# CALIFORNIA COASTAL COMMISSION

South Coast Area Office
200 Oceangate, Suite 1000
[illegible]g Beach, CA 90802-4302
[illegible]) 590-5071

Filed: September 16, 1998
49th Day: November 2, 1998
180th Day: March 13, 1999
Staff: KS-LB
Staff Report: September 18, 1998
Hearing Date: October 13-16, 1998
Commission Action:

## STAFF REPORT: CONSENT CALENDAR

**APPLICATION NUMBER:** 5-98-305

**APPLICANT:** Newport Harbor Yacht Club

**AGENT:** Shellmaker, Inc.

**PROJECT LOCATION:** 720 West Bay Avenue, City of Newport Beach, Orange County

**PROJECT DESCRIPTION:** Demolition of an existing 105-foot long, cast-in-place seawall and 30-foot long groin. The seawall will be replaced by a bulkhead system composed of pre-cast concrete panels tied to a concrete anchor beam. The proposed groin will be replaced in the same dimension and configuration, as it currently exists. No seaward encroachment will occur as a result of these developments. In addition, an existing concrete pad, landward of the seawall, will be removed and replaced in the present configuration.

**LOCAL APPROVALS RECEIVED:** City of Newport Beach, Fire and Marine Department, Approval in Concept Harbor Permit #112-720; California Regional Water Quality Control Board, Santa Ana Region, Waiver of Waste Discharge Requirements and Water Quality Certification...dated August 17, 1998.

**SUBSTANTIVE FILE DOCUMENTS:** City of Newport Beach, Local Coastal Program-Land Use Plan, effectively certified May 18, 1982; Coastal Development Permits: 5-96-102 (Rafferty), 5-97-117 (Donahue), 5-97-236 (Wagner); Letter from Marine Consulting and Design to California Coastal Commission dated September 10, 1998; *Review of Plans and Geotechnical Commentary, Distressed Seawall Replacement*...dated September 14, 1998 by Petra Geotechnical Inc. of Costa Mesa, California.

## SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed development with three special conditions: 1) construction impacts shall be minimized and all construction materials shall be stored landward of the bulkhead and removed at the end of construction; 2) the applicant shall dispose of construction debris and spoils at Ewles Materials, a site outside the coastal zone; and 3) prior to issuance of the coastal development permit, the applicant shall submit final revised plans which include a statement signed by the geotechnical consultant certifying that the recommendations contained in the September 16, 1998 geotechnical investigation by Petra Geotechnical, Inc. have been incorporated into the final design of the proposed development.

## STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

### I. Approval with Conditions

The Commission hereby **GRANTS** a permit, subject to the conditions below, for the proposed development on the grounds that the development, located between the nearest public roadway and the shoreline, will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse effects on the environment within the meaning of the California Environmental Quality Act.

### II. Standard Conditions:

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the project during its development, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

## III. SPECIAL CONDITIONS

1. Construction Materials

Disturbance to sand and intertidal areas shall be minimized. No local sand, cobbles, or shoreline rocks, not presently used in existing on-site development, shall be used for backfill or construction material. All construction materials shall be stored landward of the bulkhead, in improved areas only, and shall be removed at the conclusion of construction.

2. Location of Debris Disposal Site

Construction debris shall be disposed of at Ewles Materials, located at 16081 Construction Circle West, Irvine, a site outside the coastal zone. Any change to the proposed disposal site may require an amendment to this permit.

3. Conformance with Geotechnical Recommendations

Prior to issuance of the coastal development permit, the applicant shall submit for the review and approval of the Executive Director:

a) final revised plans. These plans shall include the signed statement of the geotechnical consultant certifying that the plans incorporate the geotechnical recommendations contained in the geotechnical investigation of September 14, 1998 by Petra Geotechnical, Inc. of Costa Mesa (Job No. 471-98) into the final design of the proposed development.

The approved development shall be constructed in compliance with the final plans as approved by the Executive Director. Any deviations from the plans shall require a Coastal Commission approved amendment to this permit, or written concurrence from the Executive Director that the deviation is not substantial and therefore a permit amendment is not needed.

## IV. Findings and Declarations:

The Commission hereby finds and declares:

### A. Project Description and Location

The applicant proposes to demolish and reconstruct an existing seawall, groin and concrete boat storage yard located at the Newport Harbor Yacht Club, 720 W. Bay Avenue, Newport Beach, Orange County (Exhibit 1). Presently, there is a 105 foot long, cast-in-place concrete seawall, located at the east end of the subject property, which forms a bulkhead for the adjacent boat storage yard (Exhibit 2). Top of wall is + 9 feet Mean Lower Low Water. This wall will be replaced with a bulkhead system consisting of pre-cast concrete panels. These panels will be tied to a new concrete anchor beam to be located 27 feet landward and parallel to the proposed bulkhead. The new bulkhead will be constructed in the same location, will be the same length, and will have the same elevation as the existing seawall. In addition, an existing 30-foot long by 2-foot wide groin at the eastern terminus of the existing seawall will be demolished and replaced with a new groin having the same location and dimensions. Finally, an existing concrete paved boat storage yard will be demolished and replaced in kind. The existing and proposed boat storage area is landward and adjacent to the existing/proposed seawall/bulkhead and measures 50-feet by 105-feet (5,250 sq. ft.). No seaward encroachment will occur as a result of these proposed developments.

The subject site is a bay front lot. The land use designation for the site is *Recreational and Environmental Open Space*. The land use designation for the harbor area seaward of the U.S. Bulkhead line is *Water*.

### B. Protective Structures

Section 30235 of the Coastal Act states:

> Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

The subject site is presently used as a private yacht club which provides storage, launching, and berthing facilities for small boats. These types of uses are coastal-dependent. During the winter of 1998 an existing seawall failed on the subject site, causing damage to a boat storage yard. The failed seawall separated from the fill and concrete slab, which had formed the seaward side of the storage yard, causing the fill to slump and the concrete overburden to crack and collapse. This damage impairs continued use of the boat storage and temporary berthing capabilities normally supplied by this facility. Also, if the failed seawall is not repaired, additional damage to existing structures, including a clubhouse and adjacent bulkheads, may occur. An evaluation of site conditions was provided by Marine Consulting

and Design of Newport Beach (Exhibit 3). This evaluation concluded that the seawall failure was caused by a combination of old age, poor quality concrete, inadequate steel reinforcement, and a deficient tieback system. The seawall will be replaced by a bulkhead system designed to address each of these deficiencies. The proposed developments will occur in the same place and same configuration as the existing structures. Therefore, no additional impacts to marine processes and vegetation will occur.

The proposed development is necessary to protect existing structures from continued erosion and subsequent damage. In addition, the development will not have any adverse impacts upon shoreline processes or marine vegetation because the prior configuration is being rebuilt. Therefore, the Commission finds that the proposed development conforms with Section 30235 of the Coastal Act.

**C. Hazards**

Section 30253 of the Coastal Act states in part:

> New development shall:
>
> (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
>
> (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area...

According to a report by Petra Geotechnical of Costa Mesa, California titled *Review of Plans and Geotechnical Commentary, Distressed Seawall Replacement*...dated September 14, 1998, the proposed development will occur in an area of moderate to high seismic risk (Exhibit 4). Design and construction recommendations were made by the geotechnical consultant in this report which will improve the durability of the proposed structures during seismic events. These recommendations include load values to be used for the wall design, a multi-helix wall anchor system, and construction guidelines regarding sequence, materials, and soil compaction. The geotechnical consultant states that the proposed development will not increase the seismic hazard present under existing conditions, and states the proposed development is an improvement upon the existing seawall. In order to minimize risks to life and property in this area of moderate to high seismic hazard the applicant shall incorporate the geotechnical recommendations submitted by Petra Geotechnical, per special condition number three.

Under present conditions, hazards related to erosion, compromised structural integrity, and geologic instability exist and may increase if left unabated. The applicant's representatives, Petra Geotechnical and Marine Consulting and Design, have concluded that the proposed development is designed to increase stability and structural integrity at the site and will not contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area. Therefore, the Commission finds that the proposed development, as conditioned, is in conformance with hazard provisions of Section 30253 of the Coastal Act.

**D. Coastal Access and Recreation**

Section 30212 of the Coastal Act states in part:

> (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:
>
> (2) adequate access exists nearby...
>
> (b) For purposes of this section, "new development" does not include:
>
> (4) The reconstruction or repair of any seawall; provided, however, that the reconstructed or repaired seawall is not a seaward of the location of the former structure.

Section 30604(c) of the Coastal Act states:

> (c) Every coastal development permit issued for any development between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone shall include a specific finding that the development is in conformity with the public access and public recreation policies of Chapter 3.

The proposed development, which occurs between the nearest public road and the sea, includes the reconstruction of a seawall that will not occur seaward of the existing wall. However, the proposed development also includes reconstruction of a groin and concrete boat storage yard. Therefore, the proposed project constitutes "new development" and is subject to the access requirements of Section 30212. The existing use, a private yacht club, does not provide public access on-site. However, since the proposed project involves the reconstruction of existing facilities, neither the existing access situation nor the intensity of use of the site will be changed. The proposed development will not have an impact on existing coastal access or recreation in the area. Therefore, the Commission finds that the project is consistent with the public access and recreation policies of the Coastal Act.

**E. Water Quality**

Section 30231 of the Coastal Act states:

> The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The proposed development will occur within and adjacent to coastal waters. Construction will require the use of heavy machinery and require the stockpiling of construction materials including the excavation, stockpiling, and replacement of on-site soils. In order to protect the marine environment from degradation, all construction materials and machinery shall be stored away from the water. In addition, no construction materials not essential for the project improvements shall be placed in coastal waters. Local sand, cobbles, or shoreline rocks, not

presently used in the existing development, shall not be used for backfill or construction material as per special condition number one.

In addition, demolition of existing structures will generate debris that will not be recycled into the proposed development. Demolition debris and construction materials shall not be placed into coastal waters, nor be placed in any manner that would impact coastal resources. In order to assure that disposal occurs properly, demolition debris and construction spoils shall be disposed of at Ewles Materials located at 16081 Construction Circle West, Irvine, a site outside the coastal zone, as previously identified by the applicant, and included as special condition number two. Any change to the proposed disposal location shall be identified in writing and submitted for the review and approval by the Executive Director. Only as conditioned does the Commission find that the proposed development conforms with section 30231 of the Coastal Act.

**F. Land Use Plan**

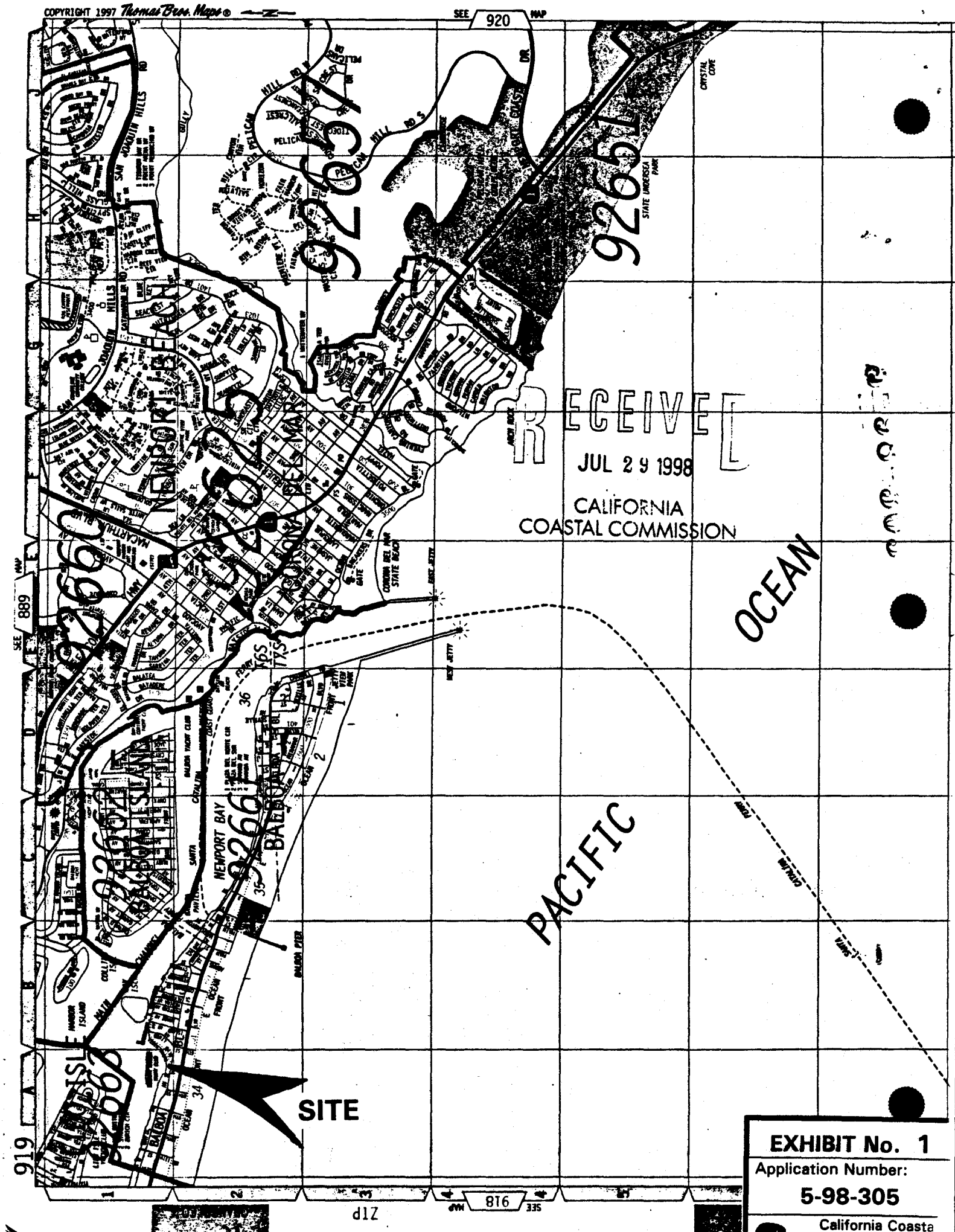
Section 30604 of the Coastal Act provides for the issuance of coastal development permits directly by the Commission in regions where the local government having jurisdiction does not have a certified local coastal program. The permit may only be issued if the Commission finds that the proposed development will not prejudice the ability of the local government to prepare a Local Coastal Program which conforms with the Chapter 3 policies of the Coastal Act.

The Newport Beach Land Use Plan was effectively certified on May 19, 1982. The proposed development is consistent with the policies of the certified Land Use Plan. Therefore, the Commission finds that approval of the proposed development will not prejudice the City's ability to prepare a Local Coastal Program (Implementation Plan) for Newport Beach that is consistent with the Chapter 3 policies of the Coastal Act as required by Section 30604(a).

**G. California Environmental Quality Act**

Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The project is located in an existing harbor in an urbanized area. Development already exists on the subject site. The project site does not contain any known sensitive marine resources, therefore the impacts arising from the proposed project will be minimal. In addition, the proposed development has been conditioned, as follows, to assure the proposed project is consistent with the resource protection policies of the Coastal Act: restrictions on the placement of construction materials and use of on-site resources as construction material; restriction of material disposal to a land facility; and conformance with geotechnical recommendations. As conditioned, no feasible alternatives or feasible mitigation measures are known, beyond those required, which would substantially lessen any identified significant effect which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned, is the least environmentally damaging feasible alternative and is consistent with CEQA and the policies of the Coastal Act.


COPYRIGHT 1997 Thomas Bros. Maps®
SEE 920 MAP
NEWPORT BEACH
CORONA DEL MAR
BALBOA ISLAND
NEWPORT BAY
PACIFIC OCEAN
SITE
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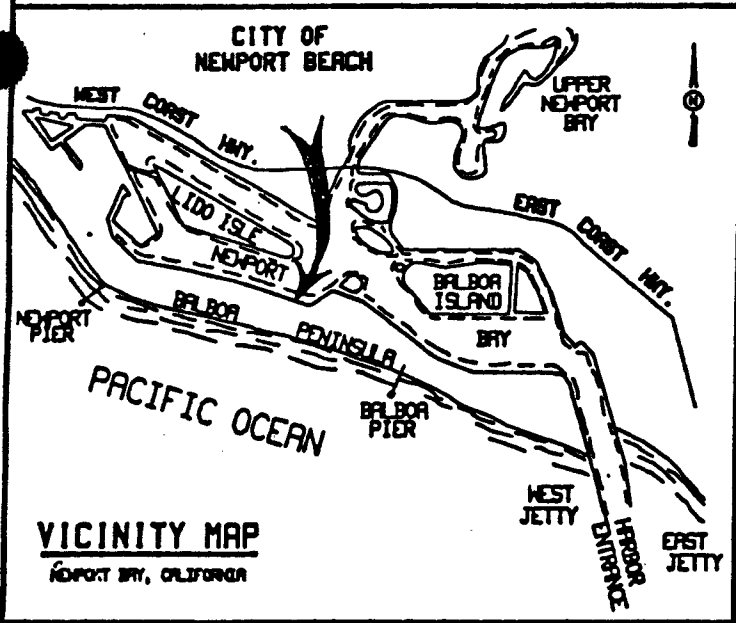
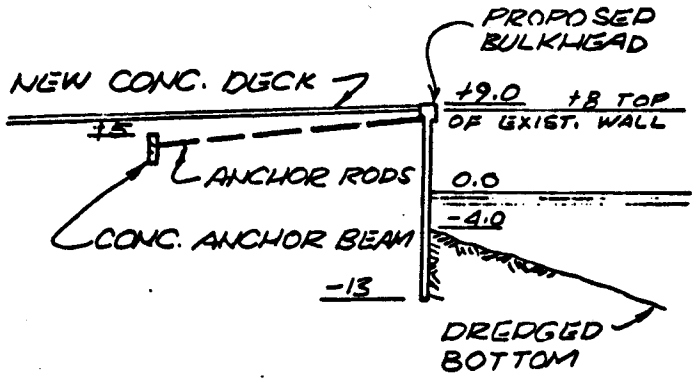
CALIFORNIA
COASTAL COMMISSION
EXHIBIT No. 1
Application Number:
5-98-305
California Coasta

# CITY OF NEWPORT BEACH




VICINITY MAP
NEWPORT BAY, CALIFORNIA




PROFILE 1" = 20'

SOUNDINGS ARE EXPRESSED IN FEET AND DENOTE ELEVATIONS BASED ON MEAN LOWER LOW WATER.

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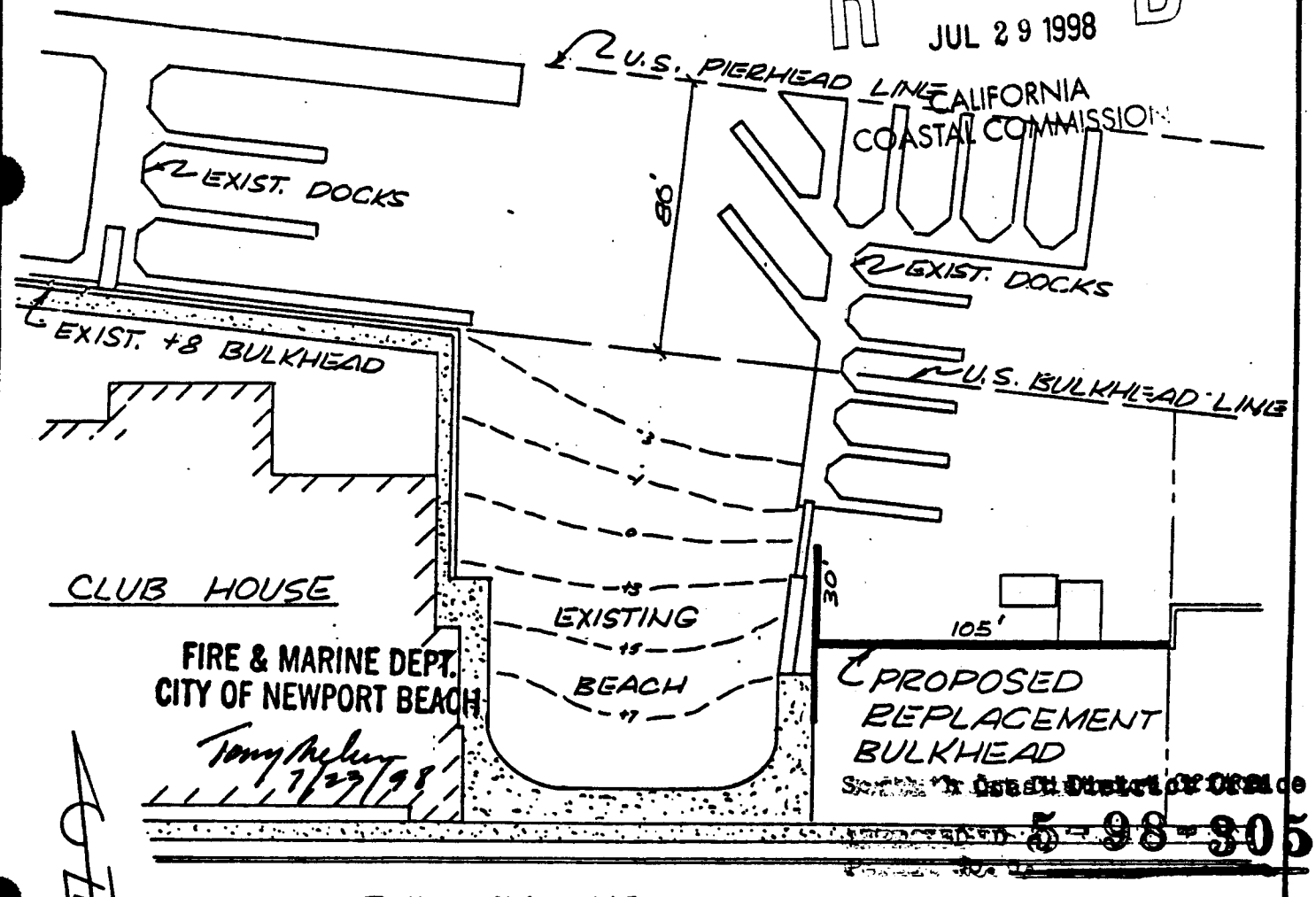
CALIFORNIA COASTAL COMMISSION




APPLICANT'S NAME NEWPORT HARBOR YACHT CLUB

JOB ADDRESS 720 W. BAY AVE

PLAN V

RECEIVED
South Coast District Office
5-98-305

EXHIBIT No. 2
Application Number:
5-98-305
California Coastal Commission

HORNBY AND ASSOCIATES, INC.
dba. Marine Consulting & Design
324 EL MODENA AVE. NEWPORT BEACH, CA 92663 • USA • PHONE (714) 642-2206

September 10, 1998



California Coastal Commission
Karl Schwing
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302

Re: Coastal Development Permit #5-98-305

Dear Mr. Schwing,

Lisa Miller with Shellmaker Inc. asked me to write this letter to further explain the above referenced project. The seawall system at Newport Harbor Yacht Club is probably 40 to 50 years old. The failure is a combination of old age, low quality control in the concrete, very little steel reinforcing in the wall, and an inadequate tieback system. In short in terms of today's standards the old wall is deficient in terms of both design and construction. The replacement design meets or exceeds all current building and engineering standards and addresses all of the inadequacies of the old wall.

Prior to construction, the design and calculations will be approved by the City of Newport Beach Building Department. A rigid inspection schedule during construction is required by the City of Newport Beach which includes inspection by their inspector, a registered Deputy Inspector, the Soils Engineer, and myself. No project receives final City approval until it meets all of these requirements.

Please contact me if you have any further concerns.

Sincerely,

Roland S. Harvey

cc: Shellmaker Inc.

PETRA

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September 14, 1998
J.N. 471-98

NEWPORT HARBOR YACHT CLUB
720 West Bay Avenue
Newport Beach, CA 92663

Attention: Mr. Gary Hill

**Subject: Review of Plans and Geotechnical Commentary, Distressed Seawall Replacement, 120 West Bay Avenue, Newport Beach, California.**

Dear Mr. Hill:

We are in receipt of plans for removal of the distressed portion of the subject seawall, construction of a new wall, and fortification of the intact portion of the wall at the subject site. The plans are prepared by Marine Consulting & Design, dated August 10, 1998. Based on our review of these plans, the construction will also include a new anchor beam and tie-rods. The intact portion of the wall will be fortified with Chance helical anchors. We also received and reviewed calculations for the new seawall by William Simpson & Associates, Inc., dated July 1998.

No specific geotechnical investigation was performed as a part of this review for the seawall replacement and construction of new wall; however, based on our knowledge of the subsurface stratigraphy, the plans and calculations appear to be appropriate for construction of the proposed system. The following provides our recommendations for design and construction of the proposed seawall.

## Design Recommendations

An active earth pressure equivalent to a fluid having a density of 30 pounds per cubic foot may be used for new bulkhead design retaining a level backfill. This value may

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be increased by 50 percent, if the seawall is considered to be at an at-rest condition. A friction angle of 30 degrees may be used for delineation of the active zone behind the seawall. A passive earth pressure of 200 pounds per square foot per foot of depth may be used, for the soils in front of the seawall below the lowest dredge depth and for the compacted fill in front of the anchor beam, to a maximum of 2000 pounds per square foot. An increase of one-third of the above values may also be used when designing for short duration wind or seismic forces.

A multi-helix (Chance) wall anchor system is considered for enhancing the performance of the intact portion of the seawall. This system should be designed by the project structural engineer based on the lateral earth pressures acting against the existing bulkhead seawall under both static and seismic conditions.

Soil design parameters provided earlier in this report are considered suitable for design of the Chance anchors. In addition, the surrounding soil may be assumed to have a dry weight of 100 pounds per cubic foot and a saturated weight of 110 pounds per cubic foot. The helix (or helices) should be embedded at least 3 helix diameters beyond the potential soil failure plane shown on Figure 1 and the anchors should be installed at an angle of 7 to 15 degrees from the horizontal.

## Construction Recommendations

A pre-construction meeting should be held at the site, and the construction sequence should be discussed by the contractor and approved by the project soils engineer. The project soils engineer should also provide guidelines and, where deemed appropriate, provide modifications for the proposed construction. The project soils engineer should also provide field observation and testing during the proposed construction.

# TYPICAL SEAWALL SECTION

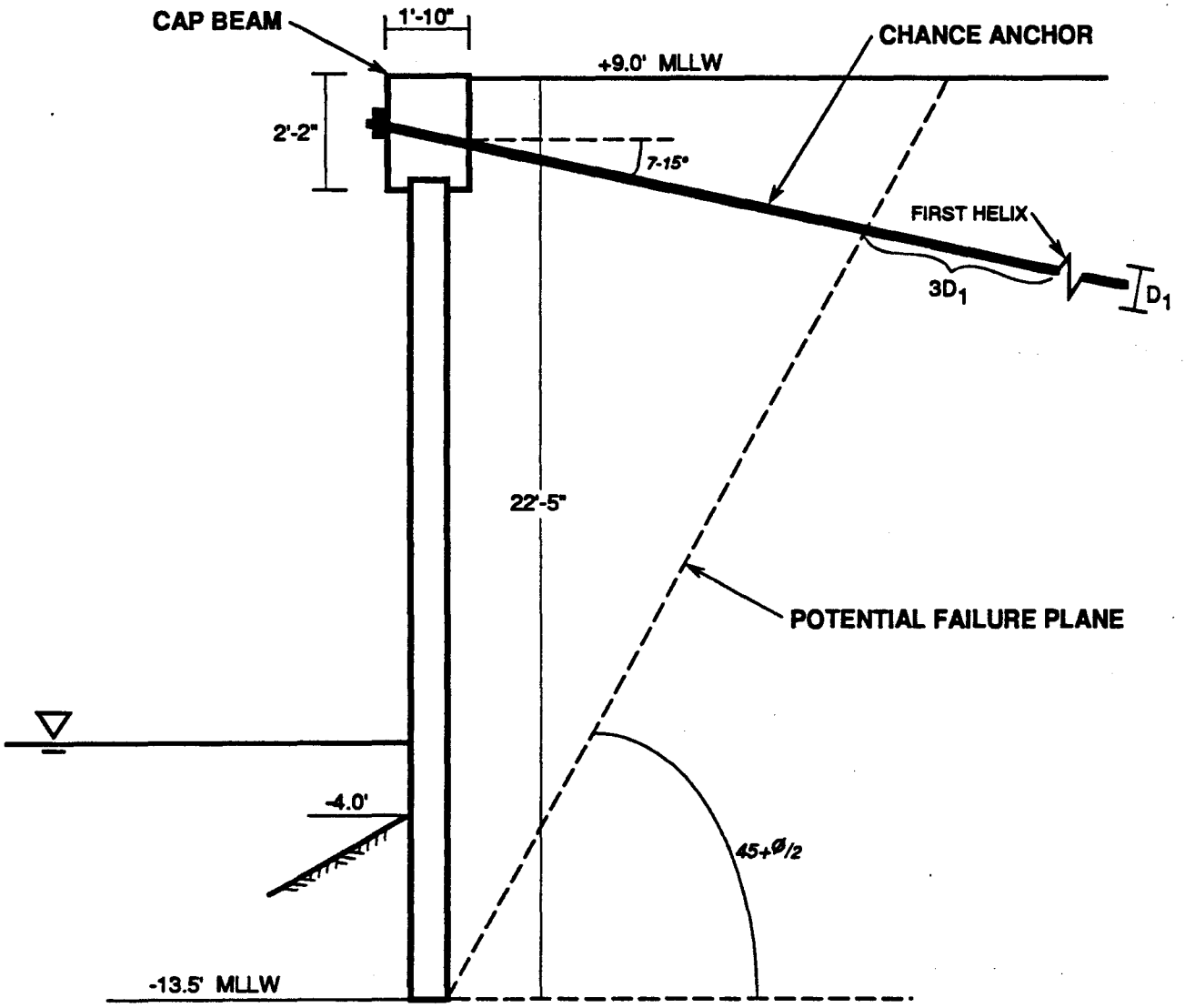


**EXHIBIT No. 4**

Application Number:
5-98-305
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California Coastal Commission

Not To Scale

**PETRA GEOTECHNICAL, INC.**

JN 471-98 SEPT., 1998

FIGURE 1

The following presents a preliminary guideline for construction of the new seawall system at the subject site. This guideline should be discussed and, if deemed necessary, modified during the pre-construction meeting.

1. All deleterious and organic material and construction debris in the construction area should be removed from the site.

2. Excavated material should not be stockpiled and heavy equipment should not be stored within 15 feet of the excavated area or proposed anchor beam.

3. Care should be exercised to ensure that the footings for the adjacent structure are not undermined during seawall and anchor beam construction.

4. The bottom of the excavated trench for construction of the proposed anchor beam should be observed and tested by the project soils engineer to verify competence of the foundation soils.

5. Prior to any fill placement, all tie-rods should be installed and tensioned according to the plans.

6. Prior to any fill placement, the bottom of the excavated area should be observed and tested by the project soils engineer to verify competence of the subgrade soils. This should be done during the low tide period and/or with the aid of a dewatering system.

7. Fill placement should commence in front of and immediately adjacent to the anchor beam. A minimum elevation difference of 2 feet should be kept between the fill adjacent to the anchor beam and the fill adjacent to the new wall, with the fill at the anchor beam side always higher.

8. The use of heavy compaction equipment should be avoided for compaction of the backfill adjacent to the wall.

9. All fill and wall backfill should be placed in lifts of approximately 6 to 8 inches in thickness (where possible), dried or watered as necessary to achieve near optimum moisture conditions, and then compacted in place to a minimum relative compaction of 90 percent. Each fill lift should be treated in a similar manner. Subsequent lifts should not be placed until the preceding lift has been approved by a representative of the project soils engineer. For conditions where

the first 1 or 2 feet of fill will be placed under water or under extremely wet conditions where fill compaction cannot be achieved, fill should consist of a material requiring slight or no compactive efforts.

10. Imported soils should consist of clean materials exhibiting a Very Low expansion potential (Expansion Index 0-20). Soils to be imported should be approved by a representative of the project soils engineer prior to importation. Fill material for placement under water or under extremely wet conditions should consist of pea gravel or crushed, open-graded gravel.

11. The laboratory maximum dry density and optimum moisture content for each change in soil type, where applicable, should be determined in accordance with Test Method ASTM D 1557-91.

## Seismic Considerations

It is likely that the site will experience ground shaking from at least small to moderate size earthquakes with the passage of time. Furthermore, it should be recognized that the Southern California region is an area of moderate to high seismic risk and that it is not considered feasible to make structures totally resistant to seismic related hazards. It is anticipated that while the new wall and the proposed anchors will enhance the seawall performance under static conditions as compared to the existing conditions, a certain level of instability during a ground shaking event will be experienced by the wall. As such, displacement and/or partial loss of the entire wall system should be anticipated. It should be noted, however, that the probability of such levels of distress is not any greater than the current condition. In other words, addition of the proposed construction is not expected to increase the probability of distress to the wall under a seismic event.

Should you have any questions regarding this review and our recommendations, please do not hesitate to call.

Respectfully submitted,

PETRA GEOTECHNICAL, INC.

Siamak Jafroudi, PhD
Principal Engineer
GE 2024

REGISTERED PROFESSIONAL ENGINEER
SIAMAK JAFROUDI
No. GE002024
Exp. 6/30/00
GEOTECHNICAL
STATE OF CALIFORNIA

SJ/nls

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