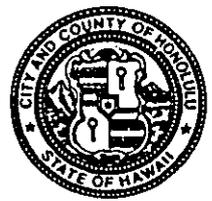


Thompson Seawall

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4414 • FAX: (808) 527-6743

JEREMY HARRIS
MAYOR



RECEIVED

'97 MAR 19 A8:44

JAN NAOE SULLIVAN
ACTING DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR
96/SV-008 (DT)

March 14, 1997
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

The Honorable Gary Gill, Director
Office of Environmental Quality Control
State Office Tower, Room 702
235 South Beretania Street
Honolulu, Hawaii 96813

Dear Mr. Gill:

CHAPTER 343, HRS
Environmental Assessment/Determination
Finding of No Significant Impact

Owners/Applicants: Daniel M. and Sandra P. Thompson
Agent : Ellen H. Thompson
Location : 91-037 Parish Drive, Ewa Beach, Oahu
Tax Map Key : 9-1-07: 14
Request : Shoreline Setback Variance
Proposal : To allow (retain) an after-the-fact
concrete rubble masonry seawall
Determination : A Finding of No. Significant Impact is
Issued

Attached and incorporated by reference is the Final Environmental Assessment (FEA) prepared by the applicant for the project. Based on the significance criteria outlined in Chapter 200, State Administrative Rules, we have determined that preparation of an Environmental Impact Statement is not required.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the FEA. If you have any questions, please contact Dana Teramoto of our staff at 523-4648.

Very truly yours,

JAN NAOE SULLIVAN
Acting Director of Land Utilization

JNS:am
Encls.
g:feasv8.djt

36

1999-04-07-0A-EEA Thompson
Sawall

FILE COPY

FROM:

Ellen H. Thompson
91-045 Parish Drive
Ewa Beach, HI 96706-2513
(808) 689-4094

Daniel Thompson
Feb. 1997 Final
Environmental Assessment
TMK 9-1-07:014

1997-04-08-0A-~~FEA~~-Thompson
Seawall

APR 8 1997

FILE COPY

FROM:

Ellen H. Thompson
91-045 Parish Drive
Ewa Beach, HI 96706-2513
(808) 689-4094

Daniel Thompson
Feb. 1997 Final
Environmental Assessment
-TMR 9-1-07:014

TMK 9-1-07 014

COASTAL ENGINEERING EVALUATION
AND ENVIRONMENTAL ASSESSMENT
FOR A SEAWALL AT
EWA BEACH, OAHU, HAWAII
(TMK: 9-1-07: 014)

Prepared by:
Ellen H. Thompson

February 1997 - Final

Information taken from Environmental Assessment prepared by:

Edward K. Noda and Associates, Inc.
615 Piikoi Street, Suite 300
Honolulu Hawaii 96814

(Note: Dr. Noda's assessment is a matter of public record, and was prepared in May 1996 for James and Inge Higa property TMK 9-01-07:072, regarding Shoreline Variance No. 95/SV-10. The attached assessment relates to Daniel and Sandra Thompson property, TMK 9-1-07:014, and is located directly adjacent to the Higa property on the west side (Barber's Point side). The only changes to Dr. Noda's original report, are the applicants name, address, TMK number, date of construction, etc. specific to the applicants property. The maps enclosed, (1, 2, 3, & 8) were submitted by Dr. Noda in his report, but the property location and identification numbers have been changed, to reflect the applicant's property. The applicants have provided documents that relate specifically to their property, including current Certified Shoreline Survey, Land Court Map, photos of property, and current Seawall Investigation prepared by a Structural Engineer. EHT)

APPLICANT/RECORDED FEE OWNER:

Daniel M. Thompson
91-045 Parish Drive
Ewa Beach, Hawaii, 96706

Sandra P. Thompson
98-1405 Akaaka Street
Aiea, Hawaii, 96701

AGENT:

Ellen H. Thompson
91-045 Parish Drive
Ewa Beach, Hawaii 96706

PARCEL:

91-037 Parish Drive
Ewa Beach, Hawaii 96706
TMK: 9-1-07:014
Shoreline frontage: 75 feet

APPROVING AGENCY:

City and County of Honolulu
Department of Land Utilization

PREFACE

An after-the-fact shoreline setback variance application was submitted on 05/30/85 by landowner of Ewa Beach parcel TMK: 9-1-07: 14 to the City and County Department of Land Utilization (DLU). On July 01, 1985, Mr. John Whalen, Director of DLU, suspended all seawall applications for this stretch of beach pending review by the State Department of Land and Natural Resources (DLNR) regarding jurisdiction (i.e. location of the seawall seaward of the shoreline). DLU stated that no response was ever received from the DLNR. However, on August 19, 1986, the City & County Division of Land Survey & Acquisition, prepared a shoreline survey for the shoreline lots extending from the drainage channel to 800 feet west (Barbers Point side) of the channel, and the State certified this shoreline on September 16, 1986. The State certified the seaward face of the Thompson's seawall as the high-water mark, as well as in the same location for properties without seawalls. Nevertheless, the SV application remained in suspension, and the applicants did not go through the variance process.

Over the next 10 years the applicants continued to receive Notices of Violation from the City & County Building Department, and on 06/22/95 the Department of Land Utilization sent the applicants a "Notice of Order" ordering the removal of the seawall. After many months of communication between the DLU and the applicants including "in-person" meetings, the applicants began the variance process again, and on 09/19/96 submitted all pertinent documents required.

1.0 LOCATION AND PROBLEM DEFINITION

The project site is located at 91-037 Parish Drive (TMK 9-1-07: 014) in Ewa Beach. The parcel is a landscaped flag lot with lawn, trees, and various vegetation. Figure 1 shows the general site location and Figure 2 is a copy of the Tax Map Key.

The parcel shorefront is protected with a rock masonry seawall. The existing seawall was constructed without obtaining a variance from the Shoreline Setback Rules and Regulations, and is therefore in violation of the regulations.

The Shoreline fronting the parcel is a narrow beach underlain with reef limestone that extends seaward as a shallow reef platform. The site is directly exposed to summer southern swell waves and storm waves from hurricanes passing to the south and west of the island chain. The site is partially exposed to winter north Pacific swell that diffract around Barbers Point as well as easterly tradewind waves that diffract around Diamond Head. Long-term erosion coupled with episodic erosion, and wave damage from a severe storm that occurred in December 1984, prompted construction of the seawall to prevent serious damage to the property. Numerous property owners along this coastal reach have also constructed seawalls to prevent erosion and storm wave damage to their property and dwellings. The subject property owner desires to retain the existing seawall to prevent future erosion and wave damage to the property at this site.

In accordance with Ordinance No. 92-34 and the Shoreline Setback Rules and Regulations of the City & County of Honolulu, this coastal engineering evaluation and environmental assessment is prepared in support of an application for a Shoreline Setback Variance for the existing shore protection structure.

2.0 DESCRIPTION OF EXISTING SEAWALL

The existing seawall was constructed after a severe storm occurred in December 1984, which caused significant erosion and wave overtopping damage to this shorefront. A shoreline survey on file with the State Surveyor shows the shoreline following the face of the seawall as located on August 19, 1986 (Figure 3). The current certified shoreline also follows the face of the seawall as located on October 05, 1995 (Figure 4). At the time the 10/95 survey was taken, the surveyor was aware the seawall was built without a variance/permit. The seawall is located about 6.52 feet landward of the seaward property boundary (effectively reducing the usable property area by about 489 square feet).

(NOTE: The applicants acquired interest in this property in 1973. At this time, the applicants property was one lot, numbered 1568. The applicants desired to subdivide the property, and acquired a Shoreline Survey on October 18, 1974. In August 1975, the property was subdivided into two lots, numbered 1575 and 1576. Lot number 1576 is now the beach front property. The 1974 survey used for the subdivision showed the beach front property to have eroded 9.93 linear feet from original property line, totaling 745 square feet. See Land Court Application 242, filed on August 1, 1975 and certified by State Land Surveyor on September 17, 1975 (Figure 5). Seawall is located approx. 16.5 feet landward of the original property line. EHT)

The top elevation of the seawall is about 7 feet above mean sea level (MSL), which is the approximate ground elevation on the subject parcel. A Seawall Investigation was conducted in October 1995 by a Structural Engineer. The property owners provided previous photos of the wall dated 09/23/95, when the wall was extending approximately 2 feet 2 inches above beach elevation. Around the time of the investigation the wall was partially buried, extending only about 1 foot 4 inches above the beach elevation, such as shown in (Photo 1). In the winter months, there are times when the wall is exposed by 3 feet or more, while protecting the property from storm surge waves (Photo 1A). Other times during the year the seawall is completely covered with sand, without any portion visible. Usually this happens in the summer months, but will fluctuate according to various wave actions. See (Photo 2) which was taken in January 1994, showing the seawall completely buried in the sand.

2.0 DESCRIPTION OF EXISTING SEAWALL (continued)

The seawall was constructed by excavating to place the base of the wall on the coral limestone platform underlying the beach. According to the sketches provided by the owner, the seawall was built in 2 tiers forming a stepped face. This effectively created a "sloping" seaward face to the seawall. The seawall is constructed of rock set with cement mortar, with a crest width of 18 inches. The bottom width of the seawall is estimated to be about 4 feet 10 inches.

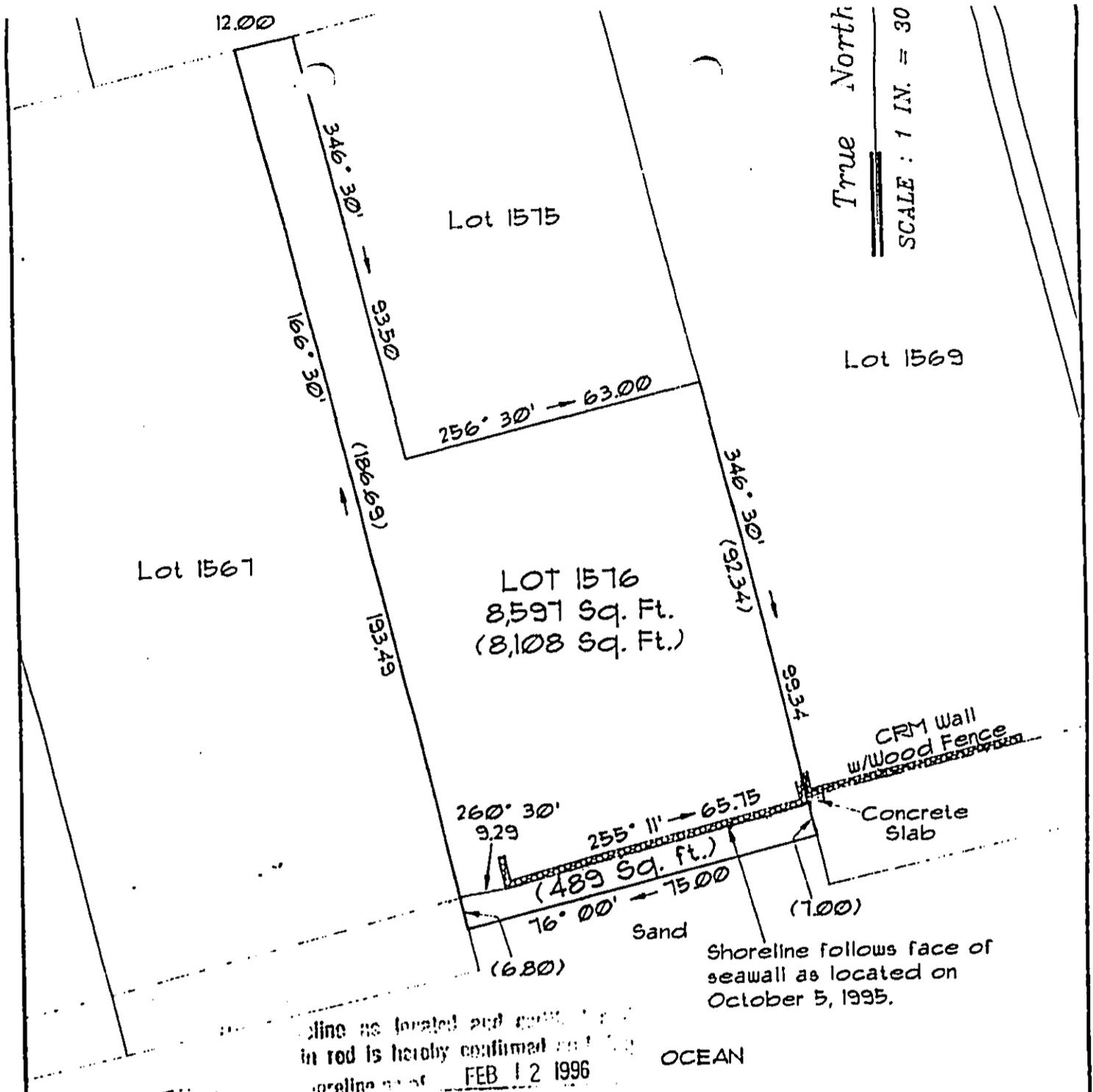
The structural integrity of the wall is adequate to withstand storm wave runup and overtopping, since much of the wall is usually buried. The footing of the wall, keyed to the limestone platform underlying the beach, will prevent wave scour and undermining of the seawall, should it become exposed during extended duration of storm wave attack. However, the stepped face and low profile of the wall will minimize reflectivity, allowing sand to be redeposited on the beach. Because the seawall is low enough to allow substantial wave overtopping during high water level and large wave conditions, sand is usually washed over the beach crest and seawall, and deposited in the yard. (Photo 3)

A "Seawall Investigation Structural Report" (FIGURE 7) was prepared by Mr. Jeffrey Y. C. Wong, Licensed Professional Engineer, of NTW Associates Inc., 1542 Young Street, Honolulu, HI 96826, on October 16, 1995. The structural report was to provide (1) a structural assessment of the existing seawall, and (2) to evaluate the seawall to meet the City and County of Honolulu's coastal flood water design criteria. The report includes a cross section of the existing seawall (Figure 7(3)), a plot plan of the property (Figure 7(4)), a Shoreline Certification Plan certified by the State Land Surveyor on October 1, 1984 (Figure 7(5)), (see new Shoreline Certification attached, dated October 5, 1995, Figure 4), a list of the criteria for structural investigation (Figure 7(6)), site photos (Figure 7(7)), and two pages of drawings and related measurements (Figures 7(8) & 7(9)).

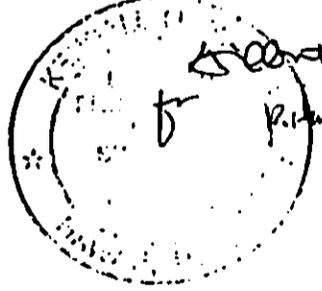
2.0 DESCRIPTION OF EXISTING SEAWALL (continued)

Paragraph two of the "Conclusion" states: "Based on our investigation and today's existing conditions at the seawall, we certify that the seawall in question is structurally sound and conforms to the design requirements of the City and County of Honolulu"

(Figure 7 (6)).



True North
SCALE : 1 IN. = 30



Kendall N. H. Hee
Kendall N. H. Hee
Registered Professional Land Surveyor
Certificate Number 5649

Shoreline Survey
of Lot 1576
of Land Court Application 242 (Map 216)
at Ewa, Honolulu, Oahu, Hawaii
T.M.K. : 9-1-07 : parcel 14

FIGURE 4

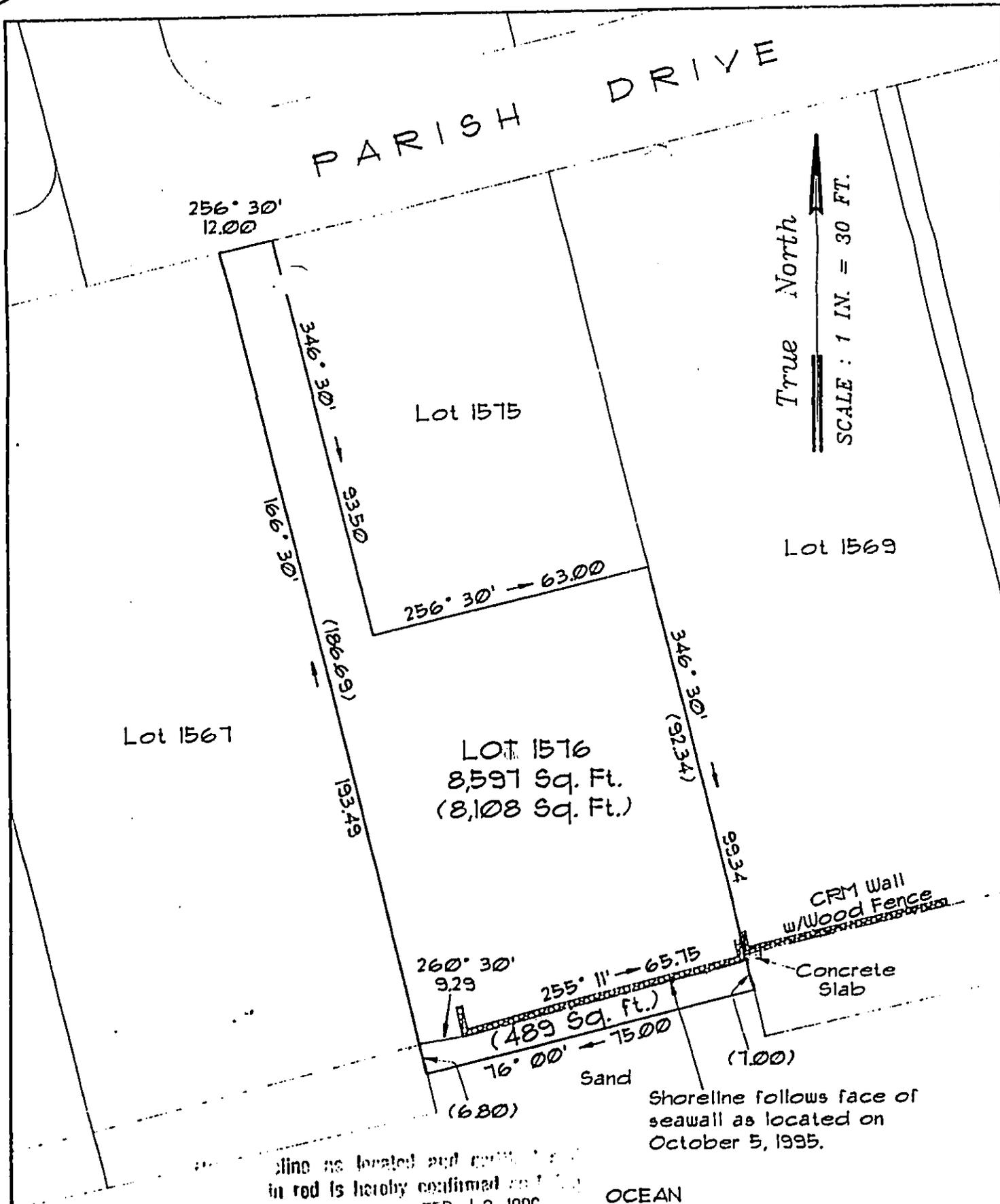
This work was prepared by me or under my direct supervision.

Kendall N. H. Hee
Kendall N. H. Hee
Registered Professional Land Surveyor
Certificate Number 5649

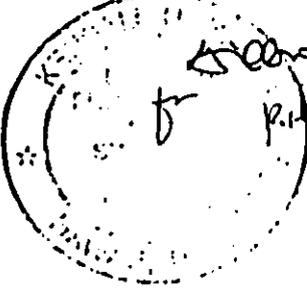
Owner: Daniel M. Thompson, Trustee
& Sandra P. Thompson, Trustee
Address: 91-045 Parish Dr.
Purpose: Wall Variance

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN-REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING



Shoreline as located and confirmed in red is hereby confirmed as of FEB 12 1996



Kendall N. Hee
 State of Hawaii
 Department of Land and Natural Resources

Shoreline Survey
 of Lot 1576
 of Land Court Application 242 (Map 216)
 at Ewa, Honolulu, Oahu, Hawaii
 T.M.K. : 9-1-07 : parcel 14

FIGURE 4

This work was prepared by me or under my direct supervision.
Kendall N. Hee
 Kendall N. Hee
 Registered Professional Land Surveyor
 Certificate Number 5645

Owner: Daniel M. Thompson, Trustee
 & Sandra P. Thompson, Trustee
 Address: 91-045 Parish Dr.
 Purpose: Wall Variance

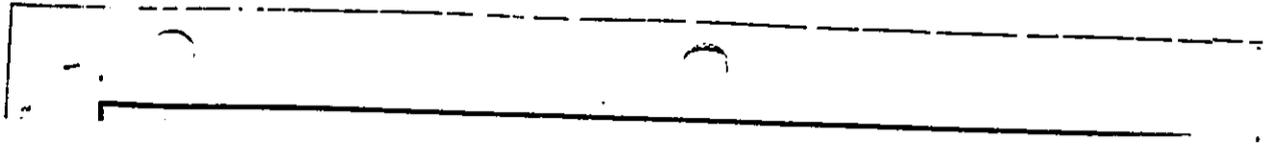
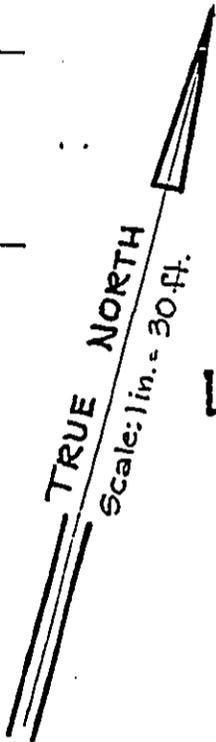


FIGURE 5

MAP 216



LAND COURT
STATE OF HAWAII

LAND COURT APPLICATION 242

EROSION TO LOT 1568
AND SUBDIVISION OF SAID LOT 1568
LESS EROSION
INTO LOTS 1575 AND 1576
AT PUULOA, EWA, OAHU, HAWAII

1569

New highwater mark as shown hereon is from an actual survey on the ground made under the direction and supervision of the undersigned on October 18, 1974.

1020 Auahi St.
Honolulu, Hawaii
December 30, 1974



WILLIAM HEE & ASSOCIATES, INC.

By: George S. Yoshimura
Registered Professional Surveyor
Certificate Number 2927
Land Court Certificate Number 170

OWNERS: Trustees of the Mary K. Parish Trust Estate
OWNERS' CERTIFICATE OF TITLE: 47946

I hereby certify that the description of survey and map designating the boundaries of Lots 1575 and 1576 as of October 18, 1974 has been checked on the ground and the same found to be in accord.

Honolulu, Hawaii
September 17, 1975

Kazutaka Saiki
State Land Surveyor

Filed August 1, 1975
James A. Smith
Deputy Registrar

FIGURE 5

10" x 15" = 1.0 Sq. Ft.

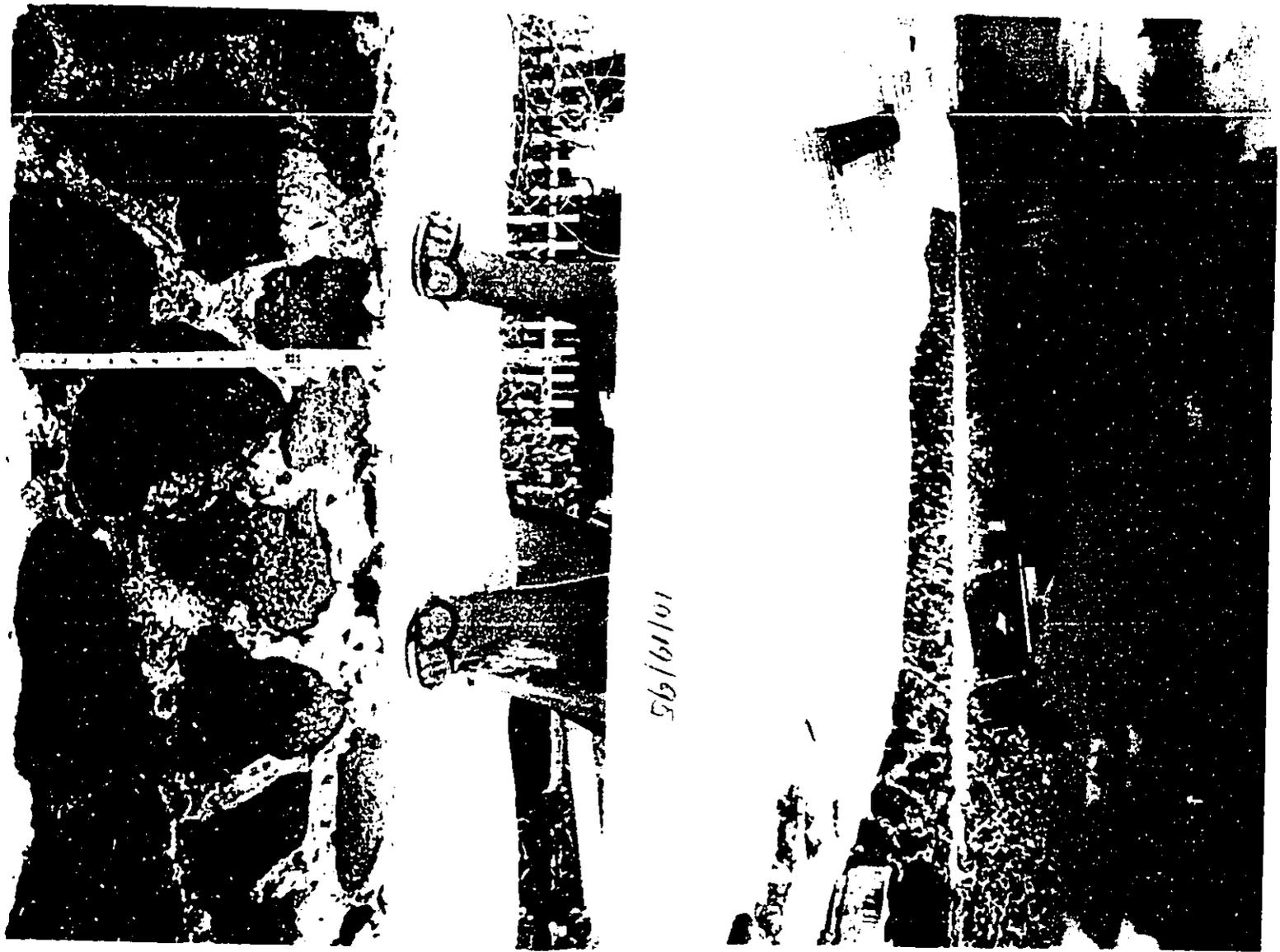


PHOTO 1 Condition of beach and seawall in October 1995



10/19/95



Photo 1(A) - Above photo taken on Nov. 6, 1996. Rubbish on beach is from drainage channel. Below photo taken on Nov. 12, 1996.



PHOTO 2 Condition of beach and seawall in January 1994
Wall completely buried in sand



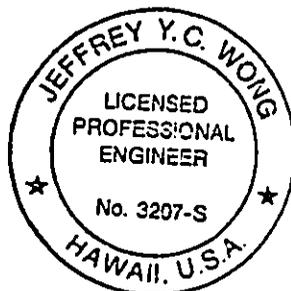


PHOTO 3 Conditions of beach and seawall in August 1996. Note sand amount mauka of seawall, inside yard.

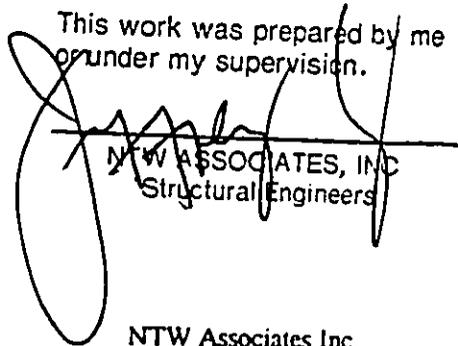


SEAWALL INVESTIGATION
91-045 PARISH DRIVE
PUULOA BEACH, OAHU, HAWAII

TMK: 9-1-7: 14, 73



This work was prepared by me
or under my supervision.


NTW ASSOCIATES, INC
Structural Engineers

NTW Associates Inc.
1542 Young Street
Honolulu, Hawaii 96826
Phone: (808) 9428880

OCT. 16. 1995

FIGURE 7
(9 Pages)

FIGURE 7 (1)

SEAWALL INVESTIGATION
91-045 PARISH DRIVE
PUULOA BEACH, OAHU, HAWAII

GENERAL

This structural report was to provide: (1) a structural assessment of the existing seawall; and (2) to evaluate the seawall to meet the City and County of Honolulu's coastal flood water design criteria.

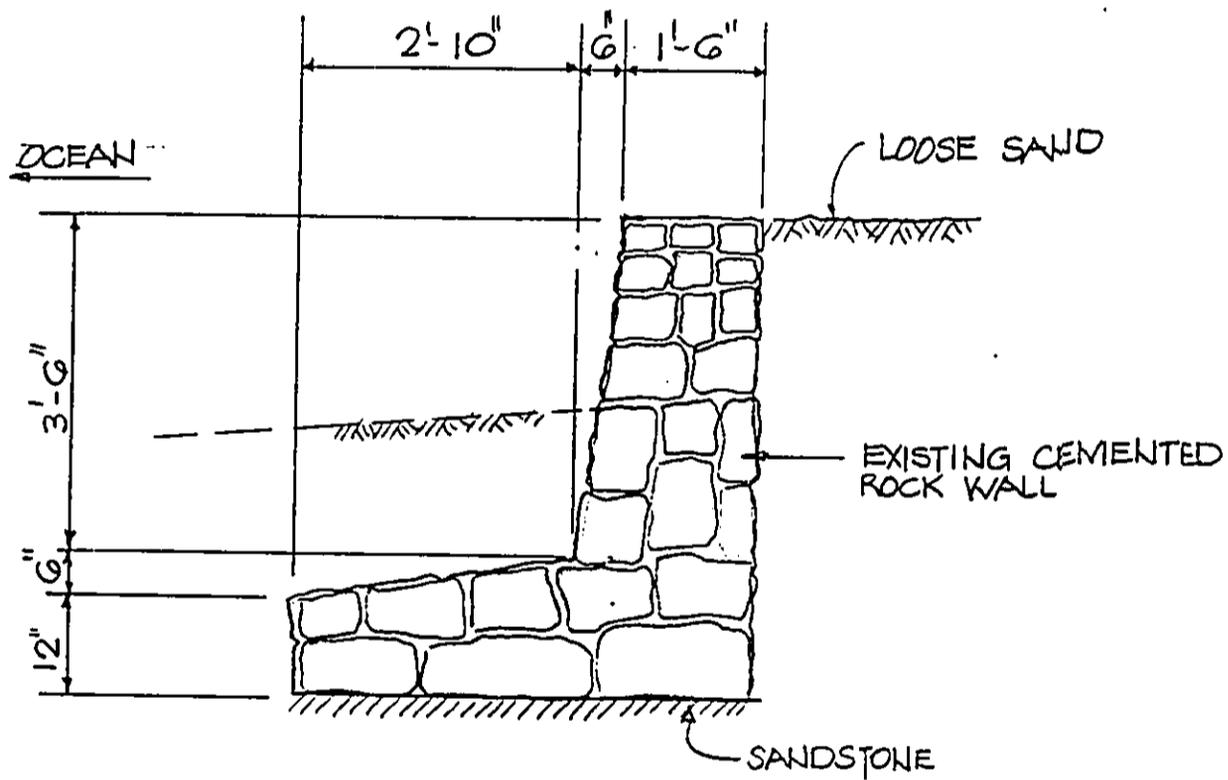
To evaluate the seawall, a site visit was made to observe and to document the condition of the seawall. The observation was a careful visual check of the existing seawall and did not include any physical removal of any existing conditions that hindered or covered the visual observation. Additional photographs were taken and are available upon request. Accordingly, this report is not intended to warrant or certify to the structural integrity of the existing seawall nor to its construction. It is not within our scope of service to review and approve the construction of the existing seawall. It reports only to what were observed.

The structural analysis of the existing seawall is not intended to be a complete and conclusive analysis, but a structural check to determine its structural integrity. Basis of our investigation is to ascertain that the seawall conform with the requirements of the latest Uniform Building Code and the City and County of Honolulu's coastal flood water design.

FIGURE 7 (2)

DESCRIPTION OF SEAWALL

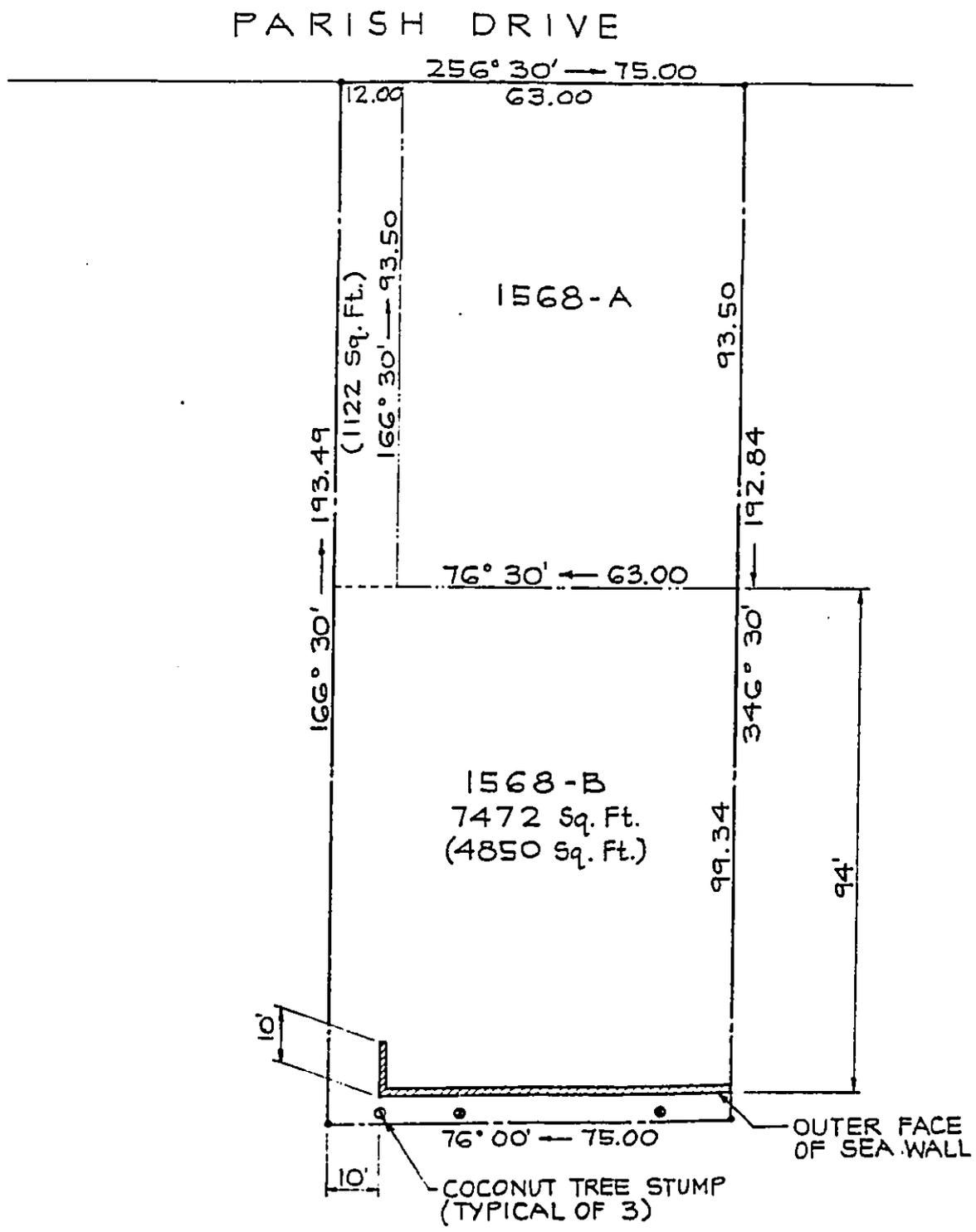
The seawall is located along the coastline at Puuloa Beach, Ewa, Hawaii. The seawall is constructed with cemented rocks and was built in 1984. It extends 65.0 feet along the coastline and abuts the neighbor's seawall on one side and terminates with a 90 degree return 10.0 feet from the property line on the opposite end. The portion that remained unprotected is to provide access for the launching of owner's boat. Field measurements of the seawall were made to areas that were exposed and probings were performed to estimate the dimensions of the submerged portion. See sketch below of the approximate cross section of the existing seawall. See the following page for the Plot Plan and the limits of the seawall.



SECTION OF SEAWALL

FIGURE 7 (3)

TRUE NORTH
SCALE: 1" = 30'



SITE PLAN

FIGURE 7 (4)

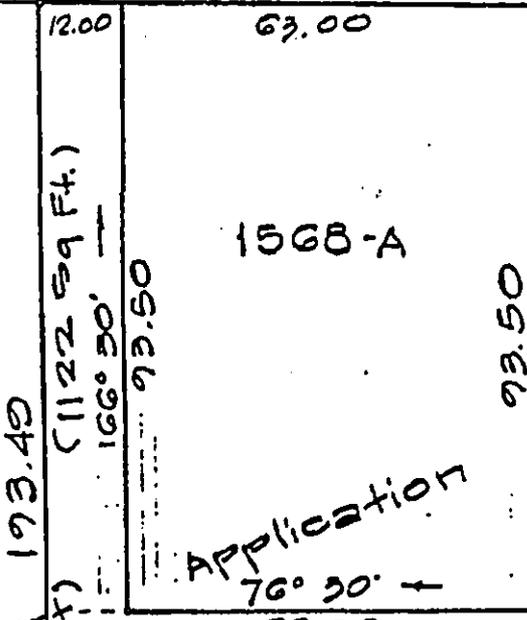
PARISH DRIVE

256° 30' - 75.00

TRUE NORTH
Scale: 1/17" = 30ft.

Land Court

173.40
(1122 Sq Ft.)



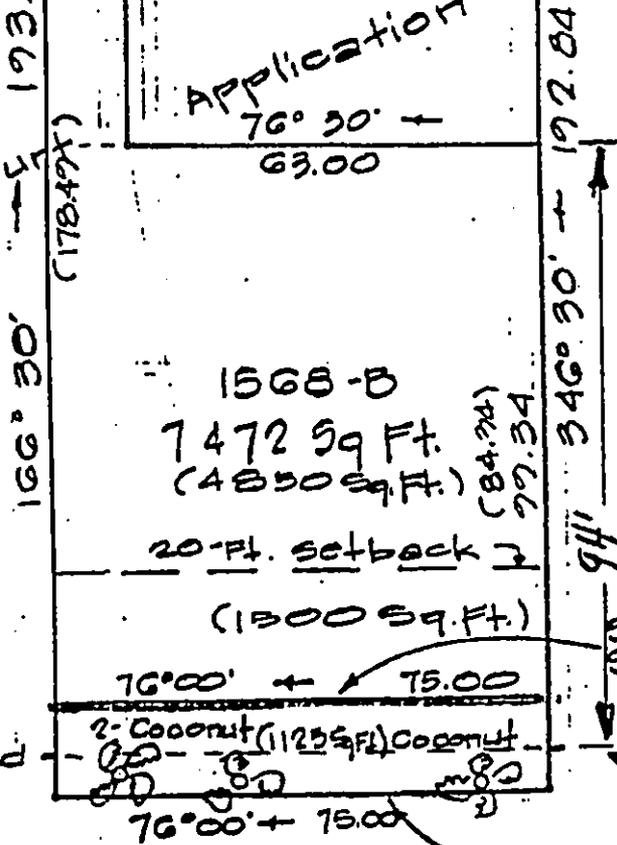
242

1568-B

7472 Sq Ft.
(4850 Sq Ft.)

(84.34)
77.34

20-ft. setback
(1300 Sq Ft.)



The shoreline as located and certified and delineated in red is hereby confirmed as being the actual shoreline as of OCT 1 1984

Jerry S. Nakagawa
State Land Surveyor

Coconut Trees shown as located Aug. 20, 1984



FIGURE 7 (5)

Boundary follows along Shoreline Oct. 18, 1974
SHORELINE CERTIFICATION PLAN SHOWING
 lots 1568-A and 1568-B
 Land Court Application 242
 and location of Coconut trees along beach

CRITERIA FOR STRUCTURAL INVESTIGATION:

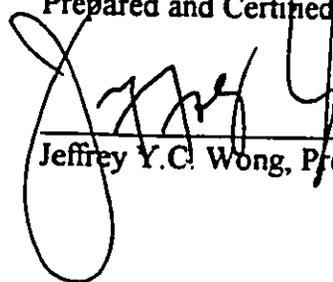
Without official As-Built Drawings or specifications, the following design criteria and assumptions were implemented to evaluate the seawall for structural adequacy:

1. Compliance with 1991 Uniform Building Code
2. Compliance with City and County guidelines for flood water design
3. Record response to devastating events
4. Material - Classification Medium Sand
 - Bearing pressure 1500 psf
 - Active Pressure 35 pcf
 - Passive Pressure 270 pcf
 - Coefficient of Friction 0.35 x DL
 - Unit weight of Rock 120 pcf

CONCLUSION

Implementing the aforementioned basis of design, our structural calculations indicate that the existing wall appears structurally adequate to withstand the flood water design conditions as required by the City and County of Honolulu (see attached Engineering Calculations). Attached photographs that were taken earlier this year and made available by the Owner, indicate a shoreline condition which differs considerably from when our field observation was conducted. Included is also an up-close photograph of the wall which appear to indicate that the individual rock components to be well cemented together. To ascertain its adequacy, since its construction in 1984 the seawall has satisfactorily endured the devastations of Hurricane Iniki and subsequent tropical storms that battered the coastline of Puuloa Beach.

Based on our investigation and today's existing conditions at the seawall, we certify that the seawall in question is structurally sound and conforms to the design requirements of the City and County of Honolulu.

Prepared and Certified by

Jeffrey Y.C. Wong, President

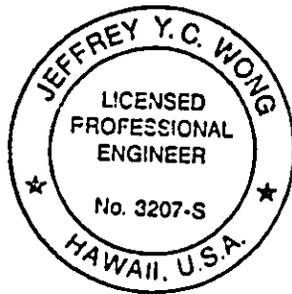


FIGURE 7 (6)

FMK 9-1-07: 014



FIGURE 7 (7)



CONSULTING STRUCTURAL ENGINEERS

PROJECT

HINDEN'S SEAWALL

EVA KLACH

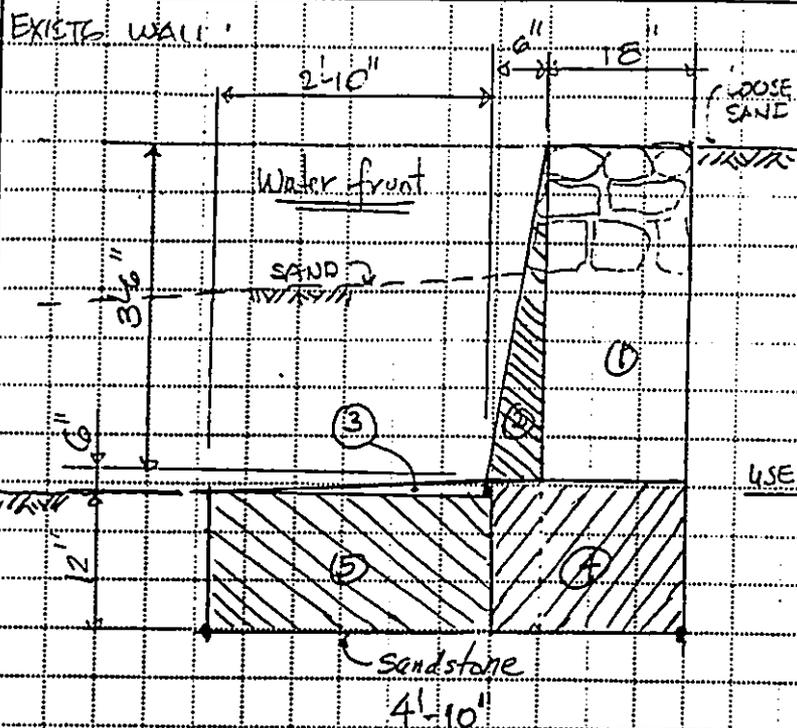
Prepared by

Date

Checked by

Date

Sheet ___ of ___



Assume Moss Rock: P_{DC}

- ① $3.5 \times 1.5 \times 1 = .925 K$
- ② $.5(3.5)(3) = .088 K$
- ③ $.5(2.83)(.5) = .071 K$
- ④ $2 \times 1.5(.1) = .300 K$
- ⑤ $1 \times 2.83(.1) = .283 K$

$1.267 \times .35 = .444$

USE Rock wall:

$\rho_{rock} = .120 \text{ T/ft}^3$

$P_{DC} = 1.267 \times 1.2 = 1.52$

$M P_{DC} = 1.52 \times .35 = .532$

ASSUME WASHOUT TO TOP OF FTG.

Active pressure = 35

$W_B = .095(5) = .175 \text{ (SF)}$

$P = .175(5) = .875 \times 1.5 = 1.31$

$M = .438(5/3) = .729 \times 1.5 = 1.094$

Resisting M/M :

- ① $.525(4.08) = 2.142$
- ② $.088(3.16) = .278$
- ③ $.071(1.88) = .134$
- ④ $.300(3.83) = 1.149$
- ⑤ $.283(1.915) = .541$

$4.100 > 1.094 \text{ ok}$

Classification	Friction Angle ϕ (deg.)	Density or Consistency	Unit Soil Weight, γ (lb./cu. ft.)	Unit Wt. of Equivalent Fluid, γ_f (lb./cu. ft.)	
				Active Case	Passive Case
Coarse sand or sand and gravel	45	Compact	140	24	820
	38	Firm	120	29	510
	32	Loose	90	28	290
Medium sand	40	Compact	130	28	600
	34	Firm	110	31	390
	30	Loose	90	30	270
Fine sand	34	Compact	130	27	460
	30	Firm	100	33	300
	28	Loose	85	31	280
Fine, silty sand or sandy silt	32	Compact	130	40	420
	30	Firm	100	33	300
	28	Loose	85	31	280
Fine, uniform silt	30	Compact	135	45	400
	28	Firm	110	38	300
	26	Loose	85	33	220
Clay-silt	20	Medium Soft	120	59	245
		Soft	90	44	183
Silty clay	15	Medium Soft	120	71	204
		Soft	90	53	153
Clay	10	Medium Soft	120	84	170
		Soft	90	63	153
Clay	0	Medium Soft	120	120	120
		Soft	90	90	80

FIG. 9-15. Typical values of unit weights, equivalent fluid.

Passive: $.150(1/2) = .075$

$M P_{DC} = .532$

$.607$

VIA TABLE 9-15:

MEDIUM sand: $P_R = 30 \text{ pcf/ft (Loose)}$

say 35 pcf

$P_R = 270(1/2) = 135$

FIGURE 7 (8)

$P_{DC} = .532$

$.667 > P_{DC} \times 1.5$



CONSULTING STRUCTURAL ENGINEERS

PROJECT

HENDERSON'S SEAWALL

FINA BEACH

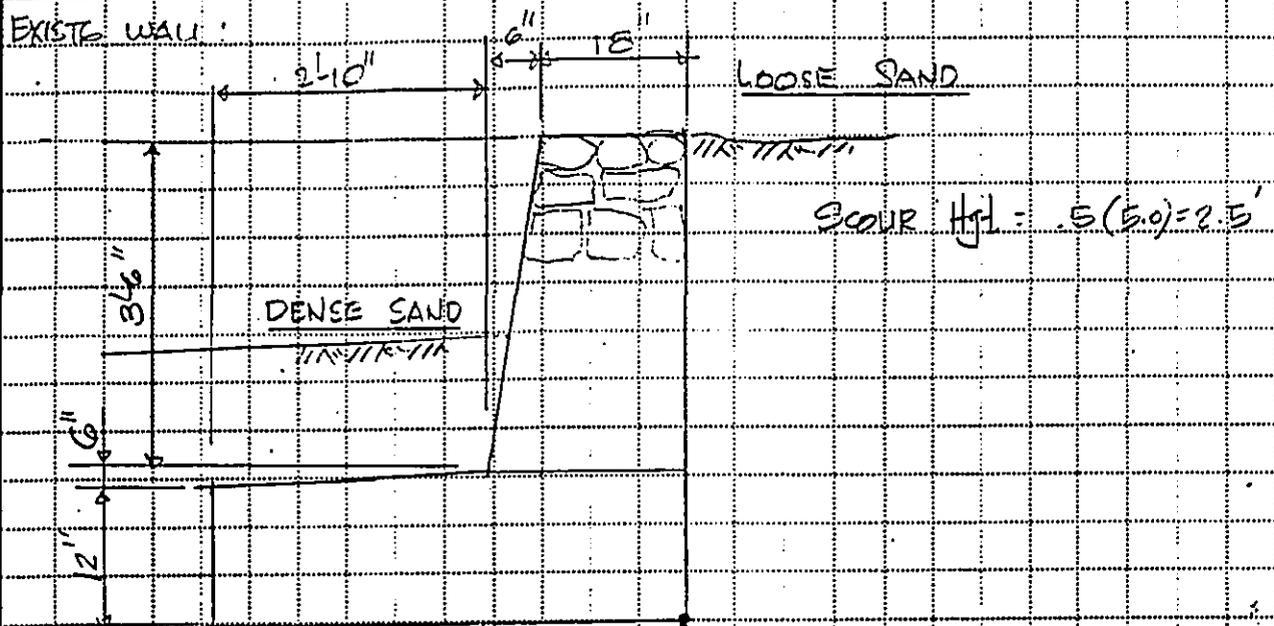
Prepared by:

Date

Checked by:

Date

Sheet ___ of ___



$$\text{HYDROSTATIC FORCE} = \frac{1}{2} \rho g \left[h + \frac{U_D^2}{2g} \right]^2 = \frac{1}{2} (2.0) (32.2) \left[3.5 + \frac{(2.5)^2}{2(32.2)} \right]^2 = 438$$

$$x = \frac{1}{3} \left(h + \frac{U_D^2}{2g} \right) = \frac{1}{3} \left(3.5 + \frac{(2.5)^2}{2(32.2)} \right) = 1.23'$$

$$M_x = 438 (1.23 + 1.5) = 1,196$$

$$\text{DRAG} = \frac{\rho C_D A U^2}{2} = \frac{2 (1.5) (3.5 \times 1) 3.5^2}{2} = 64.3$$

$$M_d = 64.3 (2.5) = 160.8 \text{ ft-k}$$

$$\Sigma M = 1,357 \text{ ft-k}$$

$$\text{IMPACT} : \frac{M U}{\Delta t} = \frac{3 (3.5)}{1} = 10.5$$

$$M_a = 10.5 (5) = 52.5$$

FIGURE 7 (9)

3.0 COASTAL SETTING

The Ewa Beach coastal reach is fronted by a shallow nearshore reef platform with water depth of 5-6 feet extending approximately 1,000-2,000 feet offshore. The narrow beach varies in width seasonally due to the wave characteristics. Mild summer swell waves can build a gently sloping beach front, while high steep waves can either erode the beach face or steepen the beach slope. See (Photo 4) for the wall-coverage variations.

The coastal reach is sheltered by the island mass from direct approach of the predominant northeasterly tradewind-generated waves and the winter North Pacific swell. These waves undergo considerable diffraction and refraction effects prior to reaching the site, resulting in much reduced wave energy. The site is directly exposed to the summer southern swell, local Kona storm waves, and infrequent hurricane-generated waves.

Because of the shallow limestone reef fronting the site, large waves break seaward of the shore, dissipating considerable energy prior to reaching the beach. The maximum wave height that can reach the shore is limited by the water depth over the nearshore reef area. For a nearshore water depth of about 5 feet and tidal range of about 2 feet, the typical maximum nearshore wave height (seaward of the shoreline) is about 5.5 feet. Maximum breaking waves at the shoreline are smaller than the waves over the nearshore reef area, and are dependent on the beach profile. Maximum breaking waves at the shoreline are typically less than 3 feet.

A City & County drainage channel discharges into the ocean about 575 feet east of the subject parcel. In January 1985, 40 feet of the drainage channel extending into the ocean was removed by the City & County. Prior to cutting back of the drainage channel, the channel walls extending into the water had been functioning as a groin to alongshore sand

3.0 COASTAL SETTING (continued)

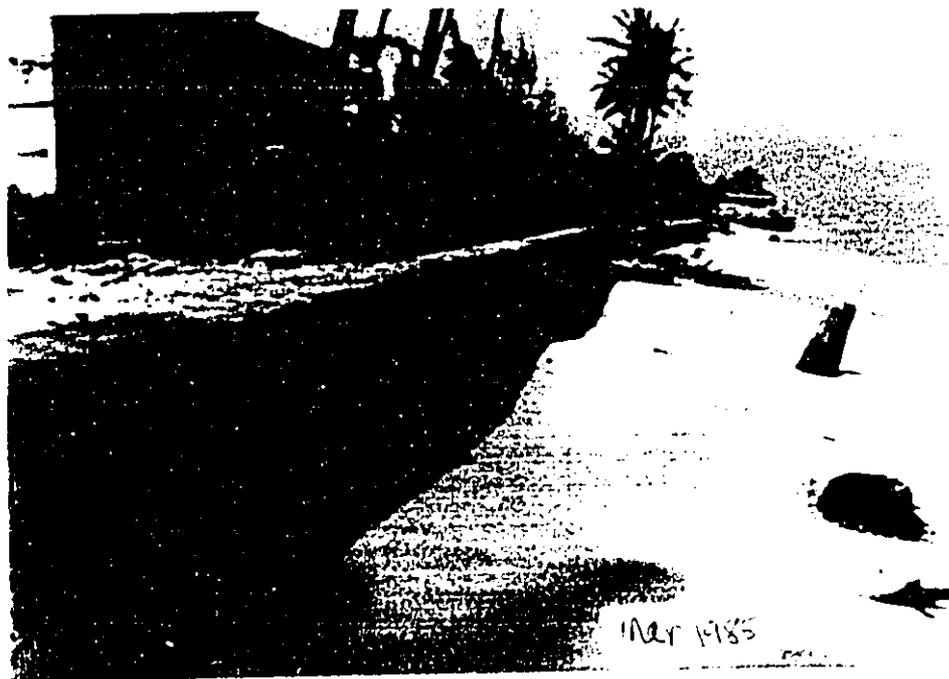
transport. Thus, during periods of southeasterly swell and easterly tradewind wave approach, the shorefront west of the drainage channel was suffering aggravated erosion. Computer analysis of aerial photos by Edward K. Noda and Associates in May 1983 clearly showed the long-term effects of the channel "groin" on the beachline compared to the average beachline prior to the drainage channel construction. Six aerial photos spanning the period October 1949 - June 1967 were analyzed to determine the beachline characteristics prior to construction of the drainage channel, and seven photos spanning the period October 1969 - May 1983 were analyzed to determine the changes to the beachline subsequent to construction of the drainage channel. Comparison of the mean beachlines prior to and following the drainage channel construction revealed the classic updrift accretion (on the Diamond Head side) and the downdrift erosion (on the Barbers Point side). This indicated that over the long term, the more prevalent wave types affecting this coastal reach were the summer southeasterly swell and the easterly tradewind waves, causing net westerly longshore transport.

With the demolition and removal of the seaward 40 feet of the drainage channel, the outlet was situated landward of the approximate toe of the beach at about the highwater line. Immediately after demolition of the seaward end of the channel, sand was trucked to the site and placed on the Barbers Point side directly adjacent to the channel to restore the eroded condition of the downdrift shoreline. Over the ensuing years, erosion of the shoreline has continued, but in recent years appears to be less apparent. For example, the existing seawall built 11 years ago on the subject parcel is still mostly buried, for the most part, indicating that the beach width and profile has not changed significantly over the long term.

3.0 COASTAL SETTING (continued)

Over the short term, the beach width and profile can vary seasonally according to the wave characteristics. Long period swell tends to build a gently-sloping beach face, while high steep waves tend to erode and steepen the beach face. The sand elevation fronting the existing seawall typically varies between several feet from the top of the wall to zero (wall completely buried).

PHOTO 4 Conditions of beach and seawall in March 1985 and November 1987



March 1985 photo taken shortly after wall was built
Note wall-coverage variations.



4.0 CONSIDERATION OF ALTERNATIVES

No action: The "No-action" alternative would permit the existing wall to remain in place. The wall will continue to function to prevent erosion and wave damage to the property during periods of high wave activity. The wall has had no apparent adverse effect on existing coastal processes or on the surrounding environment, and does not appear to discourage seasonal accretion patterns. The wall is completely buried at times, but is substantially exposed when protecting property during extended duration of storm wave attack.

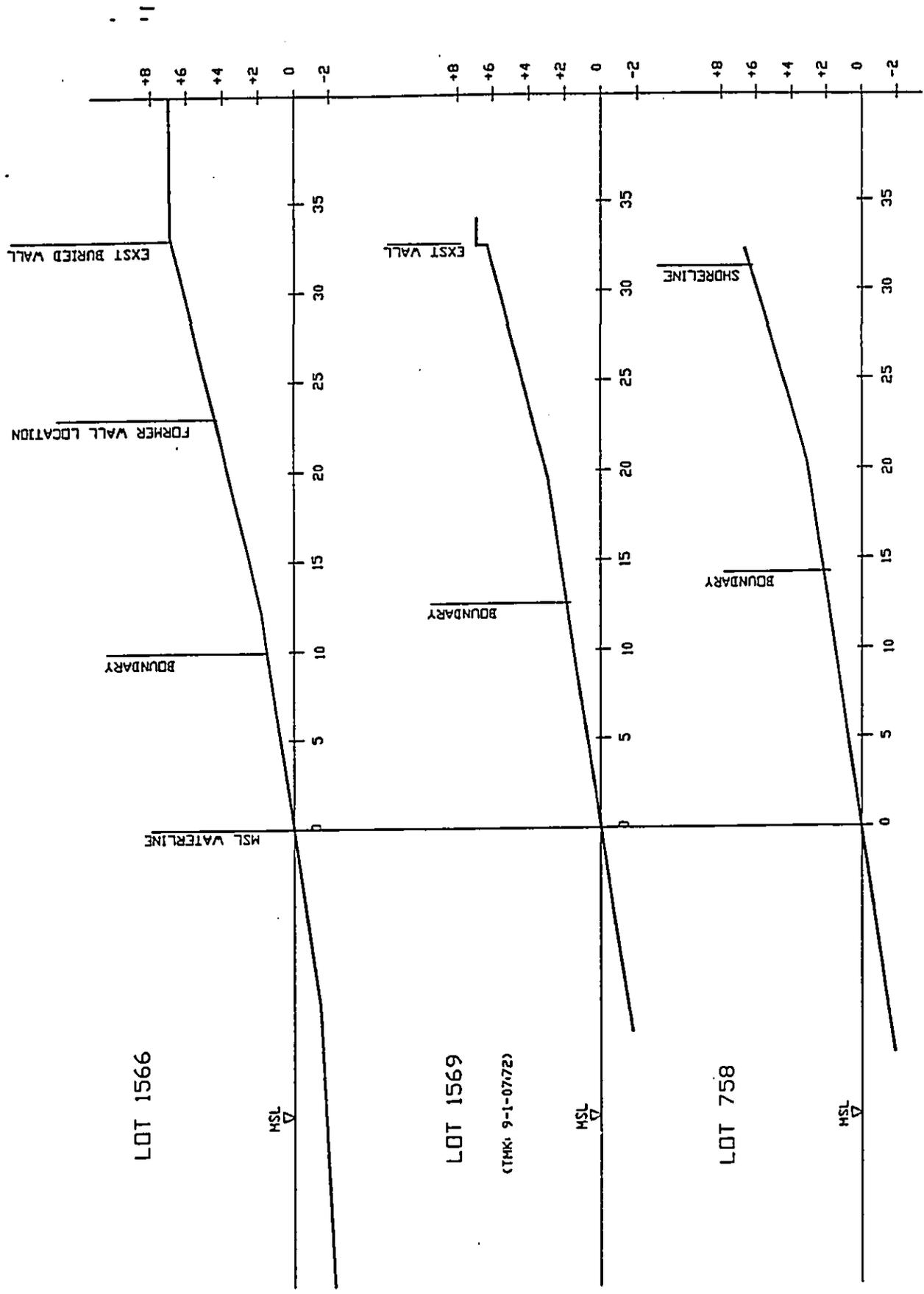
Removal of existing wall: Removal of the existing wall without constructing replacement shore protection is not a viable alternative, since the unprotected shoreline will likely experience erosion damage. Although the existing semi-buried seawall permits storm wave overtopping and flooding of the property, it does serve to protect the property from erosion damage (i.e. loss of fast land, palm trees, etc.) during extended periods of storm wave activity. The existing seawall was constructed in the aftermath of the severe storm that occurred in December 1984, in response to the extensive erosion damage caused by the destructive waves. The seawall has protected the property from erosion damage during Hurricane Iniki wave attack and the record high south swell waves of June 1995 and summer of 1996. For individual residential property owners, seawalls and revetments are the most viable methods to protect the property from wave attack, compared to other methods such as offshore structures or beach nourishment.

Relocate seawall landward: Removal of the existing wall and construction of a replacement seawall located farther landward of the existing wall would accomplish very little benefit, if any, related to public access of the beach. For some other parcels along this shorefront, where seawalls were also constructed without permits, this alternative was preferable to the no-action alternative. However, in those cases, the existing seawalls were built relatively closer to the water's edge than in the case of the subject wall, such

4.0 CONSIDERATION OF ALTERNATIVES (continued)

that those walls were more predominantly exposed (not buried as much as in the case of the subject wall) and the fronting beach width was narrower. By relocating those seawalls farther landward they could be substantially buried because the top-of-beach elevations are higher. For comparison see **Figure 8** on the attached page, which was submitted for James & Inge Higa's Environmental Assessment prepared by Dr. Noda for Proj. Ref. No. 95/SV-010. The Higa's shorefront Lot is 1569 and is directly adjacent to the applicants property which is Lot 1576 on the west side. This profile compares Lot 1569 to the shorefront approximately 150 feet east and west of it, relative to the waterline (MSL) as the horizontal baseline, based on the Higa's August 1995 topographic survey (**Figure 8A**). Also shown on the Profile, are locations of prior seawalls and shorelines (upper reaches of the wash of waves) from the August 1986 shoreline survey, and the approximate location of the relocated (buried) seawall on Lot 1566. Note that the beach width fronting Lot 1569 is about the same as that fronting the relocated wall on Lot 1566 (west of Higa's), and the top-of-beach elevations are also about the same. The Higa's wall location is also consistent with the shoreline on the east side (Lot 758). This same criteria applies to the applicants property. Therefore, the alternative of relocating the subject wall is neither reasonable or practical.

Replace seawall with revetment: Removal of the existing wall and construction of a rubblemound revetment in its place would accomplish very little benefit, if any, related to public beach access. While sloping rock revetments are generally more appropriate than seawalls for sandy shorelines, in this particular case, the existing seawall has had no apparent adverse effect on the existing coastal processes and has not affected beach stability. In fact, the existing seawall is predominantly buried much of the time. Its design minimizes problems with reflectivity, and the base of the wall is founded on hard material so that it will not be undermined if exposed during storm wave activity. Replacement of the existing wall with a revetment structure would serve no useful purpose.



BEACH PROFILES COMPARISON

FIGURE 8

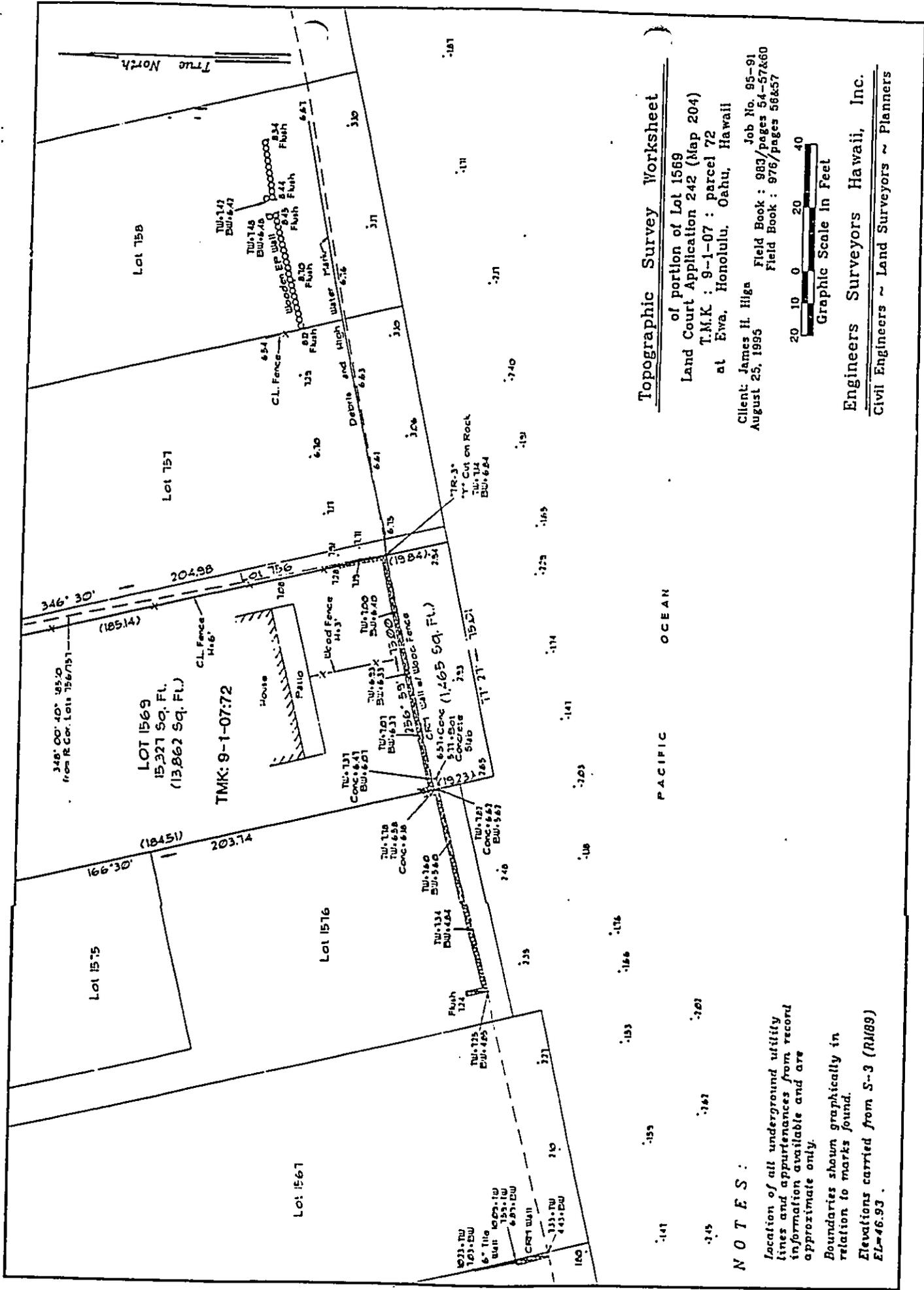


FIGURE 8A

5.0 DESCRIPTION OF PROPOSED ACTION AND PROBABLE IMPACTS

For the subject parcel, the most cost-effective and environmentally benign alternative is to permit the existing wall to remain in place. The existing seawall does not affect access along the beach fronting the parcel. The existing seawall is predominantly buried, and while it serves to protect the parcel from future storm wave erosion damage, it does not affect seasonal accretion patterns.

By permitting the existing seawall to remain in place, probable environmental impacts related to construction activity involving demolition of the existing wall and possible construction of a replacement shore protection structure would be averted. Such construction work would be expected to result in temporary noise and traffic impacts to the residential community due to trucks and heavy equipment working on site, impacts to beach access along this shoreline reach during the period of construction, and potential water quality impacts during the excavation for the wall removal and reconstruction.

The subject shoreline area is located within a coastal flood hazard zone designated Zone AE (base flood elevation 8 feet) on the Federal Flood Insurance Rate Map (FIRM). The existing seawall has no effect on the flood characteristics.

There are no known rare, threatened, or endangered species nor their habitats located in or near the project site. The existing seawall has no effect on either Ewa Beach Park (located about 1 mile east of the project site) or Oneula Beach Park (located about 1.5 miles west of the site).

6.0 DETERMINATION OF NO SIGNIFICANT EFFECT

The existing seawall has demonstrated no significant effect on the environment and is expected to have no significant future effect on the environment, and therefore preparation of an environmental impact statement is not required. The "Significance Criteria", Section 12 of Hawaii Administrative Rules Title 11, Chapter 200, "Environmental Impact Statement Rules," were reviewed and analyzed. Based on the analysis, the following were concluded:

- 6.1 *No irrevocable commitment to loss or destruction of any natural or cultural resource would result.* This Ewa Beach coastal area has already been greatly disturbed by residential improvements, and there are no known significant cultural resources present at the site. The seawall has not significantly affected beach processes in the area over the last 11+ years.
- 6.2 *The existing seawall does not curtail the range of beneficial uses of the environment.* The seawall does not affect access along the beach fronting the parcel.
- 6.3 *The existing seawall does not conflict with the state's long-term environmental policies or goals and guidelines.* The state's environmental policies and guidelines as set forth in Chapter 344, Hawaii Revised Statutes, "State Environmental Policy", encompass two broad policies: conservation of natural resources, and enhancement of the quality of life. The subject seawall does not significantly affect natural resources, while maintaining the quality of life of the residents by preventing storm wave damage.
- 6.4 *The existing seawall does not substantially affect the economic or social*

6.4 (continued)

welfare of the community or State. If permitted to remain in place, the seawall will not have economic or social impacts to the community or the State. If required to be rebuilt or relocated, construction activities would have short-term adverse impacts to the community due to noise, traffic, and limited access to the beach.

6.5 *The existing seawall does not substantially affect public health.* There are no public health concerns relating to the existing seawall.

6.6 *No substantial secondary impacts, such as population changes or effects on public facilities, are expected.* There are no secondary impact concerns relating to the existing seawall.

6.7 *No substantial degradation of environmental quality is expected due to the existing seawall.* If permitted to remain in place, the seawall will not affect ambient environmental quality. If required to be rebuilt or relocated, construction activities would have potential short-term adverse noise, air quality and water quality impacts.

6.8 *No cumulative effect on the environment or commitment to larger actions will be involved.* The existing seawall will continue to provide storm wave protection to the property if allowed to remain in place. No further action will be necessary.

6.9 *No rare, threatened or endangered species or their habitats are affected.* There are no known rare, threatened or endangered species or their habitats located in or near the project site.

- 6.10 *The existing seawall does not detrimentally affect air or water quality or ambient noise levels.* The existing seawall reduces the potential for water quality impacts that may occur due to storm wave erosion and damage to the property. If required to be rebuilt or relocated, construction activities would have potential short-term adverse noise, air quality, and water quality impacts.
- 6.11 *The existing seawall does not affect environmentally sensitive areas such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters.* The seawall is located in a coastal flood hazard zone designated Zone AE (base flood elevation 8 feet) on the Flood Insurance Rate Map. The existing seawall, with top elevation matching the existing ground elevation on the parcel, has no effect on the flood characteristics. The existing seawall is predominantly buried, and while it serves to protect the parcel from storm wave erosion damage, it does not affect seasonal beach accretion patterns. The existing seawall reduces the potential for impacts to coastal water quality that may occur due to storm wave erosion and other damage to the property. The structural integrity of the existing seawall is adequate to withstand storm wave runup and overtopping.

7.0 AGENCIES CONSULTED

The following agencies were consulted in the preparation of this Environmental Assessment. Agencies submitting substantive written comments during the public review period for the draft Environmental Assessment, including other pertinent correspondence, are indicated below with an asterisk (*). These comment letters, written responses, and other pertinent correspondence are reproduced herein.

State of Hawaii, Department of Health

City and County of Honolulu, Department of Public Works

City and County of Honolulu, Department of Parks and Recreation

Sierra Club, Hawaii Chapter*

City and County of Honolulu, Department of Land Utilization*

Office of Environmental Quality Control*

University of Hawaii, Environmental Center*

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



96-07848

LAWRENCE MIKE
DIRECTOR OF HEALTH

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

In reply, please refer to:

October 29, 1996

96-178/epo

Mr. Patrick Onishi, Director
Department of Land Utilization
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

1996 NOV - 1 PM 4: 41
DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

Dear Mr. Onishi:

Subject: ENVIRONMENTAL ASSESSMENT
Thompson After-The-Fact Seawall
91-037 Parish Drive, Ewa Beach, Oahu
TMK: 9-1-07: 14

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

Sincerely,


Lawrence Miike
Director of Health

10-01183

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR



KENNETH E. SPRAGUE
DIRECTOR AND CHIEF ENGINEER

DARWIN J. HAMAMOTO
DEPUTY DIRECTOR

ENV 96-272

October 29, 1996

MEMORANDUM:

TO: PATRICK T. ONISHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: *js* KENNETH E. SPRAGUE
DIRECTOR AND CHIEF ENGINEER *Alex Ho*

SUBJECT: ENVIRONMENTAL ASSESSMENT (EA)
THOMPSON AFTER-THE-FACT SEAWALL
TMK: 9-1-07: 14

1996 OCT 30 AM 11:05
DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

We have reviewed the subject EA and have no comments to offer at this time.

Should you have any questions, please contact Alex Ho, Environmental Engineer, at Local 4150.

76-0808/

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
XXXXXXXXXXXXX
MAYOR



DONA L. HANAIKE
XXXXXXXXXXXXX
DIRECTOR
ALVIN K.C. AU
DEPUTY DIRECTOR

November 12, 1996

TO: PATRICK T. ONISHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: DONA L. HANAIKE, DIRECTOR

SUBJECT: ENVIRONMENTAL ASSESSMENT (EA) PURSUANT TO
CHAPTER 343, HRS, FOR PROJECTS WITHIN THE
SHORELINE SETBACK
THOMPSON AFTER-THE-FACT SEAWALL
91-037 PARISH DRIVE, EWA BEACH, OAHU, HAWAII
TAX MAP KEY 9-1-007:014
PROJ. REF. NO. 96/SV-008 (DT)

DEPT OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU
96 NOV 14 PM 2 04

We have reviewed the EA for the above-described project and have no comment at the present time.

Thank you for the opportunity to review the project.

Should you have any questions, please contact Lester Lai of our Advance Planning Branch at extension 4696.

For DONA L. HANAIKE
Director

DLH:ei



O'AHU GROUP
SIERRA CLUB, HAWAII CHAPTER
P.O. Box 2577, Honolulu, Hawaii 96803
Phone: (808) 538-6616

96-08258

'96 NOV 22 AM 7 50

November 13, 1996
DEPT OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

Patrick Onishi
Director
Department of Land Utilization
650 S. King St 7th Floor
Honolulu, HI 96813

Dear Mr. Onishi,

RE: THOMPSON AFTER-THE-FACT SEAWALL VARIANCE APPLICATION

The O'ahu Group of the Sierra Club objects to the Thompson application for a shoreline setback variance. Please include this in the public record for the variance application.

First, we note that the Department of Land and Natural Resources improperly certified the shoreline. HRS 205A-42 and DLNR's administrative rules (HAR 13-222-11) provide that the shoreline may be fixed by artificial structure only if such structure has been approved by the appropriate government agencies. This seawall, however, has not been approved by the appropriate government agencies. The environmental assessment itself notes that the "existing seawall was constructed without obtaining a variance from Shoreline Setback Rules and Regulations and is therefore in violation of the regulations." (p.3) Unfortunately, the state surveyor does not check to see whether a structure is legal before certifying the shoreline at a structure. It is incumbent on DLU to participate in the certification process to ensure that the state does not certify the shoreline along an illegal structure.

HRS 205A-1 defines the "shoreline" as the "upper reaches of the wash of the waves, other than storm and seismic waves, at high tide during the season of the year in which the highest wash of the waves occurs, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves." The photographs submitted in the environmental assessment indicate that the shoreline is mauka of the line certified (i.e., the seawall).

Second, it is inappropriate to allow any hardening of this shoreline. Not far from this property, studies have demonstrated that seawalls have caused the loss of public beach:

Between 1928 and 1967 the vegetation line at Iroquois Point receded by as much as 140 feet. Over a similar period the water line receded by about 150 feet. Although there has been chronic erosion and significant inland migration of the shoreline, the 1967 aerial photograph documents a wide beach. The 1967 photo of Iroquois Point illustrates the

general rule that a beach migrating inland in its natural state doesn't wash away but simply shifts position. The beach width remains relatively constant if there is no vertical inland barrier.

During the 1967 to 1990 period, continued migration of the shoreline threatened to undermine several houses. The 1990 serial photo shows that after the shoreline was stabilized with bulkheads and stone revetments, the beach was lost along an 800 foot stretch.

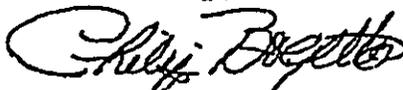
Hwang and Fletcher, Beach Management Plan with Beach Management Districts (June 1992 p.6).

Third, the applicant has not proven hardship. In general, a variance should be viewed as an extraordinary exception which should be granted sparingly. The reasons to justify approval must be substantial, serious and compelling. R.R. Powell on Real Property 79c.16[1] (1995). The applicant has the burden of proof. In this case, the applicant wants to retain an illegal seawall to protect a vacant lot -- at the expense of a public beach.

Hawaii property law does not give private property owners the right to damage public property (i.e., cause beach erosion). The beach is a public trust resource (Application of Sanborn, 57 Haw. 585) and the government, as a trustee, can restrain those activities that damage the resource (Orion Corp. v. State 747 P.2d 1062). Coastal property is encumbered with the risk that erosion will take away property. Because this principle is inherent in the property law (County of Hawaii v. Sotomura 55 Haw. 176; 5A Powell on Real Property 66.01), there is no "hardship" caused by erosion. It is a natural phenomenon.

If DLU imprudently grants the variance, at the very least, it should have an expiration date to ensure that no vested right is granted.

Sincerely,



Philip Bogetto
Chair

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

JEREMY HARRIS
MAYOR



PATRICK T. ONISHI
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

96-06231 (DT)
96/SV-008

November 18, 1996

Ms. Ellen H. Thompson
91-045 Parish Drive
Ewa Beach, Hawaii 96706

Dear Ms. Thompson:

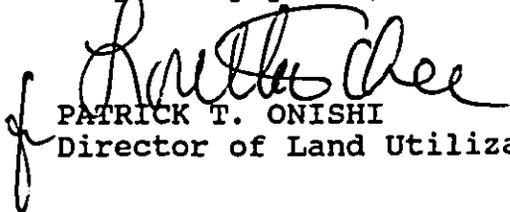
Comments to Draft Environmental Assessment (EA)
Thompson After-The-Fact Seawall, File No. 96/SV-8
Tax Map Key: 9-1-07: 14

We have reviewed the above Draft EA and have the following comments:

1. A copy of the subject property's current certified shoreline survey should be included in the Final EA.
2. Page 16 of the Seawall Investigation incorrectly lists the agencies consulted for the subject property. The comment letters pertain to the adjacent property, Tax Map Key: 9-1-7: 72. The adjacent property's comment letters can be included in the Final EA, but in an Appendix. In the Appendix, you may indicate that "The following comments were excerpted from File No. 95/SV-10 (Tax Map Key: 9-1-7: 72)". The "Agencies Consulted" section should include comment letters received for the above property. Your response letters to these comment letters should be included in the Final EA.
3. The Seawall Investigation and Coastal Engineering Evaluation should be combined in the Final EA.

If you have any questions regarding this letter, please contact Dana Teramoto of our staff at 523-4648.

Very truly yours,


PATRICK T. ONISHI
Director of Land Utilization

PTO:am

sv8comm.djt

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813
TELEPHONE (808) 588-4186
FACSIMILE (808) 588-4186

'96 NOV 21 AM 8:19
GARY GILL
DIRECTOR

DEPT OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

November 19, 1996

Mr. Patrick T. Onishi
Director of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attn: Dana Teramoto

Dear Mr. Onishi:

Subject: (After-the-Fact) Draft Environmental Assessment (EA) for Thompson
Residence Seawall, 91-045 Parish Drive, Ewa Beach; TMK: 9-1-7: 14

It is the policy of the State of Hawaii under HRS Chapter 205A to discourage all shoreline hardening that may affect access to, or the configuration of, our island beaches.

Any EA prepared in conjunction with an application to construct a seawall, revetment, or similar structure should be accompanied by appropriate justification and detailed studies including, but are not limited to, the following:

1. A Historical Shoreline Analysis of coastal erosion and accretion rates. This should include a description of all movements of the neighboring shoreline over at least the past 30 years. This analysis should be based, at least in part, on aerial photographs available through government agencies and private vendors. The analysis should provide a detailed history of erosion and accretion patterns using all available evidence.
2. A description of the nature of the affected shoreline, whether sandy, rocky, mud flats or any other configuration. The history and characteristics of adjoining sand dunes and reefs should be included.
3. Site maps that clearly show the current certified shoreline, previous certified

Patrick Onishi
November 19, 1996
Page 2

shorelines, the private property line and the location of the proposed structure. Any nearby public access right-of-way should also be depicted.

4. Beach profiles that extend off shore at appropriate intervals along the beach indicating the width and slope of both the submerged and dry portions of the beach.
5. An analysis of any existing nearby walls or revetments and their cumulative impacts on the shoreline.
6. A description of structures and improvements (such as homes or swimming pools) on the subject property, their distance from the property line and shoreline, and how they may be affected by the construction of the proposed hardening project.
7. A wave and storm frequency analysis for the area in question. This should include any relevant coastal processes such as longshore currents and seasonal wave patterns.
8. An analysis that predicts the location of future shorelines with and without the proposed wall at least 30 years into the future or over the expected life of the hardening project.
9. Photos of the site that illustrate past and present conditions and locate the proposed structure.
10. All alternatives to shoreline hardening should be thoroughly researched and analyzed. These alternatives should include beach replenishment, dune-scaping, retreat from the shoreline by moving existing structures inland, and a no action alternative.

This draft EA includes a copy of our comment letter of April 4th, 1996, regarding the adjacent Higa seawall. The Higa's response was also included in the draft EA. On July 25, 1996 we sent a letter to the DLU in response to the Higa's final EA. For the record, please include our letter of July 25, 1996 (attached) in the final EA.

In the final EA please indicate whether the surveyor was aware at the time of shoreline certification that the seawall was illegal. If he was not aware of this fact, the shoreline should be recertified to show correct shoreline placement. Section 205A-43.6 of Hawaii Revised Statutes states that "the authority of the Department of Land and Natural

Patrick Onishi
November 19, 1996
Page 3

Resources to determine the shoreline ... shall not be diminished by an artificial structure in violation of this part [of the statute]."

Please also bind or staple the final EA. Unbound copies will not be accepted.

If you have any questions call Nancy Heinrich at 586-4185.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Gill". The signature is fluid and cursive, with a large initial "G" and a long horizontal stroke.

Gary Gill
Director

c: Daniel & Sandra Thompson w/att.
DLNR

BENJAMIN J. CAYETANO
GOVERNOR



FILE 0011

GARY GILL
DIRECTOR

STATE OF HAWAII

'96 NOV 21 AM 8 19
DEPT OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4186
FACSIMILE (808) 586-4186

July 25, 1996

Mr. Patrick T. Onishi
Director of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Onishi:

Subject: Shoreline Variance (95/SV-010) for Illegal Structure at
Ewa Beach

The Office of Environmental Quality Control recommends that the Department of Land Utilization deny the shoreline variance permit for the illegal structure at 91-049 Parish Drive, Ewa Beach and order the removal of the illegal structure.

The illegal structure should be removed because it may adversely affect the natural shoreline and adjacent sandy beach, potentially impedes public pedestrian access laterally, reduces open space along the shoreline, unlawfully extends makai of the shoreline, and was built without permission within the shoreline area. Furthermore, the final environmental assessment does not provide sufficient details on the long term and cumulative impacts of the illegal structure.

A site visit showed that in sections where the shoreline has been hardened with shore protection structures, the beach is narrow and access and recreational use is limited. On the other hand, in areas where there are no shore protection structures, the beach assumes a natural profile that is approximately twice the width of the artificial profile.

The land seaward of the shoreline is a public trust resource. This illegal structure extends makai of the certified shoreline. A private property owner does not have the right to impair public trust resources. Erosion of the adjacent beach may expose the base of the seawall and significantly impede recreational use and lateral access of this public trust resource.

Mr. Onishi
July 25, 1996
Page 2

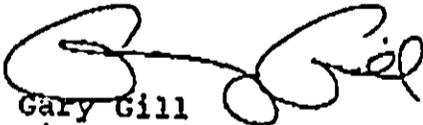
Section 23-1.15, Revised Ordinances of Honolulu, states, "No building or grading permit shall be granted on a shoreline lot until the illegal structure is removed or corrected; except, however, that such permits may be granted where the director [of land utilization] determines it is necessary to protect public health and safety." The subject seawall is not the only option available to protect the landowners' home. Other alternatives include, but are not limited to, beach replenishment, a wall outside of (mauka of) the 40' setback, installation of sandbags, and retreat from the shoreline. Since the subject shore protection structure is not absolutely necessary to protect public health and safety, we believe that it must be removed.

During the public review of the draft environmental assessment, we asked the applicant to analyze, among other things, the long term and cumulative impacts of the illegal structure. The final environmental assessment does not provide sufficient details about the location of future shorelines with or without the seawall. Also, the assessment does not provide adequate information about the cumulative impacts of existing nearby walls or revetments. This lack of data regarding long term shoreline movements and cumulative impacts of the existing seawalls warrants rejection of the application.

Government's priority is to maintain public beaches. This is articulated in various State and County laws and regulations. For example, section 23-1.2, Revised Ordinances of Honolulu, states, "It is a primary policy of the city to protect and preserve the natural shoreline, especially sandy beaches; to protect and preserve public pedestrian access laterally along the shoreline and to the sea; and to protect and preserve open space along the shoreline." Accordingly, we recommend that the Department of Land Utilization deny this permit and order the shore protection structure removed.

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

Sincerely,


Gary Gill
Director

rec'd 12/4/96



University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawai'i 96822
Telephone: (808) 956-7361 • Facsimile: (808) 956-3980

November 22, 1996
EA: 00152

Daniel and Sandra Thompson
98-1405 Akaaka Street
Aiea, Hawaii 96701

Mr. and Mrs. Thompson:

Thompson After-the-Fact Seawall
Draft Environmental Assessment (EA)
Ewa Beach, Oahu

The applicants propose to retain a 65-foot long after-the-fact concrete rubble masonry (CRM) wall. The existing seawall was constructed without obtaining a variance from the Shoreline Setback Rules and Regulations, and is therefore in violation of the regulations. The seawall is approximately 5 feet high. The project is located at 91-037 Parish Drive in Ewa Beach.

This review was completed with the assistance of Tom Hawley, Environmental Center.

Though we realize that this draft EA refers to an already existing seawall, we nevertheless have concerns about the existence of a structure which hardens the shoreline. Numerous studies point to the deleterious impacts of any shoreline hardening activity and the specific problems related to seawalls, including beach-narrowing, lateral erosion, and the increased threat to mauka structures during storm events. In Hawai'i, hardening of the shoreline has become an especially prevalent problem, particularly on Oahu and Maui as a result of shoreline development. Rising sea levels, partly due to island subsidence, further exacerbates the harmful effects of seawalls.

We suggest that given the problems associated with hardening of the shoreline generally and the impacts of seawalls specifically, applications and proposals for seawall construction should be assessed with utmost caution. Several researchers have suggested that all decision-makers discourage the construction of seawalls, revetments, or other shoreline hardening devices entirely. A related recommendation urges the inclusion of permit conditions which stipulate a beach monitoring period of 30 years following the construction of a seawall to monitor erosion and

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other changes in beach composition. We support these ideas and would like to see them included in the assessment and permitting of the proposed setback variance.

In response to the above concerns, the State of Hawai'i Office of Environmental Quality Control, (OEQC), has formulated several considerations which should be taken into account when assessing proposed shoreline hardening structures, particularly seawalls. For your reference, we have included OEQC's recommendations here, which suggest that the assessment of all seawall projects include:

- 1) An Historical Shoreline Analysis of coastal erosion and accretion rates for the previous 30 years. This analysis should be based, at least in part, on aerial photos, and should provide a detailed history of erosion and accretion patterns for the subject shoreline.
- 2) A description of the nature of the affected shoreline, whether sandy, rocky, mud flats or any other configuration. The history and characteristics of adjoining sand dunes and reefs should be included.
- 3) Site maps that clearly show the current certified shoreline, previous certified shorelines, the private property line and the location of the proposed structure. Any nearby public access right-of-way should also be depicted.
- 4) Beach profiles that extend off-shore at appropriate intervals along the beach indicating the width and slope of both the submerged and dry portions of the beach.
- 5) An analysis of any existing nearby walls or revetments and their cumulative impacts on the shoreline.
- 6) A description of structures and improvements (such as homes or swimming pools) on the subject property, their distance from the property line and the shoreline, and how they may be affected by the construction of the proposed hardening project.
- 7) A wave and storm frequency analysis for the area in question. This should include any relevant coastal processes such as longshore currents and seasonal wave patterns.
- 8) An analysis that predicts the location of future shore-

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lines with and without the proposed wall at least 30 years into the future or over the expected life of the hardening project.

- 9) Photos of the site that illustrate past and present conditions and locate the proposed structure.
- 10) All alternatives to shoreline hardening should be thoroughly researched and analyzed. These alternatives should include beach replenishment, dunescaping, retreat from the shoreline by moving existing structures inland, and a no-action alternative.

We believe the inclusion of this information and the consideration of alternatives and mitigative measures will contribute to shoreline projects which avoid many of the long-term and detrimental affects typically associated with seawalls.

Thank you for the opportunity to comment.

Sincerely,



John T. Harrison
Environmental Coordinator

cc: OEQC
Roger Fujioka
Dept. of Land Utilization
✓ Ellen H. Thompson
Tom Hawley

ELLEN H. THOMPSON
91-045 Parish Drive
Ewa Beach, HI 96706
Tel. (808) 689-4094

February 03, 1997

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

RE: THOMPSON AFTER-THE-FACT SEAWALL VARIANCE APPLICATION
Shoreline Variance File No. 96/SV8, TMK: 9-1-07: 14

Dear Mr. Bogetto:

This letter is in response to your letter of November 13, 1996 to Mr. Patrick Onishi, Director of the Department of Land Utilization, regarding the above named seawall variance application.

Your statement of an improperly certified shoreline:

The current certified shoreline survey was taken on October 05, 1995 by Engineers Surveyors Hawaii, Inc. On the day of the measurement, the surveyor was aware the seawall was built without a shoreline variance/permit. The State of Hawaii, Department of Land and Natural Resources, certified this shoreline on 02/12/96, with the certification signature of Deputy Gilbert S. Coloma-Agaran. The State Board/Department of Land and Natural Resources has been aware of this lack of "variance/permit" since 1985, when notified by letter to Mr. Susumu Ono, Chairperson, Board of Land & Natural Resources on June 05, 1985, by Mr. John P. Whalen, Director of Land Utilization. Mr. Whalen again wrote to Mr. Ono on July 9, 1985, asking him to "investigate all of these cases as possible Conservation District violations and examine the possibility of "decertifying" shoreline surveys (in this area, specifically referring to the Thompson seawall) based on illegal seawalls." Mr. Ono did not act on this request and did not "decertify" these shoreline certifications.

Your statements regarding Iroquois Point, assumed risk of erosion to coastal property, and erosion being a "natural phenomenon":

The vegetation line at Iroquois Point is not relevant to the subject seawall. Not only is the Iroquois Point area quite a distance from the Thompson beach area, there is a distinct difference between the currents/wave action between Iroquois Point and Transect 9; the

Mr. Philip Bogetto
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location of the subject seawall. Also, even though coastal property owners are aware of the erosion possibilities to their beach front properties, the subject beach area was affected by an unnatural (caused) erosion that continued for 17 years until it was remedied by the City & County of Honolulu. Specifically, I am referring to the Ewa Beach Drainage Channel which is located 575 feet east (Diamond Head side) of the subject property. This drain was constructed in the 1967/68 time period and interrupted the natural lateral transport of sand. The severe erosion began immediately after the construction of the channel, and continued for 17 years until the 40 foot portion of the channel extending into the ocean was removed in February 1985. Prior to the construction of the channel, the beach front property owners had a 60 foot beach fronting their properties, from their property lines to the shoreline. The devastating "groin" effects of the channel destroyed the public beach and eroded up to 25 feet of property inside of the owners' property lines, destroying numerous 50 year old palm trees and other significant vegetation. The City & County of Honolulu was so concerned about this "caused" erosion, that in 1971 they (C&C) obtained all necessary permits to remove the 40 to 50 feet of the channel extending into the ocean, but then decided to defer the project. It was not until 1985 that the drain was modified by cutting off the 40 feet that extended into the ocean, because of the pending lawsuits against the City & County.

Your statement regarding proven hardship:

You stated that "a variance should be viewed as an extraordinary exception which should be granted sparingly. The reasons to justify approval must be substantial, serious and compelling.....the applicant wants to retain an illegal seawall to protect a vacant lot." The reason the lot is vacant is because of the years of negotiating with the City & County over the erosion issue. The applicants were in the process of building a dwelling twice during the years of 1973 to 1985, but did not do so because of the erosion issue-related problems. After losing substantial property for 17 years (1234 sq. ft), the Thompsons' built the seawall as emergency protection, and since that time were unable to develop the lot because of the (non-variance) seawall. The hardship occurring to the Thompsons' includes future additional significant loss of property, palm trees and protective vegetation if the variance is not approved, and the possibility (considering the 40 ft. setback requirement) that this loss could cause the lot to become too small to develop with a dwelling. This would deny the Thompsons' the reasonable use of their parcel.

Your statement - "Hawaii property law does not give private property owners the right to damage public property (i.e., cause beach erosion).":

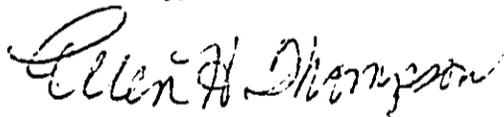
The subject seawall was constructed over 11 years ago, and has not caused erosion to the beach fronting the parcel or to surrounding properties, nor is it expected to do so in the future. The seawall does not inhibit lateral public access along the public beach.

Mr. Philip Bogetto
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Because of the shallow limestone reef fronting the site, large waves break seaward of the shore, dissipating considerable energy prior to reaching the beach. The Thompson's seawall is necessary for protection to their property from property/tree/vegetation loss caused by storm wave attack. The fact that the seawall protected the property during Hurricane Iniki wave attack, and further that the beach suffered no subsequent adverse impacts, is reasonable documentation to justify the lack of adverse impacts to the beach processes. As another example of seawall necessity, two (2) properties 75 feet and 150 feet west from the Thompsons' have recently removed their seawalls that were in place for 10 years, by order of the City & County. After these removals and during the high storm surge waves of the summer of 1995 & 1996 caused by storms in New Zealand and Tahiti, waves bashed onto the walls of one home (tile house which built C&C "suggested" buried seawall) and waves ran underneath the second home (wood home on posts-removed seawall and did not build new structure). Both properties were significantly reduced in size from this wave attack, further vegetation was lost, and the occupant's safety was in jeopardy. High storm surge waves ran over the Thompson's seawall during these events, but did not penetrate as deeply into the property as their neighbors', because the property was protected by their seawall. Property owners have the right, by law, to protect their property.

I believe the foregoing statements address the matters raised by your letter. Thank you for your comments.

Sincerely,



Ellen H. Thompson
Authorized Agent

EHT

ELLEN H. THOMPSON
91-045 Parish Drive
Ewa Beach, HI 96706
Tel. (808)689-4094

February 03, 1997

Mr. Patrick T. Onishi
Director Of Land Utilization
Department Of Land Utilization
650 South King Street
Honolulu, HI 96813

Re: Thompson After-The-Fact Seawall

Dear Mr. Onishi:

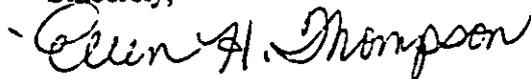
Enclosed is the Final Environment Assessment for Shoreline Variance File No. 96/SV8,
for TMK: 9-1-07: 14.

As per your request in your letter dated November 18, 1996, the following items have
been included:

1. A copy of the subject property's current certified shoreline survey.
2. Agency comment letters for subject property as well as responses to same.
3. The Seawall Investigation and Coastal Engineering Evaluation are combined in the
Final Environmental Assessment.

Thank you for your assistance, and I look forward to hearing from you.

Sincerely,



Ellen H. Thompson
Authorized Agent

EHT

Enclosure

ELLEN H. THOMPSON
91-045 Parish Drive
Ewa Beach, HI 96706
Tel. (808) 689-4094

February 03, 1997

Mr. Gary Gill
Office of Environmental Quality Control
220 South King Street, Fourth Floor
Honolulu, HI 96813

Subject: Thompson After-The-Fact Shoreline Variance Application
Shoreline Variance File No. 96/SV8, Ewa Beach TMK: 9-1-07: 14

This letter is written in response to your letter dated November 19, 1996 to the Director of Land Utilization regarding the draft Environmental Assessment ("EA"), prepared to support the application of Sandra P. and Daniel M. Thompson for an after-the-fact Shoreline Setback Variance for the existing seawall. This response has been prepared with information taken from coastal engineering consultant, Edward K. Noda and Associates, Inc., from which the EA information was acquired.

It appears that items 1-10 in your letter are from your draft proposed policy on shoreline hardening, which to my knowledge has not yet been incorporated per se into statutory or regulatory language. While inclusion of this information will certainly aid in assessing the appropriateness of proposed shore protection structures, the level of detail of the information/studies should be commensurate with the scope of the project. I believe that the draft EA provides sufficient information to meet the requirements of Chapter 343, H.R.S., and also provides adequate justification for retaining the existing seawall.

I offer the following comments regarding the items listed:

1. The EA describes the history of shoreline movement in the vicinity of the subject seawall. The existing seawall has been in place for 11 years, and is located on a shoreline reach that has numerous other existing seawalls. According to the EA, the beach in the vicinity of the project site has not changed significantly over the last 11 years that the seawall has been in place. The function of the seawall is to prevent erosion and wave damage during storm wave attack. The fact that the seawall protected the property during Hurricane Iniki wave attack, and further that the beach suffered no subsequent adverse impacts, is reasonable documentation to justify the lack of adverse impacts to the beach processes.
2. The EA provides a description of the affected shoreline and offshore reef. There are

Mr. Gary Gill
February 03, 1997
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are no sand dunes along this coastal reach.

3. The EA provides site maps, previous certified shorelines, and current shoreline survey. The shoreline was recently certified as shown with Figure 4, and was certified by the State on February 12, 1996. The closest public access right-of-way is located 75 feet east (Diamond Head) of the subject property as depicted in Figure 3.
- 4 Beach profiles are included in the EA as Figures 7(3), 7(8), and 7(9).
5. The adjacent seawall (east side of subject property) is shown on Figure 4. The subject wall and adjacent wall, as well as previous neighboring walls recently removed, have not adversely impacted the shoreline.
6. Photographs and the Figure 4 survey map show the subject property relative to the property line and shoreline.
7. Refer to item 1.
8. Predictions of the location of future shorelines may be reasonably applicable for the situation where the historical shoreline movement, unaffected by structures, can be established prior to construction of proposed major shoreline structures. For the subject case, the project shoreline has historically been affected by numerous past and present shoreline structures, such as the City & County drainage channel. For all practical purposes, removal of the 65-foot long seawall fronting the subject property which is only one of several seawalls and other shoreline structures along this shoreline reach, will have little overall effect on the future location of the shoreline along this coastal reach. However, the localized effect will be continued erosion and storm wave damage to the subject parcel. In general, predictions of shoreline changes 30 years into the future, if based on historical shoreline changes, are highly speculative at best, especially for very short segments of shoreline such as individual residential parcels.
9. The EA contains photos showing past and present conditions of the subject seawall.
10. The range of alternatives discussed in the EA is commensurate with the relative scope (size) of the assessed project and the viability of reasonable alternatives. Beach

Mr. Gary Gill
February 03, 1997
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replenishment is not considered a "viable" alternative for individual residential property owners. Beach nourishment is not considered practical for individual homeowners until and unless a vehicle is in place providing for long-term legal and financial commitment to provide periodic nourishment, of sufficient quantity to prevent future erosion damage, along a shoreline reach encompassing multiple residential parcels. For individual residential parcels such as the Thompsons' 75-foot shoreline frontage (65-foot seawall), beach nourishment is technically not a viable option unless shore-perpendicular structures (such as groins) are built to contain the beach fill fronting the property. Beach nourishment is a viable erosion control option only if it can be implemented along a reasonable long stretch of coastline or within a defined littoral cell. Because of the legal, regulatory, and financial requirements, beach nourishment is presently a potentially feasible option only for public agencies or property owners, such as resorts, who can justify the expense of providing and maintaining high value recreational beaches.

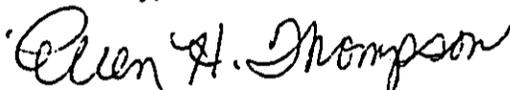
Per your request, your letter dated July 25, 1996 addressed to the adjacent seawall property owners, the Higas', is included in the final EA.

Per your inquiry, at the time of the current shoreline certification, the surveyor was aware that the seawall was built without a shoreline setback variance/permit. This information will be included in the final EA.

Regarding your last request, the final EA will be bound.

I believe the foregoing statements address the matters raised by your letter. Thank you for your comments.

Sincerely,



Ellen H. Thompson
Authorized Agent

EHT

ELLEN H. THOMPSON
91-045 Parish Drive
Ewa Beach, HI 96706
Tel. (808) 689-4094

February 03, 1997

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

Subject: Draft Environmental Assessment (EA)
Thompson After-The-Fact Seawall, Ewa Beach TMK: 9-1-07: 14
Your Reference No. EA: 00152

Dear Mr. Harrison:

This letter is written in response to your letter dated November 22, 1996 to Daniel and Sandra Thompson regarding the draft Environmental Assessment (EA) prepared to support the application for an after-the-fact Shoreline Setback Variance for the existing seawall. This response has been prepared with information taken from coastal engineering consultant, Edward K. Noda and Associates, Inc., from which the EA information was acquired.

Your comment that the seawall could be a precursor to beach narrowing can be applied in general to any shore protection structure. By definition, a shore protection structure is intended to protect the shoreline from further erosion damage. Therefore, if erosion processes continue, the long-term consequence is beach narrowing. Under Hawaii's current regulatory regime which recognizes property owners' rights with respect to preventing erosion damage, if shore protection is deemed an appropriate response, then the important concerns are whether the particular shore protection structure will aggravate the erosion processes and/or result in adverse effects to adjacent shorelines. The subject seawall does neither.

Regarding the State of Hawaii Office of Environmental Quality Control, (OEQC) recommendations you have listed, I offer the following comments:

1. The EA describes the history of shoreline movement in the vicinity of the subject seawall. The existing seawall has been in place for 11 years, and is located on a

Mr. John T. Harrison
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shoreline reach that has numerous other existing seawalls. According to the EA, the beach in the vicinity of the project site has not changed significantly over the last 11 years that the seawall has been in place. The function of the seawall is to prevent erosion and wave damage during storm wave attack. The fact that the seawall protected the property during Hurricane Iniki wave attack, and further that the beach suffered no subsequent adverse impacts, is reasonable documentation to justify the lack of adverse impacts to the beach processes.

2. The EA provides a description of the affected shoreline and offshore reef. There are no sand dunes along this coastal reach.
3. The EA provides site maps, previous certified shorelines, and current shoreline survey. The shoreline was recently certified as shown with Figure 4, and was certified by the State on February 12, 1996. The closest public access right-of-way is located 75 feet east (Diamond Head) of the subject property as depicted in Figure 3.
- 4 Beach profiles are included in the EA as Figures 7(3), 7(8), and 7(9).
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- 7 Refer to item 1.
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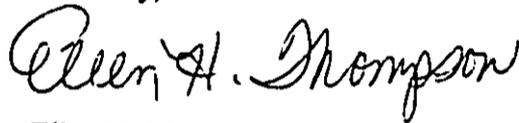
Mr. John T. Harrison
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individual residential parcels.

9. The EA contains photos showing past and present conditions of the subject seawall.
10. The range of alternatives discussed in the EA is commensurate with the relative scope (size) of the assessed project and the viability of reasonable alternatives. Beach replenishment is not considered a "viable" alternative for individual residential property owners. Beach nourishment is not considered practical for individual homeowners until and unless a vehicle is in place providing for long-term legal and financial commitment to provide periodic nourishment, of sufficient quantity to prevent future erosion damage, along a shoreline reach encompassing multiple residential parcels. For individual residential parcels such as the Thompsons' 75-foot shoreline frontage (65-foot seawall), beach nourishment is technically not a viable option unless shore-perpendicular structures (such as groins) are built to contain the beach fill fronting the property. Beach nourishment is a viable erosion control option only if it can be implemented along a reasonable long stretch of coastline or within a defined littoral cell. Because of the legal, regulatory, and financial requirements, beach nourishment is presently a potentially feasible option only for public agencies or property owners, such as resorts, who can justify the expense of providing and maintaining high value recreational beaches.

I believe the foregoing statements address the matters raised by your letter. Thank you for your comments.

Sincerely,



Ellen H. Thompson
Authorized Agent

EHT