

CALIFORNIA COASTAL COMMISSION

South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

TH 11b

Filed: November 18, 2011
180th Day: May 16, 2012
270th Day: August 14, 2012
Staff: F. Sy-LB
Staff Report: June 28, 2012
Hearing Date: July 11-13, 2012

STAFF REPORT: REGULAR CALENDAR

Application No.: 5-11-053

Applicant: OC Parks

Agent: Chambers Group, Inc.; Attn: Noel Davis, Ph.D.

Project Location: Selva Road & Pacific Coast Highway, Dana Point (County of Orange)

Project Description: Reconstruction of the existing Niguel Shores revetment along 1,360 linear feet of shoreline. The reconstruction would replace the existing inadequately sized stones with larger stones and would restore the revetment to its original configuration. The proposed design for this project calls for 2 to 2.5 ton armor stone within the upper two thirds of the revetment. Larger stone of 4 to 5 tons would be placed at the base of the revetment to provide a more stable toe foundation. The crest of the structure would be raised to +17-feet, NAVD 88. Three access stairways from the homes on the bluff to the beach would remain in place.

Staff Recommendation: Denial

SUMMARY OF STAFF RECOMMENDATION

Staff recommends that the Commission DENY the applicant's request for reconstruction of the existing Niguel Shores revetment along 1,360 linear feet of shoreline. Although past evidence of erosion indicates the proposed revetment is required to protect the existing development in danger from erosion, the project has not been designed to eliminate or mitigate its adverse impacts on local shoreline sand supply, public access or recreational opportunities. In fact, the applicant has not proposed any mitigation for the adverse impacts to public access or shoreline sand supply.

Staff believes several key changes are needed to address these issues. First, the applicant must consider relocating the revetment further landward, and to increase its crest elevation. The proposed revetment encroaches onto public beach area. Furthermore, the proposed crest elevation is too low to prevent overtopping during storm events, which will erode the bluff slope and necessitate an extraordinary amount of maintenance on the revetment itself. Relocating the structure landward would move the structure inland, perhaps as much as 5 to 10-feet, reducing, but not eliminating encroachment on the public beach. Along with this relocation, the crest elevation of the structure could be increased so that wave overtopping would be minimized. This will provide greater protection of the bluff slope, and a lesser maintenance regime.

Commission staff also recommends that a public walkway be constructed along the top of the revetment. There are revetments with public walkways atop them, both upcoast and downcoast of the subject site. The subject site is the 'missing link' along what could become a 1.25 mile long walkway along the water, with multiple (vertical) connections to it including the Salt Creek regional trail. A walkway would offset some of the remaining public access impacts on the public beach that the revetment would have. Finally, the applicant must consider some kind of offset for the impacts that the revetment will have over its lifetime on local shoreline sand supply. These recommendations are consistent with a prior Commission action in 1986, for a similar County proposal (which was not undertaken), as well as prior direction by staff given in several meetings with the applicant.

These recommendations would require significant revisions to the project. Therefore, staff is recommending DENIAL (with direction), as opposed to approval with conditions.

A portion of the proposed project is located in the City of Dana Point, which has a Certified Local Coastal Program (LCP). However, the proposed project is also located on the public beach in the Commission's permit jurisdiction such that the standard of review is Chapter 3 policies of the Coastal Act. Section 9.69.030(c) "Authority to Grant Permit" of the City's Certified Implementation Plan (IP)/City's Zoning Code, states that for any development that lies partially within the City and Coastal Commission permit jurisdiction, that the Coastal Commission shall be the responsible agency for the issuance of any Coastal Development Permit for the entire development, and the standard of review is Chapter 3 of the Coastal Act. Therefore, the Coastal Commission is the permit issuing authority for this project.

TABLE OF CONTENTS

I.	MOTION AND RESOLUTION	PAGE 4
II.	FINDINGS AND DECLARATIONS	
A.	PROJECT INFORMATION	PAGE 4
B.	COASTAL HAZARDS AND GEOLOGY	PAGE 12
C.	PUBLIC ACCESS	PAGE 18
D.	CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)	PAGE 22

APPENDIX

Appendix – Substantive File Documents

EXHIBITS

Exhibit #1 – Location Maps

Exhibit #2 – Site Plan/Elevation Plan

Exhibit #3 – Memorandum from Lesley Ewing, Senior Coastal Engineer of the California Coastal Commission dated June 18, 2012

I. MOTION AND RESOLUTION

Motion:

I move that the Commission approve Coastal Development Permit No. 5-11-053 for the development proposed by the applicant.

Staff recommends a **NO** vote. Failure of this motion will result in denial of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby denies a Coastal Development Permit for the proposed development on the ground that the development will not conform with the policies of Chapter 3 of the Coastal Act and will 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. Approval of the permit would not comply with the California Environmental Quality Act because there are feasible mitigation measures or alternatives that would substantially lessen the significant adverse impacts of the development on the environment.

II. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

A. PROJECT INFORMATION

1. PROJECT LOCATION

The Niguel Shores revetment extends for a distance of approximately 1,600 linear feet along the southerly portion of the Salt Creek Beach shoreline, a pocket shoreline public beach, located in the City of Dana Point (Exhibits #1-2). The revetment is bounded by Monarch Point on the northern end and Strand Beach to the southern end. The northerly section of this rock revetment (i.e., the northerly 300-feet) provides shoreline erosion protection for a small Orange County park area that includes an access road, small grass picnic area, restrooms, and short ramps/stairways for access to the public beach level (This northerly section will not be part of the project). The central section of the subject rock revetment (i.e., approximately 1,200-feet long) provides shoreline erosion protection for an ascending previously graded coastal bluff slope within the adjoining Niguel Shores private residential community at the top of the previously graded coastal bluff slope above the revetment. The southerly section of the rock revetment (i.e., a section that is approximately 160-feet long) provides erosion protection for an access ramp that descends from the southerly corner of the Niguel Shores private residential community. This ramp provides public beach access from not only the Niguel Shores private

residential community, but is also part of a public beach accessway that descends from a relatively large parking lot that is located along Selva Road. This southerly section also has a public walkway on top of it that connects the vertical access to the newly reconstructed revetment at Strand Beach with public walkway on top of it that is part of the Dana Point Headlands development area.

The revetment lies at the bottom of a steep vegetated and previously graded coastal bluff slope that has a history of geologic instability, adjacent to the public beach separating the existing Niguel Shores private residential community at the top of the bluff slope from the public beach of the Pacific Ocean. The bluff top above the proposed project area is densely developed with twenty-three (23) residential dwellings that were built over a period beginning in the early 1970's. The vegetation on the bluff slope primarily consists of non-native ornamental species with a small percentage of native shrubs.

Currently, the revetment is located within an easement. The landward most part of the revetment is located in an easement given by Niguel Shores to the County of Orange and the remainder of the revetment is located on tidelands granted to the County of Orange.

The public beach fronting the revetment is heavily used by beachgoers¹. Public access to the beach is available at the northern and southern end of the revetment. At the northern end there is a trail system from Salt Creek Beach. At the southern end there is another trail system that includes vertical access from a public parking lot at the end and to the west of Selva Road and lateral access along the shoreline atop a revetment protecting The Strand residential area. Additionally, there are three (3) private stairways along the bluff slope that provide beach access for the Niguel Shore homeowners.

The intertidal habitat throughout the central section of the revetment area is sandy beach. At the northern section, at Monarch Point, is an area of rocky intertidal that consists of boulders and rock outcrops in vertical layers extending away from the shoreline. Scattered intertidal rocks also occur at the southern section of the area; however, most of the rocks are in the lower to mid-intertidal zone.

2. BACKGROUND. COUNTY OF ORANGE AND NIGUEL SHORES HOMEOWNERS ASSOCIATION AND BREAKERS ISLE RESIDENTS DISCUSSIONS

According to the applicant, the original revetment was constructed in late 1969 consisting of a one-foot bedding layer overlain by two layers of 350 to 500 pound armor stone placed on a 1.5 horizontal to 1 vertical slope. The revetment was constructed in conjunction with the extensive grading of the site in the late 1960's to construct the adjacent Niguel Shores private residential community located at the top of the bluff slope. The rough grading included remedial grading measures to enhance the stability of a large ancient landslide in the area. In addition to the grading work,

¹ The heavy use of this beach can be seen by the large and multiple beach public parking lots located in the adjacent areas (public parking lot located off Ritz Carlton Drive and public parking lot located off of Selva Road). Additionally, the location of the adjacent Ritz Carlton and St. Regis hotels show the popularity of the site. The heavy frequent use of this beach is also due to it being known as a popular surfing location.

buttress/stabilization fills were also constructed along the entire shorefront bluff slope area. During the heavy rainfall season of 1977-78, evidence of landslide movement was discovered within several of the building pads. Thus, remedial grading and reconstruction of the buttress fills took place and were completed in 1980-81 allowed under Emergency Coastal Development Permit No. EME-134. Further reconstruction and stabilization of the bluff due to the landslide activity in 1977 was approved under Coastal Development Permit No. P-80-7056. The severe El Niño storms of 1983 caused damage to the Niguel Shores bluff slope and also since the revetment stone was too small to resist severe storm wave attack, the existing revetment was overtopped and damaged and wave attack eroded the back bluff slope. In response to this, emergency repairs were made to the bluff slope fronting the threatened homes and the revetment was repaired and rehabilitated by placing one ton and smaller stones. Recent surveys of the revetment indicate that the average crest elevation of the existing revetment is between +14-feet to +15-feet, North American Vertical Datum of 1988 ("NAVD 88")². Subsequent to the 1983 El Niño storm and resultant damage to the Niguel Shores bluff slope and revetment, Niguel Shores HOA sued the County of Orange. In 1989, the parties settled the litigation and the County of Orange was required to take ownership of the Niguel Shores revetment and be legally responsible for the shoreline protection of the bluff slope, upon which sits the Niguel Shores coastal-fronting lots and homes. Thus, the County is required to do what is necessary to comply with the result of this litigation.

The applicant states that the intent of the revetment/shoreline protective device is to protect the bluff slope and adjacent Niguel Shores private residential community located at the top of the bluff slope from coastal severe storm damages. However, the existing revetment is currently under-designed and inadequate to resist severe storm wave attack. The applicant states that due to the multiple severe coastal storms over the years, the revetment has deteriorated to the point where the bluff slope and adjacent homes on the bluff top are now vulnerable to severe storm wave-induced damage unless improvements are made. According to the *Geotechnical Review and Evaluation Proposed Rock Revetment Rehabilitation Design, Salt Creek Beach At Niguel Shores, Orange County Parks, Dana Point, California (Job No. 8-212-100128)* prepared by AMEC Earth & Environmental, Inc. dated June 12, 2009, the project site is underlain by marine sedimentary rock of Miocene Age (i.e., deposited about 10 to 2 million years ago) that can be divided into two distinct units or formations: the San Onofre Breccia and the Monterey Formation. The adjoining Niguel Shores private residential community is locally underlain by one (1) of at least three (3) terrace levels that were eroded in the local bedrock during ancient stands of sea level. As a part of the erosion process along the ocean shoreline, ancient landslides developed along portions of the Orange County coastline, including the southerly and northerly portion of the project site (Additional discussion is found within the upcoming "Coastal Hazard and Geology" section of the staff report). The existing revetment provides insufficient coverage and protection of the back bluff slope and is constructed of undersized armor stone. In addition, the existing

² North American Vertical Datum of 1988 is the vertical control datum established in 1991 by the minimum-constraint adjustment of the Canadian-Mexican-U.S. leveling observations. It held fixed the height of the primary tidal bench mark from which a vertical measurement may be taken above or below that mark. (see, <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88--> accessed and verified online on July 26, 2012.)

revetment has an over-steepened or flattened revetment slope, an inadequate crest elevation, and a toe depth that is too shallow. Thus, the purpose of the proposed project is to rehabilitate the revetment to its former undamaged condition.

Prior to submittal of the proposed project, Commission staff and County of Orange staff had several discussions regarding the project. The applicant made it clear that due to a settlement agreement reached in 1989 between it and the Niguel Shores HOA, the applicant was responsible to maintain and repair the revetment that protects the bluff slope behind it as well as the existing single-family residences. Commission staff made it known that the proposed revetment should be placed as far landward, as any shoreline protective device should, in order to reduce the footprint on the already narrow public beach. Additionally, Commission staff stated that the proposed project should also include a public walkway located at the top of the proposed revetment to provide public access on the already narrow beach, especially when wave uprush prevents such access since the proposed revetment would be placed on the public beach, thereby impacting public access and recreation area along the coast. The proposed public walkway would also connect existing lateral public access along the shoreline between Salt Creek Beach, the access ramp from the public parking area off of Selva Road and the recently completed Strands Beach public access walkway. This public walkway would help mitigate impacts upon the public beach as a result of the proposed revetment. The applicant listened to this request and even provided Commission staff with some reports and preliminary plans to review that did include the public walkway into their proposal. However, when the application was finally submitted, the applicant did not include a public walkway in the project design of the revetment. The applicant states that it made several outreach attempts to the Niguel Shores Homeowners Association and Breakers Isle residents to obtain an easement that would have allowed it to encroach onto Niguel Shores property in order to place the revetment landward of the existing revetment and also construct a new public walkway on top of the revetment. However, despite the fact that Niguel Shores is the primary beneficiary of the revetment, the County continually faced substantial community opposition and unwillingness from the residents to grant an easement to the County to place the public access walkway on the revetment over the Niguel Shores homeowners' property. Staff pointed out that if the County was unable to obtain an easement to construct the walkway inland of the revetment, it could construct the walkway atop the revetment, within their existing easement. The County responded that placing the walkway directly on top of the proposed revetment would reduce its effectiveness and would require frequent maintenance. However, the applicant has not provided a discussion or evidence on why the effectiveness of the revetment against erosive forces would be reduced or why frequent required maintenance is determinative factor in determining the feasibility of including the public walkway on top of the revetment. Staff notes that in the southern section of the proposed project the County itself is proposing to reconstruct the revetment with a walkway on top (as it exists today) and there is a similarly constructed revetment with walkway atop just downcoast of the site, at The Strand.

3. PROJECT DESCRIPTION

The proposed project includes the reconstruction of the existing Niguel Shores revetment along 1,360 linear feet of shoreline (comprised of the central and southerly sections of the revetment as described earlier). The proposed reconstruction will replace the existing inadequately sized stones with approximately 18,200 tons of larger stones and will restore the revetment to its original configuration. The original revetment design generally had armor stone sizes that ranged from 300 to 350 pounds in individual weight. Some larger stone apparently was added later to repair storm damages in the 1980's (to be discussed later). The proposed new rock riprap revetment will be placed within the existing revetment footprint upon bedrock and will not extend further seaward or landward than the existing revetment footprint (the County has not, however, demonstrated knowledge of the precise location of the footprint). The proposed design for this project calls for 2 to 2.5 ton armor stone within the upper two thirds of the revetment. Larger stone of 4 to 5 tons will be placed at the base of the proposed revetment to provide a more stable toe foundation. The crest of the proposed revetment will be raised to +17-feet NAVD 88. The proposed crest elevation is limited to a maximum elevation of +17-feet, NAVD 88 because of landward property line and seaward encroachment constraints. The proposed revetment will look much like the existing revetment with the exception it will be made of larger stones and be taller. The southerly part of the project includes a section of the existing revetment to be reconstructed that currently contains a portion of the Strand Beach public walkway on top of the revetment. The applicant states that this section of the Strand Beach public walkway will be temporarily removed in order to reconstruct this section of the proposed revetment and then replaced in the same location. Three (3) private access stairways from the homes on the bluff to the public beach will remain in place (Exhibits #1-2).

The proposed project is anticipated to be built within three (3) months during the fall and winter season in order to avoid the summer peak beach use season. The reconstruction will generally occur in 12 hour shifts each day; however, due to the narrow beach width located on-site and limited work area for construction equipment, the hours of work will vary from week to week to accommodate the times of low tide. Thus, the contractor will require the ability to have flexible work hours throughout a seven (7) day week. The existing stone revetment will be removed, hauled away, and potentially reused for another purpose not related to the proposed project. It is anticipated that all stone will be imported and exported by truck. The new revetment will contain approximately 18,200 tons of new quarry stone. Truck traffic is expected to consist of approximately thirty (30) trucks per day and additional truck deliveries will possibly occur if the contractor elects to temporarily stockpile more stone, or assigns multiple crews and equipment to the project to expedite the work. The staging area will be the Salt Creek Beach parking lot and smaller areas along the access road to the project site. The contractor will need to use about half of the public parking lot (4 acres) at Ritz Carlton Drive and Pacific Coast Highway to stage and stockpile stone, set up scales, maneuver trucks and establish an office trailer. The proposed revetment reconstruction will require one (1) Cat 325 excavator; two (2) Cat 988 loaders (1 to service the excavator and 1 to work in the stone

stockpile area); and two (2) Cat 735 articulated off road dump trucks that will transport stone between the beach work and the staging/stockpile area.

The proposed revetment begins on the top of the bedrock formation on the beach at +2-feet, NAVD 88 and ends at +17-feet, NAVD 88, on the bluff slope. The Mean High Water (MHW) Line is located at +4.25-feet, NAVD 88. Thus, the proposed revetment will lie seaward of the MHW Line. A portion of the proposed project is located in the City of Dana Point, which has a Certified Local Coastal Program (LCP). However, the proposed development also lies seaward of the MHW Line in the Commission's permit jurisdiction. The City of Dana Point has a certified Local Coastal Program (LCP). However, because the proposed development lies seaward of the MHW Line, it is located within the Commission's area of original jurisdiction, where permit jurisdiction is not delegated to the local government. Section 9.69.030(c) "Authority to Grant Permit" of the City's Certified Implementation Plan (IP)/City's Zoning Code, states that for any development that lies partially within the City and Coastal Commission permit jurisdiction, that the Coastal Commission shall be the responsible agency for the issuance of any Coastal Development Permit for the entire development, and the standard of review is Chapter 3 of the Coastal Act. Therefore, the Coastal Commission is the permit issuing authority and the standard of review is Chapter 3 policies of the Coastal Act, with the certified LCP used as guidance.

4. OTHER AGENCY REVIEW

a) State Lands Commission (SLC)

The State Lands Commission (SLC) stated in a letter dated June 6, 2011 that the proposed project is located within land granted to the County of Orange, pursuant to Legislative Statute of 1971, Chapter 1209 and approved by the SLC on February 24, 1971, and not within the leasing jurisdiction of the SLC.

b) California Department of Fish & Game (CDFG)

The California Department of Fish & Game (CDFG) stated in an email dated May 23, 2011 that it had concerns with potential impacts to marine water, marine life and habitats. It recommends that heavy equipment construction work be conducted during low tide conditions outside of the grunion season or from landside. Additionally, CDFG recommends that the applicant monitors and avoids impacts to the Western Snowy Plover. With these recommendation implemented, the CDFG has no objection to the proposed project because it believes the recommended construction methods will prevent the proposed project from having significant impacts on the marine habitat and/or species.

c) Regional Water Quality Control Board (RWQCB)

The Regional Water Quality Control Board (RWQCB) in an email dated November 18, 2011 and received by Commission staff on November 18, 2011 stated that it issued a complete application letter for the project on March 23, 2011 and that the 60 day review period following issuance of that letter has since passed without Certification or Denial, thus the United States Army Corps of Engineers (USACOE) may proceed with the 404 permit. While the RWQCB has acknowledged this, RWQCB has not sent any other official documentation regarding the approval or denial of the proposed project to Commission staff or the applicant.

5. PREVIOUS COMMISSION APPROVAL

a) Emergency Coastal Development Permit (CDP) No. EME-134

In January 1977, the Commission approved EME-134 for the removal of ten feet of slide material to prevent further bluff failure.

b) Coastal Development Permit (CDP) No. P-80-7056-(Smyth Bros. Inc.)

On September 8, 1980, the Commission approved P-80-7056 for the reconstruction and stabilization of six (6) contiguous coastal bluff lots heavily damaged by landslide activity in 1977. The Commission approved CDP No. P-80-7056 subject to **EIGHT (8) SPECIAL CONDITIONS**, including the following: 1) The applicant shall execute and record a deed restriction; 2) The applicant shall confirm that the stabilization techniques as recommended on pages 5-7 of the geotechnical Review by the applicant's geologist are employed; 3) That the excavation shall not begin after October 1, 1980 and that work shall diligently proceed through to completion thereafter. All efforts shall be made to avoid time delays which might increase the risk of construction during the rainy season; 4) That the applicant shall have immediate access to an adequate number of soldier piles in the event that the ground freezing technique fails to provide the required stability necessary to protect adjacent dwellings from back bluff slope failure; 5) That final plans for the proposed subdrain system be subject to the review of State Technical Staff; 6) That the bluff slope stability analysis of the temporary back bluff slope cut for the buttress with and without the ground freezing shall be subject to review State Technical Staff; 7) That in the event that the riprap at the toe of the slide is disturbed during excavation, a plan for its replacement, which will not impeded public access on the public beach, shall be submitted; and 8) That this permit does not allow the temporary or permanent placement of any material on the beach. On September 8, 1980, the CDP was issued.

- c) Coastal Development Permit (CDP) No. 5-86-109-(Niguel Shores Community Association & County of Orange Environmental Management Agency, Department of Harbors, Beaches, & Parks)

On June 1986, the Commission approved CDP No. 5-86-109-(Niguel Shores Community Association & County of Orange Environmental Management Agency, Department of Harbors, Beaches, & Parks) for the enlargement of an existing 1,400-foot long rock revetment from +13-foot Mean Sea Level (MSL) to +18-foot Mean Sea Level (MSL) resulting in an approximately 7-foot encroachment on a public beach. The Commission approved CDP No. 5-86-109 subject to **SIX (6) SPECIAL CONDITIONS:** 1) The applicants shall submit revised plans indicating no portion of the proposed revetment shall extend or encroach further seaward upon the public beach beyond the toe of the existing revetment; should the applicants submit an alternative design which utilizes or incorporates a vertical seawall in conjunction with the existing "Phase 1" revetment the same restrictions relative to seaward encroachment as specified above shall apply; however, no part of the proposed vertical wall shall be placed seaward of the property line separating the public County-owned beach and the Niguel Shores Community Association; 2) The applicant shall submit certification by a registered civil engineer certifying that the proposed revetment/seawall is designed to withstand storms comparable to the winter storms of 1982-83 and that all rock used for construction is of sufficient size and quantity to not become projectiles under typical high tide/storm wave conditions and that the proposed revetment/seawall will not contribute to any increased potential for beach erosion or property seawall damage to adjacent properties; 3) If the rock revetment/seawall fails to adequately protect the residences during high tides and storm wave conditions, subsequent approval from the CCC shall be obtained for any further permanent shoreline protective works. If additional rock riprap is to be used, it shall be placed landward of the toe of the rock revetment approved under permit 5-86-109. Furthermore, the property owner shall be responsible for maintenance of the rock revetment. Any rocks that become dislodged and impeded public access, they shall be removed from the beach. The applicant shall contact the CCC should major repairs to the rock revetment be necessary to determine if a permit is required. The applicants, in accepting this permit, agree; to remove from the beach any portion of the revetment/seawall that is deposited on the beach as a result on construction or revetment/seawall failure; 4) The Niguel Shores Community Association shall submit a waiver of liability; 5) The County of Orange shall submit a waiver of liability and 6) The applicant shall submit written determination from the State Lands Commission (SLC). The permit was never issued.

B. COASTAL HAZARDS AND GEOLOGY

Section 30235 of the Coastal Act states, in relevant part:

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.

Section 30253 of the Coastal Act states, in relevant part:

New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Coastal Act Section 30235 acknowledges that seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" solutions can alter natural shoreline processes. Such devices are required to be approved only when necessary for the enumerated purposes and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. The enumerated uses include either (1) a coastal-dependent use, (2) to protect existing structures in danger from erosion or (3) to protect public beaches in danger from erosion. The Coastal Act does not require the Commission to approve shoreline altering devices to protect vacant land or in connection with construction of new development. A shoreline protective device proposed in those situations is likely to be inconsistent with various other Coastal Act policies. For example, Section 30253 addresses new development and requires that it be sited and designed to avoid the need for protective devices that would substantially alter natural landforms along bluffs and cliffs. When an applicant proposes to construct shoreline protection to protect existing structures in danger from erosion, the Commission has generally interpreted Section 30235 of the Coastal Act as requiring it to approve the shoreline protection for only existing, principal structures and only when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. The Commission must always consider the specifics of each individual project. Toward that goal, the applicant has submitted the following investigations: *Condition Assessment of Existing Niguel Shores Revetment* prepared by Noble Consultants, Inc. dated April 2007 and *Coastal Process Assessment Reconstruction of Niguel Shores Revetment* prepared by Noble Consultants, Inc. dated July 2011. These investigations were evaluated by the Commission's staff engineer and she prepared a memorandum with her findings which has been included with this report as Exhibit #3 and are incorporated into the findings below.

The Subject Site is in An Area of High Geologic and Flood Hazards

The proposed development is located at the base of a coastal bluff in the City of Dana Point in an area considered to be a historically hazardous (landslide) area. In the late 1960's, the site was graded and a rock revetment structure was installed. Rough grading included remedial grading measures to enhance the stability of a relatively large ancient landslide complex that is present in the southerly portion of the subject area. Buttress/stabilization fills were constructed across the entire shorefront bluff slope area, and the toe of this compacted fill bluff slope extends behind/beneath the upper portion of the rock revetment structure. The rock revetment structure was installed to protect the toe of the completed buttress/stabilization fill bluff slopes from wave erosion. Following completion of that development, landslide movement occurred during heavy rainfall in 1977-78 on several of the graded building pads along the crest of the shorefront fill bluff slope at the northerly end of the site. Grading repair of this local ancient landslide feature affected six (6) of the completed lots and included landslide removals and reconstruction of a buttress fill that extended up to about 20-feet below sea level. The temporary construction excavation required for this work was apparently located behind the existing rock revetment and included installation of soldier piles to enhance the stability concerns. Remedial grading and reconstruction of the buttress fill bluff slope was completed in 1980-81. This work was approved by the Commission under P-80-7056. Another extreme natural event occurred during February-March 1983 when extreme El Niño storm/wave events caused extensive damage to the rock revetment and the toe of the adjoining buttress/stabilization bluff slope. The severe storm damage was apparently repaired.

Substantial evidence has not been supplied to support the claim that the shoreline protective device is needed to protect existing structures

Section 30235 of the Coastal Act permits shoreline protective devices or structures such as the proposed rock revetment when designed to protect existing structures. The applicant states that the rock revetment is necessary in order to effectively protect the bluff slope and back beach improvements from severe storm wave attack. According to the applicant, if no action were to be taken, future severe storm events would erode the back bluff slope and threaten the stability of the upper bluff slope areas where twenty-three (23) existing residences are located.

While the applicant has shown a pattern of past hazardous landslide activity, the applicant analysis fails to provide evidence to show which of the existing twenty-three (23) residential structures located at the top of the bluff slope are in danger of wave attack or bluff slope failure if no rock revetment repairs or reconstruction work took place. Additionally, the submitted investigations (i.e., Geotechnical Report, Condition Assessment, and Coastal Process Assessment.) also do not identify whether any of these structures have sufficient setbacks or foundational support to be safe without reliance upon the continued performance of the rock revetment. A large portion of the need is based upon the legal responsibility of the County of Orange to repair and maintain the rock revetment pursuant to an agreement with Niguel Shore Community Association rather than on evidence of the actual physical conditions of the erosion rates and other relevant geologic data to support the claimed need to protect existing structures.

The existing revetment is in poor condition; the proposed revetment doesn't substantially address existing deficiencies

The applicant's investigations state that the existing rock revetment currently has a crest ranging from +14-feet to +15-feet, NAVD 88 and has significantly deteriorated and is structurally deficient based on one or more of the following items: 1) Insufficient coverage and protection of the back bluff slope; 2) Undersized armor stone; 3) Over-steepened or flattened rock revetment bluff slope; 4) Inadequate crest elevation; and 5) A possible shallow toe elevation. The investigations also conclude that the rock revetment is in a currently deteriorated state and in its present condition cannot effectively protect the bluff slope and back beach improvements from severe storm wave attack.

The applicant's investigation recommends that the Niguel Shores rock revetment be reconstructed to the present day engineering standard similar to that of the recently constructed rock revetment at Strand Beach located south of this rock revetment. Using the investigation's recommendations, the County's proposed revetment includes the following project design elements: the rock revetment would have a fabric filter backing; use 4 to 5 ton armor stones at the base of the rock revetment, with 2 to 2.5 ton rocks at the top of the rock revetment; and extend no further seaward than the location of the originally constructed rock revetment. The reconstructed rock revetment would be 2-feet to 2.5-feet taller (+17 feet, NAVD 88) than the currently existing rock revetment (approx. +14 to +15-feet, NAVD 88).

The applicant's investigation acknowledges that the rock revetment design is not optimal. The investigations conclude that wave overtopping is likely to occur during severe storm events (which is largely how the existing structure deteriorated). Thus, regular future maintenance will be required. Further, the investigations state that some bluff slope erosion may occur to the unprotected private owner's bluff slope areas landward of the rock revetment at the applicant's easement line due to wave overtopping the crest of the rock revetment resulting future need for bluff slope repair and some restoration of the rock revetment crest.

Finally, the proposed revetment has not been designed to withstand the effects of sea level rise or to adapt to it. The investigations acknowledge that sea level rise at the end of the 50-year project life (i.e., 2061) (The 50-year project life is the applicant's engineer's assumption as discussed in the Noble, 2009 investigation) will respectively range from a minimum of 0.4 feet, based on the constant trend recorded at the Newport Harbor entrance, to a maximum of 1.7 feet for the high projection that was adopted by the California Ocean Protection Council (COPC). The applicant acknowledges that overtopping would lead to erosion damage to unprotected portions of the upper bluff slope and result in undermining and sloughing of rock revetment stone from the back side. The applicant states that to remedy any damage they will perform repair and maintenance to any damaged sections.

The most desirable alternative wasn't considered

Many of the issues described above could be addressed by moving the revetment landward of its current position, and raising the crest elevation. As described previously, the Niguel Shores community (which stands most to gain from the proposed protection) won't allow use of its property for construction of the protective device. Besides the unwillingness of the landowners

to allow a more landward location, there does not appear to be a reason why the rock revetment could not be placed more landward and no analysis of this option was even considered.

Instead, the applicant considered the following alternatives: 1) No project alternative; 2) Repair of the existing rock revetment; 3) Beach nourishment; 4) Nearshore submerged breakwater; and 5) Vertical seawall. These alternatives are described below accompanied with the reasoning found in these investigations as to why the applicant believes these alternatives are not feasible:

1) No project alternative

The existing riprap rock revetment is in an advanced state of deterioration as the front-face slope of the structure is irregular and the under-sized armor stones are dislodged from their originally placed locations. The existing rock revetment would not effectively protect the bluff slope and back beach improvements against severe storm waves. If this alternative was chosen, the rock revetment would deteriorate further and its protective function would continue to decrease.

2) Repair of the existing rock revetment

According to the applicant, the deterioration of the existing rock revetment is to such an extent that repair work will likely be ineffective.

3) Beach nourishment

The investigations state that on a typical Orange County shoreline, a winter beach width of 150 to 200-feet is required for storm wave protection and based on historical aerial photographs, the mean winter beach width at the project site is less than 50-feet. Analysis of the project site has determined that a large sand volume of 140,000 to 210,000 cubic yards of sand would be needed to extend the beach 100 to 150-feet. Additionally, because of the littoral transport regime in the Niguel Shores area that is in an equal/balancing condition, such a large sand placement could alter the equilibrium and have associated impacts. For example, it may have an effect on a nearby shoal located on the harbor side of the west breakwater in Dana Point Harbor that requires periodic dredging to maintain a navigable harbor. The beach fill may potentially deposit along both sides of the breakwater resulting in the harbor side shoal expanding more rapidly compared to the present condition and thus require more frequent maintenance dredging. Another reason was that it may impact the Niguel and Dana Point Marine Life Refuge. The placement of such a large volume of sand within a relatively short length of shoreline might result in significant burial effects on marine resources when the sand moves offshore. Therefore, this alternative is not considered to be the feasible alternative that would substantially lessen any significant adverse impact which the activity may have on the environment.

4) Nearshore submerged breakwater

Another alternative would be the construction of an offshore riprap stone structure (breakwater) placed parallel to the shoreline. This breakwater would dissipate incident waves and protect the Niguel Shores area. In addition, the attenuation of the wave energy that drives the littoral transport system would result in the deposition of sediment behind the breakwater. While this sand entrapment effect would benefit the Niguel Shores area, it would reduce the amount of sediment that is transported around Dana Point and could result in the loss of sand for downcoast beaches. Also, the breakwater would be placed in an area with sensitive marine habitat that could result in the burying of existing biological resources. Lastly, this alternative may adversely impact water-oriented recreational activities that cannot readily be provided at inland water areas, like surfing, in the project area due to the breakwater potentially impacting wave break formation.

5) Vertical seawall

The last alternative would be a vertical seawall constructed of poured in-place concrete driven into the bedrock. The seawall would need to be massive since it would need to resist the full force of incident waves. Furthermore, the investigation states that the seawall will reflect and amplify the incident wave energy resulting in scour at the toe of the structure. Depending on the nature of the wave attack and the depth of bedrock beach scour may form a trough in the front of the seawall. Additionally, a more severe scouring effect may occur at either end of the seawall since the seawall does not form a continuous shoreline protective device with the neighboring rock revetment structures that currently exist at both ends. Also, the depth of the hard bedrock varies from shallow depth to moderately deep along the proposed alignment of the shoreline protection and that the top surface of bedrock is topped boulders and cobble debris, which complicates preparation of the bedrock surface for a seawall foundation. Therefore, this alternative is not considered to be the feasible alternative that would substantially lessen any significant adverse impact which the activity may have on the environment.

The Commission's engineer states in her memo that the conclusions concerning these alternatives are reasonable, but they also fail to provide some substantial justification on why they are not feasible alternatives. For example, there was not an extensive discussion regarding what specific repairs to the existing rock revetment could be done in order to make it function effectively. Additionally, there was no discussion regarding how much sand would be necessary for either a beach fill effort or an analysis addressing the effects of smaller volumes of sand that could be used for access and recreational improvements.

Most importantly, there are other alternatives that the investigations failed to analyze such as the placement of the rock revetment further landward. An option of moving the rock revetment possibly 5 to 10-feet further inland, flattening the top of the revetment and increasing the height of the revetment would accomplish many things such as reduce the footprint on available public beach; reduce some of the access impacts of the proposed design by adding a public walkway; and prevention of wave overtopping that is currently occurring and would continue to occur since the proposed rock revetment would have the same crest elevation as the originally

constructed rock revetment (+17-feet, NAVD). As stated in the memo from the Commission's engineer, there is adequate space between the back bluff development and the toe of the bluff to accomplish this redesign. Such a landward design would reduce encroachment onto the public beach and would provide better protection for those inland properties.

There is no proposed mitigation for impacts on shoreline sand supply

There are a number of adverse impacts to coastal resources associated with the construction of shoreline protection structures, most of which are either a direct result of or otherwise related to changes in local shoreline sand supply. The natural shoreline processes referenced in Section 30235, such as the formation and retention of sandy beaches, are altered by construction of a seawall. Bluff retreat is one of several ways that beach area and beach quality sand is added to the shoreline. This retreat is a natural process resulting from many different factors such as erosion by wave action causing wearing away of the lower bluff material, undercutting and/or cave formation, enlargement and eventual collapse; saturation of the bluff soil from ground water causing the bluff to slough off; landslides; and natural bluff deterioration. When a seawall is constructed on the beach at the toe of the bluff, it directly impedes some or all of these natural processes.

Some of the adverse effects of a shoreline protective structure on the beach, such as scour, end effects, and modifications to the beach profile, are temporary or difficult to distinguish from all the other actions which modify the shoreline. Seawalls also have non-quantitative effects to shoreline character and visual quality. Some of the other adverse effects which a structure may have on natural shoreline processes can be quantified. These effects include: 1) loss of the beach area on which the structure is located; 2) the long-term loss of the area that would have become beach if the backshore were not fixed by the seawall; and 3) the volume of sandy material which would have been supplied to the beach if the back beach or bluff were to erode naturally. In many cases, the Commission has required that applicants mitigate for the anticipated impacts of their projects by, among other means, paying an in-lieu fee to be used for future sand replenishment projects. In this case, there is no proposal by the applicant to address the loss of sand.

The bluff slope landward of the rock revetment ranges from 70-120 feet in height and is densely developed with twenty-three (23) residential dwellings at the top of the bluff slope. The bluff slope consists of Monterey formation and is somewhat susceptible to erosion. Additionally, a veneer of sand on the beach overlays the underlying bedrock. The long term bluff retreat rate from Monarch Point to Dana Point was estimated to be 0.19 foot per year and based on this rate; the bluff sedimentation contribution was determined to be 1,800 cubic yards per year (Noble, 2009). However the investigation also states that bluff erosion from wave attack has been reduced since the rock revetment construction between 1969-1970. Thus, the overall sediment contribution is expected to be smaller than the estimated average value of 1,800 cubic yards per year. While this rock revetment reduces bluff erosion, it also disrupts the natural process of sedimentation. Sedimentation benefits shoreline sand supply; however, the revetment adversely impacts that process. If the revetment was at least located as far landward as possible to protect the bluff slope and back improvements, it would also reduce its impact upon shoreline sand supply. Section 30235 of the Coastal Act requires that a shoreline protection be designed to

eliminate or mitigate adverse impacts on local shoreline sand supply. In this case, the applicant has made no proposal to address this issue.

Conclusion

Section 30235 of the Coastal Act permits shoreline protective devices or structures such as the proposed rock revetment when the devices or structures are required to protect existing structures in danger from erosion. However, Section 30235 of the Coastal Act also states that approval of a permit for such a device is only required when the shoreline protection is designed to eliminate or mitigate adverse impacts on local shoreline sand supply. The applicant states that the rock revetment is necessary in order to effectively protect the bluff slope and back beach improvements from severe storm wave attack. However, the rock revetment has not been designed to effectively protect the bluff slope and the back beach improvements. The reconstructed rock revetment would still allow overtopping and has not been designed to be located as far landward as possible, as all shoreline protective devices should be designed. In addition, the proposed rock revetment does not eliminate or mitigate its impact upon local sand supply that a rock revetment creates. Thus, the proposed project is inconsistent with Section 30235 of the Coastal Act.

Section 30253 of the Coastal Act states that new development shall minimize risks to life and property in areas of geologic, flood and fire hazard. As currently proposed, the rock revetment is inadequately designed to minimize risk to life and property and as proven in the discussions above, the development is located in an area of geologic and flood hazard. Thus, the proposed project is also inconsistent with Section 30253 of the Coastal Act.

Therefore as described above, the project is inconsistent with Sections 30235 and 30253 of the Coastal Act and must be denied.

C. PUBLIC ACCESS

Section 30210 of the Coastal Act states:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 of the Coastal Act states:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

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: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Section 30220 of the Coastal Act states in part:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30221 of the Coastal Act states in part:

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Coastal Act Section 30210 and Coastal Act Section 30211 mandate that maximum public access and recreational opportunities be provided and that development not interfere with the public's right to access the coast. Section 30212(a) of the Coastal Act provides that adequate public access to the sea be provided in new development projects. Additionally, Sections 30220 and 30221 of the Coastal Act protect coastal areas suited for water-oriented recreational activities and oceanfront land for recreational uses.

In past permit actions (e.g., CDP No. 5-81-568, CDP NO. 82-243, etc.), the Commission has often required that public access to and along the shoreline be provided in conjunction with beachfront development projects and has required design changes in other projects to reduce interference with access to and along the shoreline. The principal access impacts associated with such projects that have provided the nexus for these requirements in permits involving shoreline protection are the occupation of public sand area by a structure and/or the potential for adverse effects from a shoreline protective device on shoreline sand supply and public access and recreation, inconsistent with sections 30210, 30212, 30220, and 30221 of the Coastal Act.

Past Commission review of shoreline armoring projects (e.g., CDP No. 5-88-212, CDP No. 5-86-109, etc.) has shown that individual and cumulative adverse effects to public access from such projects can include encroachment on lands subject to the public trust (and, in a case such as this, otherwise subject to public access rights), thus physically excluding the public; interference with the natural shoreline processes necessary to maintain publicly-owned tidelands and other public beach areas; overcrowding or congestion of such tideland or beach areas; and visual or psychological interference with the public's access to and the ability to use public tideland areas. Similarly, the substantial repair or replacement of an existing shoreline protective device serves

to extend the life of the device and in doing so extends the period of time that the shoreline protective device will result in adverse impacts to shoreline sand supply and public access.

The interference by a shoreline protective device, such as a seawall, has a number of adverse effects on the dynamic shoreline system and the public's beach ownership interests. First, changes in the shoreline profile, particularly changes in the slope of the profile, which result from reduced beach width, alter the usable area under public ownership. A beach that rests either temporarily or permanently at a steeper angle than under natural conditions will have less horizontal distance between the mean low water and mean high water lines. This reduces the actual area of public property available for public use. The second effect on access is through a progressive loss of sand, as shore material is no longer available to nourish the bar. The lack of an effective bar can allow such high wave energy on the shoreline that materials may be lost far offshore where it is no longer available to nourish the beach. The effect that this has on the public is a loss of area between the mean high water line and the actual water. Third, shoreline protective devices such as revetments cumulatively affect public access by causing accelerated and increased erosion on adjacent public beaches (Griggs, 2005). This effect may not become clear until such devices are constructed individually along a shoreline, eventually affecting the profile of a public beach. Fourth, if not sited as far landward as possible, in a location that ensures that the seawall is only acted upon during severe storm events, beach scour during the winter season will be accelerated if the seawall is not located as far landward as possible because there is less beach area to dissipate wave energy. If there is more beach scour, then the beach elevation drops and the beach area falls further below the mean high tide line, resulting in less accessible beach area for the public. Finally, revetments interfere directly with public access by their occupation of beach area that will not only be unavailable during high tide and severe storm events but also potentially throughout the winter season.

In this case, the applicant has indicated that the existing shoreline protection on site has reached the end of its expected life and is no longer adequate to ensure the protection of the bluff slope behind it from wave action. The applicant's engineers have further found that due to the deteriorated and damaged state of the existing revetment, it is necessary to demolish and replace the existing revetment on site in order to ensure its continued function.

Given the adverse impacts of seawalls on shoreline processes as described previously, it is clear that the proposed revetment will adversely impact public access. The public traditionally has an ownership right in the lands of the State seaward of the Mean High Tide Line (MHTL) under the public trust doctrine. In this situation due to County ownership, the public also owns the beach from the MHTL to the seaward private property line of the 23 lots above the proposed revetment site.

The public beach at the project site is used by local residents and visitors for a variety of recreational activities. Thus, the proposed revetment is located on a sandy beach area that would otherwise be available to the public. As previously identified, the project will have several adverse impacts on public access including the loss of beach area by the encroachment of the revetment, the loss of local shoreline sand supply that would naturally renourish the beach by way of erosion of the bluffs and the beach area that would have been created as the toe of the bluff moved incrementally landward.

Although the proposed revetment is not proposed to encroach seaward of the existing revetment (yet this hasn't been fully proven), it still impacts public access on this beach by continuing to occupy public beach, by continuing to exert erosive effects on the beach seaward of it (e.g. reflective energy), and by continuing to prevent the erosion of bluff soils that replenish the beach. The beach along this area of the coast is already narrow and at high tides and with winter beach profiles, the public is forced to walk virtually on the revetment. Under some circumstances, even today, the beach in front of the revetment is impassable. These effects will only become more extreme over time as sea level rises. Furthermore, there are alternatives that would result in relocation of the revetment 5 to 10-feet landward. This would open up more public beach area (and improve its protective function). Besides the opposition by the landward property owners, the applicant has not provided any information on why the revetment could not be placed more landward. Any encroachment of structures, no matter how small, onto the public sandy beach in this area, results in a significant reduction in the beach area available for public use. This is particularly true given the existing beach profiles and relatively narrow beach. Aside from the direct encroachment, it is expected that over the approval period of the revetment, the beach area seaward of the revetment will gradually reduce in size resulting in further impacts on public access. In order to deal with these impacts, appropriate mitigation should be adequately evaluated and proposed. In this case, as submitted, no such adequate evaluation of appropriate mitigation measures were proposed, even though initially they were considered.

As stated previously in the staff report, Commission staff had earlier discussions with the County staff before submittal of application regarding the inclusion of a public walkway on top of the proposed revetment. The public walkway would assist in mitigating the public access impact of the revetment upon the already narrow public beach. Additionally, wave uprush events make this beach even narrower and at times requiring the public to walk along the existing revetment for access which is not a feasible option for physically-challenged members of the public. The public walkway would assist in alleviating this situation. The proposed public walkway would also connect existing lateral public access along the shoreline between Salt Creek Beach, the access ramp from the public parking area off of Selva Road and the recently completed Strands Beach public access walkway. The applicant was receptive to the idea and even supplied plans and information showing the public walkway included with the revetment and technical analysis of its feasibility. However, when the application was finally submitted, that portion of the project was left out. Thus, the adverse impacts to public access associated with this project have not been addressed.

Besides impacting the heavily used narrow beach adjacent to the revetment, the applicant has proposed to place the staging area in the Salt Creek Beach parking lot and smaller areas along the access road to the project site. The contractor states that he will need to use about half of the public parking lot (4 acres) at Ritz Carlton Drive and Pacific Coast Highway to stage and stockpile stone, set up scales, maneuver trucks and establish an office trailer. This would significantly impact public access as these lots are heavily used by visitors to the beach. Even using only a reduced section of the parking lot would result in a significant impact, let alone half of the parking lot as proposed by the applicant. If a parking lot were to be used for a staging area for the project, the large Niguel Shores private residential community parking lot adjacent to the project site should be the alternative site. As proposed to use the public parking lot for staging, the project would additionally significantly impact public access to the beach.

Conclusion

Sections 30210, 30211, 30212, 30220 and 30221 of the Coastal Act protect public access. As proposed, the revetment results in impacts upon public access by continuing to occupy an already narrow public beach that is widely used by the public. As described above, there are alternatives that would result in landward relocation of the revetment. Placement of such a revetment should be as far landward as possible in order to reduce the impact upon public access, especially at this location where the public beach is already narrow. During periods of wave uprush, the width of this public beach is even narrower, resulting in the public walking along the revetment for access which is not a feasible option for physically-challenged members of the public. To deal with these impacts, appropriate mitigation should be evaluated and proposed, such as the inclusion of a public walkway on top of the revetment. The impacts on local shoreline sand supply (and beach width) also need to be addressed. Therefore, the adverse impact to public access remains and no mitigation has been proposed. In addition, the proposed use of the Salt Creek Beach public parking lot as a staging area would significantly adversely impact public access to the beach.

Therefore as described above, the project is inconsistent with Sections 30210, 30211, 30212, 30220, and 30221 of the Coastal Act and must be denied.

D. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of Title 14 of the California Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). The County of Orange is the lead agency and has determined that in accordance with CEQA, the project is Categorical Exempt from Provisions of CEQA for the construction. However, 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.

While the County of Orange found that the development was Categorical Exempt, the Commission, pursuant to its certified regulatory program under CEQA, the Coastal Act, the proposed development would have adverse environmental impacts. There are feasible alternatives or mitigation measures available, such as relocation of the reconstructed revetment landward, construction of a public walkway on top or landward of the reconstructed revetment so that it is consistent with the hazard, development and public access policies of the Coastal Act. Therefore, the proposed project is not consistent with CEQA or the policies of the Coastal Act because there are feasible alternatives, which would lessen significant adverse impacts, which the activity would have on the environment. Therefore, the project must be denied.

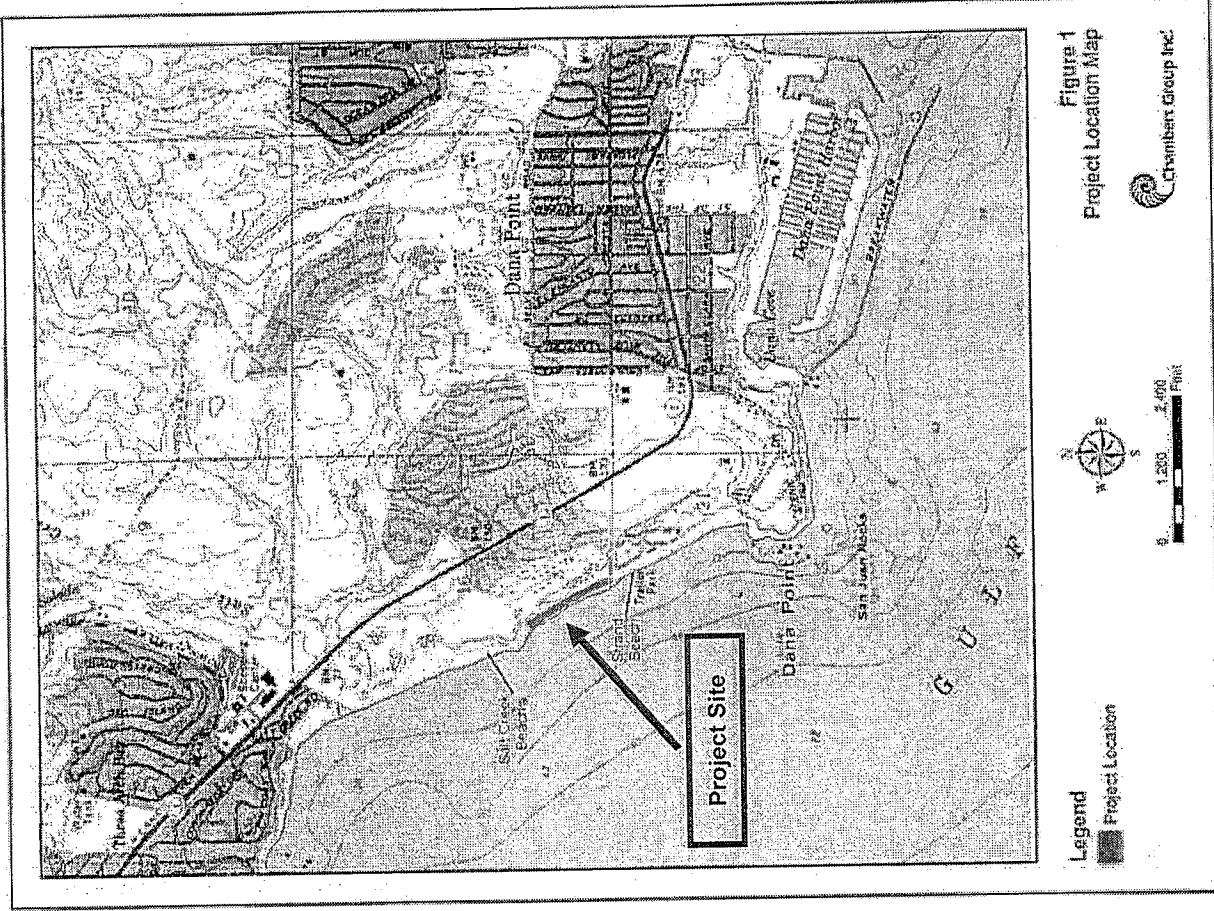
APPENDIX: SUBSTANTIVE FILE DOCUMENTS

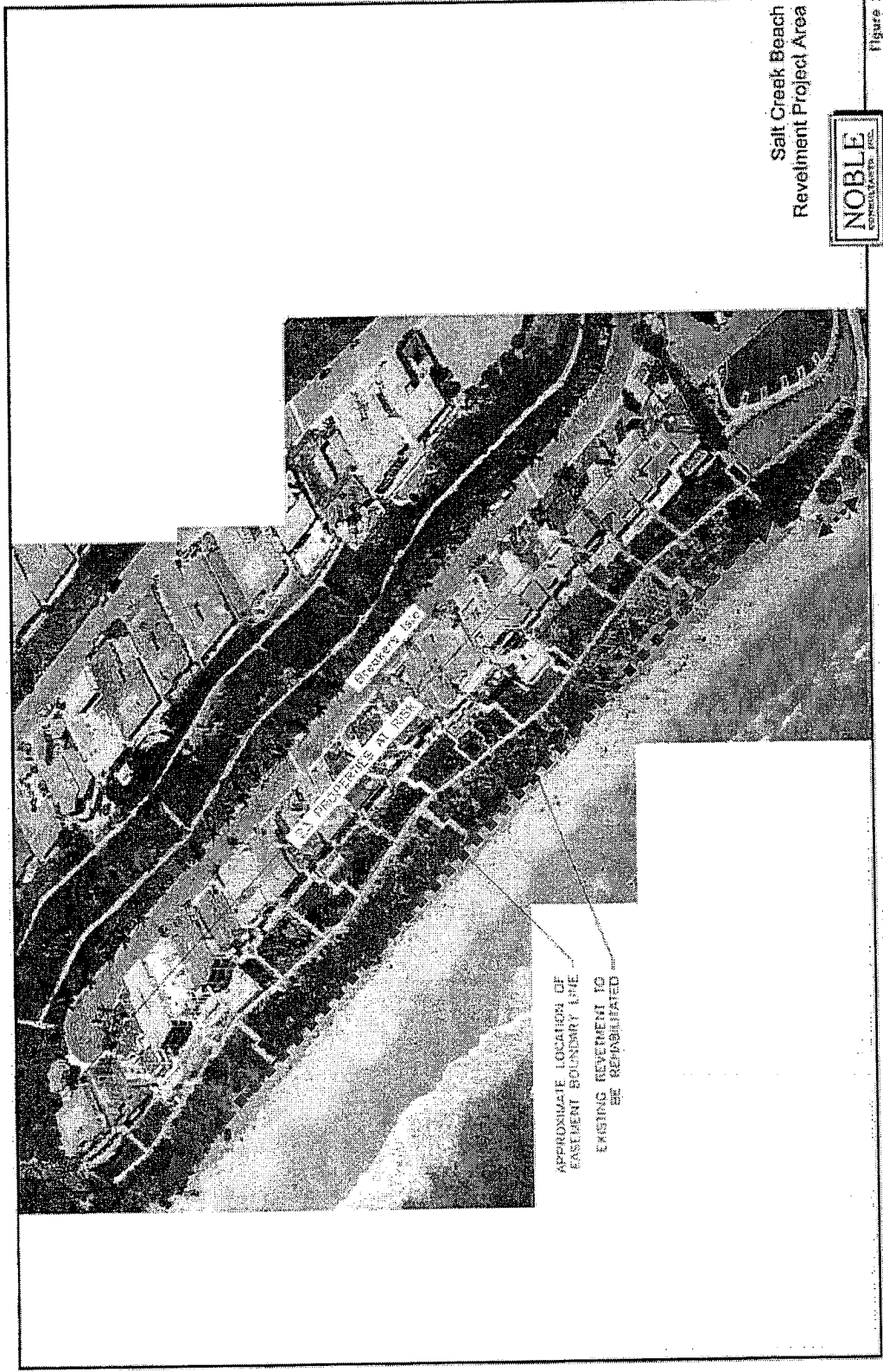
- Emergency Coastal Development Permit (CDP) No. EME-134;
- Coastal Development Permit (CDP) No. P-80-7056-(Smyth Bros, Inc.);
- Coastal Development Permit (CDP) No. 5-86-109-(Niguel Shores Community Association & County of Orange Environmental Management Agency, Department of Harbors, Beaches, & Parks);
- Coastal Development Permit (CDP) No. 5-86-742-(Stein-Brief Group & County of Orange Environmental Management Agency, Department of Harbors, Beaches, & Parks);

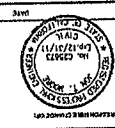
- Coastal Development Permit (CDP) No. 5-86-742-(Stein-Brief Group & County of Orange Environmental Management Agency, Department of Harbors, Beaches, & Parks);
- Coastal Development Permit (CDP) No. 5-81-568-(Schafer);
- Coastal Development Permit (CDP) No. 5-82-243-(Bennett);
- California Environmental Quality Act (CEQA) exemption dated February 25, 2011;
- *Condition Assessment of Existing Niguel Shores Revetment* prepared by Noble Consultants, Inc. dated April 2007;
- *Geotechnical Review and Evaluation Proposed Rock Revetment Rehabilitation Design, Salt Creek Beach At Niguel Shores, Orange County Parks, Dana Point, California (Job No. 8-212-100128)* prepared by AMEC Earth & Environmental, Inc. dated June 12, 2009;
- *Environmental Information Form* prepared by Chambers Group, Inc. received on March 29, 2010
- *Niguel Shores Biological Resources Report* prepared by Chambers Group, Inc received March 2, 2011;
- *Coastal Process Assessment reconstruction of Niguel Shores Revetment* prepared by Noble Consultants, Inc. dated July 2011
- Letter to Noel Davis, Ph.D. from Commission staff dated April 1, 2011;
- Letter to Commission staff from Chamber Group Inc. dated July 19, 2011 received July 22, 2011;
- Letter to Chamber Group Inc. from the State Lands Commission (SLC) dated June 6, 2011 received July 22, 2011;
- Email to Chamber Group Inc. from the California Department of Fish & Game (CDF&G) dated May 23, 2011 received July 22, 2011;
- Letter to OC Parks from the Regional Water Quality Control Board (RWQCB) dated March 23, 2011 received July 22, 2011;
- Letter to Noel Davis, Ph.D. from Commission staff dated August 19, 2011;
- Letter to Commission staff from the Chamber Group Inc. dated September 19, 2011 received September 21, 2011;
- Letter to the Chamber Group Inc. from Noble Consultants, Inc. dated September 9, 2011 received September 21, 2011;
- Letter to the Regional Water Quality Control Board (RWQCB) from Chamber Group Inc. dated June 20, 2011 received September 21, 2011;
- Letter to Noel Davis, Ph.D. from Commission staff dated October 20, 2011;
- Email to Regional Water Quality Control Board (RWQCB) dated November 18, 2011 received November 18, 2011;

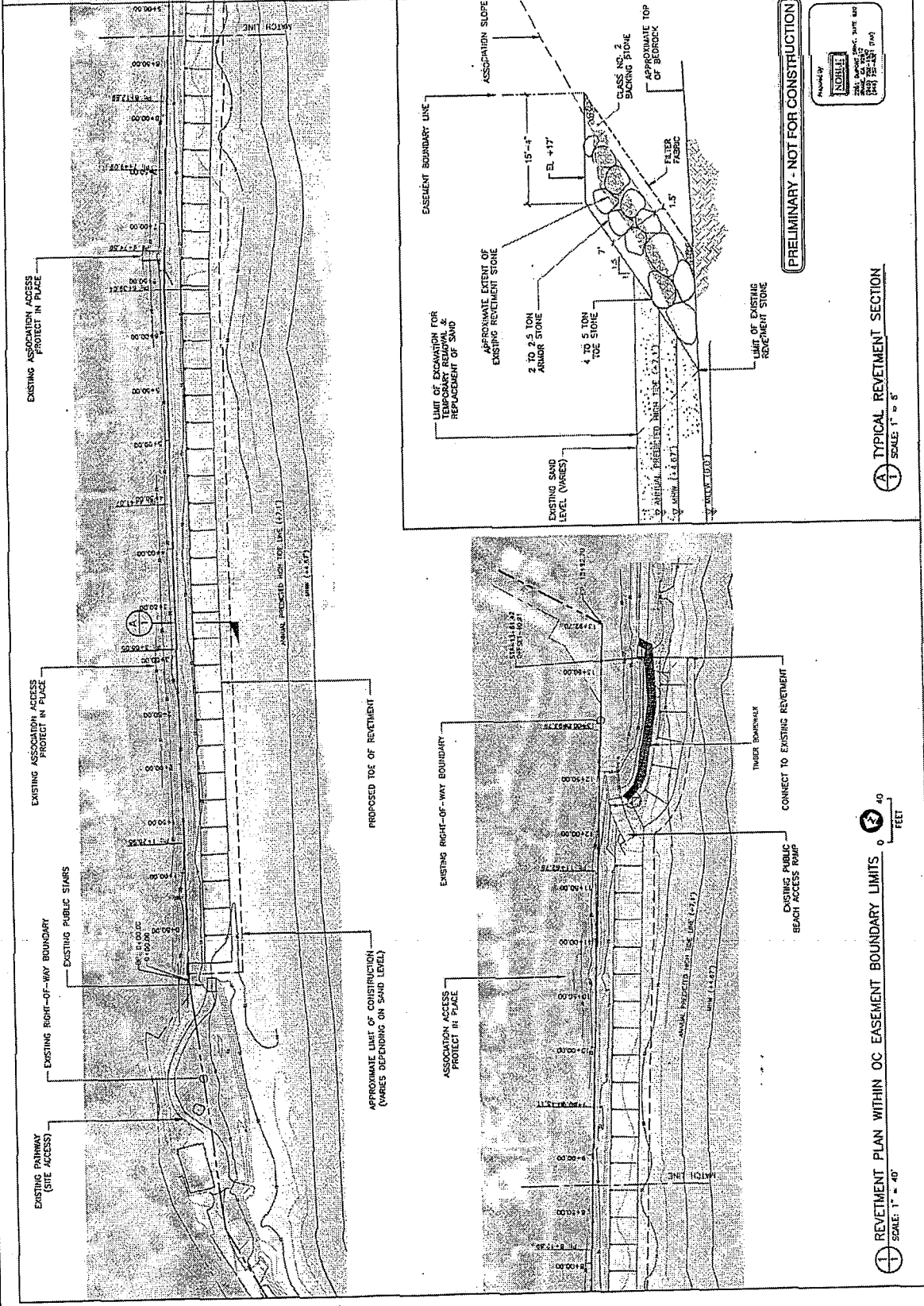
5-11-053 (OC Parks)

- Memorandum from Lesley Ewing, Senior Coastal Engineer of the California Coastal Commission dated June 18, 2012; and
- The Impacts of Coastal Armoring by Gary Griggs (2005).





REVISION PLAN COMMENTS AND REVISIONS DATE: _____ DRAWN BY: _____ CHECKED BY: _____ DATE: _____ PROJECT NO.: _____ SHEET NO.: _____		PROJECT TITLE SALT CREEK BEACH REDEMPTION REPAIR DANA POINT, CA SCALE: 1" = 40' SHEET NO. 1 OF 1	PREPARED BY: _____ CHECKED BY: _____ DATE: _____ PROJECT NO.: _____ SHEET NO.: _____
---	---	---	--



PRELIMINARY - NOT FOR CONSTRUCTION
 SCALE: 1" = 40'
TYPICAL REDEMPTION SECTION
 SCALE: 1" = 8'

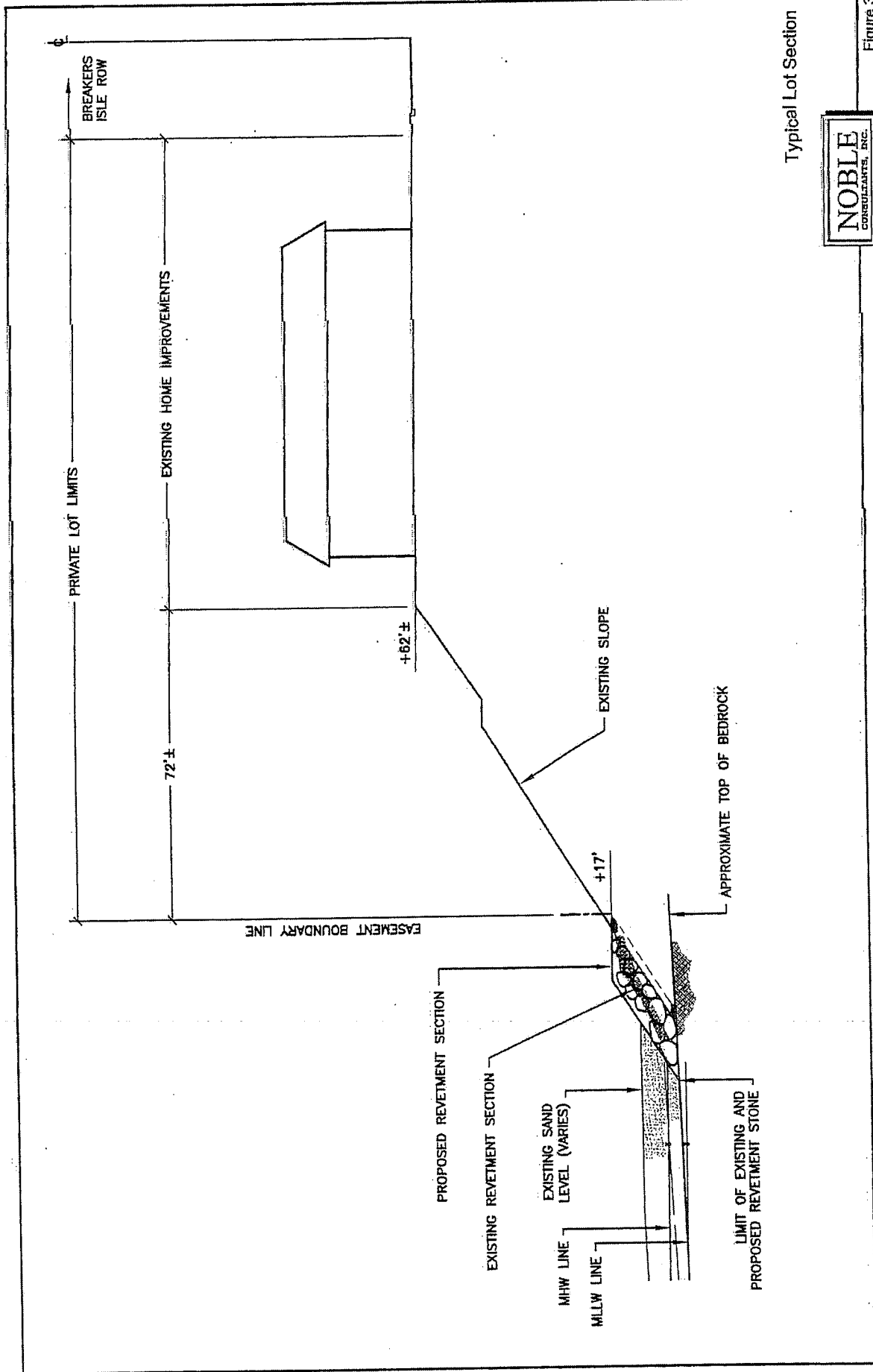


Figure 3



June 18, 2012

TO: Fernie Sy, Coastal Program Analyst
FROM: Lesley Ewing, Sr. Coastal Engineer
SUBJECT: Niguel Shores Revetment Reconstruction

I have reviewed the following materials related to the Niguel Shores Revetment:

- Noble Consultants, Inc. (July 2011) "Coastal Processes Assessment for Reconstruction of Niguel Shores Revetment," prepared for County of Orange
- Noble Consultants, Inc. (September 9, 2011) "Letter Report: Response to Comments" sent to Chambers Group, Inc.
- Chambers Group Inc. (September 19, 2011) "Letter Report: Notice of Incomplete Application: Coastal Development Permit Application No. 5-11-053, sent to Fernie Sy.
- Noble Consultants, Inc. (December 2010) "Strand Beach Monitoring Program Orange County, California Final Report, prepared for Headlands Reserve, LLC.

In addition to these reports, on October 7, 2011, I participated in a site visit, accompanied by staff from the Coastal Commission, Chambers Group, Noble Consultants, Inc. and the County of Orange. I also have had phone conversations about this project with Jon Moore, Noble Consultants, Inc. The reports, site visit and phone conversations have helped to inform my comments about this project.

Project Need: Much of the project need is based the legal responsibility of the County to maintain the Niguel Shores revetment and upon site history and the events leading up to the installation of the original revetment in 1969-1970. Without the revetment there will be possible damage to the terrace slope inland of the revetment and to the back beach improvements. There are 23 residences inland of the revetment with a range of setbacks. However, no analysis was provided that indicates which structures would be threatened by wave attack or slope failure if no revetment repairs or reconstruction were to undertaken or whether any of the structures have sufficient setback or foundational support to be safe without reliance upon the continued performance of the revetment.

The original 1969/1970 revetment had a 1.5:1 (H:V) slope, with a small underlayer of rock and 350 to 500 pound armor stone as the protective outer layer. No fabric filter was used as a backing between the revetment and the back slope. Over time this revetment has been damaged by storms or a landslide (specifically the 1977/78 Seagate Landslide)

and sections of the revetment were repaired. The design height of the 1969/1970 revetment was not provided, but the revetment crest is now ranges from about +14' to +15' NGVD. At present, sections of the revetment had lost rock or have rock seaward of the original toe. The various deficiencies in the design, as noted in the Nobel Report (2011) are:

- Insufficient coverage
- Undersized armor stone
- Oversteepened or flattened slope
- Inadequate elevation
- Damaged sections
- Possible shallow toe elevation

Taking these deficiencies together, the applicant has characterized the current revetment as being in a severely deteriorated state. Due to the overall condition of the revetment, the applicant has recommended that the existing revetment be reconstructed to the present-day engineering standard similar to that at Strand Beach. However, unlike at The Strand Beach, the inland property owners will not allow any inland encroachment of the revetment, limiting the revetment to its current footprint and limiting the elevation of the crest to no more than +17' NAVD. Also, the proposed Niguel Shores revetment has not been designed to accommodate pedestrian access across the top of the structure.

The proposed reconstructed revetment would have a fabric filter backing, use 4 to 5 ton armor stone at the base of the revetment, with 2 to 2.5 ton rocks higher on the structure. The design shows the revetment going no farther seaward than the existing revetment stone. In the text for this project, it is implied that the reconstructed revetment would be no farther seaward than the seaward limit of the original design. The maximum allowable seaward limit for any revetment design should be original seaward limit, and not the seaward extent of rock that has been dislodged from the revetment, as implied by the project plans. As noted above, the revetment height would be 2' to 2.5 feet higher than the revetment in its current condition.

Based on observations from the October 2011 site visit, I concur that portions of the revetment are in a deteriorated state. If the revetment is necessary to protect existing structures in danger from erosion, then the existing revetment is not in a condition to provide protection. And, since the proposed project is for reconstruction of the revetment, my review will treat it as new development.

The Revetment will be located on Public Trust Land

The revetment will be founded on bedrock or at +2' NAVD. At this location the Mean High Water elevation is +4.25' NAVD. With the revetment in place, the mean high tide line will intersect the face of the revetment. The discussion of coastal processes notes that in winter this beach can often become depleted (i.e. scoured down to bedrock) - clearly placing the revetment on land that would be public trust but for the placement of the revetment. As such, the design should seek first to avoid encroachment onto the public beach and, if such encroachment is not possible, then to minimize encroachment and other impacts. The seaward limit of the proposed revetment is given as either the

seaward limit of the original revetment or the limit of the existing rock. There seems to be no reason that the proposed revetment needs to be as far seaward as proposed, other than the unwillingness of the back shore property owners to allow a more landward location.

As proposed, the revetment footprint will be approximately 15.4 feet seaward of the bluff face and will protect approximately 1,400 feet of bluff length. The construction of the new revetment will cover approximately 21,560 square feet of beach. The revetment will also fix the back bluff location and prevent inland migration of the beach. The long-term average annual erosion at this location is approximately 0.19 feet/year. Over a 20 year time period (the life of structure assumed for most shore protection), the revetment will prevent the creation of approximately 5,320 square feet of beach. Thus construction of the revetment and fixing the back beach location will result in the long-term loss of 26,880 square feet of beach area.

Alternatives to the Proposed Project

The applicants have provided a short analysis of several alternatives to the proposed revetment, including repairing the existing revetment, beach nourishment, a nearshore breakwater, and a vertical seawall. The analysis found that repairs of the current revetment would not be sufficient to provide storm protection; that the addition of a large volume of sand to this beach would have adverse effects to Dana Point Harbor and possibly to the Niguel Marine Refuge; and, the local geology would make it extremely difficult to install a vertical seawall. In general, the conclusions concerning these alternatives are reasonable. However, the option of extensive repairs (for our purposes, still equivalent to a project that would require a new permit) might be a viable option to complete reconstruction. Also, while there may be ecological concerns from a beach nourishment project sufficient to provide storm protection, there was no analysis as to the actual volumes of sand necessary for such a beach fill effort, nor did the general analysis of beach fill address the effects from smaller volumes of sand that might be used for access or recreational enhancement.

The alternatives analysis does not look at options that would move the revetment farther inland or that would put a public walkway on top of or inland of the revetment. These options are not mutually exclusive; a walkway could be placed on top of a more inland revetment. Both options seem technically possible; the constraint to both options is the objections of the inland property owners. The option to move the toe of the revetment farther inland (possibly 5 to 10 feet inland) could reduce the footprint on available beach area. The option to add an access path on top of the revetment might reduce some of the access impacts from the proposed revetment design.

Protection provided by the Proposed Alternative

The proposed revetment design is limited to a height of only +17' NAVD. The applicant's analysis of storm activity shows that this revetment is not an optimal engineering design and that the proposed configuration will experience overtopping for moderate to severe storm events. The proposed revetment design would use armor stone of sufficient size so as to remain stable during a large storm; however, the unprotected back slope can be expected to experience erosion from overtopping even

with the revetment in place. Some revetment stones may be dislodged during a storm event, but the applicant's engineer had provided a design that should not experience catastrophic collapse during times when storm waves are breaking on the structure.

For enhanced bluff protection, the revetment would need to be closer to the bluff face and it would need to extend farther up the bluff face than does the proposed design. There appears to be adequate space between the back bluff development and the toe of the bluff to accomplish this redesign. Such a landward relocation would have less encroachment onto public beach and would afford better protection to the inland development in need of protection. Although a vertical wall would be another option that would bring the protection closer to the bluff and that could extend higher onto the bluff face, the identified constraints to installation of a vertical wall - very hard bedrock that would be difficult to excavate and a deep sand channel about -18 feet deep that would need to be completely filled to prevent scour - make a vertical wall very impractical for this location.