

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LANDS
Honolulu, Hawaii

October 10, 2014

Extension Request OA-15-02

**Board of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii**

REGARDING: Time Extension Request for Conservation District Use Permit (CDUP) OA-3589 regarding the Reconstruction of Kainalu Seawall

PERMITTEE: Tropical Sands Apartments [a.k.a. The Kainalu]

AGENT: Brian Campbell, Bow Engineering & Development

LOCATION: Kaluahole coast, Waikiki ahupua'a, Kona district, O'ahu

TMK: (1) 3-1-033:001

SUBZONE: Protective (submerged)

BACKGROUND:

The Chair of the Board of Land and Natural Resources approved CDUP Conservation District Use Permit (CDUP) OA-3589 on October 17, 2011 for the reconstruction of the Kainalu Seawall at the Tropical Sands Apartments, a.k.a. The Kainalu.

The Kainalu was built in 1958. Historic records show that the small calciferous beach fronting the building has advanced and retreated through the years. The subject seawall was originally built as a planter box; it became a *de facto* seawall when the beach eroded. In 2005 the landowner covered the wall with a gunite cap when the wall began to crumble and crack. This turned out to be a temporary solution, as the shoreline has continued to erode and the wall has begun to sag and crack.

Existing structures which extend makai of the shoreline include two stairways, the 2005 gunite cap, a filled in portion of an existing planter box, and a large piece of the original retaining wall. This last piece was subterranean when the State acquired the neighboring land, and was only revealed later by erosion.

CDUP OA-3589 permitted the applicant to remove the existing encroachments and wall, and to replace the existing concrete rubble masonry (CRM) wall with a more appropriate

CRM barrier. The foundation will be laid on the underlying bedrock approximately six feet below the sand. The wall face will have a rough surface, which will help dissipate wave energy, and will include a re-curved wave defractor.

In May 2012 the Chair approved a two-year extension request on the permit so that the permittee could secure the required 401 Water Quality Certification through the Department of Health, Clean Water Branch.

TIME EXTENSION REQUEST:

Condition 5 of CDUP HA-3549, as amended in 2012, reads: *Any work or construction to be done on the land shall be initiated by October 17, 2014, in accordance with construction plans that have been approved by the Department; further, all work and construction must be completed by October 17, 2016.*

The permittee is currently requesting a second extension due to a delay in securing the Section 401 Water Quality Certification. The Department of Health is requiring that the sand used in the temporary barriers be of beach quality; the permittee is in the process resubmitting their Section 401 application. They anticipate starting work as soon as the final permits are granted.

The applicant is requesting a two-year extension on the initiation and completion deadline, to September 21, 2016, in order to secure the Section 401 permit.

The following exhibits are included with this report:

Exhibit 1 – Extension Request

Exhibit 2 – Conservation District Use Permit OA-3589

AUTHORITY FOR GRANTING TIME EXTENSIONS:

The authority for the granting of time extensions is provided in §13-5-43, Hawaii Administrative Rules (HAR), which allows for a permittee to request time extensions for the purpose of extending the period of time to comply with the conditions of a permit.

Pursuant to HAR §13-5-43 (c): *Time extensions may be granted by the board upon the second or subsequent request for a time extension on a board permit, based upon supportive documentation from the applicant.*

DISCUSSION:

A time extension may be sought when a permittee is unable to initiate or complete a project within the stipulated time frame. The Board grants time extensions when a permittee demonstrates some sort of hardship or delay in initiating work on a particular project. The permittee should be able to demonstrate that the hardship or delay was not self-imposed and that a good faith effort had been made to undertake the project.

OCCL notes that major projects often experience delays in securing other federal and state permits after a CDUP has been issued, and has been supportive of extension requests when the permittee can show that they have been diligent in pursuing the necessary permits.

OCCL has remained in contact with the permittee since they secured the CDUP. We note that the seawall repairs are required to prevent the building from failing, and believe that the permittee has been diligent in pursuing the required Section 401 Water Quality Certification. OCCL has no objections to the extension request.

Given this, OCCL recommends that the Board approve this extension request.

RECOMMENDATION:

That the Board of Land and Natural Resources approve the request for an extension of the deadlines of CDUP OA-3589 in order to complete the reconstruction of the Kainalu Seawall on the Kaluahole coast, Waikī ahupua`a, Kona district, O`ahu TMK (1) 3-1-033:001, subject to the following conditions:

1. That Condition 5 of CDUP OA-2589 is amended to read: *Any work or construction to be done on the land shall be initiated by October 17, 2016, in accordance with construction plans that have been approved by the Department; further, all work and construction must be completed by October 17, 2018 ; and*
2. That all other conditions imposed by the Board under CDUP OA-3589 shall remain in effect.

Respectfully submitted,



Michael Cain

Office of Conservation and Coastal Lands

Approved for submittal:



William J. Aila, Jr., Chairperson
Board of Land and Natural Resources

Bow Engineering & Development, Inc.
1953 S. Beretania Street, PH-A
Honolulu, Hawaii 96826

Telephone (808) 941-8853
Fax: (808) 945-9299



September 18, 2014

Project No.: 13034.00
11. 27 8.46

State of Hawaii
Department of Land and Natural Resources
Post Office Box 621
Honolulu, Hawaii 96809
ATTN: Mr. Michael Cain

RECEIVED
SEP 22 2014

Subject: Kainalu Seawall – Request to Extend Permitting Deadlines
Conservation District Use Permit (CDUP) OA-3589

Dear Mr. Cain,

The purpose of this letter is to request a two year extension regarding the initiation date of Conservation District Use Permit (CDUP) OA-3589 for the reconstruction of the Kainalu Seawall. We are requesting an extension of the current initiation deadline of October 17, 2014 in order to secure the required 401 Water Quality Certification through the Department of Health, Clean Water Branch.

To provide you with an update on the current Section 401 Water Quality Certification status, we received comments from the DOH in March 2014. Since DOH is requiring the sand within the temporary sand bags to be "beach quality", the owner was considering amending the permit to include beach nourishment. After an exhaustive review of the additional studies and permitting that this would require, the owner ultimately decided that the repairs could not afford to be delayed any longer and has elected to move forward.

We are currently in the process of resubmitting the Section 401 Water Quality Certification per the owners request to expedite the application process and begin construction as soon as acceptance or approval is granted by DOH.

Should you have any further questions, please do not hesitate to call me at (808) 369-8215, or email me at bcampbell@bowengineering.com.

Very Truly Yours,


Brian Campbell, P.E.
Project Manager

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Office of Conservation and Coastal Lands
Honolulu, Hawai'i

FILE NO.: CDUA OA-3589
REF: OCCL: MC

Acceptance Date: April 21, 2011
180 Exp. Date: October 18, 2011

TO: Chairperson's Office, Department of Land and Natural Resources

REGARDING: Reconstruction of Kainalu Seawall

APPLICANT: Tropical Sands Apartments [a.k.a. The Kainalu]

AGENT: Kenji Salmoiraghi, Plan Pacific, Inc.,
1001 Bishop St, Suite 2755, Honolulu, HI 96813

LOCATION: Kaluahole coast, Waikiki ahupua'a, Kona district, O'ahu

TMK: (1) 3-1-033:001

AREA OF PARCEL: 17,665 sqft

AREA OF USE: 1500 sqft

SUBZONE: Protective (submerged)

DESCRIPTION OF AREA AND PROPOSED USE:

The applicant is proposing to reconstruct a failing seawall and to remove two sets of beach access stairs fronting the Kainalu apartment building along the Kaluahole coast.

The area was once one of the traditional fisheries of Waikiki, and was named after the *ahole* fish that sheltered here. The waters are now part of the Waikiki - Diamond Head Shoreline Fisheries Management Area. An offshore reef limits wave size hitting the shore.

In the modern era the Kaluahole channel was dredged offshore, and two groins were installed as part of the City's drainage system. The groins have not been maintained, and are currently in a state of disrepair.

The Kainalu was built in 1958. Historic records show that the small calciferous beach fronting the building has advanced and retreated through the years. The subject seawall was originally built as a planter box; it became a *de facto* seawall when the beach eroded. In 2005 the landowner covered the wall with a gunitite cap when the wall began to crumble and crack. This turned out to be a temporary solution, as the shoreline has continued to erode and the wall has begun to sag and crack.

Existing structures which extend makai of the shoreline include two stairways, the 2005 gunitite cap, a filled in portion of an existing planter box, and a large piece of the original retaining wall.

This last piece was subterranean when the State acquired the neighboring land, and was only revealed later by erosion. All of these will be removed as part of the proposal.

The proposed improvements involve removing the existing encroachments and wall, and replacing the existing concrete rubble masonry (CRM) wall with a more appropriate CRM barrier. The foundation will be laid on the underlying bedrock approximately six feet below the sand. The wall face will have a rough surface, which will help dissipate wave energy, and will include a re-curved wave defractor.

The new wall will have approximately the same footprint as the existing one.

Kaluahole Beach is public property, and used by beach goers, surfers, fishermen, and divers. The nearest public access is 400 feet to the west.

There are no violations or enforcement cases pending against the property.

If the permit is issued, the contractor estimates that work will commence in the winter of 2011/2012, and take approximately three months to complete. The sequence of work will be:

1. A 150' long, 4' high turbidity barrier will be placed offshore. The barrier will be anchored with 100 pound concrete blocks spaced at 10-foot intervals.
2. Twenty coir sandbags will be temporarily installed along the south groin to keep sand from passing through the bottom of the failed portions of the groin.
3. A temporary property protective sandbag barrier will be installed to prevent discharges into State waters and to protect the building from wave run-up.
4. A silt fence will be installed along the seaward and outside edge of the sandbags;
5. Dust barriers will be installed at the flanks of the sandbag barrier.
6. The old seawall will be demolished and removed in phases to match the dewatering and silt removal system. Any loose concrete that is not reused as filler will be taken to the PVT landfill in Nānākuli. Basalt from the old seawall will be cleaned and reused.
7. A permanent vinyl shoring will be installed along and against the basement side of the basement wall.
8. A temporary footing dewatering and silt removal system will be installed. Excavation below the water table will be done at low tide.
9. Construction of the new wall footing will be done in small sections.
10. A waterproof membrane will be installed against the existing basement wall.
11. Construction of the CRM wall sections above the water line will begin after the installation of the footings.
12. The backfill will be done in conjunction with the installation of the wall sections. The backfill will consist of compatible beach sand mixed with recycled rock from the old wall.
13. The installation of the concrete wave return sections will begin after the backfill is complete.
14. Repair of the First Floor stair opening, after the old stair removal, will be done in conjunction with wall construction.

15. After construction, all sand will be removed from the bulkbags and coir sandbags and returned to the beach. All rocks and debris will be removed.

Site plans and photographs of the project are attached to this report.

SUMMARY OF COMMENTS:

The Office of Conservation and Coastal Lands referred the application to the following agencies for review and comment: DLNR- Land Division, Historic Preservation, Division of Aquatic Resources; Department of Health; Office of Hawaiian Affairs; City and County Department of Planning and Permitting; and the St. Louis Heights / Kapahulu / Diamond Head Neighborhood Board No. 5

A notice of the application was placed in the May 8, 2011 edition of the Office of Environmental Quality Control's *Environmental Notice*. In addition, a copy was available for review at the Hawai'i State Library.

Comments were received from the following agencies:

Office of Hawaiian Affairs (OHA)

OHA has no objections to the finding of no significant impact. They advocate for the Best Management Practices that are discussed in the Environmental Assessment.

Division of Aquatic Resources (DAR)

DAR has no objections provided that Best Management Practices are followed. DAR notes that the area offshore is part of the Waikiki-Diamond Head Shoreline Fisheries Management Area, which runs from the westernmost wall of the Waikiki War Memorial Natatorium to the Diamond Head Lighthouse, from the high water mark seaward 500 yards, or to the edge of the fringing reef if one occurs beyond 500 yards.

Land Division

Prior to the removal of the seawall the issuance of a Right of Entry from the Department is required.

City and County of Honolulu, Department of Planning and Permitting

The subject seawall lies seaward of the shoreline, and the proposed work can and should be authorized solely by the State.

State of Hawai'i, Department of Health

Any project and its potential impacts to State waters must meet the criteria set forth in HAR §11-54-1.1 (*Antidegradation policy*), §11-54-3 (*Designated uses*), and §11-54-4 through 11-54-8 (*Water quality criteria*).

The applicant should submit a Notice of Intent (NOI) to determine if a National Pollutant Discharge Elimination System (NPDES) permit will be required.

The applicant should call the Army Corps of Engineers to determine if any Department of Army permits are required.

Department of Army, Corps of Engineers

When plans are finalized the applicant will need to apply for and receive authorization from the Corps.

ANALYSIS:

Following review and acceptance for processing, the Applicant's Agent was notified, by letter dated June 9, 2011 that:

1. The proposed use was an identified land use in the Protective subzone of the Conservation District, pursuant to §13-5-24, Hawaii Administrative Rules (HAR), P-9 STRUCTURES, EXISTING (C-2), *Demolition, removal, or alteration of existing structures, facilities, and equipment. Any historic property shall be evaluated by the department for historical significance.* This use requires a permit from the Chair of the Department of Land and Natural Resources, who has the final authority to grant, modify, or deny any permit.
2. Pursuant to HAR §13-5-40 *Hearings*, a public hearing was not required.
3. This project required that an Environmental Assessment (EA) be conducted. The draft Environmental Assessment was published in OEQC's *Environmental Notice* on May 8, 2011. The Finding of No Significant Impact (FONSI) and Final EA were published in *Environmental Notice* on August 8, 2011.
4. By documentation dated April 30, 2010, the City and County of Honolulu has determined that the proposed project is not within the Special Management Area.

§13-5-30 CRITERIA:

The following discussion evaluates the merits of the proposed land use by applying the criteria established in HAR §13-5-30.

- 1) *The proposed use is consistent with the purpose of the Conservation District.*

The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety and welfare.

Staff is of the opinion that the proposed action will not negatively impact the natural resources of the area. Staff notes that the intent of the project is to mitigate potential future damage to the environment.

- 2) *The proposed land use is consistent with the objectives of the Subzone of the land on which the use will occur.*

Pursuant to HAR §13-5-14, the objective of the Resource Subzone is to designate open space where specific conservation uses may not be defined, but where urban use may be premature.

The project in and of itself will not affect open space. It will not lead to urbanization. It might improve lateral shoreline access by removing certain barriers, although OCCL notes that lateral access is already severely impeded by other structures on neighboring parcels.

- 3) *The proposed land use complies with the provisions and guidelines contained in Chapter 205A, HRS entitled "Coastal Zone Management", where applicable.*

The City and County has recognized that the project lies outside the Special Management Area boundary. OCCL notes that water quality standards will be maintained if the applicant complies with the relevant criteria set forth in HAR §11-54-1.1 (Antidegradation policy), §11-54-3 (Designated uses), and §11-54-4 through 11-54-8 (Water quality criteria).

The applicant will also be required to submit a Notice of Intent (NOI) to determine if a National Pollutant Discharge Elimination System (NPDES) permit will be required.

- 4) *The proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.*

The project is designed to stop property from falling into the ocean, which would itself have a significant negative impact. The shoreline area is not in a sand-replenishment zone, and there is no anticipated impact on coastal processes.

- 5) *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The wall is designed to protect the buildings mauka of the shoreline. Given the fact that the apartment building already exists, and that the shoreline structures are non-conforming, the re-engineered seawall is the best available option for an already developed coast.

- 6) *The existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, whichever is applicable.*

Staff is of the opinion that the natural beauty and open space characteristics of the shoreline area will be maintained, and possibly improved by replacing an ad-hoc and poorly constructed wall with a properly engineered one.

OCCL appreciates that some structures, such as the stairs, will be removed from the shoreline.

- 7) *Subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.*

The proposed project does not involve subdivision of Conservation District land.

- 8) *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

Staff is of the opinion that the proposed addition will not be materially detrimental to the public health, safety and welfare.

DISCUSSION:

The applicant is proposing to reconstruct a failing seawall and to remove two sets of beach access stairs fronting the Kainalu apartment building along the Kaluahole coast. The project is designed to protect a 1950's era apartment building that is threatened by erosion. The current seawall was poorly designed, and OCCL recognizes the need to replace it with a wall that meets modern engineering standards.

OCCL has reviewed the proposal, and has concluded that the project will be consistent with Conservation District guidelines provided that the Best Management Practices outlined in the Environmental Assessment are followed.

The project should have no impact on beach access, cultural practices, or recreational activities. The removal of two sets of stairways, and the replacement of a shoddy wall with a well-constructed one, will improve the aesthetic experience for users of the small beach.

OCCL received no objections or substantial critiques of the project. The community appears to be supportive.

OCCL would recommend that the Chair make the following conditions of any permit, in addition to the standard conditions:

- That the applicant secure a Right of Entry permit from the DLNR Land Division prior to removing the seawall.
- That the applicant complies with the water quality criteria set forth in HAR §11-54-1.1 (*Antidegradation policy*), §11-54-3 (*Designated uses*), and §11-54-4 through 11-54-8 (*Water quality criteria*).
- That the applicant submit a Notice of Intent (NOI) to determine if a National Pollutant Discharge Elimination System (NPDES) permit will be required.
- That the applicant apply for and receive authorization from the Corps of Engineers prior to commencing removal and construction
- That the applicant notify OCCL should there be any change in the design or scope of the work.

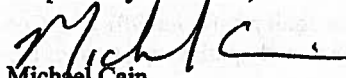
RECOMMENDATION:

Based on the preceding analysis, Staff recommends that the Chair of the Board of Land and Natural Resources APPROVE this application for the reconstruct of the Kainalu seawall and the removal of two sets of beach access stairs along the Kaluahole coast, Waikiki ahupua`a, Kona district, O`ahu TMK (1) 3-1-003:001, subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, State and county governments, and the applicable parts of HAR §13-5-42;
2. The applicant, its successors and assigns, shall indemnify and hold the State of Hawai`i harmless from and against any loss, liability, claim or demand for property damage, personal injury or death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors and agents under this permit or relating to or connected with the granting of this permit;
3. The applicant shall comply with all applicable Department of Health administrative rules. Particular attention should be paid to HAR §11-60.1-33, "Fugitive Dust" and to Chapter 11-46, "Community Noise Control," and Chapter 11-54 National Pollutant Discharge Elimination System;
4. Before proceeding with any work authorized by the Board, the applicant shall submit four copies of the construction plans to the Chairperson or her authorized representative for approval. Three copies will be returned to the applicant. Plan approval by the Chairperson does not constitute approval required from other agencies;
5. Any work or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been approved by the Department; further, all work and construction of the residence and infrastructure must be completed within three years of the approval.
6. The applicant shall notify the Office of Conservation and Coastal Lands in writing prior to the initiation, and upon completion, of the project;
7. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the applicant shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;
8. The applicant will use Best Management Practices as outlined in their application for the proposed project;
9. The applicant understands and agrees that this permit does not convey any vested rights or exclusive privilege;
10. In issuing this permit, the Department and Board have relied on the information and data that the applicant has provided in connection with this permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings;

11. In the event that unrecorded historic remains (i.e., artifacts, or human skeletal remains) are inadvertently uncovered during construction or operations, all work shall cease in the vicinity and the applicant shall immediately contact the State Historic Preservation Division;
12. The applicant shall provide documentation (i.e. book/page document number) that this approval has been placed in recordable form as a part of the deed instrument, prior to submission for approval of subsequent construction plans;
13. The applicant will secure a Right of Entry permit from the DLNR Land Division prior to removing the seawall;
14. The applicant will comply with the water quality criteria set forth in HAR §11-54-1.1 (*Antidegradation policy*), §11-54-3 (*Designated uses*), and §11-54-4 through 11-54-8 (*Water quality criteria*);
15. The applicant will submit a Notice of Intent (NOI) to determine if a National Pollutant Discharge Elimination System (NPDES) permit will be required;
16. The applicant will apply for and receive authorization from the Corps of Engineers prior to commencing removal and construction;
17. The applicant will contact OCCL for any permitting requirements should they change the scope of the project;
18. That failure to comply with any of these conditions may render this Conservation District Use Permit null and void.

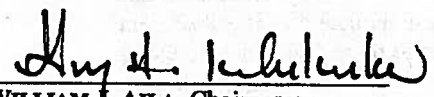
Respectfully submitted,


Michael Cain
Staff Planner

Under the authority of §13-5-30(a) and 13-5-33, Hawai'i Administrative Rules, this request for a Departmental Permit for CDUA OA-3529 is hereby:

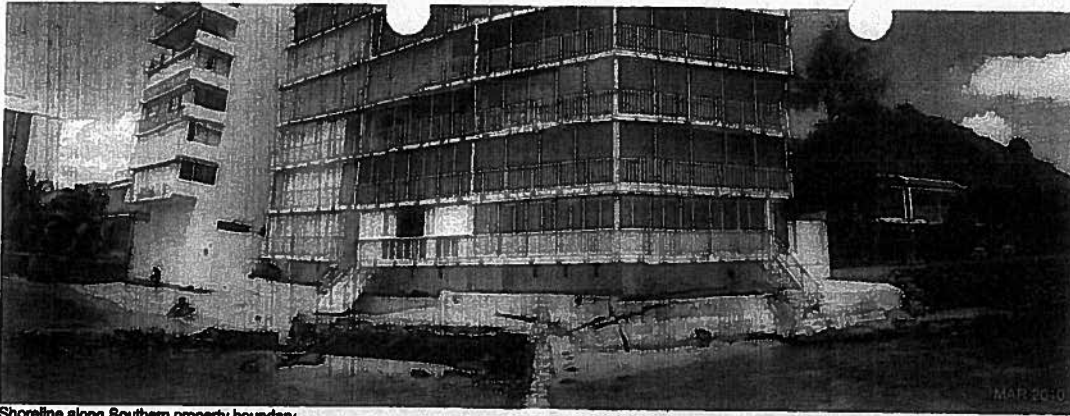
- Approved
 Disapproved

Dated at Honolulu, Hawai'i 10.17.11

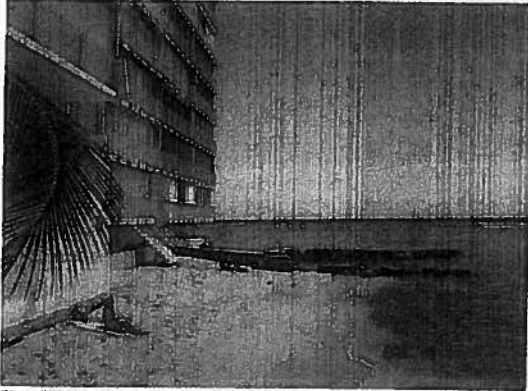

WILLIAM J. AILA, Chairperson
Board of Land and Natural Resources



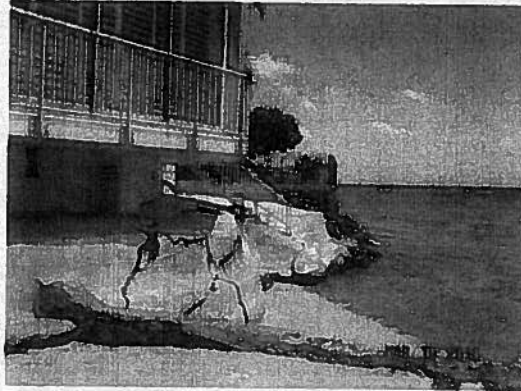
A-1. LOCATION MAP



Shoreline along Southern property boundary.



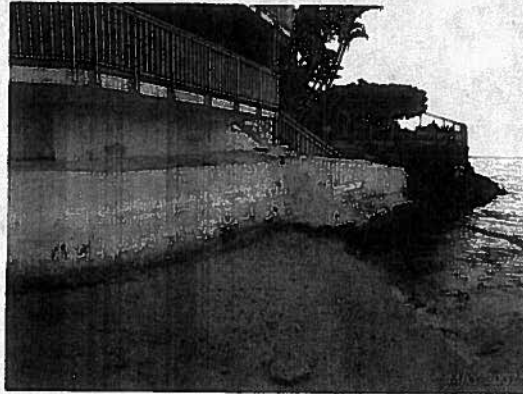
Shoreline and public beach.



Shoreline and eroded section of beach.



Public beach and beach access.



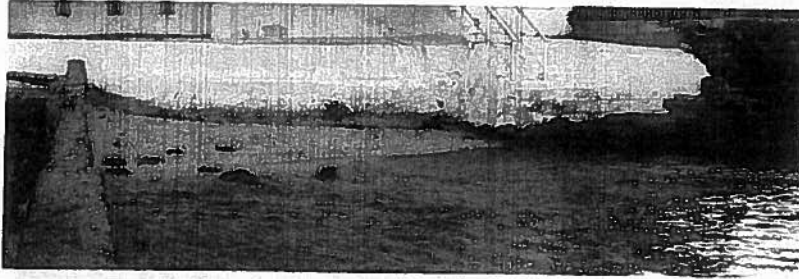
Eroded section in 2007. People accessing shoreline to the East along rocks.



Eroded section in 2009 during high tide wave action.

B-1 SHORELINE BEACH AND ACCESS

APRIL 2008



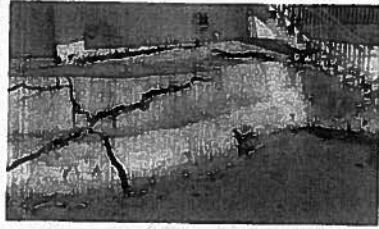
Beach erosion under the stairs raised concern with residents.

26 SEP 2008



Cracks started occurring due to undermining.

21 DEC 2008



More cracks have appeared since 26 SEP 2008, indicating continued erosion and settling.

02 JUL 2009



Cracks have increased in size since 21 DEC 2008, indicating continued erosion and settling. Clear loss of sand is evidenced.



View East



View East



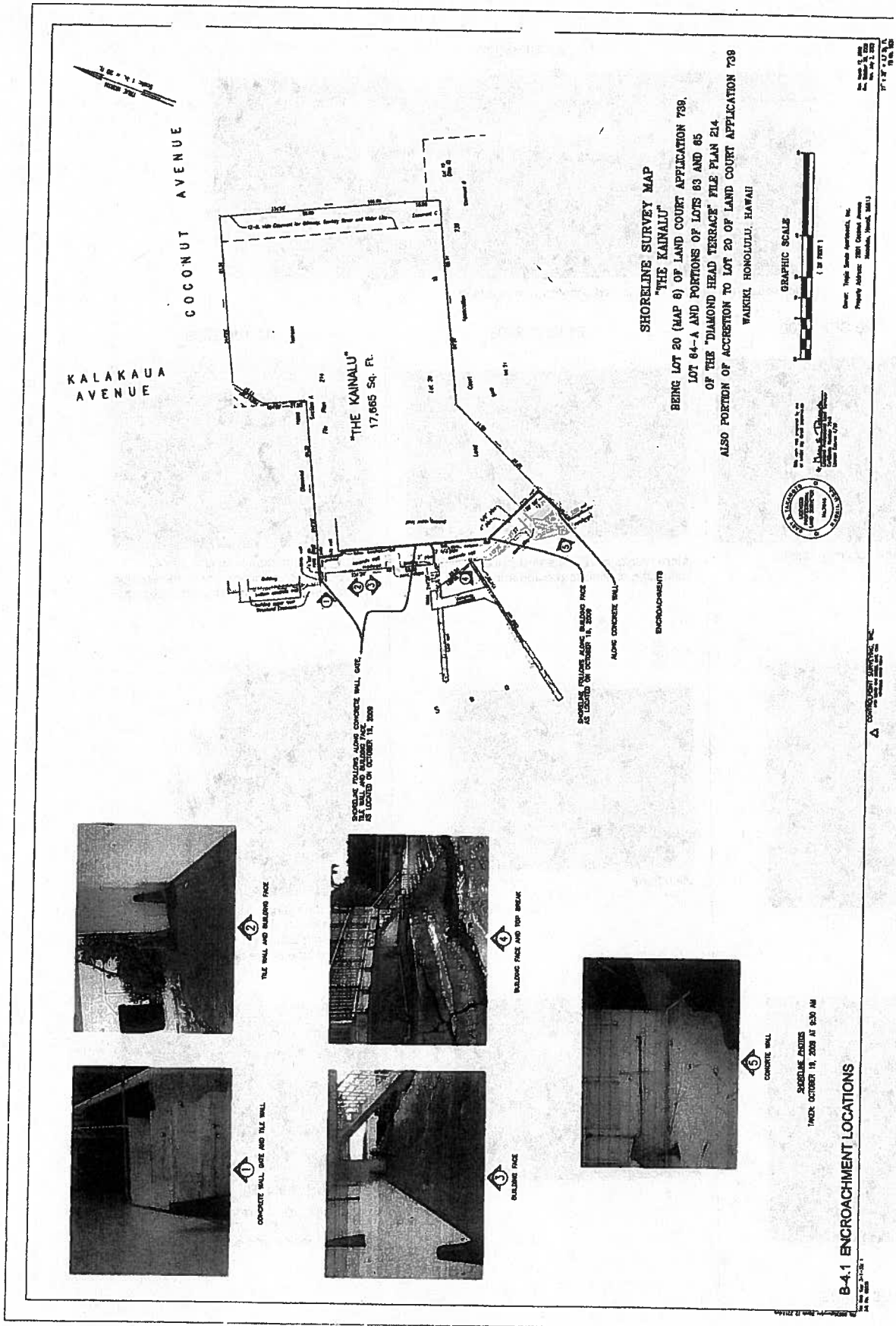
One of the Kainalu support piling caps. Erosion has hollowed the gunnite structure exposing the support piling caps along the seaward face of the building.



B-2.1 WALL DAMAGE



Gunnite has pulled farther away from the Kainalu since 26 SEP 2008 indicating continued erosion and settling.



KALAKAUA AVENUE

COCONUT AVENUE

"THE KAINALU"
17,665 Sq. Ft.

SHORELINE SURVEY MAP
"THE KAINALU"
BEING LOT 20 (MAP 8) OF LAND COURT APPLICATION 739,
LOT 84-A AND PORTIONS OF LOTS 83 AND 85
OF THE "DIAMOND HEAD TERRACE" FILE PLAN 214
ALSO PORTION OF ACCRETION TO LOT 20 OF LAND COURT APPLICATION 739
WAIKIKI, HONOLULU, HAWAII



Survey: Topco Survey Associates, Inc.
Property Address: 2801 Coconut Avenue
Honolulu, Hawaii, 96815



② TILE WALL AND BUILDING FACE



④ BUILDING FACE AND TOP BREAK



① CONCRETE WALL SITE AND TILE WALL



③ BUILDING FACE

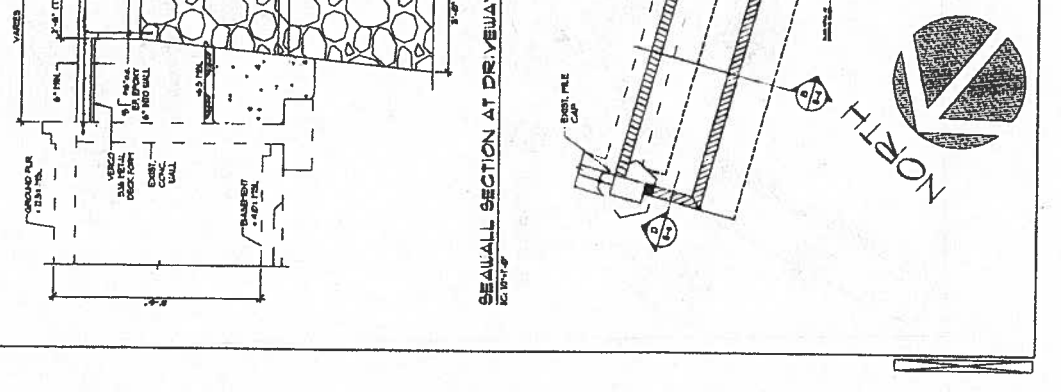
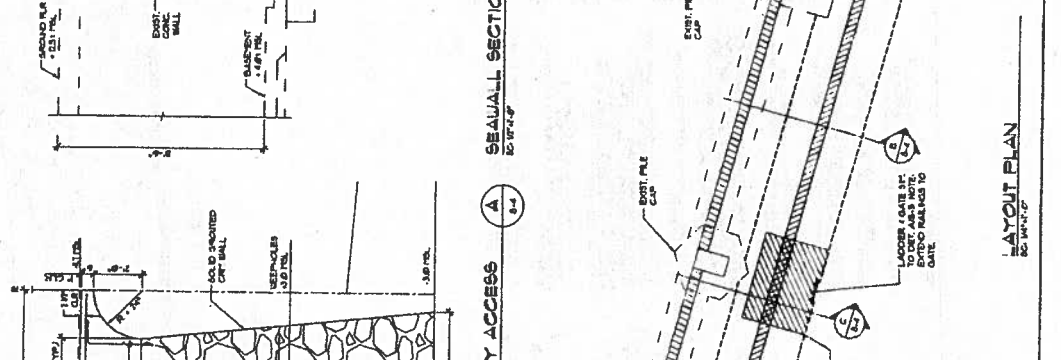
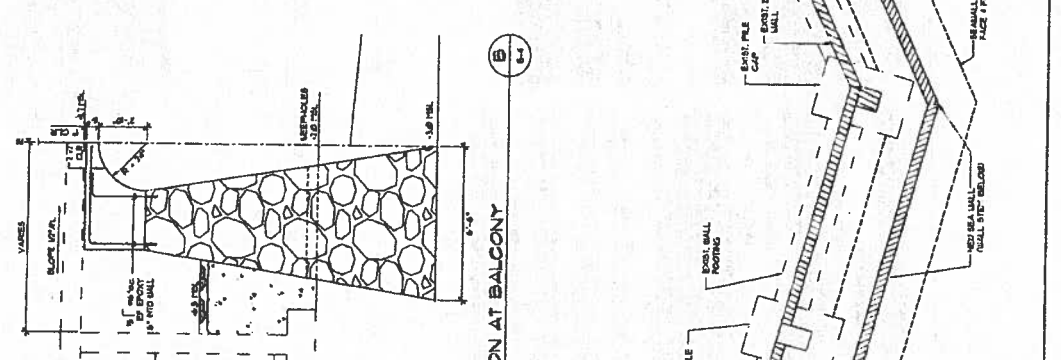
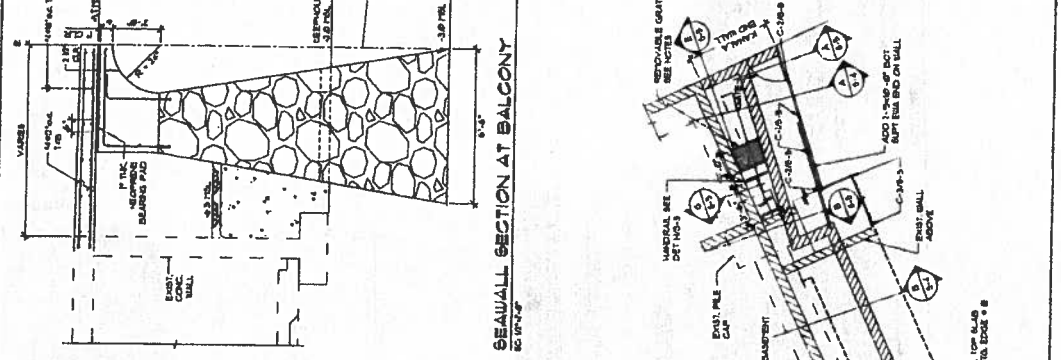


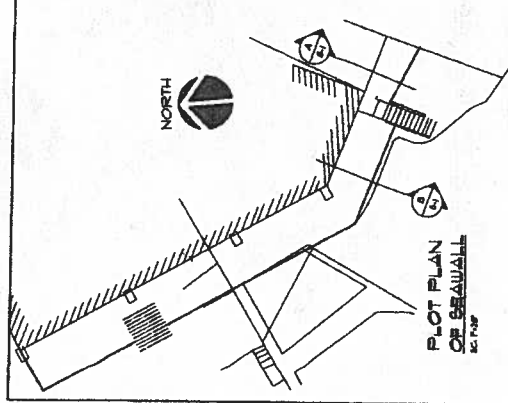
⑥ CONCRETE WALL

SHORELINE POINTS
1700Z OCTOBER 19, 2008 AT 0:30 AM

B-4.1 ENCROACHMENT LOCATIONS

KARVALU APARTMENTS SHORELINE PROTECTION
 YANUBRA & ASSOCIATES, INC.
 220 BROAD STREET, SUITE 200 • BOSTON, MASS. 02108
 PHONE (617) 552-7882 • FAX (617) 552-8023
 THIS WORK WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MASSACHUSETTS.



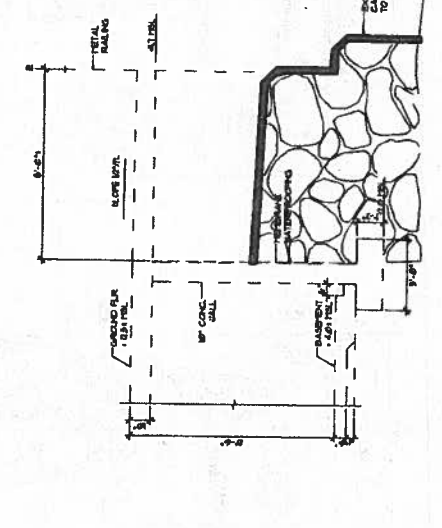
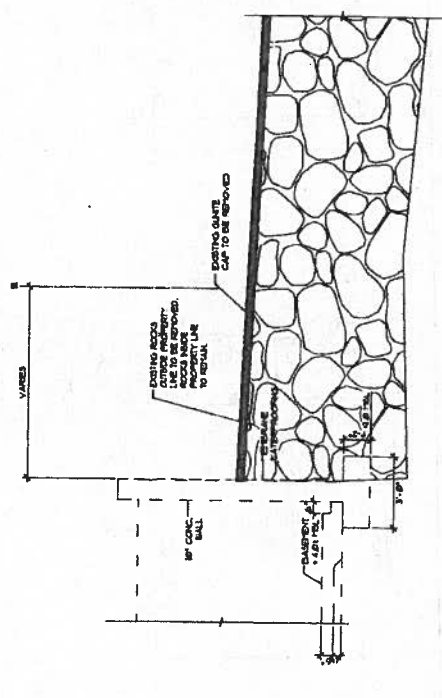


- GENERAL NOTES**
1. ALL WORK SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION OF THE CITY AND COUNTY OF HONOLULUI (LATEST EDITION).
 2. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE DRAWINGS AND SPECIFICATIONS.
 3. LOCATE FOOTINGS ON SOLID NON-DECOMPOSEABLE MATERIAL. ALL FOOTINGS SHALL BE SET ON AT LEAST 18" OF SOLID MATERIAL. THE MINIMUM WIDTH OF FOOTINGS SHALL BE AS SHOWN ON THE DRAWINGS AND SHALL BE APPROVED BY THE ENGINEER.
 4. ALL WORK SHALL BE PERFORMED WITHIN THE RIGHT-OF-WAY AND SHALL NOT INTERFERE WITH ANY EXISTING UTILITIES OR STRUCTURES.
 5. BACKFILL SHALL CONSIST OF CLEAN SAND, 10% OF WHICH SHALL BE APPROVED NON-DECOMPOSEABLE ORGANIC MATERIAL. ALL BACKFILL SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR DENSITY. ALL BACKFILL SHALL BE PLACED IN A GEOTEXTILE FABRIC SUCH AS 200 LBS LIP FILTER FABRIC 7'-0" WIDE.
 6. ALL WORK SHALL BE PERFORMED WITHIN THE RIGHT-OF-WAY AND SHALL NOT INTERFERE WITH ANY EXISTING UTILITIES OR STRUCTURES.
 7. ALL EXISTING UTILITIES SHALL BE PROTECTED AND MAINTAINED AS SHOWN ON THE DRAWINGS AND SHALL NOT BE MOVED OR DELETED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
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- REINFORCING REQUIREMENTS**
1. ALL CONCRETE WORK SHALL CONFORM TO ACI 308-R-90.
 2. ALL CONCRETE SHALL BE NORMAL WEIGHT (145 PCF) WITH AGGREGATE CONFORMING TO ASTM C-33, UNLESS OTHERWISE NOTED. ALL CONCRETE SHALL BE PLACED AND FINISHED WITHIN 90 MINUTES OF THE TIME IT IS MIXED.
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EXISTING SECTION AT DRIVEWAY ACCESS
SCALE: 1/8" = 1'-0"

EXISTING SECTION AT BALCONY
SCALE: 1/8" = 1'-0"

A-4. ENGINEERING DRAWINGS

KANALU APARTMENTS SHORELINE PROTECTION
THIS WORK WAS PREPARED BY THE
ENGINEER'S SEAL AND SIGNATURE
DATE: 07-14-2014
TANIGUCHI & ASSOCIATES, INC.
CONSULTING STRUCTURAL ENGINEERS
520 South Pearl Road, Suite 1000 • P.O. Box 1000 • Deshler, OH 43031
Phone: (614) 885-7888 • Fax: (614) 885-7822



BY	DATE	REVISIONS