONOLULU, HAWAII 96809

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

EXHIBIT B-7

May 9, 1989

Mr. Alan Bail
824-D North Kalaheo Drive
Kailua, O'ahu, Hawai'i 96734

Dear Mr. Bail:

Subject: Shoreline Encroachment Fronting TMK: 4-4-39: 33 & 34

This is a follow-up to your letter of November 21, 1988 regarding the shoreline encroachment fronting Tax Map Key 4-4-39: 33 & 34 at Kailua, O'ahu. We apologize for the delay in our response and hope that we did not cause you any inconvenience.

As you are aware, Section 13-222-19 of the Shoreline Certification Administrative Rules (copy enclosed) mandates that no shoreline be certified until the encroachment along the shoreline is resolved. While this rule took effect on December 10, 1988, we began to implement this practice earlier in 1988.

At the present time, we are in the process of developing a procedure by which we can resolve shoreline encroachment problems. As we are finding out, this is quite a lengthy process which must be coordinated with the Board of Land and Natural Resources, the Attorney General's Office, and the applicable County agencies. We anticipate that this process may be finalized within the next several months.

Should you wish to obtain a certified shoreline prior to our finalizing a procedure, the encroachment must be removed and the shoreline re-surveyed without the encroachment. Should you have any questions regarding this matter, please feel free to contact us at 548-3262.

Very truly yours,

DEAN Y. UCHIDA
O'ahu District Land Agent

Enclosure
DYU/tw
cc: [illegible]

EXHIBIT B-8

Alan Bail
824-D North Kalaheo Ave.
Kailua, HI 96734
May 26, 1989

State of Hawaii
Department of Land and Natural Resources
attention: Mr. Dean Uchida
Oahu District Land Agent
Land Mangement Division (DLNR)
P. O. Box 621
Honolulu, HI 96809

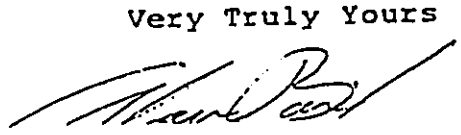
Dear Mr. Uchida:

Subject: Shoreline Encroachment Fronting TMK:4-4-39: 33 & 34

Thank you for your letter of May 9, 1989 in reply to my letter of November 21, 1988 regarding shoreline surveys performed and submitted in October, 1988, prior to publication on December 10, 1988 of the rules for certification identified in your letter. The information furnished by you in our telephone conversation of May 15, 1989, the day after I received your letter and copies of your letter have been furnished to the owners of these properties.

My representation as agent for these owners was limited to their request to the City and County of Honolulu for a building permit for existing shoreline structures. I have submitted the required Impact Assessment and Coastal Engineer Report which covers engineering aspects of the problems involved to the city's Department of Land Utilization and will represent them as needed in that process. With regard to the state's interest in this matter the owners of the subject properties concur in my request that you deal directly with them in any further action by the State of Hawaii.

Very Truly Yours



Alan Bail
824-D North Kalaheo Ave.
Kailua, Hawaii, 9734
August 14, 1989
Phone: 808-262-7266

EXHIBIT B-9

Director
Department of Land Utilization
City & County of Honolulu
650 South King Street, 7th Floor
Honolulu, HI 96813
attn: Mr. Robin Foster

Subject: Application for Variance in Shoreline Setback
Tax Map Key 4-4-39-34, Statement of Hardship

Dear Sir:

Please refer to your letter of July 17, 1989 and the Enviromental Assessment submitted March 23, 1989 with the application for variance for the existing structure along the shore of the subject property. See pages 10-14, Figures 2 and 3, Shoreline Survey performed October 19,1988, and Plates I, III, IV, and V of the EA for this structure.

If this structure is not allowed to remain in place loss of property will occur immediately upon its removal. Its present stability at its upper edge within the property line depends largely on the cracked mortar top. Property will be lost in removal and complete removal will entail exposure of the side of the City and County storm drain for some distance and bank erosion will contaminate offshore water until some sort of natural stability can occur. Plate V of the EA shows how development of this subdivision has blocked the natural source of sand replenishment in this area. Tidal ebb and flow, rip and/or longshore currents under conditions similar to those leading to the original placing of this wall will cause further loss of property over time,i.e., hardship as defined in Section 15.3(b) of the Rules and Regulations.

Very Truly Yours,

Alan Bail
Coastal Engineer

For: Robert T.Y. and Sandra L. Lee

ab

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4432

FRANK F. FASI
MAYOR

JOHN P. WHALEN
DIRECTOR

BENJAMIN B. LEE
DEPUTY DIRECTOR

89/SV-9(BWM)
CERTIFIED MAIL

EXHIBIT B-10

December 22, 1989

Mr. and Mrs. Robert T. Y. Lee
622 Kaimalino Street
Kailua, HI 96734

Dear Mr. and Mrs. Lee:

Shoreline Setback Variance (SV) Application
622 Kaimalino Street, Kailua, Oahu
Tax Map Key: 4-4-39: 34

The Director of Land Utilization has considered your request for after-the-fact approval to retain a shoreline protection structure at 622 Kaimalino Street, in Kailua, Oahu, identified by Tax Map Keys 4-4-39: 34.

It is the Director's decision to APPROVE your SV application for only those portions within your recorded property boundary. A copy of the Findings of Fact is attached.

A. Decision

Approval of the backfill and any portion of the existing revetment which lies within the applicant's lot of record.

If the applicant is unable to obtain approval to allow (retain) portions of the revetment within the State's land, then approval is hereby granted for an approximately 46-foot long, five-foot wide, sloping rock revetment, with a facing slope no steeper than 1(V): 2(H) at the shoreline, completely within the applicant's lot of record. Construction plans for this revetment must be approved by the Director of Land Utilization prior to Building Permit approval.

B. Order

The owners of the parcel identified by Tax Map Key 4-4-39: 34 are ordered to:

a. Remove the 46-foot-long, five-foot-wide, 2-1/2 foot high, basalt rock revetment which is within the State of Hawaii's jurisdiction, or obtain the State of Hawaii's approval to allow that portion of the revetment within State of Hawaii jurisdiction to remain.

b. Pay a one-time civil fine of $300.00 to the City Director of Finance, deliverable to the City Director of Land Utilization within 30 days of the date of this Order.

c. Pay a daily fine of $5.00 to the City Director of Finance, deliverable to the City Director of Land Utilization, for each day beyond one year in which either the revetment is not removed, or if approval is not obtained from the State of Hawaii to allow the revetment within State land.

If you have any questions, please contact Bennett Mark of our staff at 527-5038.

Very truly yours,

JOHN P. WHALEN
Director of Land Utilization

JPW:sl
0299N/25-26
attachment:
Findings of Fact

cc: w/attachment
DLNR-Dean Uchida
Bldg. Dept.-Clinton Ching
Alan Bail

DEPARTMENT OF LAND UTILIZATION OF THE CITY & COUNTY OF HONOLULU
STATE OF HAWAII

IN THE MATTER OF THE APPLICATIONS OF:

DAVID M. AND QUYEN T. HUNTLEY
CASE NO. 89/SV-7

RICHARD J. AND BARBARA K. DAHL
CASE NO. 89/SV-8

ROBERT T. Y. AND SANDRA L. LEE
CASE NO. 89/SV-9

FOR SHORELINE VARIANCES

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER

I. APPLICATION

A. Basic Information

This report addresses three applications made concurrently by abutting landowners to allow (retain) shore protection structures within the shoreline area.

1.	Recorded Owner/ Applicant	:	David M. and Quyen T. Huntley
	Tax Map Key	:	4-4-39: 31
	Address	:	610 Kaimalino Street
	Lot Area	:	10,100 square feet
	Zoning	:	R-10 Residential District
2.	Recorded Owner/ Applicant	:	Richard J. and Barbara K. Dahl
	Tax Map Key	:	4-4-39: 33
	Address	:	620 Kaimalino Street
	Lot Area	:	10,800 square feet
	Zoning	:	R-10 Residential District
3.	Recorded Owner/ Applicant	:	Robert T. Y. and Sandra L. Lee
	Tax Map Key	:	4-4-39: 34
	Address	:	622 Kaimalino Street
	Lot Area	:	10,660 square feet
	Zoning	:	R-10 Residential District

The Department of Land Utilization held public hearings for the three applications on November 8, 1989, at the Civil Service Conference Room, City Hall Annex. The three applicants and all other interested persons were given an opportunity to be heard. The record of the hearing is on file with the Department.

B. Applicants' Proposals

Within the three applicants' properties, after-the-fact approval for the following structures within the shoreline area as defined in Chapter 205A, HRS, as amended by Act 356 of the Hawaii State Legislature are being requested.

1. Parcel 31: An approximately 45-foot-long, three-to four-foot high, and 15- to 18-inches wide vertical coral rock seawall (set into a coral reef bottom), five-foot wide rock stairway, and backfill, at the northwest portion of the shoreline boundary of the property.

2. Parcel 33: An approximately 40-foot long, three-foot high, and eight-inch wide vertical concrete seawall, faced with 20 to 100 pound loose coral stones to a height of about 1-1/2 feet, and backfill along the shoreline boundary of the property.

3. Parcel 34: An approximately 46-foot long, five-foot-wide basalt rock revetment, 2-1/2 feet high, with a facing slope varying from 1(V): 1.5(H) to 1(V): 3(H), composed of 20 to 50 pound stones, and backfill, along the shoreline boundary of the property.

C. Variance Required

Rule 13.3, Structure Not Permitted, Shoreline Setback Rules and Regulations.

D. Applicants' Justification

The agent submitted statements of hardship for the three property owners. The statements are as follows:

1. Parcel 31: "If the property is not allowed to remain in place, loss of property additional to that which had occurred prior to its construction will occur. Erosion from tidal ebb and flow, erosion from on-shore run-off during heavy rains and storm wave attack will cause further loss of property over time ..."

2. Parcel 33: "If this structure is not allowed to remain in place, loss of property will occur immediately upon its removal. The original owner built this wall to retain fill placed when the house was built and the bank which the wall stabilizes is about a foot higher than the adjacent lot and the adjacent public walkway to the beach. Loss of property from bank erosion attendant on removal will contaminate the offshore water until a stable condition is achieved. ... development of this subdivision has blocked the natural source of sand replenishment in this area. Tidal ebb and flow, erosion from on-shore run-off during heavy rains and storm wave attack will cause further loss of property over time ..."

3. Parcel 34: "If this structure is not allowed to remain in place, loss of property will occur immediately upon its removal. Its present stability at its upper edge within the property line depends largely on the cracked mortar top. Property will be lost in removal and complete removal will entail exposure of the side of the City and County storm drain for some distance and bank erosion will contaminate offshore water until some sort of natural stability can occur. ... development of this subdivision has blocked the natural source of sand replenishment in this area. Tidal ebb and flow, rip and/or longshore currents under conditions similar to those leading to the original placing of this wall will cause further loss of property over time ..."

E. Special Management Area (SMA) Ordinance

The three separate projects are located within the SMA. However, the three projects are exempt from the SMA permit processing requirements since each proposal involves construction accessory to a single-family dwelling.

II. FINDINGS OF FACT

On the basis of the evidence presented, the Director finds as follows:

A. Description of Sites

1. Parcel 31 is comprised of 10,100 square feet and is developed with a single-family dwelling. The site is nearly level, slightly sloping toward the ocean, with

an elevation of about five to six feet above mean sea level (msl). The seaward tax map key boundary of the property encloses the approximately 45-foot-long vertical coral rock seawall, five-foot-wide stairway and backfill.

2. Parcel 33 is comprised of 10,800 square feet and is developed with a single-family dwelling. The lot is nearly level, slightly sloping toward the ocean, with an elevation of about five to six feet msl. The seaward tax map key boundary encloses the 40-foot long vertical concrete seawall, the backfill, and none of the loose coral stones placed in front of the seawall. All of the loose coral stones are within State of Hawaii jurisdiction.

3. Parcel 34 is comprised of 10,660 square feet and is developed with a single-family dwelling. The lot is nearly level, slightly sloping toward the ocean, with an elevation of about four to five feet msl. The seaward tax map key boundary borders the landward edge of the top of the 46-foot-long five-foot-wide, basalt rock revetment. All of the 46-foot long, five-foot-wide, basalt rock revetment appears to be outside of tax map key boundary, and within State of Hawaii jurisdiction. Only the backfill appears to be within the applicant's tax map key boundary.

4. A 12-foot-wide beach right-of-way is located between parcels 31 and 33.

5. A 10-foot-wide drainage easement is located immediately west of parcel 34. The storm drain extends about 40 feet seaward of the shoreline into Kailua Bay within a reinforced concrete box (RCB). The RCB drain acts as a groin, inhibiting long-shore transport of sand, trapping and accreting sand along the east side of the drain.

B. Shoreline

Shoreline Certification by the State Department of Land and Natural Resources (DLNR) is being held in abeyance for Parcels 31 and 34 pending the results of these after-the-fact shoreline setback variance applications. Parcel 33 had its shoreline certified by the State Land Surveyor along the seaward face of the concrete seawall on June 30, 1988. The State DLNR is withholding shoreline certification for Parcel 34; it is

anticipated that the State will not issue any certification until the issue of encroachment into State land is resolved.

The three parcels under consideration are located near the north edge of Kailua Bay, between Kapoho Point and the Kawainui Canal. Kailua Beach for the most part has a wide, calcareous sandy beach. Each end of Kailua Bay is defined by a rocky headland--Kapoho Point at the north end and Alala Point at the south end. Both the Kapoho Point and Alala Point headlands consist primarily of emerging reef rock and contain only small pockets of sand.

Northeast of the three parcels under consideration, the Kapoho Point shoreline consists of a small beach, approximately 20 feet wide, which rests on an exposed reef rock bench. A sand berm covered with beach naupaka defines the landward extent of this portion of beach. There is no indication of active erosion of this portion of the shoreline northeast of Kapoho Point.

Immediately west of the three parcels under consideration a 3-1/2 foot by 2-1/2 foot reinforced concrete box (RCB) drainage pipe, extends approximately 40 feet seaward of the shoreline fronting parcel 34. The RCB drainage pipe acts as a groin interrupting longshore transport of sand to the west, and trapping sand on its east side in front of parcels 33 and 34. West of the RCB drainage pipe, there are three parcels which have some form of shoreline protection. The two parcels immediately west of the RCB drainage pipe have loose rock revetments. Further west, the third parcel abuts the Kawainui Channel; a rock revetment protects its east side, and a coral seawall protects its west edge along the mouth of Kawainui Channel.

Kailua Beach undergoes cyclic trends of erosion and accretion which are most noticeable at the two ends of the beach, near Kapoho Point and Alala Point. At the section of Kailua Beach located between Kapoho Point and the Kawainui Channel, where the three parcels under consideration are located, localized wave conditions induce a significant longshore current which seems to have significant effect upon the longshore transport of sand. Under trade wind conditions, the refracted longshore current is toward the northwest. With a wind shift to the north combined with the North Pacific swell, the refracted longshore current may reverse and move toward the southwest. Tradewinds prevail about 70 percent of the time.

Under either of these two current conditions, the shoreline along parcel 31 would have a tendency toward erosion. The

shoreline of Parcel 31 is nearly in line with the prevailing refracted trade wind current; under this condition, longshore transport would be toward the northwest and toward parcels 33 and 34. Under conditions caused by a northerly wind combined with the North Pacific swell, a refracted southwesterly current would have a tendency for off-shore transport of sand from parcel 31.

Prior to the construction of the coral seawall, the northwestern portion of the shoreline of parcel 31 consisted of a sandy sloped area, (artificially) planted with grass. The southeastern portion of the shoreline of parcel 31 was and continues to consist of steep rocky coral reef outcroppings.

In both wave conditions, parcels 33 and 34 benefit with increased sand accretion. Parcels 33 and 34 benefit from the longshore transport of sand from parcel 31 caused by the refracted northwesterly current. Longshore transport of sand to the west, or off-shore transport of sand to the southwest which might be caused by a refracted southwesterly current are inhibited by the presence of the RCB drain on the west side of parcel 34 which acts as a groin. Thus, sand has accumulated along the east side of the RCB drain, forming an approximately 20-foot-wide sandy beach in front of parcels 33 and 34, and the northwest shoreline of parcel 31, while starving sand transport to the parcels to the west.

C. Need for Shoreline Structures

Parcel 31 justifiably has an erosion problem; the close proximity of the single-family residential structure to the eroding shoreline clearly justifies the construction of a seawall to protect the structure.

Parcel 33 and 34 experience no serious erosion threat. The concrete wall on Parcel 33, and the rock and cement revetment on Parcel 34, do not appear to affect longshore transport of sand within this segment of the shoreline. Some soil erosion could occur as a result of surface drainage runoff if the concrete wall on Parcel 33 or the revetment on Parcel 34 were not in place. If the concrete wall and revetment were removed, soil from these two parcels would erode, contaminate the sandy backshore area, and could possibly increase the turbidity of the nearshore waters.

The need for structures on Parcels 33 and 34 is therefore necessary to protect the sandy backshore area, and the nearshore water.

A very low vertical seawall with a height of 1-1/2 feet or less, or a very low sloping revetment, with a slope of approximately 1(V): 2(H), as are the cases on Parcels 33 and 34 respectively, would serve this purpose. Larger or more massive shoreline protection structures would not be appropriate or necessary in this relatively sheltered section of the shoreline.

D. Land Use

Zoning for all three parcels and the surrounding areas is R-10 Residential District. The Koolaupoko Development Plan designates the area as Residential.

E. Land Use Violation Citations

The Building Department cited the three owners for building the seawalls and other structures without the required building permits on September 14, 1988.

F. Other Alternatives

The Environmental Assessment (EA) lists two alternatives to allowing the unpermitted structures to remain. These are:

1. Removal of the structures.

2. Removal of both the vertical wall from parcel 34 and the revetment from parcel 33, and the replacement of these with new revetments entirely within the property boundaries; removal of the wall on parcel 31, and replacement with a revetment further inland.

Although the agent for the three applicants' believes that allowing the structures to remain (a) would have the least adverse environmental impact, and (b) would cause the least loss of land; Alternative 2 (or Alternative 2 with modifications) is a viable alternative.

G. Environmental Compliance

The proposals are subject to Chapter 343, HRS, the State Environmental Impact Statement (EIS) law, since the proposals involve the use of the shoreline setback area. The Department of Land Utilization (DLU) determined that an EIS was not required on July 17, 1989. A Negative Declaration was published in the "OEQC Bulletin" on August 8, 1989.

H. Flood Hazard District

All three parcels are located within the Federal Flood Insurance Rate Map (FIRM) Zone AE and Zone X. Zone AE is a special flood hazard area inundated by the 100-year flood, with base flood elevations determined.. Zone X is an area determined to be outside of the 500-year flood plain. Zone AE is located along the seaward portions of the parcels; construction within this Zone AE must conform to the Flood Hazard District regulations of the Land Use Ordinance (LUO).

I. Shoreline Views and Open Space

Shoreline views along this segment of the beach are not significantly affected by these projects. Since the structures are low (1.5-feet high for the revetment on parcel 34, three feet high for the wall on parcel 31, and less than five feet high for the wall on parcel 31), the effect upon the open space character of this shoreline has been negligible. Further, the structures do not adversely affect either the access to the public shoreline located between parcels 31 and 33, or public usage of this small sandy beach area.

III. CONCLUSIONS OF LAW

A. There is evidence that the applicants would be deprived of reasonable use of their properties if required to comply fully with the Shoreline Setback Rules.

B. The requests of the three applicants are due to unique circumstances of the property.

C. The three proposals will not alter the essential character of the shoreline in this locality and are not contrary to the intent of the Shoreline Setback Rules.

IV. DECISION AND ORDER

Pursuant to the foregoing Findings of Fact and Conclusions of Law, the Director of Land Utilization makes the following Decision and Order:

A. Decision

1. Parcel 31: Approval of the 45-foot long, three-to-four-foot high, and 15-to-18-inch wide

vertical coral rock seawall (set into a coral reef bottom), five-foot wide stairway, and backfill, at the northwest portion of the shoreline of the property.

2. Parcel 33: Approval of an approximately 40-foot long, three-foot high, and eight-inch wide vertical concrete seawall along the shoreline boundary of the property, within the applicant's lot of record.

3. Parcel 34: Approval of the backfill and any portion of the existing revetment which lies within the applicant's lot of record.

If the applicant is unable to obtain approval to allow (retain) portions of the revetment within the State's land, then approval is hereby granted for an approximately 46-foot long, five-foot wide, sloping rock revetment, with a facing slope no steeper than 1(V): 2(H) at the shoreline, completely within the applicant's lot of record. Construction plans for this revetment must be approved by the Director of Land Utilization prior to Building Permit approval.

B. Order

1. Parcel 31: The owners of the parcel identified by Tax Map Key 4-4-39: 31 are ordered to:

Pay a one-time civil fine of $300.00 to the City Director of Finance, deliverable to the City Director of Land Utilization within 30 days of the date of this Order.

2. Parcel 33: The owners of the parcel identified by Tax Map Key 4-4-39: 33 are ordered to:

a. Remove the loose coral stones seaward of the 40-foot long, three-foot high, and eight-inch wide vertical concrete seawall which are within the State of Hawaii's jurisdiction, or obtain the State of Hawaii's approval to allow the loose coral stones to remain.

b. Pay a one-time civil fine of $300.00 to the City Director of Finance, deliverable to the City Director of Land Utilization, within 30 days of the date of this Order.

c. Pay a daily fine of $5.00 to the City Director of Finance, deliverable to the City Director of Land Utilization, for each day beyond one year in which either the illegal loose coral stones are not removed, or if approval is not obtained from the State of Hawaii to allow the coral stones to remain.

3. Parcel 34: The owners of the parcel identified by Tax Map Key 4-4-39: 34 are ordered to:

a. Remove the 46-foot-long, five-foot-wide, 2-1/2 foot high, basalt rock revetment which is within the State of Hawaii's jurisdiction, or obtain the State of Hawaii's approval to allow that portion of the revetment within State of Hawaii jurisdiction to remain.

b. Pay a one-time civil fine of $300.00 to the City Director of Finance, deliverable to the City Director of Land Utilization within 30 days of the date of this Order.

c. Pay a daily fine of $5.00 to the City Director of Finance, deliverable to the City Director of Land Utilization, for each day beyond one year in which either the revetment is not removed, or if approval is not obtained from the State of Hawaii to allow the revetment within State land.

Dated at Honolulu, Hawaii, this 22nd day of DECEMBER, 1989.

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
STATE OF HAWAII

By John P. Whalen
JOHN P. WHALEN, Director

JPW:sl

0245N/10

March 15, 1990

EXHIBIT E-11

Mr. Donald Clegg
Director, Department of
Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Clegg,

CONSTRUCTION PLANS FOR SHORELINE PROTECTION
STRUCTURE, TMK: 4-4-39: 34

As the new owners of the subject property, per D.L.U decision 89/SV-9 (BWM) of December 22, 1989, we propose an approximately 54 foot-long, 18-24-inch-wide grouted coral rock seawall to be built completely within our property boundaries, and designed to the same approximate specifications of the approved wall at 610 Kaimalino Street, Kailua (David Huntley, TMK 4-4-39:31).

Although a loose stone revetment could work at this location, a coral rock wall is preferred for the following reasons:

1. The superior wave dissipation possible with loose rocks is not a factor because of the light wave action in this area. In addition, a more structurally sound wall would seem to be indicated on the short portion of the eastern property boundary next to the storm drain, which is elevated from the adjacent property.

2. Mr. Alan Bail, the consultant for the previous owner, suggested that our other alternative (requesting a waiver from the State for the portion of the existing structure currently on State land) was not viable, and recommended this proposal.

3. The RCB storm drain provides an obvious demarcation on the west end of the wall.

4. Because the owners of the adjoining property (Richard and Barbara Dahl, TMK 4-4-39: 33) have expressed a desire to replace their existing poured concrete wall with a coral rock structure, the opportunity now exists to

standardize the walls structurally and aesthetically from the storm drain all the way to the natural coral cliff, with minimal disruption to the area.

Mr. Dahl and I have talked with Mr. Bennett Mark about this proposed construction, and we would be willing to answer any questions you may have about it.

Thank you for your consideration.

Michael W. Perry
622 Kaimalino Street
Kailua, HI 96734
254-5193

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4432

FRANK F. FASI
MAYOR

DONALD A. CLEGG
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

EXHIBIT B-12

89/SV-9(BWM)

May 30, 1990

Mr. Michael W. Perry
622 Kaimalino Street
Kailua, Hawaii 96734

Dear Mr. Perry:

Modification of Shoreline Setback Variance 89/SV-9
Request to Construct a Coral Rock Seawall
Tax Map Key 4-4-39: 34

This is in response to your inquiry of March 15, 1990, requesting that you be allowed to construct a 54-foot long, 18- to 24-inch wide, 4.5-foot high vertical coral rock seawall, in lieu of the low-sloping revetment which was allowed in Shoreline Setback Variance (File No. 89/SV-9), granted by the Director of Land Utilization on December 22, 1989. We understand that: (a) the top of the proposed vertical seawall will not be higher than the existing grade level; (b) the entire proposed vertical wall would be within your property and landward of the certified shoreline; and (c) the proposed vertical wall would be contiguous with the proposed vertical wall on the adjacent property identified by Tax Map Key 4-4-39: 33.

Your request for this substitution is DENIED.

Your approval for the sloping rock revetment with a slope no greater than 2(H) to 1(V), continues to be valid. If you choose to construct the sloping rock revetment, you must provide, to the Department of Land Utilization, plans stamped by a licensed professional engineer clearly showing the following:

1. A plan view showing: (a) the property lines, (b) the certified shoreline, (c) the proposed sloping rock revetment, (d) the tie-in to the shoreline protection structure on the adjacent property identified by Tax Map Key 4-4-39: 33, (e) the storm drain, (f) and the proposed return structure adjacent to the storm drain.

2. A profile (elevation) view drawing of: (a) the proposed sloping rock revetment, (b) the proposed return structure, (c) the existing ground elevation, (d) the depth to the coral subbase, (e) the reference datum (0 feet msl), and (f) the certified shoreline (where appropriate).

3. Both the plan view drawing and the profile (elevation) view drawing shall note the removal of the portions of the low-sloping revetment from within the State of Hawaii's jurisdiction.

Should you have any questions, please contact Bennett Mark of our staff at 527-5038.

Very truly yours,

DONALD A. CLEGG
Director of Land Utilization

DAC:sl
0348N

cc: DLNR - Dean Uchida
Building Dept.- Clinton Ching

JOHN WAIHEE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
KEITH W. AHUE
MANABU TAGOMORI
RUSSELL N. FUKUMOTO

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

EXHIBIT B-13

REF:OCEA-CT

File: OA-2421
Doc.: 9157E

SEP 19 1990

Mr. Michael W. Perry
622 Kaimalino Street
Kailua, Hawaii 96734

Dear Mr. Perry

Subject: Conservation District Use Application for an After-the-Fact Revetment at Kailua, Hawaii
TMK: 4-4-39: 34

Thank you for your letter, dated August 20, 1990, requesting approval for a Conservation District Use Application for an after-the-fact revetment.

Following review of your application by our Department, we find that it is incomplete for processing. To complete your application please furnish the following information:

1. A Conservation District Use Application (CDUA) form. We have enclosed, for your convenience, a copy of our application form and our Administrative Rules, Title 13, Chapter 2. Please note that 18 copies of the complete application and a $50 filing fee are required.

   For your information, since the revetment is located on State land, the land owner on the application is the State of Hawaii.

2. Please include a survey map which clearly delineates the following:

   a. Property Line
   b. 1988 Certified Shoreline
   c. Extent of Revetment

3. Please provide a measurement of the total area of the proposed project which involves the Conservation District.

4. Please provide a chronology of the land use history of the seawall. Data should include, but not be limited to, the following: date seawall was constructed; any subsequent maintenance or repair work; existing permits (if any) with the federal government, the State of Hawaii or the City and County of Honolulu.

5. Figures and photographs should be legible, referenced and source-identified where possible.

Because the revetment is located on State land without a known permit, it may not be legal. Therefore, your attention to this matter is important. Please submit 18 copies of the revised application and environmental assessment to our Department within thirty (30) days of the date of this letter.

Please feel free to contact Cathy Tilton of our Office of Conservation and Environmental Affairs staff at 548-7837 if you need assistance in completing the application.

Very truly yours,

WILLIAM W. PATY

Enclosure

ATTACHMENT C
DESCRIPTION OF PARCEL

A. Existing Structure

The present structure is an approximately 46 foot long, five foot wide rock revetment located along the shoreline boundary of the property. It is approximately 2.5 feet high with a facing slope varying from 1(v):1.5(h) to 1(v):3(H). It is composed of 20 to 50 pound stones and backfill. The structure is almost entirely covered by beach sand. The depth of this beach sand ranges from several inches to approximately 2 feet. (See Exhibit A-4 and Exhibit A-5)

This CDUA requests approval for the after-the-fact approval of the use of a small area, 230 square feet, of State land for this revetment.

B. Existing Utilities

No utilities are located on the parcel for which this CDUA is submitted. There is a City and County 3.5 by 3.5 reinforced concrete box (RCB) drainage pipe located immediately to the west of the parcel.

C. Existing Access

Access to the area from the applicant's property is not impeded as the land is relatively flat, slightly sloping in makai direction. Public access to the area is via a 12 foot public right-of-way located between the 2 adjacent lots to the east, identified on the tax maps as TMK 4-4-39-31 and TMK 4-4-39-33. The public access is identified on Exhibit A-3.

Public access to the beach and shoreline is possible at all tide conditions. Photographs taken on March 28 and April 2, 1991 respectively show the width of beach at high and low tides (Plates 7 an 8). These conditions are similar to those described by the present and previous owners, adjacent property owners, and previous studies (Bail, 1989) Assessment through varied seasons and years.

No hinderance of public access or public usage of the shoreline and ocean waters is caused by this structure.

D. Vegetation

Vegetation in the immediate area includes lawn grass in applicant's yard, various palms and Naupaka bushes.

E. Topography

The land area on the makai side of the revetment is gently sloping sandy beach. It has an elevation of approximately 4 to 5 mean sea level (msl). The reader is referred to Plates 1 to 4 for recent photographs of the property.

The land area on the makai side of the revetment is gently sloping sandy beach. The ocean area adjacent to the applicant's property consists a shallow reef flat area. The area is apparently a turtle feeding area due to the rich nutrients entering from Kawainui stream. Turtles are frequently seen frequenting the area.

F. Shoreline

The shoreline is sandy beach bordered by residential properties. Residential properties to the east are protected from wave erosion with seawalls located on their respective private properties. Northeast of the property the shoreline is sandy beach which rests on a reef rock bench. The adjacent ocean waters are not suitable for swimming. The surface at sea level in the area is irregular hard reef coral. Launching of small water craft is only possible at high tides. The area is suitable for sunbathing and fishing access. The shoreline in the area is shown in all plate, particularly, Plates 10 through 12.

G. Covenants, Easements and Restrictions

The applicant is not aware of any existing covenant, easement or restriction with regard to the revetment. The applicant is aware, however, that portions of the revetment extend into the adjoining Conservation District. The area for required easement is shown in Exhibit A-1.

If this CDUA is granted the applicant will request a grant of an easement from the Land Management Division for those portions of the revetment within the Conservation District.

H. Historic Sites

The applicant is not aware of any historical sites that are affected by the seawall.

ATTACHMENT D

ATTACHMENT D
DESCRIPTION OF PROPOSED ACTIVITY

The subject structure is a loose stone revetment with a damaged mortar covering. It is approximately 46 foot long, five foot wide and is located along the shoreline boundary of the property. It is approximately 2.5 feet high with a facing slope varying from 1(v):1.5(h) to 1(v):3(H). It is composed of 20 to 50 pound stones and backfill. Please see Exhibits A-4 and A-5. The revetment has a history dating back to the construction of the Oneawa Channel Flood Control Project by the U.S. Army Corps of Engineers, Honolulu District in 1966. This may have been the first time that stone was placed for the purposes of erosion control on the shoreline area under study. It is not certain if, and to what extent, stone was placed at the site of the existing revetment. In 1982 the then owners hand placed stone to prevent erosion on what they mistakenly believed was their own property. A chronology of the history of this revetment is included in Attachment B.

The revetment is now almost entirely covered with sand. It does not inhibit public access or utilization of the shoreline. The applicant proposes no changes to the existing structure or other shoreline conditions.

The CDUA is submitted to request that the existing revetment at the subject lot which infringes on State lands be allowed to remain in place for the continued protection of the applicant's and adjacent property. In order to maintain the revetment as presently placed and constructed, an after-the-fact approval for the use of State land is required. Approval is required from DLNR because portions of the revetment are located within the State Conservation District. The encroachments are approximately 46 feet by 5 feet and will require an easement from the Division of Land Management.

ATTACHMENT E
CONDITIONAL USE INFORMATION

I. PLANS

A. Area Plan

Applicant intends to use the revetment to protect its residential property from surface drainage erosion and erosion from sea wave action. Abutting properties use seawalls located on private property to protect their respective residential properties. There is a City and County 3.5 foot by 2.5 foot reinforced concrete box drainage pipe which extends approximately 40 feet seaward of the shoreline fronting the applicant's property. A detailed location map is included as Exhibit 3. Exhibit 4 provides a sketch of the subject property. The names and addresses of abutting property owners are:

TMK 4-4-39: 31	David and Quyen T. Huntley 610 Kaimalino Street Kailua, HI 96817
TMK 4-4-39: 33	Richard J. and Barbara K. Dahl 620 Kaimalino Street Kailua, HI 96817

The applicant's lot is comprised of 10, 660 square feet and is developed by a residential single-family dwelling.

B. Site Plan

A general location map, detailed location map, tax map key, site plan map, including a drawing of the area extending into the Conservation District are included as Exhibit A-1, Exhibit A-2, Exhibit A-3, Exhibit A-4, respectively in the Environmental Assessment attached to this application.

C. Construction Plan

Original construction plans are not available as the revetment was hand placed by the original owners. The apparent construction of the revetment is shown in Exhibit A-5. The term "apparent" is used advisedly as the construction was determined through probes with shovels and reinforcing steel. This visual survey supplemented information obtained furnished from the previous and current owners.

D. Maintenance Plan

Applicant will maintain the revetment area in good repair as part of its overall effort to maintain the residential property. The applicant will further take all practical measures to maintain the present level of public access and public shoreline usage, in the unlikely event that these are subjected to limitations due to the revetment.

E. Management Plans

A management plan beyond the maintenance plan described above is not necessary for the proposed use. The project is exempt from the Special Management Ordinance since the proposal involves construction accessory to a single-family dwelling.

F. Archaeological Site Plan

As there are no historical sites affected by this revetment, no archaeological site plan is necessary.

ATTACHMENT F
SUBZONE OBJECTIVE

The Resource (R) subzone objective is to develop area, with proper management , that will ensure the use of the natural resources within the subzone. The revetment promotes sustained use of the beachfront and ocean resources and is consistent with the subzone's objective.

The revetment further meets the following conditions and guideline for uses within the Conservation District in that:

(a) It is compatible with the locality and surrounding areas and appropriate to the natural physical conditions and capabilities of the parcels. The revetment is consistent with seawalls found along the area's beachfront.

(b) The existing aesthetic and environmental aspects of the beachfront area have been preserved. The shoreline views, natural beauty, public access to the coastal area and usage of the beach and nearshore waters have been preserved. The revetment has had no adverse impacts on the environment.

(c) The revetment has prevented soil erosion form surface runoff which could potentially contaminate the sandy backshore area and reduce water quality in the nearshore area due to increased turbidity.

The applicant files this CDUA to request after-the-fact approval for the use of State land for portions of the revetment that extend into the subzone because it meets the deviation guidelines:

(a) The deviation is necessary because of the lack of practical alternatives. The alternative of leaving the revetment in place has far less potential environmental impact than that of the alternative of removal. Removal and replacement of the revetment would result in temporary disruption of public access and usage of the shoreline area and could have potentially serious adverse impacts on the nearshore water quality during the construction activities. The costs of undertaking such a project are not justified for the minimal, if any public gain, and potential for negative impacts.

(b) The deviation will not result in any adverse effects to the environment. The photographs and studies included with this CDUA demonstrate the continued regular dispersion of sand along the beachfront.

(c) As discussed above, the deviation does not conflict with the subzone objective.

(d) The deviation is not inconsistent with the public health, safety or welfare.

COASTAL STUDY REPORT

FORWARD: This coastal study report is based almost entirely on the work of Mr. Alan Bail, PE, who conducted a previous environmental assessment of the area for a shoreline variance application in 1989. This report revised the coastal study included with that environmental assessment to focus on the area's environment on the subject property for this CDUA application.

I. GENERAL LOCATION AND COASTAL CONDITIONS

A. The general location of the shoreline area is indicated in Figure (1) which is a copy of part of Mokapu Quadrangle, 7.5 Minute Series Topographic Map prepared in 1973 by the U.S. Geologic Survey. The study area in Figure 1 is so small, a beach with a shoreline length slightly less than 150 feet, that Figure 2 is needed to show this beach and its significant surroundings in a scale adequate to examine governing coastal conditions.

B. Dominant off-shore coastal conditions in the study area occur from the left bank groin of the Kawainui (Oneawa Channel) Canal at the channel outlet into Kailua Bay and Kapoho Point of the Mokapu Peninsula in the bay portion, and on-shore between the shoreline and Kaimalino Street in northeast Kailua.

C. The Oneawa Channel flood control project was constructed by the U.S. Army Corps of Engineers, Honolulu District in 1966. The As-Built plans for this project are on file with the City and County were used as a reference for channel and offshore information shown in Figure (2). A Federal project was recommended in a 1940 economic study by the Corps office and was submitted by the Chief of Engineers through the Secretary of the Interior for the Territory in 1949. The project was authorized by Congress as the Kawainui Swamp Flood Control Project on May 17, 1950 according to the 1956 Corps of Engineers Design Memorandum. Land Court files (see P.H. 701) contain a plan dated 1951 following the present canal alignment. Construction funds were obtained in 1963 for what was then called the Oneawa Channel and the present canal was completed in 1966. In corps of Engineers terminology, banks of channels are defined looking upstream. This practice will be followed in this report. The owner of the property along the right bank, Harold K.L. Castle, subdivided the area along the shore west of the cited properties as shown on Land Court Map 141 approved March 10, 1954. The property containing the cited lot was sold by the Castle estate in the early seventies and was subdivided as shown on Land Court Map 253 approved January 6, 1976.

D. Published engineering data regarding Kailua Beach and Bay is limited. The only recent sources found were a 1978 Draft Report by Honolulu District titled "Kailua Beach Park Erosion Control" and the 1956 Design Memorandum mentioned

above. Specifics in this report relating to off-shore sand deposits, longshore currents, and general conditions in Kailua Bay are derived mostly from that report.

E. If Kailua Bay is considered as defined by an imaginary line on the ocean from Mokapu Point to Wailea Point, running about ten degrees east of South, this line will cross water deeper than sixty feet over only two short intervals according to bottom contours shown on the Mokapu Quadrangle. Bayward of this line are fringing reef and small island remnants of the Koolau Caldera. Waves coming in are transformed by refraction, diffraction, shoaling, and breaking over the irregular and shallow bottom. Average wave heights are measured on the reef adjacent to Popoia (Flat) Island from June to August, 1977, were 2.5 feet. During the same period, average heights at the beach park shore were less than one foot. The study area for this report is not part of what is usually termed Kailua Beach but may be affected somewhat by the location of the major off-shore sand deposit found by the Corps in the erosion control study. The shallow water edge of this deposit is outlined above the margin of Figure 1. This deposit was located in 1977 and found to be over 30 feet thick in places. It extends somewhat northward of east from the margin of Figure 1 for close to two miles and in 1977 contained over 4 million cubic yards of sand according to Corps estimates. At present, the deposit is probably larger and possible effects will be covered in analysis of the immediate study area.

II. STUDY AREA:

A. Figure 2, Detailed Location, shows the area which is the basic concern of this report. The cited lots, shown on Land Court Map 253, were sold as part of Kailua Bay Estates as the subdivision was then called. From Figure 1 it can be seen that the entire study area lies on the leeward side of the windward coast of Mokapu Peninsula. The lot cited for illegal construction of shoreline structures are in a sheltered part of the study area. This area contains a small beach provided with a public access, between the next two lots to the east, from Kaimalino Street. Plates 8 and 12 of the environmental assessment show these lots and the Kawainui Canal outlet in photographs taken October 24, 1988.

B. Plate 2 shows the City & County 3.5 feet x 2.5 feet reinforced concrete storm drain which projects about 40 feet into the water at an angle nearly perpendicular to the shoreline. This structure was constructed in 1976 to replace an 18" culvert in the same easement. Increasing the size of this storm drain was needed when the subdivision was developed. The top of this concrete box is at elevation 2.9 at the present shoreline and 2.8 close to the discharge end. All elevations shown on Figure 2 and in the narrative of this report are based on mean sea level (msl) and are determined from City bench marks. City plans show an invert elevation at the drain outlet of +0.5 and probing on October 24, 1988 indicated several inches of sand fill in the bottom. This structure functions as a small groin with classic sand deposit on one side only as shown on Plates 9 and 10. There is a rather direct relationship of the City & County storm drain to the extent of this beach. The Kailua Beach Park erosion control report reveals

some other factors affecting the study area which will be covered in succeeding paragraphs.

C. Currents affect beach erosion and sand transport and may be tidal, wind-driven surface, mass transport, wave-induced surface and rip currents, and longshore currents. Of these types only the wave-induced rip and longshore currents were found significant at the Beach Park and with respect to erosion and accretion, only the longshore current was found to move significant amounts of sand. Under trade wind conditions the longshore current set to the northwest at the park. With a wind shift to northerly combined with North Pacific swell, the longshore current may reverse and set toward the southeast. Residents in the study area confirm that accretion here is also coincident with normal trade winds. Trades prevail about 70% of the time according to data obtained from Kaneohe Marine Corps Air Station reported by the Corps of Engineers and shown on Figure 4. It is also likely that wind-driven surface currents and some mass transport from the offshore deposit indicated in Figure 1 could be somewhat more effective in beach nourishment to the study area than was found to be the case along Kailua Beach.

D. In Figure 2, the channel depths at end of the Canal outlet shown are from the design plans which called for bottom depth of 8 feet below mean sea level at a distance of 300 feet from the end of the 18 inch thick rip-rap on the left bank. The plans called for sloping upward to the existing bottom on a 1 on 3 slope and an elevation of -5.2 was shown 50 feet seaward on center-line on the design plans. The elevations shown in the water on Figure 2 are from the design plans except that the as built sections filed with the City & County actually show overdepth to slightly deeper than -11, MSL, and channel bottom at such depth 412 feet seaward of the end of rip-rap on the left bank instead of 8 feet below MSL at 300 feet seaward originally planned. Discussions by M. Alan Bail (the engineer who conducted the coastal study for the previous environmental assessment) with the Resident Engineer for construction of the channel led to his recollection that nearly all of the material excavated in the outlet section was sand and coral fragments removed without blasting. No more recent soundings were discovered. Present conditions will differ but the general picture is probably similar now.

E. The Oneawa Channel outlet enters Kailua Bay in a southeasterly direction which sends storm flow from the area draining into the Kawainui Marsh and the northerly sector of Kailua seaward away from Kapoho Point. Much of the sand which supplies the shoal along the outside of the final curve seaward on the right bank probably comes from overland run-off and storm flow deposits tend to drop on the outside of curves. Geologists agree that most of Kailua is built on a barrier beach resulting from both natural and human influences. This conclusion is also supported by archaeological studies of the Kawainui Marsh. The sand in the canal should be quite similar to that on the beaches, mostly coralline with a small percentage derived from basalt in the Koolaus. How much is brought into the canal from longshore current transport is unknown to this writer in the absence of scientific study but the groin on the left bank tends to keep sand driven by a northwest set away from the canal. The effect of

large storm outflows from drainage area feeding the canal from a Kona storm may be offset later by the prevalence of normal trades driving sand toward the right bank and adjacent properties including the study area but confirming observations are well beyond the scope of this report.

F. Personal observations of the area shown in Figure 1 by Mr. Bail over more than 21 years of referred to in the coastal report narrative is that normal trades lead to a build-up of sand into classic terraces or benches in this segment of Kailua Beach. With a northerly wind shift, most recent accretion is moved rather rapidly toward the Beach Park with localized variations along the way. However, a reef edge 2-3 feet high is exposed for most of the last quarter-mile from the end of Kailua Beach at what is locally called Castle Point northeastward to the left bank groin of the Kawainui Canal except for a short stretch about the same size as the subject beach and a second small sand deposit close to the left bank groin.

G. With respect to the right canal bank and the shoreline beyond the canal end eastward toward the storm drain adjacent to Lot 1072, a glance at the property lines of Figure 2 indicates that considerable accretion has taken place since these lots were platted in 1954. According to a resident (since 1958) of one of the lots bordering the canal slightly upstream of those shown, there was an erosion problem before the present Oneawa Channel was completed in 1966. Rip-rap placed by the Corps contractor on the right bank slope ends at this wall which is supported on hard reef coral.

H. The final Oneawa Channel design for the section from the Kalaheo Bridge to the outlet end established a bottom width of 110 feet with side slopes protected by 18" rip-rap composed of basaltic stones of specified physical properties, such as weight, absorption, and specific gravity, on an underlayer of graded smaller sizes of similar stone. Slope protection begins 1 foot above mean sea level on each bank and extends on 1 on 3 slope to the existing bank level. The center-line of the canal was designed to be located a distance of 100 feet from the bank. The 1954 subdivision of the property on the right bank became feasible after the City & County dug a pilot channel on the present canal alinement and built the bridge on North Kalaheo Avenue as part of the required local participation in the Federal canal project. Completion of this work is reported in the 1956 Design Memorandum submitted by a predecessor of the Honolulu District Engineer. Construction of the Federal project seems responsible for the nature of subsequent subdivision development on the left bank. Properties along both sides of the canal benefit from maintenance by the City & County of Honolulu of the bank right-of-way above the top of rip-rap on the slopes. In October, 1988 sand cover was observed over much of the right bank rip-rap in this part of the study area with shoaling in the right side of the canal along the outer side of the final curve.

I. The directly affected shoreline in this report is the small beach shown on Figure 2. Figure 1 shows that this beach is well protected from waves of significant height by its leeward location near Kapoho Point and in the northeast corner of Kailua Bay.

The original owners of the subject property have stated that the greatest storm wave run-up in the past ten years extended about eight feet inside the vegetation line on their property. This indicates a storm-driven maximum wave run-up to about 4.2 to 4.5 feet above mean sea level. The owners of an adjacent lot along the coast have experienced maximum run-up to about the same elevations. From the edge of the beach on Lot 31 of this same development around Kapoho Point the upper reef face is slightly undercut but lawn grasses extend to the top of this bank. From time to time wave action, undercut, erosion, weathering, and tidal ebb and flow lead to chunks breaking off causing an irregular top surface at an elevation about 3.5 to 4 feet above mean sea level.

III. EXISTING COASTAL STRUCTURE

A. Figures 3 and 4 show the apparent construction of the cited structure. The term "apparent" is used advisedly as only probes with a shovel and visual observation were used to supplement survey measurement and information furnished by the current owners. Further investigation would be destructive entailing near-total removal. As coastal structure must be analyzed separately the cited structure is analyzed in the following paragraphs.

B. Analysis of Existing Revetment. (See Figure 3)

(1). This structure is a revetment with a thin top of mortar which was placed after the owners found that children could move the stone they had placed by hand too easily. From discussions by Mr. Bail with the owners, City & County maintenance personnel, and Corps of Engineers personnel it appears that a fairly large shoal in the same area as the presently existing one in the right side of the canal near the outlet was removed by City & County personnel in 1981. Annual reports by the Corps refer to such a shoal for several years through early 1981 but do not mention it in the early 1982 report. City & County equipment coming in from North Kalaheo Avenue along the right bank removed the shoal and this was observed in progress by Corps representatives.

(2). At about the same time or somewhat earlier in 1981, there was a pronounced wind shift to the North and this shift continued long enough to remove over 30 feet of near-shore land in the area marked on Figure 1. Return to normal trades has more than restored the material removed then from Kailua Beach but the occurrence is easily validated by observing the resulting terrace which is still somewhat lower than was formerly the case. The original owners of Lot 34 (1072) attributed the erosion to the canal dredging which took place. It is possible that such an increase in canal depth and the resulting outflow to the southeast near the right bank could generate rip or longshore currents which would remove sand at shoreline from lots west of the City & County culvert, and Lot 34 (1072) on the east side, and a northerly wind set could augment the erosive effect.

(3). The shoreline did recede at this time and the 20 to 50 pound basaltic armor stone was hand-placed by the owner of Lot 1072 and his son as a result. They placed the toe to follow what was the vegetation line prior to the erosion (dashed line in PLAN VIEW in Figure 3) under the mistaken impression that it was their property line, thus nearly six feet of the revetment extends seaward of the straight line between the platted corners. This stone came from the same source as the much larger stone which was placed at the same time for the same reason on two western lots. Whether the stone on these lots was placed under authority of a variance from shoreline setback regulations is not known. If an easement was granted by the State of Hawaii in conjunction with a variance is not within the scope of this report and impact assessment. The stone on these lots often exceeds 100 pounds in apparent size and is what is often called by the trade "two-man stone." There is no underlayer under the stones on Lot 1072: what underlies the stone on the two westward lots is unknown. As a revetment, the stone placed on Lot 1072 (34) is undersized for wave heights over 2 feet and stable enough for bank protection only if undisturbed. The neighboring stone to the west would withstand attack by 2-3 foot waves based on its apparent structure. What stability the revetment on the lot, which is the subject of this paragraph, does have is derived from its mortar cover, placed later, which now is cracked. The point is that this little revetment is in such a sheltered location from wave attack that erosion at the toe is the only serious threat to its existence aside from its evident illegality. For about seven years there appears to have been very little such erosion. The pumping of large quantities of water across this structure in August 1987, during construction of the swimming pool in the next lot east, seems to have caused the repairs and damage now observed which is not serious.

(4). Evaluation: This is an adequate structure for bank stabilization and prevention of erosion of the property it bounds. It also prevents the entry of topsoil eroded by heavy rain onshore into this part of Kailua Bay.

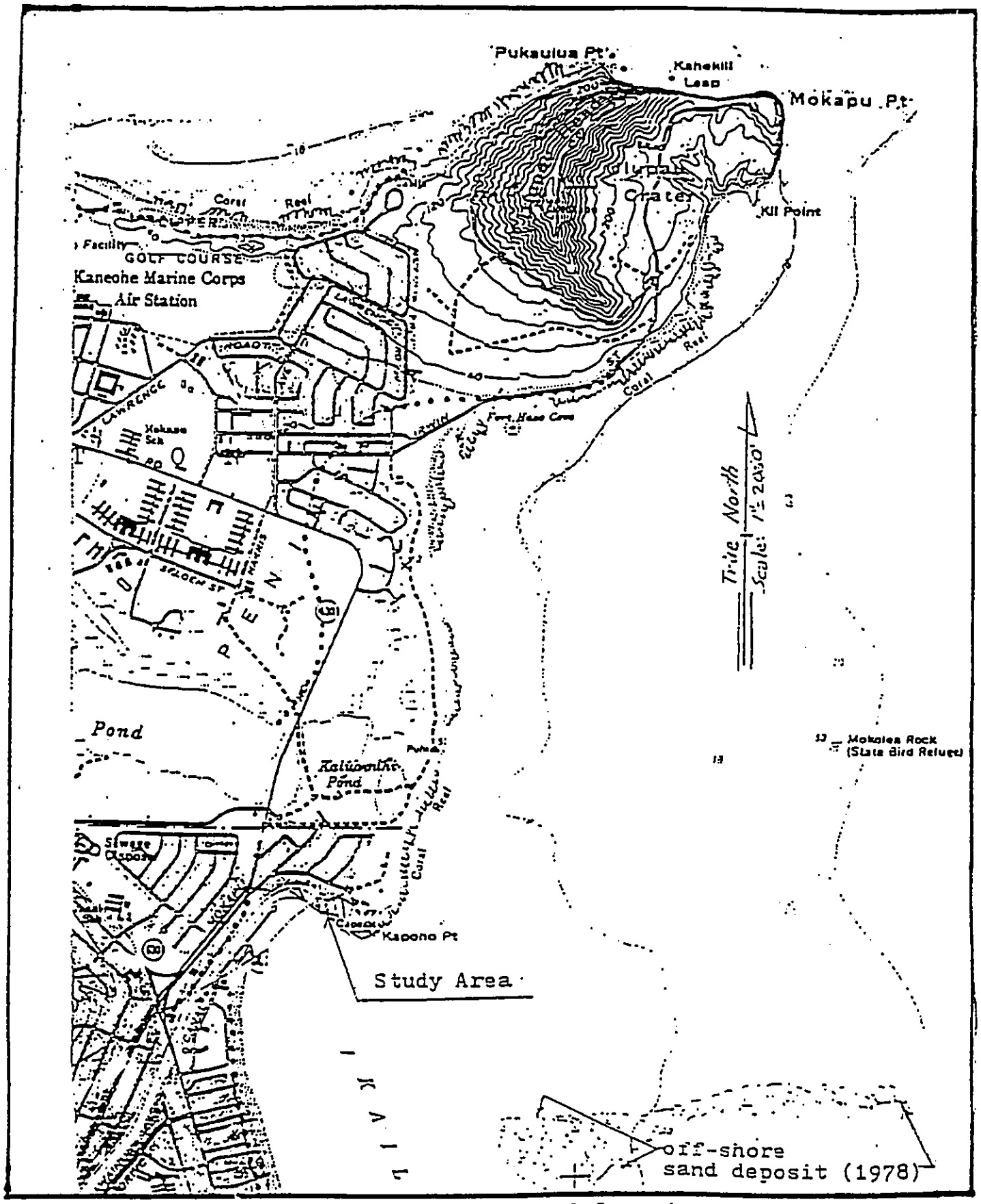


Figure 1 General Location

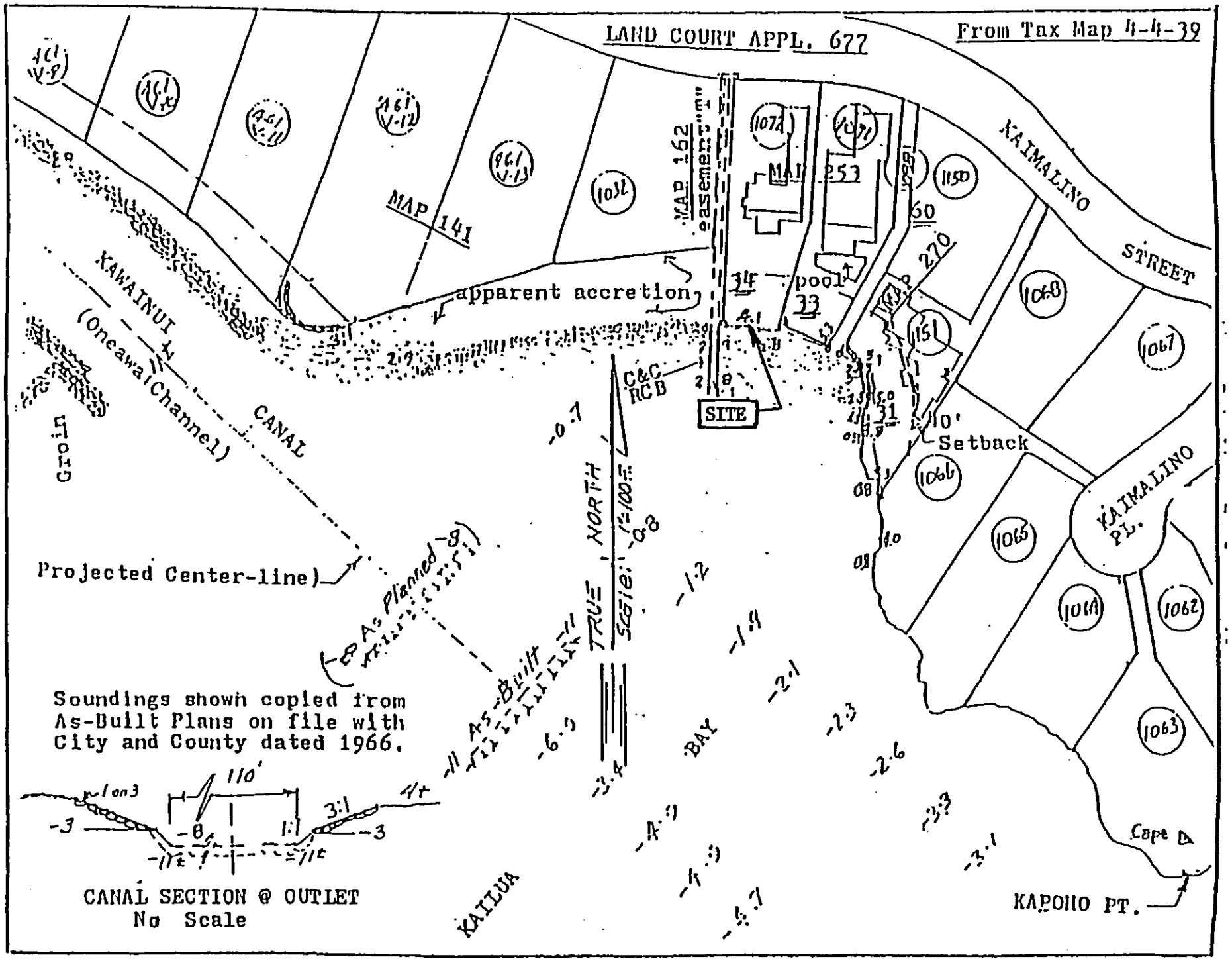
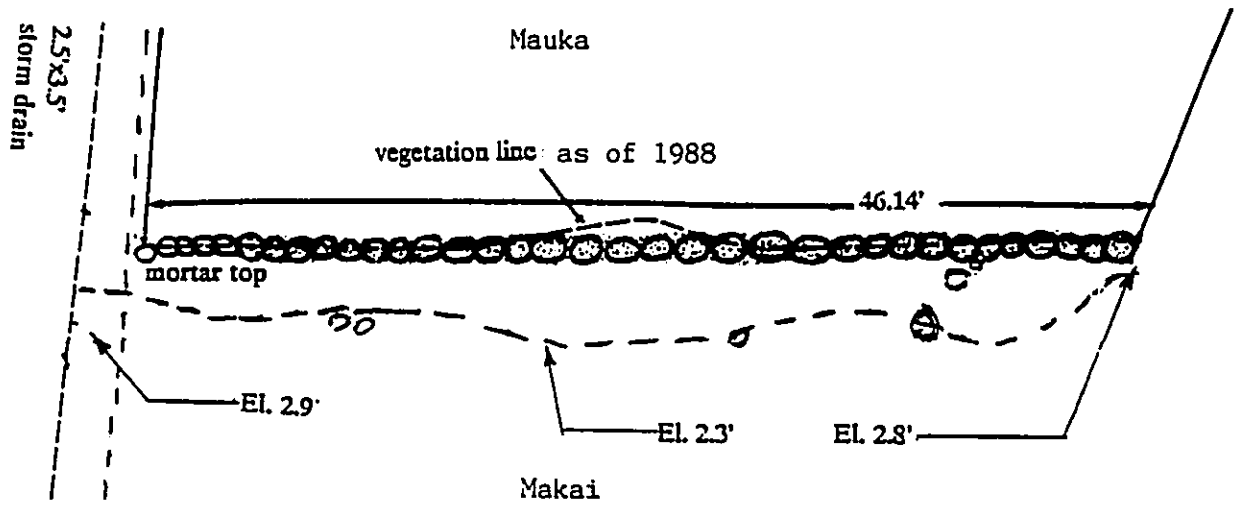
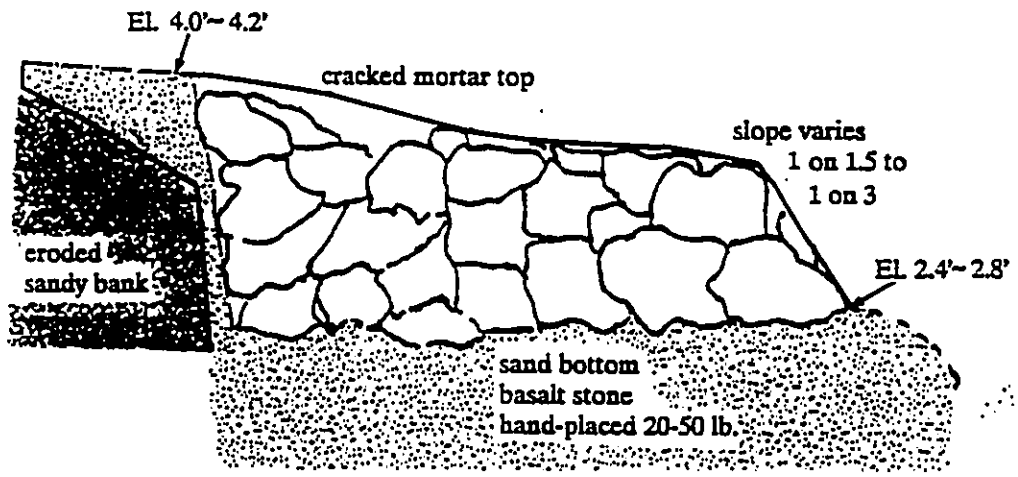

LAND COURT APPL. 677
From Tax Map 4-4-39
MAP 141
MAP 162
easement "1"
apparent accretion
KAWAINUI CANAL
(Oneawa Channel)
Projected Center-line)
C&C RCB
SITE
pool
33
34
31
60
270
10' Setback
KAIMALINO STREET
KAIMALINO PL.
1072
1071
1150
1068
1067
1151
1066
1065
1011
1062
1063
1032
Groin
NORTH
TRUE
Scale: 1"=100'
-0.7
-0.8
-1.2
-1.4
-2.1
-2.3
-2.6
-3.3
-3.1
-4.3
-5.3
-6.3
-3.4
BAY
KAILUA
Cape D
KAPOHO PT.
Soundings shown copied from As-Built Plans on file with City and County dated 1966.
As-Built
As Planned
CANAL SECTION @ OUTLET
No Scale
110'
1 on 3
3:1
1:1
-3
-8
-11'±

Figure 3
Existing Structure

Plan View



Section View



scale: 1"=3 ft.

All elevations shown are based on City & County B.M. El. 5.70 in the center of Kaimalino St. at the west edge of storm drain easement "T" Ld.Ct. Map 162.