

CALIFORNIA COASTAL COMMISSION

SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4402
(619) 767-2370



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original staff report

W22b

Addendum

June 3, 2016

To: Commissioners and Interested Persons

From: California Coastal Commission
San Diego Staff

Subject: Addendum to **Item W22b**, Coastal Commission Permit Application
#6-15-1717 (Barr), for the Commission Meeting of June 8, 2016

Staff recommends the following correspondence be added to the above-referenced staff report, dated May 19, 2016.

1. On Page 6, the following shall be added to the list of exhibits:

Exhibit 7 - Letter of Support from Applicant, dated June 2, 2016

Exhibit 8 - Letter of Opposition from the Surfrider Foundation, dated June 3, 2016

James A. Chinn, Architect



2120 Jimmy Durante Blvd., Suite 114
Del Mar, CA 92014

Phone (858) 755-5863
Email :jameschinn400@gmail.com

6-2-16

California Coastal Commission
7575 Metropolitan Drive
San Diego, Ca. 92108

RE: 6-15-1717
Barr Residence
225 Pacific Ave.
Solana Beach, Ca.

Dear Sirs,

As the owners representative for permit 6-15-1717, we would like to notify the Commission that we are in agreement with the staff report and conditions of approval.
We urge the Commission to APPROVE application 6-15-1717.

Thanks you.

James Chinn, Architect

EXHIBIT NO. 7

APPLICATION NO.

6-15-1717

Applicant Response Letter



California Coastal Commission



Surfrider Foundation San Diego County Chapter

9883 Pacific Heights Blvd, Suite D
San Diego, CA 92121
Phone: (858) 622-9661 Fax: (858) 622-9961

June 3, 2016

Delivered via email

To: Eric Stevens
California Coastal Commission
7575 Metropolitan Drive Ste 103
San Diego, CA 92108-4402

Re: Item W22b, Application 6-15-1717, Mark and Felicia Barr

Dear Mr. Stevens,

The Surfrider Foundation San Diego County Chapter recognizes beaches as a public resource held in the public trust. Surfrider Foundation is an organization representing 250,000 surfers and beach-goers worldwide that value the protection and enjoyment of oceans, waves and beaches. For the past decade, San Diego Chapter has reviewed and commented on coastal construction projects and policy in San Diego County. We appreciate the opportunity to provide comments to the California Coastal Commission about these important issues.

We have grave concerns about any approval for the demolition of an existing structure and construction of a new residence on the bluff tops of Solana Beach. Section 30253 of the California Coastal Act is unequivocal in prohibiting new development that requires protective devices:

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....**

By looking at the staff report itself, we see no logic to support this proposed redevelopment. Page 2 of the staff report states that there is not sufficient space on the existing lot to move redevelopment behind the Geologic Setback Line (GSL):

"...the certified LUP specifies new development shall be set back from the bluff edge a sufficient distance to ensure that it will not be in danger from erosion and that it will ensure stability for its projected 75 year economic life...In this particular case, the subject lot is only approximately 80 feet deep, and the geologic studies performed on the site determined, when considering the long-term erosion rate and 1.5 factor of safety, that the GSL is approximately 75 ft. inland of the bluff edge and therefore there is not sufficient area on the site to build a home that would assure stability with a 1.5 factor of safety for 75 years without relying either on the existing seawall, or new bluff or shoreline protection measures."

The Surfrider Foundation is a non-profit grassroots organization dedicated to the protection of oceans, waves and beaches through a powerful activist network. Founded in 1984 by a Malibu, California, the Surfrider Foundation now maintains over 250,000 supporters, active in over 30 states. For an overview of the Surfrider Foundation San Diego Chapter's current campaigns, projects and events, visit www.surfridersd.org or contact us at info@surfridersd.org or (858) 622-9661.

EXHIBIT NO. 8
APPLICATION NO. 6-15-1717
Public Comment Letter
 California Coastal Commission



Surfrider Foundation San Diego County Chapter

9883 Pacific Heights Blvd, Suite D

San Diego, CA 92121

Phone: (858) 622-9661 Fax: (858) 622-9961

The Solana Beach Local Coastal Program Land Use Plan (LCP/LUP) is equally unequivocal in forbidding new development seaward of the GSL:

Policy 4.14: ...Complete demolition and reconstruction or Bluff Top Redevelopment is not permitted unless the entire structure is brought into conformance with the policies and standards of the LCP.

Policy 4.17: New development shall be set back a safe distance from the bluff edge, with a reasonable margin of safety, to eliminate the need for bluff retention devices to protect the new improvements. All new development, including additions to existing structures, on bluff property shall be landward of the Geologic Setback Line (GSL) as set forth in Policy 4.25....

The staff reports continues to support our position that no redevelopment be allowed in such a geologically unstable location:

"As evidenced by the seawall fronting the subject site, the existing home is clearly in a hazardous location and could not be sited in its current location without shoreline armoring. While the new home will be located further landward than the existing home and accessory structure, it will still be located in a hazardous location. Due to the size of the lot, there is not sufficient area on the site for the proposed development to meet the 1.5 factor of safety for 75 years. **In this case, the Commission could deny the permit and allow the existing use of the property to continue."**

The applicants are depending on an existing sea wall in order to ensure that their new home will not be threatened by natural bluff erosion. While the seawall is needed for the other residences it must not be weighed for this development in considering whether to approve under Section 30253. This is also clearly prohibited in the LCP/LUP:

Policy 4.18: A legally permitted bluff retention device shall not be factored into setback calculations....

We do concur with staff that the use of caissons to support structures should not be allowed because:

"...caissons may become exposed in the future if the existing seawall is ever removed and if the bluff erodes more quickly than expected. Exposed caissons essentially function as an upper bluff wall, limiting bluff retreat and impairing the visual quality of the natural landform of the bluff."

That said, conditionally approving this project with the requirement that caissons not be used in the construction of a new home is not an acceptable solution. We again point to section 30253 of the Coastal Act and Policy 4.18 of the LCP/LUP, that new development cannot require protective devices. That is definitively the case in this situation. Any new development on this site assumes the continued maintenance of the existing seawall.

In summary, policies 4.14, 4.17, and 4.18 of the LCP/LUP, as well as Section 30253 of the Coastal Act are clear: reconstruction of a bluff top residence is not permitted unless the redevelopment is landward of the GLS, and that a existing seawalls cannot be factored into setback calculations. The staff report appears to ignore all

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of these provisions in its conditional approval for redevelopment. We urge you to deny this application and avoid setting a dangerous precedent in Solana Beach. This is the type of situation you, the Commission, were trying to prevent when the definition of "redevelopment" was so finely tuned during the LUP and LUPA process in Solana Beach. Allowing redevelopment on this site is counter to all of that work, and potentially sets a very bad precedent. At the very least, this decision should be made at a local hearing, such as the July meeting in San Diego.

Sincerely,

Jim Jaffee

Co-chair of the Beach Preservation Committee

San Diego County Chapter of the Surfrider Foundation

Resident of Solana Beach

Kristin Brinner

Co-chair of the Beach Preservation Committee

San Diego County Chapter of the Surfrider Foundation

Resident of Solana Beach

Julia Chunn-Heer

Policy Manager

San Diego County Chapter of the Surfrider Foundation

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CALIFORNIA COASTAL COMMISSION

SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370



W22b

Filed: 10/15/2015
270th Day: 7/11/2016
Staff: E.Stevens-SD
Staff Report: 5/19/2016
Hearing Date: 6/8-10/2016

STAFF REPORT: REGULAR CALENDAR

Application No.: 6-15-1717

Applicants: Mark and Felicia Barr

Agent: James Chinn

Location: 225 Pacific Avenue, Solana Beach, San Diego County
(APN 263-312-15)

Project Description: Demolition of an existing 1,008 sq.ft. single family home with 380 sq.ft. garage and 420 sq.ft. accessory structure and construction of a new 1,950 sq. ft., two story, single family home with an attached 400 sq. ft. garage on a 3,901 sq. ft. blufftop lot.

Staff Recommendation: Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

Staff is recommending approval with conditions; however, the proposed home must be redesigned to remove the proposed caisson foundation, and be set back from the bluff edge an additional 6 feet inland, to 46 feet from the coastal bluff edge.

The subject project raises several significant concerns regarding development in hazardous locations, geologic stability and the long-term effects of shoreline protection on public beaches. The existing site has a 35-foot high seawall located on the public beach at the base of the publicly-owned coastal bluff. The seawall was approved in October 2010 as part of a 256-foot long seawall protecting five private properties. The seawall was approved with a condition limiting the approval of the seawall to 20 years, to allow the Commission to reassess the need for the protection at that time including whether the structure it was

approved to protect still exists. In its approval of the seawall, the Commission found that as the blufftop lots redevelop and structures are potentially moved inland, this could reduce or eliminate the need for the seawall. The subject site would be the first of the five homes to redevelop and relocate further inland.

The current project would remove all of the existing structures on the site, including an existing accessory structure, of which the western portion is located seaward of the bluff edge, and a single-family residence located approximately 25 feet from the bluff edge (both constructed prior to passage of the Coastal Act), and construct a new 2-story, 2,350 sq. ft. house with garage on a drilled pier (caisson) foundation located 40 feet from the bluff edge. No foundation elements are proposed closer than 40 ft. from the bluff edge. However, the seaward 10 feet of the proposed home would be cantilevered seaward of the foundation such that the living area would be as close as 30 feet from the bluff edge. In general, when a property is redeveloped, the Commission requires that the new development be sited in a location that assures stability for the economic life of the structure. In this case, the certified LUP specifies new development shall be set back from the bluff edge a sufficient distance to ensure that it will not be in danger from erosion and that it will ensure stability for its projected 75 year economic life. A Geologic Setback Line (GSL) to assure such stability for new development must be determined on a case-by-case basis for each property. In this particular case, the subject lot is only approximately 80 feet deep, and the geologic studies performed on the site determined, when considering the long-term erosion rate and 1.5 factor of safety, that the GSL is approximately 75 ft. inland of the bluff edge and therefore there is not sufficient area on the site to build a home that would assure stability with a 1.5 factor of safety for 75 years without relying either on the existing seawall, or new bluff or shoreline protection measures. Therefore, the applicant is proposing the use of a caisson foundation to meet this standard and allow construction of the home with only a 40 ft. setback from the bluff edge.

Due to the natural process of continual bluff retreat, coastal bluffs in this area of San Diego County are considered hazardous areas. To find a proposed blufftop residential development consistent with Section 30253, it must be sited such that it will not require a seawall or other bluff/shoreline protective device that would substantially alter natural landforms along the bluffs throughout its useful life. As evidenced by the seawall fronting the subject site, the existing home is clearly in a hazardous location and could not be sited in its current location without shoreline armoring. While the new home will be located further landward than the existing home and accessory structure, it will still be located in a hazardous location. Due to the size of the lot, there is not sufficient area on the site for the proposed development to meet the 1.5 factor of safety for 75 years. In this case, the Commission could deny the permit and allow the existing use of the property to continue. Alternatives to meeting the 75 year stability standard include assumption of risk by the applicant and siting the residence as far landward as possible without use of bluff altering devices, such as caissons, to remain as long as it continues to be safe for occupancy.

Staff recommends the Commission find the use of caissons to support new development, in this particular case, is functioning as a protective device and is not consistent with the

Coastal Act nor does it meet the standards of certified LUP in a number of ways. While Chapter 3 is the legal standard of review, staff has also used the certified LCP Land Use Plan as guidance in development of this recommendation. The LUP contemplates use of a caisson foundation to avoid the need for mid and upper bluff protective devices to protect an existing structure, if the structure is also moved inland. The allowance for potential use of caissons in the LUP was not meant to support new development further seaward than prudent taking into consideration sea level rise and the impacts that structural armoring of private residences has on the public beach. In this case, both the beach and the bluffs are in public ownership.

An important consideration in review of development prior to certification of the LCP and for development of the LCP implementation plan is the differing rights associated with protection of structures that existed at the time of the Coastal Act and those approved using the Coastal Act as the standard of review. The majority of new blufftop development is approved waiving potential rights to protection, to protect the resource values of the public beach and acknowledge the uncertain and dynamic nature of shorefront conditions. The Commission's adopted sea level rise guidance further promotes flexible approaches designed to enhance adaptability given unknown future conditions. The prospect of sea level rise reinforces the need for new development to be more resilient and able to adapt to changing conditions in hazard areas; not the use of a caisson foundation that is structurally difficult to remove if threatened, and will result in permanent or long-term impacts on the public resources of the shoreline.

The LUP only allows construction of new development reliant on caissons in very limited circumstances because caissons are very difficult to remove without damaging the bluff, thus making it infeasible for either the house or the caissons to move inland if eventually threatened. In addition, although the proposed caissons would initially be buried under the home, the caissons may become exposed in the future if the existing seawall is ever removed and if the bluff erodes more quickly than expected. Exposed caissons essentially function as an upper bluff wall, limiting bluff retreat and impairing the visual quality of the natural landform of the bluff.

Therefore, staff is recommending conditional approval to allow removal of the existing blufftop home and accessory structure and construction of a new home, but without reliance on new, permanent shoreline protection (i.e. caissons). The Commission's coastal engineer and geologist have determined that a new home, including the proposed 10 ft. cantilever on the west side of the home, can be safely constructed on the blufftop site without caissons, provided that the foundation is located no closer than 46 ft. from the bluff edge (6 feet further inland than the applicants' proposed location) (Exhibit 4). As the home would not be allowed to rely on the existing lower bluff seawall (as conditioned herein), a new home on this site could not be sited in a safe location for 75 years without the use of caissons. Nevertheless, a new home could be sited such that it is safe at the time of construction, and, recognizing the uncertainty of developing on a coastal bluff, most likely for many years thereafter. This is true for several reasons. First, there is an existing seawall protecting the site. While as conditioned the applicant would have no *right* to retain that seawall to protect the house, the wall cannot be removed at this time, because there are other structures to the north and south of the site that rely on this

portion of the approved wall for stability. Thus, as long as the seawall is present, a home on the site set back a reasonable distance from the bluff edge is unlikely to be threatened by erosion. Secondly, as conditioned, the home must be set back 46 feet. The 1.5 Factor of Safety (FOS) line is located 41 feet landward of the bluff edge, assuming no seawall were there. A FOS of 1.5 is the industry standard for new development, and has been the Commission's definition of "stable" under section 30253 of the Coastal Act for numerous approvals over the years. Staff is recommending that the home be setback to 41 feet, plus a 5 foot buffer. Thus, should the seawall be removed in the future, requiring a 5 ft. buffer from the 1.5 FOS line will allow for some erosion to occur before the FOS of the new blufftop home starts to decrease. Staff is recommending a 46 ft. setback without caissons is an appropriate location for the proposed new residence to have a reasonable expectation of stability for 75 years but, in any event, to avoid bluff altering devices with new development.

As proposed, the caissons would extend approximately 40 ft. deep into the bluff. Such structural measures are akin to an upper-bluff below-grade retention system, a shoreline protective device, approved for many homes in Solana Beach which impact the natural shoreline processes and sand supply and are prohibited for new development pursuant to Section 30253 .

Consistent with the Coastal Act and the certified LUP, Special Conditions on the permit require that the existing seawall may not be expanded, rebuilt, or maintained for the purpose of protecting the new residence; and, the applicant is required to waive any-rights to the construction of shoreline protection to protect the new blufftop home. Thus, the Commission can be assured that the proposed new home will neither rely on the existing shoreline protection, nor depend on the construction of new shoreline protection. In the event that the home is threatened in the future, a preferred alternative would be relocation or removal of the house. Other stability options could, of course, be considered at that time, but removal would not be precluded as it would be if caissons were constructed at this time.

This approach to redevelopment is consistent with past Commission actions to approve demolition of pre-coastal homes and construction of new homes with reduced bluff edge setbacks on constrained blufftop properties. Specifically, in July 2011, the Commission approved the construction of two new homes on a blufftop site in Encinitas, which was already protected by a seawall and mid and upper shoreline armoring (A-6-ENC-09-040 & A-6-ENC-09-041/Okun). In addition, in October 2015, the Commission approved the construction of a new home on a blufftop site in Carlsbad, which was already protected by a rip rap revetment (A-6-CII-15-0039/Nolan). The existing shoreline armoring fronting the sites could not be removed at the time of the Commission actions, as the shoreline armoring was necessary to protect adjacent properties. In both the Okun and Nolan approvals, the Commission found that the new blufftop homes would not be safe for their 75 year economic lives, but that by waiving rights to new shoreline armoring or reconstruction of the existing shoreline armoring fronting the sites, the new homes would not result in the need for new armoring in the future or increase the time that the existing shoreline armoring must be retained.

In order to maintain the proposed cantilevered portion of the home, a deepened footing with a structural grade beam foundation would be required. However, this type of foundation (required to have a maximum depth of 5 ft.), could be removed with relatively minor disturbance to the bluff.

The applicant is also proposing to excavate a portion of the bluff under the portion of the structure proposed to be cantilevered to allow the finished floor elevation to be level with the existing rear yard. Grading the bluff seaward of the rearyard setback line is contrary to the intent of the Coastal Act and LUP policies that restrict development in hazardous locations. In this particular case, grading would increase the potential for bluff erosion to expose the foundation of the home and may result in bluff destabilization through the work required to undertake the excavation or through future drainage issues if water pools in the depression. Therefore, a special condition of this permit prohibits grading seaward of the foundation of the new home.

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APPENDICES

[Appendix A – Substantive File Documents](#)

EXHIBITS

[Exhibit 1 – Project Location](#)

[Exhibit 2 – Aerial Photograph](#)

[Exhibit 3 – Aerial Photograph \(Zoomed In\)](#)

[Exhibit 4 – Site Plan](#)

[Exhibit 5 – Southern Elevation Plan](#)

[Exhibit 6 – CDP 6-09-033](#)

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 6-15-1717 subject to the conditions set forth in the staff recommendation.*

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval 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 approves coastal development permit 6-15-1717 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and 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. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following 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 on which the Commission voted on the application. 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. **Interpretation.** Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **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.
5. **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

This permit is granted subject to the following special conditions:

1. **Revised Final Plans.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit for review and written approval of the Executive Director, revised final plans stamped approved by the City of Solana Beach and in substantial conformance with the submitted plans dated September 28, 2015, by James A. Chinn, Architect, except they shall be revised to reflect the following:
 - a) Any reference to the caisson foundation on all plans shall be eliminated; a deepened footing and structural grade beam foundation (maximum 5 ft. in depth) may be substituted.
 - b) The foundation of the proposed home shall be located no less than 46 feet landward of the existing upper bluff edge.
 - c) The proposed development, including the deepened footing and grade beam foundation, shall be specifically designed and constructed such that it could be removed in the event of endangerment of the residential structure.
 - d) All grading and excavation shall be prohibited within 46 ft. of the existing bluff edge and all references to the 36 inch deep excavated area beneath the cantilever portion of the residence on all plans shall be eliminated.
 - e) All runoff from impervious surfaces on the top of the bluff shall be collected and directed away from the bluff edge towards the street.

The permittee shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. **Final Landscape and Fence Plans.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, final landscaping and fence plans approved by the City of Solana Beach. The landscaping and fence plans shall include the following:

- a) A view corridor a minimum of 5 feet wide shall be created in the north and south side yards of the subject site. All proposed landscaping in this yard area shall be maintained at a height of three feet or lower (including raised planters) to preserve views from the street toward the ocean. All landscape materials within the identified side yard setbacks shall be species with a growth potential not to exceed three feet at maturity.
- b) Any fencing or gates within the side yard setbacks shall permit public views and have at least 75 percent of its surface area open to light.
- c) All landscaping shall be drought-tolerant and native or non-invasive plant species. No plant species listed as problematic or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, may be employed or allowed to naturalize or persist on the site. No plant species listed as noxious weed by the State of California or the U.S. Federal Government may be utilized within the property.
- d) Any existing permanent irrigation system located on the subject property shall be removed or capped. New permanent irrigation systems are prohibited.
- e) A written commitment by the applicant that, five years from the date of the issuance of the coastal development permit for the residence, the applicant will submit for the review and written approval of the Executive Director, a landscape monitoring report prepared by a licensed Landscape Architect or qualified Resource Specialist, that certifies whether the on-site landscaping is in conformance with the landscape plan approved pursuant to this Special Condition. The monitoring report shall include photographic documentation of plant species and plant coverage.

If the landscape monitoring report indicates the landscaping is not in conformance with or has failed to meet the performance standards specified in the landscaping plan approved pursuant to this permit, the applicant, or successors in interest, shall submit a revised or supplemental landscape plan for the review and written approval of the Executive Director. The revised landscaping plan must be prepared by a licensed Landscape Architect or Resource Specialist and shall specify measures to remediate those portions of the original plan that have failed or are not in conformance with the original approved plan.

The permittee shall undertake the development in accordance with the approved landscape plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the plans shall occur without a Commission-

approved amendment to the permit unless the Executive Director determines that no such amendment is legally required.

3. No Future Shoreline Armoring.

- a) By acceptance of this permit, the applicants agree, on behalf of themselves and all successors and assigns, that the existing seawall fronting the subject site may not be retained to protect the blufftop residence and shall be removed when no longer required to protect adjacent blufftop structures with rights to shoreline armoring under Public Resources Code Section 30235 or under the certified Solana Beach LUP. By acceptance of this Permit, the applicants hereby waive, on behalf of themselves and all successors and assigns, any rights to retain the existing seawall fronting the subject site to protect the blufftop residence that may exist under Public Resources Code Section 30235 or under the certified Solana Beach LUP;
- b) By acceptance of this permit, the applicants agree, on behalf of themselves and all successors and assigns, that no new shoreline armoring, including reconstruction of existing shoreline armoring, shall ever be constructed to protect the blufftop residence in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, bluff retreat, landslides or other natural hazards. By acceptance of this Permit, the applicants hereby waive, on behalf of themselves and all successors and assigns, any rights to shoreline armoring that may exist under Public Resources Code Section 30235 or under the certified Solana Beach LUP;
- c) By acceptance of this permit, the applicants agree, on behalf of themselves and all successors and assigns, that the blufftop residence will remain only as long as it is reasonably safe from failure and erosion without having to propose any shoreline armoring to protect the blufftop residence in the future;
- d) By acceptance of this Permit, the applicants further agree, on behalf of themselves and all successors and assigns, that the landowners shall remove the blufftop residence if any government agency has ordered that the structure is not to be occupied due to any of the hazards identified above. Such removal shall require a coastal development permit. In the event that portions of the development fall to the beach before they are removed, the permittees shall remove all recoverable debris associated with the development from the beach and ocean and lawfully dispose of the material in an approved disposal site;
- e) In the event the edge of the bluff recedes to within 10 feet of the foundation of the blufftop residence, the permittees shall submit a geotechnical investigation prepared by a licensed geologist or civil engineer with coastal experience, that addresses whether any portions of the blufftop residence are threatened by waves, erosion, storm conditions, or other natural hazards. The report shall identify all those immediate or potential future measures that could stabilize the blufftop residence without new shoreline armoring, including, but not limited to, removal or relocation of portions of the blufftop residence. The report shall be submitted to

the Executive Director and the appropriate local government official within 90 days of the bluff edge reaching 10 feet of the foundation of the blufftop residence. If the Executive Director determines based on the geotechnical report that the blufftop residence or any portion of the blufftop residence is no longer safely sited, the permittees shall, within 90 days of submitting the report, apply for a coastal development permit or amendment to this CDP to undertake measures required to remove the blufftop residence or reduce the size of the blufftop residence to reduce the hazard potential.

4. **Site Stability Report.** Between December 12, 2029 and December 12, 2030 (20 years from the date that the CDP for the existing seawall was issued), the permittees shall submit a new geotechnical/engineering report assessing bluff stability and whether the blufftop residence remains in a safe location. Specifically, the permittees shall submit to the Commission a site assessment evaluating the site conditions to determine whether alterations to the blufftop residence or removal of the blufftop residence are necessary to avoid risk to life or property. The study shall be based upon a site specific analysis of site stability, bluff alteration due to natural and manmade processes, and the hazard potential at the site. The required study shall be prepared by a licensed Certified Engineering Geologist or Geotechnical Engineer or Registered Civil Engineer with expertise in soils, in accordance with the procedures detailed in the Solana Beach certified LUP, any certified Implementation Plan, and the City Zoning Code; and shall include the following:

- a) An analysis of site stability based on the best available science and updated standards, of beach erosion, wave run-up, sea level rise, inundation, and flood hazards, and;
- b) In the event the report determines that any portions of the blufftop residence are threatened by waves, erosion, storm conditions, or other natural hazards, the report shall identify all those immediate or potential future measures that could stabilize the blufftop residence without new shoreline armoring, including, but not limited to, removal or relocation of portions of the blufftop residence. If the Executive Director determines based on the geotechnical report that the blufftop residence or any portion of the blufftop residence is no longer safely sited, the permittees shall, within 90 days of submitting the report, apply for a coastal development permit or amendment to this CDP to undertake measures required to remove the blufftop residence or reduce the size of the blufftop residence to reduce the hazard potential.

The submitted analysis shall address all the structures existing on the subject property and, depending on the results of the bluff stability analysis, include proposals to remove or retain the blufftop residence. If the required study shows that the blufftop residence is no longer safely located, the permittees shall, within 90 days of submitting the report, apply for a coastal development permit or amendment to this CDP to undertake measures required to remove the blufftop residence or reduce the size of the blufftop residence to reduce the hazard potential.

- 5. Monitoring and Future Removal of the Cantilever Portion of Structure.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, a plan prepared by a licensed geologist or geotechnical engineer for a bluff monitoring plan which includes the following:
- a) Current measurements of the distance between the cantilevered portion of the home and the bluff edge (as defined by Section 13577 of Title 14 of the California Code of Regulations), and provisions for these measurements to be taken every five years after completion of construction for the life of the project. The locations for these measurements shall be identified through permanent markers, benchmarks, survey position, written description, etc. so that annual measurements can be taken at the same location and comparisons between years can provide information on bluff retreat.
 - b) Provisions for submittal of a report to the Executive Director of the Coastal Commission on June 1st every five years beginning on the date of Commission approval of this CDP. Each report shall be prepared by a licensed geologist or geotechnical engineer. The report shall contain the measurements and evaluation required by subsection a) of this Special Condition. The report shall also summarize all measurements and provide analysis of trends, annual retreat or rate of retreat, and the stability of the overall bluff face and the impact of the cantilevered portion of the home on the natural bluff. The report shall include recommendations on how to remove any cantilevered portion of the home that is seaward of the bluff edge.
 - c) An agreement that if after inspection, it is apparent that any cantilevered portion of the home is seaward of the bluff edge, the permittee shall apply for a Coastal Development Permit amendment within 90 days of submittal of the monitoring report to remove the cantilevered portion of the home located seaward of the bluff edge.

The permittee shall undertake monitoring in accordance with the approved plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the plan shall occur without a Coastal Commission approved amendment to this coastal development permit amendment unless the Executive Director determines that no amendment is legally required.

- 6. Best Management Practices and Construction Responsibilities.** The permittee(s) shall comply with the following construction-related requirements:
- a) All debris resulting from demolition and construction activities shall be removed and disposed of at an authorized disposal site.
 - b) Temporary sediment control Best Management Practices (BMPs) such as straw bales, fiber rolls, or silt fencing shall be installed prior to, and maintained throughout, the construction period to intercept and slow or detain runoff from the

construction, staging, and storage/stockpile areas; allow entrained sediment and other pollutants to settle and be removed; and prevent discharge of sediment and pollutants toward the bluff edge. When no longer required, the temporary sediment control BMPs shall be removed. Fiber rolls shall be 100% biodegradable, and shall be bound with non-plastic biodegradable netting such as jute, sisal, or coir fiber; photodegradable plastic netting is not an acceptable alternative. Rope used to secure fiber rolls shall also be biodegradable, such as sisal or manila rope.

7. **Assumption of Risk, Waiver of Liability and Indemnity Agreement.** By acceptance of this permit, the applicants acknowledge and agree (i) that the site may be subject to hazards from erosion and coastal bluff collapse; (ii) to assume the risks to the applicants and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
8. **Deed Restriction.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and approval, documentation demonstrating that the landowner has executed and recorded a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property (hereinafter referred to as the "Standard and Special Conditions"); and (2) imposing all Standard and Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the applicants' entire parcel. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

IV. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION/PERMIT HISTORY

The proposed project consists of the demolition of an existing one-story, 1,008 sq. ft. single-family residence with an attached 380 sq. ft. garage and an existing 420 sq. ft. accessory structure, and the construction of a new two story, 1,949 sq. ft. single-family home with an attached 400 sq. ft. garage on a 3,901 sq. ft. coastal blufftop lot (Exhibits 1-3). As proposed, the foundation of the proposed residence would be located 40 ft. landward of the bluff edge and include caissons along the western perimeter. The first floor of the home would be cantilevered 10 ft. seaward of the foundation to approximately 30 ft. from the bluff edge and the second floor would be cantilevered 5 ft. seaward of the foundation to as close as 35 ft. from the bluff edge. A 36 in. deep excavation beneath the cantilevered portion of the proposed structure is also proposed, in order to allow a taller structure to be built and still be within the City's 25-foot maximum height. The excavation would also increase the factor of safety (FOS) for bluff stability by reducing the destabilizing forces used in the FOS calculations. The excavated area would be approximately 31 ft. by 10 ft. and is proposed to be located 30 ft. from the existing bluff edge (Exhibit 5).

The existing single family home on the subject blufftop site was constructed in 1926 and is currently located approximately 25 ft. from the bluff edge. The accessory structure was constructed in 1955 and its western wall is currently located seaward of the bluff edge. The accessory structure is equipped with electricity, gas, and plumbing. No Coastal Development Permits (CDPs) for improvements to either blufftop structure have been approved by the Commission.

Seawall Permit History

The Commission has approved various CDPs for shoreline armoring fronting the subject site. In 1999, the Commission approved an approximately 400 ft. long section of concrete infill to fill in an undercut area that had developed at the toe of the bluff below 201, 205, 211, 215, 219, 225, and 231 Pacific Avenue. (Ref. CDP 6-99-103/Solana Beach Preservation Association) and in 2005, the Commission approved a separate CDP for maintenance of the infill (CDP 6-05-091/O'Neal, et al.).

In 2010, the applicants provided evidence that despite the previous approved and constructed infill, the subject home and the adjacent homes remained threatened by coastal erosion due to ongoing bluff collapse and exposure of the clean sand layer below the residences. Therefore, the Commission approved the construction of a 256 ft.-long, 35 ft. high, colored and textured concrete tiedback seawall on the public beach seaward of the homes at 211, 215, 219, 225 and 231 Pacific Avenue (ref: CDP 6-09-033/Garber et al.) (Exhibit 6). In its approval, the Commission found that the home at 219 Pacific Avenue, situated in the middle of the seawall span and immediately south of the subject site, was not imminently threatened due to its location and foundation that includes support from five existing caissons. Therefore, pursuant to Section 30235, the

Commission was not required to approve a seawall to protect the residence at 219 Pacific Avenue. However, the Commission's technical staff determined that a gap in the proposed seawall, excluding this middle property, would be detrimental to the adjacent properties as it would increase wave energy and outflanking of the seawall by erosion.

The seawall was constructed on the public beach seaward of the subject site and four other homes. Three of the homes are located to the south of the subject site and one of the homes is located to the north of the subject site. To mitigate impacts to public access and recreation, scenic views, and sand supply, the Commission required that the applicants make an in-lieu payment for impacts to sand supply and public access and recreation over a 20 year period beginning upon issuance of the CDP. The 20 year mitigation period commenced on December 13, 2010 (the date the CDP was issued) and ends on December 13, 2030. Mitigation fees of \$256,000 for public access and recreation impacts and \$72,415 for sand supply impacts were paid by the five applicants in 2010. Prior to the completion of the 20-year mitigation period in 2030, the applicants are required to apply for an amendment to the permit that either requires the removal of the seawall or re-assessment of mitigation to address ongoing impacts to shoreline sand supply and public access. The impacts to coastal resources were required to be mitigated to the extent possible at that time. However, the Commission continues to evaluate ways to more accurately quantify impacts related to shoreline armoring. The Commission has recently awarded a grant to the City of Solana Beach to complete its public access and recreation mitigation fee program, which will reevaluate appropriate compensation for the impacts caused by shoreline protection.

The seawall was approved for a period of 20 years from the date of approval of CDP 6-09-033 (October 10, 2010 through October 10, 2030). Prior to the expiration of the 20-year authorization period, the property owners are required to apply for a CDP amendment to remove the seawall or to modify the terms of its authorization. The Commission found that as the five blufftop lots redevelop and structures are moved inland, this could reduce or eliminate the need for the seawall. The property owners were also put on notice that redevelopment of the parcels may not rely on bluff or shoreline protective works for stability and alternatives such as removing the seaward portion(s) of the structure, relocation inland, and/or reduction in size should be considered to avoid the need for additional bluff or shoreline protective devices in this hazardous area. A Special Condition of CDP 6-09-033 recognized that the proposed seawall was approved under Section 30235 of the Coastal Act to protect *existing* structures in danger from erosion and any future redevelopment or new development of the affected properties must be sited safely, independent of any shoreline protection.

A monitoring report, dated April 2016 by Soil Engineering Construction, found that the seawall is in good condition and does not need any maintenance as of the date of the monitoring. The applicants are also party to a pending permit application, which is currently non-filed, requesting to amend the special condition in CDP 6-09-033 authorizing shoreline protection for 20 years and to instead authorize the seawall for the

life of the blufftop structures it was approved to protect (ref: CDP application 6-09-033-A1/O'Neal et al.).¹

The development history of the other four homes that are protected by the existing 256 ft. long seawall is as follows: The home at 211 Pacific Avenue was originally constructed in 1961 and the Commission approved a remodel and addition in 1995 (ref. CDP 6-95-095/O'Neal). The home at 215 Pacific Avenue was originally constructed in 1955 and the Commission approved an addition in 1998 (ref. CDP 6-98-131/Glasgow). The home at 219 Pacific Avenue was approved by the Commission in 1984 (ref. CDP# 6-84-062). The home at 231 Pacific Avenue was originally constructed in 1958 and the Commission approved an addition to the home in 1988 (ref. CDP 6-88-006/Victor).

The Commission certified the City's Land Use Plan; however, the City of Solana Beach does not yet have a certified LCP. Therefore, the Chapter 3 policies of the Coastal Act are the standard of review, with the certified LUP used as guidance.

B. GEOLOGIC STABILITY/BLUFFTOP DEVELOPMENT

As described above, the standard of review is Chapter 3 of the Coastal Act, with the City's LUP providing guidance. As such, applicable Coastal Act policies are cited in this report, as well as certain LUP policies for guidance as relevant.

Coastal Act Section 30235 addresses the permitting of shoreline protective devices:

Section 30235

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.

Coastal Act Section 30253 addresses the need to ensure long-term structural integrity, minimize future risk, and mandates that new development cannot require the construction of protective devices that substantially alter natural landforms. Section 30253 provides, in applicable part:

Section 30253

¹ In December 2015, the Commission approved two similar amendment requests to modify the authorization periods for shoreline armoring fronting four adjacent properties approximately at 341, 347, 355, and 357 Pacific Avenue in Solana Beach, one block to the north of the subject site (Ref: CDPs 6-13-025-A1 and 6-02-084-A4).

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.

[. . .]

In addition, the following certified City of Solana Beach Land Use Plan (LUP) policies provide additional guidance regarding geologic hazards and development on blufftop property:

Policy 4.17: *New development shall be set back a safe distance from the bluff edge, with a reasonable margin of safety, to eliminate the need for bluff retention devices to protect the new improvements. All new development, including additions to existing structures, on bluff property shall be landward of the Geologic Setback Line (GSL) as set forth in Policy 4.25. This requirement shall apply to the principal structure and accessory or ancillary structures such as guesthouses, pools, tennis courts, cabanas, and septic systems, etc. Accessory structures such as decks, patios, and walkways, which are at-grade and do not require structural foundations may extend into the setback area no closer than five feet from the bluff edge. On lots with a legally established bluff retention device, the required geologic analysis shall describe the condition of the existing seawall; identify any impacts it may be having on public access and recreation, scenic views, sand supply and other coastal resources; and evaluate options to mitigate any previously unmitigated impacts of the structure or modify, replace or remove the existing protective device in a manner that would eliminate or reduce those impacts. In addition, any significant alteration or improvement to the existing structure shall trigger such review (i.e., the analysis of the seawall) and any unavoidable impacts shall be mitigated.*

Policy 4.18: *A legally permitted bluff retention device shall not be factored into setback calculations...*

Policy 4.19: *New shoreline or bluff protective devices that alter natural landforms along the bluffs or shoreline processes shall not be permitted to protect new development. A condition of the permit for all new development and blufftop redevelopment on bluff property shall require the property owner record a deed restriction against the property that expressly waives any future right that may exist pursuant to Section 30235 of the Coastal Act to new or additional bluff retention devices.*

Policy 4.23: Where setbacks and other development standards could preclude the construction of a home the City may consider options including but not limited to reduction of the two car onsite parking space requirement to a one car onsite parking requirement or construction within five feet of the public right of way front yard setback for all stories as long as adequate architectural relief (e.g., recessed windows or doorways or building articulation is maintained as determined by the City. The City may also consider options including a caisson foundation with a minimum 40 foot blufftop setback to meet the stability requirement and avoid alteration of the natural landform along the bluffs. A condition of the permit for any such home shall expressly require waiver of any rights to new or additional bluff retention devices which may exist and recording of said waiver on the title of the bluff property.

Policy 4.25: All new bluff property development shall be set back from the bluff edge a sufficient distance to ensure that it will not be in danger from erosion and that it will ensure stability for its projected 75-economic life. To determine the GSL, applications for bluff property development must include a geotechnical report, from a licensed Geotechnical Engineer or a certified Engineering Geologist, that establishes the Geologic Setback Line (GSL) for the proposed development. This setback line shall establish the location on the blufftop where stability can be reasonably assured for the economic life of the development. Such assurance will take the form of a quantitative slope analysis demonstrating a minimum factor of safety against sliding of 1.5 (static) or 1.2 (pseudostatic, k-0.15 or determined through analysis by the geotechnical engineer), using shear strength parameters derived from relatively undeformed samples collected at the site. In no case shall the setback be less than 40 feet from the bluff edge, and only if it can be demonstrated that the structure will remain stable, as defined above, at such a location for its 75-year economic life and has been sited safely without reliance on existing or future bluff retention devices, other than a caisson foundation.

Furthermore, all new development including, but not limited to principal structures, additions, and ancillary structures, shall be specifically designed and constructed such that it could be removed in the event of endangerment.

The predicted bluff retreat shall be evaluated considering not only historical bluff retreat data, but also acceleration of bluff retreat made possible by continued and accelerated sea level rise, future increase in storm or El Niño events, the presence of clean sands and their potential effect on the pattern of erosion at the site, an analysis of the ongoing process of retreat of the subject segment of the shoreline, and any known site-specific conditions. To the extent the MEIR or geology reports previously accepted by the City address the issues referenced above and remain current, technical information in the MEIR and previously accepted geology reports may be utilized by an applicant. Any such report must also consider the long-term effects of any sand replenishment and/or retention projects to the extent not addressed in the MEIR or the EIR for the specific application.

Policy 4.29: *A bluff home may continue its legal non-conforming status; however, a Blufftop Redevelopment shall constitute new development and cause the pre-existing non-conforming bluff home to be brought into conformity with the LCP. Entirely new bluff homes shall also conform to the LCP.*

Caisson Foundation: *Means a subsurface support structure. A Caisson is a shaft or shafts of steel reinforced concrete placed under a building column, foundation or wall and extending down to hardpan, bedrock or competent material as defined or approved by a soils engineer or geologist. Caissons, for this definition, are drilled into position and are used to carry surface building loads and/or to carry surface building loads from anticipated future loss of support (i.e. “slope failure”). Also known as a pier foundation.*

Cantilever: *A projecting or overhanging structure of up to 10 feet in depth on the west side of a Bluff Home that is supported at one end and carries a load at the other end or along its length. Cantilever construction allows for structures to project seaward of the GSL of bluff edge setback (minimum 40 feet) with external bracing. All foundation footings and structural supports for cantilevered square footage shall be located landward of the geologic setback line or bluff edge setback (minimum 40 feet). No newly constructed cantilevered square footage is permitted to project over the bluff edge.*

Geologic Setback Area (GSA) *is that portion of the bluff property located between the bluff edge and the Geologic Setback Line.*

Geologic Setback Line (GSL) *is the line marking the distance from the bluff edge that will assure stability for new development, to be determined on a case-by-case basis for each bluff property.*

The subject application involves the demolition of an existing (pre-Coastal Act) single family home and a detached accessory structure and construction of a new larger single family home. The shoreline fronting the subject site has already been extensively altered with a seawall, although there is currently no mid or upper bluff shoreline armoring. The application therefore raises questions about whether or not the currently proposed new development will adversely impact geologic stability and either create the need for additional armoring or result in the need to retain the existing shoreline protection, either now or in the future. The Coastal Act and the Solana Beach certified Land Use Plan contain numerous policies requiring that new development minimize risks and assure geologic stability in order to avoid the need to construct shoreline protective devices. Thus, the Commission typically requires that new blufftop homes be sited in a location that will be safe for the life of the home without relying on existing shoreline protection or requiring the construction of new shoreline or bluff protection, as well as requiring a waiver of any rights to shoreline protection in the future for that blufftop home.

Geologic Setback Line (GSL) Determination

Due to the natural process of continual bluff retreat, coastal bluffs in this area of San Diego County are considered hazardous areas. To find a proposed blufftop residential development consistent with Section 30253, it must be sited such that it will not require a seawall or other bluff/shoreline protective device that would substantially alter natural landforms along the bluffs throughout its useful life. As evidenced by the seawall fronting the subject site, the existing home is clearly in a hazardous location and could not be sited in its current location without shoreline armoring. While the new home will be located further landward than the existing home and accessory structure, it will still be located in a hazardous location. A FOS of 1.5 is the industry standard for new development, and has been the Commission's definition of "stable" under section 30253 of the Coastal Act for numerous approvals over the years. Due to the size of the lot, there is not sufficient area on the site for the proposed development to meet the 1.5 factor of safety for 75 years. In this case, the Commission could deny the permit and allow the existing use of the property to continue. Alternatives to meeting the 75 year stability standard include assumption of risk by the applicant and siting the residence as far landward as possible without use of bluff altering devices, such as caissons, to remain as long as it continues to be safe for occupancy.

In general, when a blufftop property is redeveloped, the Commission requires that the new development be sited in a location that assures stability for the economic life of the proposed structure. In this case, the certified LUP specifies new development shall be set back from the bluff edge a sufficient distance to ensure that it will not be in danger from erosion and that it will ensure stability for its projected 75 year economic life. A Geologic Setback Line (GSL) to assure such stability for new development must be determined on a case-by-case basis for each property.

The applicants have submitted a geotechnical report for the subject site that includes site-specific quantitative slope stability analyses and an estimation of the long-term erosion rate for the area. This analysis is done as though the existing seawall is not there, to ensure that new development does not require the continuation of any existing shoreline protection. Assessing the stability of slopes against landsliding is undertaken through a quantitative slope stability analysis. In such an analysis, the forces resisting a potential landslide are first determined. These are essentially the strength of the rocks or soils making up the bluff. Next, the forces driving a potential landslide are determined. These forces are the weight of the rocks as projected along a potential slide surface. The resisting forces are divided by the driving forces to determine the "factor of safety." A value below 1.0 is theoretically impossible, as the slope would have failed already. A value of 1.0 indicates that failure is imminent. Factors of safety at increasing values above 1.0 lend increasing confidence in the stability of the slope. The industry-standard for new development is a factor of safety of 1.5. A slope stability analysis is performed by testing hundreds of potential sliding surfaces. The surface with the minimum factor of safety will be the one on which failure is most likely to occur. Generally, as one moves back from the top edge of a slope, the factor of safety against landsliding increases. Therefore, to establish a safe setback for slope stability from the edge of a coastal bluff,

one needs to find the distance from the bluff edge at which the factor of safety is at least equal to 1.5.

According to the applicants' geotechnical report of February 2, 2016, the factor of safety of 1.5 at the subject site occurs approximately 41 ft. landward of the bluff edge. Therefore, a structure would need to be set back approximately 41 ft. from the edge of the bluff to achieve reasonable assurance that the development will not be threatened by landslides if built today. However, as the bluff retreats by gradual erosion, the factor of safety at any point on the blufftop will gradually decrease.

Accordingly, establishing the geologic setback (GSL) includes estimating the future bluff retreat rate as well. The applicants' geotechnical report asserts that the estimated long-term erosion rate for the area is approximately 0.40 ft. per year and that given an estimated 75-year economic life of a new home; about 30 feet of erosion might be expected to occur at the subject site based on this long-term erosion rate. However, the estimated average bluff recession rate that the Coastal Commission typically applies to the calculation of setbacks for new blufftop development in this portion of Solana Beach is 0.46 feet per year. The erosion rate used by the Commission is the upper bound of the historic rate (1932-1994) measured by Benumof and Griggs (1999) in a peer-reviewed, FEMA-funded study making use of then recognized state of the art photogrammetric techniques. The upper bound is used as a proxy for the average rate expected over the life of proposed new blufftop development (75 years) to account for increases in bluff retreat rate due to sea level rise. The estimated bluff recession over a period of 75 years at a rate of 0.46 feet per year is approximately 34.5 feet.

The LUP requires that the erosion rate be determined based on historic erosion, erosion trends, aerial photographs, land surveys, or other acceptable techniques (Ref: LUP Policies 4.25 and 4.51 and LUP Appendix A). The LUP also states that the approximate erosion rate averages 0.4 feet per year, but that erosion rates may vary depending on multiple factors, such as wave action, winter storms, potential sea level rise predictions, and upper bluff irrigation runoff. For administrative reasons, it is the City's plan to establish an erosion rate for ten years and then re-evaluate it. The City has indicated that it was intending to utilize the 0.4 feet per year initially. Through the development of the Implementation Plan portion of the City's Local Coastal Plan, it is likely that a citywide erosion rate will be developed and the establishment of this rate will be the subject of further discussions with the City. The applicants did not provide any rationale or site specific information to justify using the lower erosion rate. Therefore, the Commission's geologist, Dr. Mark Johnsson, determined that the appropriate erosion rate to apply to the site for the next 75 years is 0.46 feet per year.

In this particular case, the subject lot is only approximately 80 feet deep, and the geologic studies performed on the site determined, when considering the long-term erosion rate and 1.5 factor of safety, that the GSL is approximately 75.5 ft. inland of the bluff edge and therefore there is not sufficient area on the site to build a home that would assure stability for 75 years without relying either on the existing seawall, or new bluff or shoreline protection measures. Therefore, the applicant is proposing the use of a caisson

foundation to meet this standard and allow construction of the home with only a 40 ft. setback from the bluff edge.

Certified Land Use Plan – Caisson Foundation for New Development

The applicants' geotechnical consultant performed a slope stability analysis to establish that the proposed new home would be sited safely over the 75 year economic life of the development, provided that caissons are constructed 40 ft. inland from the bluff edge. However, Section 30253 of the Coastal Act prohibits the construction of new development that requires the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. Policy 4.17 of the LUP requires "new development shall be setback a safe distance from the bluff edge, with a reasonable margin of safety, to eliminate the need for bluff retention devices to protect new improvements." Caissons are a form of bluff retention device as described in the LUP and, as proposed, the residential structure does not meet the LUP standard.

The proposed boring of twelve, minimum 24-inch diameter holes approximately 40 feet deep and the construction of the concrete caissons would alter the natural landform and geologic integrity of the coastal bluff to allow the proposed new development to be sited closer to the bluff edge than typically required through application of the GSL.

Although the applicants assert that the proposed caisson foundation will not become exposed during the next 75 years, the caissons could potentially become exposed in the future if the existing seawall is ever removed and/or if the bluff erodes more quickly than expected. Exposed caissons essentially function as an upper bluff wall, limiting bluff retreat and impairing the visual quality of the natural landform of the bluff, particularly because, once they are exposed, property owners typically apply to encase the caissons in concrete. Furthermore, Policy 4.25 of the LUP requires that new development, including additions, "shall be specifically designed and constructed such that it could be removed in the event of endangerment." It is extremely difficult if not impossible to remove caissons once they are installed without causing additional damage to the natural landform of the bluffs; thus, as proposed, the new development does not meet the LUP standard to allow removal in the future.

Policy 4.23 contemplates that, where setbacks and other development standards could preclude the construction of a home, the City may consider other options including reduction in the garage from two car to one car or reduction of the front yard setback. The policy states the City may also consider options including a caisson foundation with a minimum 40 foot setback to meet the stability requirement and avoid alteration of the natural landform along the bluffs. This policy provides an option to consider caissons in the event achieving compliance with the development standards would preclude construction of a home. In this particular case, there is adequate area on the subject site to construct a residence, without caissons, and still comply with the majority of the LUP policies. The LUP should not be interpreted to require caissons, in all cases, to meet the stability standard in violation of other policies designed to avoid alteration of the natural landform and perpetuation of development requiring such protection. In this case, there is

a less environmentally damaging feasible alternative to a caisson foundation that allows reasonable use of the property in compliance with the goals of the certified LUP.

As stated above, caissons are a form of bluff retention device. The allowance for potential use of caissons in the LUP was meant to encourage a residence to be relocated further landward on a caisson foundation as a preferred alternative to mid and upper bluff retention devices to protect an existing structure. When considering all the applicable LUP policies and the stated goals of the LUP, its intent is not to allow caissons to support a new generation of blufftop development located only 40 ft. landward of the bluff edge supported by caissons.

Following is an excerpt from the Revised Findings City of Solana Beach LCP Land Use Plan dated May 24, 2012 to support the Commission's action to approve the LUP and addressing the constraints to development of the blufftop parcels in Solana Beach and when potential use of a caisson foundation may be allowable:

Upper Bluff Protection & Caissons/Underpinning

Section 30235 of the Coastal Act permits the construction of seawalls and other shoreline protective devices when required to protect existing structures. The Commission acknowledges that some amount of shoreline protection will likely be required in many locations in Solana Beach. However, as noted, seawalls do have a substantial adverse impact on scenic quality of the shoreline, as well as on public access and recreation. They are, however, typically quite successful in stopping or delaying upper bluff retreat for a significant period of time. Having granted lower shoreline protection for an existing structure as permitted under Section 30235, it is important that every effort be made to avoid the construction of mid and upper bluff protective devices that substantially alter the natural landform of the bluff, and severely degrade the visual quality of the shoreline. The Coastal Act does not presume that unlimited amounts of shoreline protection must be permitted under all circumstances.

Thus, as modified, LUP policies make it clear that once a lower seawall has been constructed, mid and upper bluff protection devices cannot be approved unless a detailed alternatives analysis determines that there are no feasible alternatives. Specifically, Policy 4.56 requires consideration of a revised building footprint and foundation system (e.g., caissons) with a setback that avoids future exposure and alteration of the natural landform as an alternative to mid and upper bluff protective devices, and a determination that such an alternative is not feasible.

Caissons are foundation systems created by drilling holes and filling them with concrete. The caissons can be drilled to bedrock or deep into the underlying strata, as necessary, depending on the soil type and the required factor of safety for the site. The piers provide stability and support for the above structures, such that even on the small lots that exist along the Solana Beach shoreline, the structures they support could be sited in a location that would be safe from the threat of erosion for the life of the structure. The drawbacks of caissons are that even though initially placed below ground, when they are constructed close to the edge of a bluff, should the bluff continue to erode, the piers can become exposed, revealing a concrete structure representing exactly the type of visual blight and

substantial alteration of the natural landforms of the bluff that section 30253 of the Coastal Act prohibits.

Therefore, as modified, the LUP permits the use of caisson foundations as an alternative to mid and upper bluff protection when the caissons are used to resite/rebuild new development set back in a location safe from erosion for 75 years, and far enough inland from the bluff edge such that it can reasonably be expected that the caissons will never be exposed. In other words, once a site is protected by a seawall and thus, no longer threatened by marine erosion, should the existing principal structure be further threatened by the instability of the upper bluff, rather than approve mid or upper bluff protection, the City must determine that moving and/or rebuilding the existing structure on a safer inland location on the lot, is not a feasible alternative.

Policy 4.27, as modified, requires that all new bluff property development be set back from the bluff edge a sufficient distance to ensure it will not be in danger for erosion and that it will ensure stability for its projected 75-year economic life. Typically, as described in Policy 4.27, determining this location involves a quantitative slope analysis demonstrating a minimum factor of safety. In no case can the setback be less than 40 feet from the bluff edge, and only if it can be demonstrated that the structure will remain stable, as defined above, at such a location for its 75-year economic life and has been sited safely without reliance on existing or future bluff retention devices. Because the shoreline lots in Solana Beach are narrow, there are many lots for which it would be difficult, if not impossible, to build on and meet this criteria.

However, Policy 4.25, as modified, allows the City to consider as an option for new structures, the use of a caisson foundation with a minimum 40 foot bluff top setback, if caissons would allow the structure to meet the stability requirement and avoid alteration of the natural landform along the bluffs, i.e., exposure of the caissons in the future. The Commission's engineer has reviewed the LUP and the geologic conditions of many lots on the Solana Beach shoreline. He has concluded that in many cases, once the lower bluff and clean sands lens is encapsulated by a seawall, it is likely that the upper bluff will be able to reach a stable angle of repose at approximately 35 degrees (as measured from the top of the seawall). At this point, the bluff may remain relatively stable for years. Therefore, under this scenario, it can reasonably be assumed that a caisson foundation located inland of the 35 degree line, will not become exposed.

To be clear—Policy 4.27, as modified, requires new development to be sited without reliance on existing bluff retention devices; the siting of a new structure cannot depend on the presence of an existing seawall to determine a safe location. But for a blufftop lot that already has a seawall, this policy may allow construction of a new home, albeit most likely a smaller home, because the caissons would allow the new home to be sited safely, while the presence of the seawall would ensure that the caissons will not be exposed in the future. Currently, the only option for some bluff top property owners is to maintain their existing residence in place, because there is no safe location to relocate on the site if caissons are not used. In any case, as modified, the LUP requires that before any application for mid or upper bluff protection can be approved, the City must determine that relocating/rebuilding the structure a minimum of 40 feet back, with caissons, is not a

feasible alternative. Again, the intent of this policy is to encourage, incentivize, and require blufftop property owners to evaluate rebuilding a new safe structure, rather than maintaining an existing structure in a hazardous location that requires alteration of the public bluffs.

Thus, the LUP clearly supports caissons as an alternative to construction of mid or upper bluff shoreline armoring to protect an existing home; and there is what could be perceived as a contradiction as to when caissons may be allowed to support new development, even though they are considered a bluff retention device in the LUP. There is an acknowledgment that some lots may be too narrow to allow construction of any home without caissons and/or the only option for some owners may be to maintain the existing structure because there is no safe location on the site. The LUP policy is designed to allow application to many potential development scenarios, so the Commission must be guided by the strong intent to avoid structural armoring. If in review of new development, there is an option to avoid caissons and allow reasonable development otherwise consistent with the Coastal Act and LUP, such options should be permitted.

In this particular case, the Commission finds there is a less environmentally damaging feasible alternative that allows for redevelopment of the site with a structure that will be stable for a reasonable period of time but not assuredly for 75 years. It does not appear that there is an alternative for redevelopment that would meet all the standards of the certified LUP. Such cases will have to be addressed specifically in the LCP Implementation Plan, but the Commission finds a revised alternative to eliminate the caissons and move the proposed structure further landward is consistent with the Coastal Act and meets more fully the standards and goals of the LUP than the residential structure, as proposed.

LUP Policies 4.23 and 4.25 encourage, incentivize, and require blufftop property owners to evaluate the potential to rebuild a new home in a less hazardous location, rather than maintaining or improving an existing structure in a riskier location that requires mid or upper bluff shoreline armoring. This is because, although similar in many ways, mid and upper bluff armoring is considered more impactful of coastal resources than caissons because they stop shoreline retreat immediately, and are visually intrusive immediately upon construction. In the case of the proposed project, there is no evidence at this time that mid or upper bluff shoreline armoring is necessary to protect the existing home, so caissons cannot be considered a less damaging alternative to such armoring. Therefore, approval of the proposed new blufftop home with a caisson foundation is not consistent with the certified LUP or the Chapter 3 policies of the Coastal Act.

Because there is an existing home on the site, the applicant has the option to continue to make use of that home and accessory structure on the site that is currently protected by the seawall. However, this would maintain the line of existing development very close to the bluff edge in a known hazardous location. Therefore, the Commission finds demolition of the existing blufftop home and accessory structure and construction of a new home, without the new, permanent bluff protection (i.e. caissons) is the preferred option for development in this hazardous area. As the home would not be allowed to rely

on the existing lower bluff seawall (as conditioned by the seawall approval and herein), a new home on this site would not meet the 1.5 factor of safety for 75 years and is not consistent with the LUP standard; however, removal of the caissons brings the development into compliance with all other provisions of the certified LUP with which the caissons do not comply. Additionally, the proposed home can be sited such that it is safe at the time of construction, and, recognizing the uncertainty of developing on a coastal bluff, most likely for many years thereafter. This is true for several reasons. First, there is an existing seawall protecting the site. While, as conditioned, the applicant would have no *right* to retain this seawall to protect the house, the wall cannot be removed at this time, because there are other structures to the north and south of the site that rely on this portion of the approved wall for stability, and the seawall has been authorized to stay until 2030. Thus, as long as the seawall is present, a home on the site set back a reasonable distance from the bluff edge is unlikely to be threatened by erosion.

The LUP requires that new development cannot rely upon an existing seawall for stability and also establishes a minimum setback of 40 feet from the bluff edge for a new house with caissons. In the case of the proposed project, this minimum 40-foot setback can only provide an initial factor of safety of 1.5 if the stability from the caissons and excavation under the cantilever are included in the stability analysis. Without the caissons and excavation, the minimum setback to achieve a factor of safety of 1.5 would be 41 feet from the bluff edge for a residence constructed today.

With regard to establishing an appropriate bluff setback for the new house, the Commission's coastal engineer and geologist determined that in order to provide a reasonable expectation of stability at this time, the home should be sited no closer to the bluff edge than the 1.5 FOS line (41 feet) plus a 5 foot buffer to account for uncertainty in the slope stability analysis (41 ft. plus 5 ft., or 46 ft.). Although the existing seawall is unlikely to be removed in the near future, if and when it is removed, the bluff will begin to retreat by gradual erosion. Requiring a 5 ft. buffer from the 1.5 FOS line will allow for some amount of time before the FOS of the new blufftop home falls below 1.5 and thus, the home will not be immediately compromised by shoreline erosion. In addition, at 46 ft. inland of the bluff edge, the approved home will be inland of where the bluff edge is expected to be in 75 years (34.5 feet landward of its present location). As currently proposed, the cantilevered portion of home would be located only 30 ft. from the bluff edge, and thus there is a potential for the bluff edge to erode seaward of the cantilevered portion of the proposed home if erosion proceeds more quickly than expected. In order to maintain the proposed cantilevered portion of the home, a deepened footing with a structural grade beam foundation would be required. The February 2, 2016 Updated Bluff Stability Analysis notes that deepened foundation "will need to be at least 5 feet below the nominal finished grade elevation ... to resist slope creep effects." However, to ensure that the deepened foundation can be removed with relatively minor disturbance to the bluff, the deepened foundation should be no deeper than necessary. Thus, Special Condition 1 requires revised plans that show that the maximum depth of the deepened foundation be 5 feet and the foundation is located no less than 46 feet landward of the existing upper bluff edge (Exhibit 4). A 46 ft. foundation setback would result in a 36 ft. setback for the cantilevered portion of the home.

Thus, while the home would be stable when constructed, in the event that the home were threatened in the future, the applicant would not have a right to rebuild a seawall or additional shoreline protection, and a preferred alternative would be relocation or removal of the house. Other stability options could, of course, be considered at that time, but removal of the structure would not be precluded as it effectively would be if caissons were constructed at this time.

This approach to redevelopment is generally consistent with past Commission actions to approve demolition of pre-coastal homes and construction of new homes on constrained blufftop properties. Specifically, in July 2011, the Commission approved the construction of two new homes on a blufftop site in Encinitas, which was already protected by a seawall and mid and upper shoreline armoring (A-6-ENC-09-040 & A-6-ENC-09-041/Okun). In addition, in October 2015, the Commission approved the construction of a new home on a blufftop site in Carlsbad, which was already protected by a rip rap revetment (A-6-CII-15-0039/Nolan). The existing shoreline armoring fronting the sites could not be removed at the time of the Commission actions, as the shoreline armoring was necessary to protect adjacent properties. In both the Okun and Nolan approvals, the Commission found that the new blufftop homes would not be safe for their 75 year economic lives, but that by waiving rights to new shoreline armoring or reconstruction of the existing shoreline armoring fronting the sites, the new homes would not result in the need for new armoring in the future or increase the time that the existing shoreline armoring must be retained.

The applicant is proposing to construct first and second floor cantilevered areas on the west side of the new blufftop home. The certified LUP allows overhanging first and second floor cantilevered structures of up to 10 feet in depth on the west side of bluff homes, provided that the load of the structure is supported landward of the geologic setback line. As detailed in the LUP, no newly constructed cantilevered square footage is permitted to project over the bluff edge. Special Condition 5 is required to ensure that the proposed cantilevered portion of the home remains consistent with the certified LUP and does not project over the bluff edge at any time in the future. Special Condition 5 requires that the applicants submit a monitoring program which includes current measurements of the distance between the cantilevered portion of the home and the bluff edge. Monitoring plans are then required to be submitted to the Commission every five years. The subsequent five year monitoring plans must summarize all measurements and provide analysis of trends, annual retreat or rate of retreat, and the stability of the overall bluff face and the impact of the cantilevered portion of the home on the natural bluff. The report shall include recommendations on how to remove any cantilevered portion of the home that is seaward of the bluff edge. Furthermore, Special Condition 5 requires that if after inspection, it is apparent that any cantilevered portion of the home is seaward of the bluff edge, the permittee shall apply for a Coastal Development Permit amendment within 90 days of submittal of the monitoring report to remove any portion of the home located seaward of the bluff edge.

Special Condition 3 requires that the applicants waive any rights that may exist under Public Resources Code Section 30235 or under the certified Solana Beach LUP to retain or reconstruct the existing seawall fronting the subject site, or to construct new shoreline

protection to protect the new blufftop residence. In addition, the condition states that the residence may remain only as long as it is reasonably safe from failure and erosion without having to propose any shore or bluff stabilization to protect the residence in the future. Should the blufftop residence not be able to assure stability and structural integrity, without construction of new shoreline armoring, including reconstruction of the existing shoreline armoring, or if any government agency orders that the structure is not to be occupied due to failure and erosion of the bluff, the applicants must agree to remove the subject structure, in part or entirely and remove and dispose of any debris that fall to the beach.

Special Condition 3 also requires that if the bluff recedes to within 10 ft. of the foundation of the blufftop residence, the applicants must submit a geotechnical investigation to determine whether any portions of the blufftop residence are threatened and identify measures to stabilize the blufftop residence without new shoreline armoring, including, but not limited to, removal or relocation of portions of the blufftop residence. If the Executive Director determines based on the geotechnical investigation that any portion of the blufftop residence is no longer sited in a safe location, the applicant must submit an application to resolve the hazard, which could include removal of the entire blufftop residence or the threatened portion of the blufftop residence. Thus, as conditioned, approval of the existing blufftop residence will not precipitate the need for any new or additional shoreline armoring in the future or prolonged retention of the existing seawall fronting the subject site, and will allow the Commission to make various adaptation decisions in the future for the subject site.

As discussed above, the subject property is currently protected by a Commission-approved seawall at the toe of the bluff (CDP 6-09-033). CDP 6-09-033 contains special conditions requiring the applicants to submit an amendment application to the Commission prior to 2030 to either remove the seawall or to mitigate for the effects of the seawall on shoreline sand supply and public access and recreation. The potential removal of the permitted lower seawall in 2030 raises concerns regarding the site's overall stability and may affect any development sited on the blufftop as a result of this permit action. Accordingly, the required reevaluation of the subject development's safety (pursuant to Special Condition 4) must coincide with the seawall's evaluation in 2030 as required in CDP 6-09-033. Therefore, the Commission finds an evaluation of the subject development's safety in 2030, is appropriate, given that reassessment should coincide with the seawall reevaluation to ensure all conditions on the site related to stability and hazards are appropriately considered.

The site reassessment required under Special Condition 4 shall recognize the hazardous condition of this bluff and will consist of an evaluation of the geological conditions on the entire property, to determine whether the property can continue to safely support the approved development. To comply with this condition, the permittees or successors in interest shall submit to the Commission a site assessment evaluating the site conditions to determine whether or not alterations to the residence or removal of the residence is necessary to avoid risk to life or property. The study shall be based upon a site specific analysis of site stability, bluff alteration due to natural and manmade processes, and the hazard potential at the site. The required study shall include an analysis of site stability

based on the best available science and updated standards, of beach erosion, wave run-up, sea level rise, inundation and flood hazards prepared by a licensed civil engineer with expertise in coastal engineering and a slope stability analysis, prepared by a licensed Certified Engineering Geologist and/or Geotechnical Engineer or Registered Civil Engineer with expertise in soils; and an evaluation of the means to remove in whole or in part the subject permitted residence if it is determined to be unsafe for occupancy.

If the required study shows that the principal structure is no longer safely located, the permittees shall submit a permit amendment within 90 days to undertake measures required to remove the residence or reduce the size of the residence to reduce the hazard potential. The bluff stability analysis required pursuant to this condition shall be submitted concurrent with the CDP amendment required pursuant to CDP 6-09-033 for the existing, previously-permitted seawall.

The bluffs along the Solana Beach shoreline are known to be hazardous and unpredictable. Since the applicants have chosen to construct the proposed development in this location despite these risks, Special Condition 7 requires the applicants to acknowledge the risks and indemnify the Commission against claims for damages that may occur as a result of its approval of this permit. Special Condition 8 requires the applicants to record the permit as a deed restriction to provide notice to future purchasers of potential hazards of the property and permit requirements.

Conclusion:

As discussed above, the Commission's review of the City's LCP Land Use Plan acknowledged the current risk to existing development and addressed potential new development taking into consideration the policy goals of the Coastal Act to protect the public resources along the City's shoreline. The LUP policies, goals, and requirements regarding natural hazards and shoreline and bluff development include the following:

- Maintaining public ownership of the bluffs and beaches;
- Prohibiting new development that could require shoreline protection, and new land divisions which create new lots within high hazard areas;
- Requiring that new development on oceanfront bluffs be set back in accordance with all provisions of the LCP;
- Providing that applicants assume the risk of building in hazardous areas without the expectation that future bluff protection devices will be allowed;
- Acknowledging that the shoreline is inherently a changing, unstable area, and development along the shoreline should never be considered permanent.
- Regulating development to avoid the need for mid and upper bluff shoreline protection;
- Developing emergency permit procedures, follow-up actions and monitoring to ensure that the emergency response, whether temporary or permanent, is the least environmentally damaging alternative to the extent feasible;
- Providing for the development of long-term shoreline management policies; including measures to establish periodic nourishment of the City's beaches which are vulnerable to direct wave attack and erosion to assure long-term maintenance of beach area for public recreational use;

- Monitoring the issue of potential future sea level rise, both in the short term via permitting actions and a long-term response to address future development impacts along the shoreline;
- Siting and designing development to avoid or minimize risk from geologic, flood and fire hazards;

In compliance with the Coastal Act, the goal of the LCP is to limit bluff retention devices on the public bluffs and beach area while protecting public and private property rights to the extent required by law and the health, safety, and welfare of residents and the public.

The LUP recognizes the City's shoreline has largely been built out, and many of the existing structures located along the City's bluffs were built in a location that is now considered at risk from shoreline erosion. Thus, some amount of lower bluff protection has been and will continue to be unavoidable to protect existing structures in danger from erosion pursuant to Section 30235 of the Coastal Act. However, the LCP policies acknowledge that modifications to the building footprint and its foundation further inland on private property will be considered feasible alternatives to avoid additional mid and upper bluff stabilization and alteration of the natural landform on public property to protect private development. Such stabilization measures, including caisson foundations when eventually exposed, can have particularly extensive adverse impacts on the natural bluff landform and the scenic quality of the shoreline even beyond those associated with lower bluff protection.

For all new development, the LUP requires that the development be designed so that it will neither be subject to nor contribute to bluff instability, and is sited to not require construction of protective devices that would alter the natural landforms of the bluffs. The Commission finds, as conditioned, the proposed development is a less environmentally damaging feasible alternative that meets the requirements of the Coastal Act.

Excavation in Setback Area

The applicants propose to excavate the area below the cantilevered portions of the new home to a depth of 36 inches. The excavated area would be approximately 31 ft. by 10 ft. and is proposed to be located as close as 30 ft. from the existing bluff edge. The excavation would cover an approximate area of 310 sq. ft. and would result in approximately 34 cu. yds. of grading. The applicants state that the excavated area is proposed to level the site such that the finish floor of the cantilevered portion of the home can be at the existing ground surface elevation of the rearyard of the site and the elevation of the non-cantilevered portion of the house. The 36 inches excavation depth has been designed to allow for an 18 inch deep floor structure and 18 inches of clearance between the ground and the floor structure.

Policy 4.17 of the certified Solana Beach LUP requires that all new development on bluff property, including principal structures and accessory or ancillary structures, must be located landward of the Geologic Setback Line (GSL). Policy 4.17 only allows at-grade accessory structures to extend into the setback area. As explained previously, a minimum rearyard setback of 46 ft. from the bluff edge is required for all foundation elements of

the home. Excavation seaward of the 46-foot rearyard setback would substantially alter the natural landform of the coastal bluff and is inconsistent with Policy 4.17 of the City's LUP.

The proposed excavation would likely result in exposure of the foundation of the proposed home sooner than otherwise would occur. The bluff is expected to erode approximately 34.5 ft. over the 75 year economic life of the proposed home, which would likely expose the excavated area and in turn, would expose the foundation of the home. Exposure of the home's foundation would potentially result in adverse visual impacts to the natural bluff. In addition, the proposed excavation area may result in drainage issues that could destabilize the bluff as water would potentially pool in the depression. Furthermore, grading in such close proximity to the bluff edge may destabilize the eroding coastal bluff. Thus, in order to preserve the long-term stability of the coastal bluff, Special Condition 1 requires that the applicants submit revised final plans that eliminate all development within 46 ft. of the existing coastal bluff edge.

To comply with this condition, the applicants will likely need to raise the finish floor of the home, so that grading seaward of the rearyard setback is not required to maintain a level floor throughout the new house. This could result in a reduction of the home's proposed ceiling heights to stay within the 25-foot maximum height for homes in this area, but will still allow for two stories to be constructed.

Existing Bluff/Shoreline Protection

Policy 4.17 of the City's LUP addresses proposals for new development and significant alteration or improvement to existing structures on blufftop lots with legally-established bluff retention devices. A geologic analysis is required to describe the condition of the existing shoreline armoring, to identify any impacts the shoreline armoring may be having on public access and recreation, scenic views, sand supply and other coastal resources; and to evaluate options to mitigate any previously unmitigated impacts of the structure or modify, replace or remove the existing protective device in a manner that would eliminate or reduce those impacts. The applicants have submitted an analysis of the proposed development and the existing seawall. The analysis found that removal of the portion of the seawall fronting the subject site would be detrimental to the adjacent properties as it would increase wave energy and outflanking of the seawall by erosion. The Commission's coastal engineer and geologist have reviewed the applicants' analysis and concur with their findings that removal of the approximately 50 ft. long portion of the seawall fronting the subject site would destabilize the remaining portions of the 256 ft. long seawall.

The existing shoreline armoring fronting the subject site would likely only be able to be removed when adjacent homes in the area reach the end of their economic lives and are also reduced in size or relocated landward. However, over the long term, the policies of the LUP prohibiting new development that requires bluff/shoreline protection will result in existing structures being reduced in size, relocated, or removed, thoroughly reducing the need and amount of bluff/shoreline protection. Over the longer run, a more comprehensive strategy to address shoreline erosion and the impacts of armoring may be

developed (e.g. relocation of structures inland, abandonment of structures, etc.) that would allow the shoreline to retreat and contribute to the sand supply of the region. In addition, it is possible that continued sea level rise and ongoing natural processes may impact existing shoreline armoring and will drive updated policy approaches. Approval of the proposed development, with conditions prohibiting additional armoring, will continue to allow for the opportunity to reduce the need for shoreline protection at this site in the future.

Summary

The blufftop development and shoreline armoring policies of the certified LUP were developed to encourage, incentivize, and require blufftop property owners to evaluate the potential to rebuild a new home in a less hazardous location, rather than maintaining or improving an existing structure in a riskier location that will likely require protective devices that alter the natural landform of the public bluffs. The proposed project does that; however, it also includes the construction of additional bluff armoring (caissons). Therefore, special conditions require that the project be revised to eliminate the caisson foundation, to ensure the home could be removed in the event of endangerment in the future, and require the applicants to waive all rights to construct new bluff or shoreline armoring to protect the proposed development. With the application of these special conditions, the applicant is required to assume the risks associated with blufftop development and remove the structure when no longer safe for occupancy, rather than assume additional protective measures with impacts on the adjacent public beach and bluff will be permitted to allow the development to remain in its hazardous location. Therefore, the proposed development, as conditioned, is consistent with Section 30253 and 30235 of the Coastal Act.

C. PUBLIC ACCESS/RECREATION

Coastal Act Sections 30210, 30211, 30212, 30212.5, and 30221 require that public access and use of the coast shall be maximized, that development shall not interfere with the public's right to access the coast and use of dry sand beaches, and that oceanfront land suitable for recreational activities shall be protected.

Section 30210

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

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

(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 accessways 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 30212.5

Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.

Section 30221

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.

The subject site is located between the Pacific Ocean and the first public roadway, which in this case is Pacific Avenue. The site is located within a developed single-family residential neighborhood on an approximately 80 ft.-high coastal blufftop lot. Vertical access through the site is not necessary nor warranted, given the fragile nature of the bluffs. Adequate public vertical access is provided approximately 500 feet south of the site at Fletcher Cove, the City's central beach access park.

As discussed above, it is important to ensure that construction of the proposed residence does not include or require the construction of additional bluff or shoreline protective devices. The physical encroachment of a protective structure on the beach reduces the beach area available for public use and is therefore a significant adverse impact. Furthermore, when the back beach is fixed with a shoreline armoring device, passive erosion is halted and additional public beach area can no longer be created. To mitigate these impacts, the Commission previously required that the applicants, in the context of applying for the seawall, pay a sand mitigation fee of \$14,483² for the impacts of the seawall on sand supply during its initial 20-year period, and that the applicant pay a

² The total sand mitigation fee for the 5 properties that were protected by the 256 ft. long seawall was \$72,415.04. $\$72,415.04/5 = 14,483$

public access and recreation mitigation fee of \$51,260³ into the City's interim fee deposit program for the impacts of the seawall on public access and recreation during its initial 20 year period.

As conditioned, the proposed development will not require new shoreline armoring during its lifetime or extend the length of time the existing armoring will be required to remain in place. Therefore, the proposed project is consistent with the public access policies of the Coastal Act and the certified LUP.

D. VISUAL RESOURCES

Sections 30240 and 30251 of the Coastal Act require that the scenic and visual qualities of coastal areas be protected, that new development adjacent to park and recreation areas be sited so as to not degrade or impact the areas and that new development not significantly adversely affect coastal resources:

Section 30240

[. . .]

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Section 30251

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.

In addition, the following certified City of Solana Beach Land Use Plan (LUP) language provides additional guidance regarding protection of scenic resources:

Policy 6.3: *Public views to the beach, lagoons, and along the shoreline as well as to other scenic resources from major public viewpoints, as identified in Exhibit 6-1 shall be protected. Development that may affect an existing or potential public view shall be designed and sited in a manner so as to preserve or enhance designated view opportunities. Street trees and vegetation shall be chosen and sited so as not to block views upon maturity.*

³ The total public access interim fee for the 5 properties that were protected by the 256 ft. long seawall was \$256,300. $\$256,300/5 = \$51,260$

Policy 6.4: *Locations along public roads, railways, trails, parklands, and beaches that offer views of scenic resources are considered public viewing areas. Existing public roads where there are major views of the ocean and other scenic resources are considered Scenic Roads and include:*

- *Highway 101/Pacific Coast Highway and Railway Corridor*
- *I-5*
- *Lomas Santa Fe Drive*

Public views to scenic resources from Scenic Roads shall also be protected.

Policy 6.9: *The impacts of proposed development on existing public views of scenic resources shall be assessed by the City prior to approval of proposed development or redevelopment to preserve the existing character of established neighborhoods. Existing public views of the ocean and scenic resources shall be protected.*

The subject development involves the demolition of an existing blufftop residence and accessory structure and construction of a new blufftop residence. The proposed development is located in a residential neighborhood consisting of single-family homes of similar bulk and scale to the proposed development.

As described previously, the existing accessory structure at the subject site is currently overhanging the bluff edge. As proposed, the accessory structure will be removed in its entirety. Removal of the accessory structure will result in a significant improvement in the aesthetics of the natural bluff.

The subject site slopes upward from east to west. The elevation of the sidewalk fronting the site is approximately seven ft. lower in elevation than the rear yard of the site and thus there is no potential for public views of the ocean through the side yards of the property. However, the home is located directly between the first public road and the sea, and requiring open fencing will prevent a walling off effect of the area from Pacific Street. Therefore, Special Condition 2 requires that 5 ft. wide view corridors shall be created in the north and south side yards of the subject site. The condition requires that any fencing or gates within the side yard setbacks shall permit public views and have at least 75% of its surface area open to light. Furthermore, all proposed landscaping in these yard areas shall be maintained at a height of three feet or lower (including raised planters) to preserve public views from the street and landscape materials within the view corridors shall be species with a growth potential not expected to exceed three ft. at maturity. Five years from the date of issuance of this coastal development permit, the applicants are required to submit a monitoring report to the Executive Director that certifies whether the on-site landscaping and fencing is in conformance with the landscape plan approved pursuant to Special Condition 2.

Therefore, as conditioned, the Commission finds that potential visual impacts associated with the proposed development have been reduced to the maximum extent feasible and the proposed development will include measures to prevent impacts that would

significantly degrade the adjacent park and recreation area (beach area). Thus, with the proposed conditions, the project is consistent with the visual resource policies of the Coastal Act and the certified LUP.

E. WATER QUALITY

Section 30230 of the Coastal Act states as follows:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act states as follows:

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.

As cited above, Coastal Act Sections 30230 and 30231 require, in part, that marine resources and coastal wetlands and waters be maintained, enhanced, and where feasible restored. These policies specifically call for the maintenance of the biological productivity and quality of marine resources, coastal waters, streams, wetlands, and estuaries necessary to maintain optimum populations of all species of marine organisms and for the protection of human health.

The proposed development will be located at the top of the bluffs overlooking the Pacific Ocean. As such, drainage and run-off from the development could potentially affect water quality of coastal waters as well as adversely affect the stability of the bluffs. Special conditions of the permit approving construction of the existing seawall (CDP 6-09-033) previously required the removal or capping of any existing permanent irrigation systems on the blufftop lot. Special Condition 2 restates this requirement and prohibits installation of any future permanent irrigation systems. Special Condition 2 also limits landscaping to native, drought-tolerant plants which will minimize the amount of polluted runoff from the property to the extent feasible.

In order to protect coastal waters from the adverse effects of polluted runoff, the Commission has typically required that all runoff from impervious surfaces be directed through landscaping as a filter mechanism prior to its discharge into the street. In this

case, however, directing runoff into blufftop landscape areas could have an adverse effect on bluff stability by increasing the amount of ground water within the bluff, which can lead to bluff failures. Therefore, in this case, Special Condition 1 requires that all runoff be collected and directed toward the street.

Special Condition 6 requires the applicants to conform to best management practices and construction responsibilities throughout construction at the project site, to ensure all resulting debris are properly removed/disposed, and to safeguard that temporary sediment control measures are put in place. Thus, as conditioned, the Commission finds that the proposed project will maintain and enhance the functional capacity of the habitat and protect human health as mandated by the requirements of Sections 30230 and 30231 of the Coastal Act.

F. LOCAL COASTAL PLANNING

Section 30604(a) also requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

The Commission approved the City's Local Coastal Program Land Use Plan in March 2012. In addition, the Commission approved an amendment to the LUP in January 2014 to modify some of the key provisions relating primarily to blufftop development and bluff/shoreline protection, including policies related to modifications and redevelopment of blufftop structures. The City has not yet completed, nor has the Commission reviewed, any implementing ordinances. Thus, the City's LCP is not certified.

The location of the proposed residential development is designated for residential uses in the City of Solana Beach certified LUP. The proposed development is consistent with the Chapter 3 policies of the Coastal Act and the certified LUP, in that the proposed development will not require new shoreline armoring during its lifetime. In addition, the development will not extend the length of time the existing armoring will be required to be retained. Therefore, the Commission finds that approval of the proposed development would not prejudice the ability of the City of Solana Beach to complete a certifiable local coastal program.

G. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's regulations requires Commission approval of coastal development permits to be supported by a finding showing the permit 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 that the activity may have

on the environment. The City of Solana Beach found that the proposed development was categorically exempt pursuant to California Code of Regulations, section 15303.

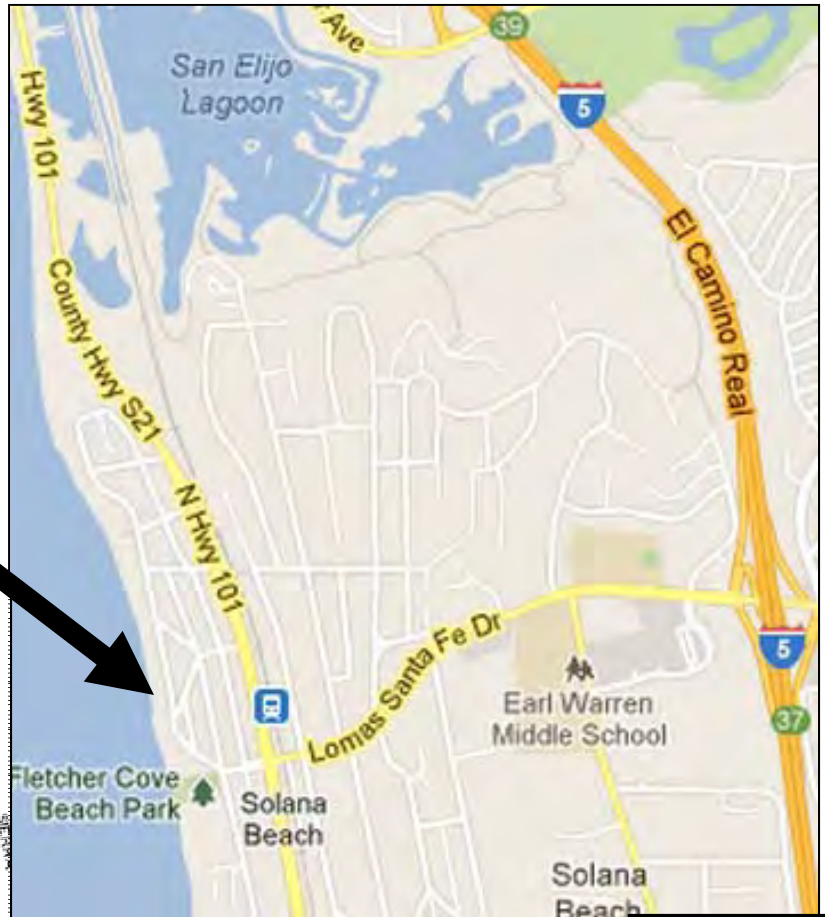
The proposed project has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A – Substantive FILE DOCUMENTS

- City of Solana Beach certified LUP
- City of Solana Beach General Plan and Zoning Ordinance
- Preliminary Geotechnical Report Proposed Single Family Residence 225 Pacific Avenue, Solana Beach, California, by Taylor Group, Inc., dated Revised March 31, 2014
- Updated Bluff Stability Analysis Proposed Single Family Residence 225 Pacific Avenue, Solana Beach, California, by Taylor Group, Inc., dated February 2, 2016
- Benumof, Benjamin & Griggs, Gary. “The Dependence of Seacliff Erosion Rates on Cliff Material Properties and Physical Processes: San Diego County, California.” Shore & Beach Vol. 67, No. 4, October 1999, pp. 29-41
- 2016 Monitoring Report CDP #6-09-33, Soil Engineering Construction, Inc., dated May 2014
- CDP Nos.:
 - 6-84-062
 - 6-88-006/Victor
 - 6-95-095/O’Neal
 - 6-98-131/Glasgow
 - 6-99-103/Solana Beach Preservation Association
 - 6-00-014-G/Solana Beach Preservation Association
 - CDP 6-05-091/O’Neal, et al.
 - 6-09-033/Garber et al.
 - 6-09-033-A1/O’Neal et al.
 - A-6-ENC-09-040 & A-6-ENC-09-041/Okun
 - A-6-CII-15-0039/Nolan

PROJECT LOCATION

Project
Location



Google Maps

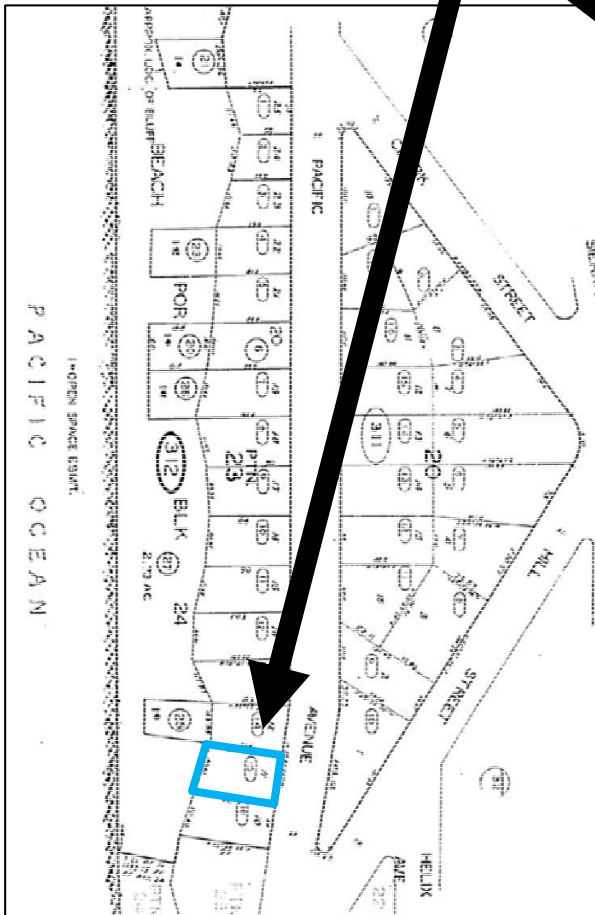


EXHIBIT NO. 1

APPLICATION NO.

6-15-1717

Project Location



California Coastal Commission

2013 Aerial Photograph

Subject Site



Copyright (C) 2002-2010 Kenneth & Gabrielle Adelman, California Coastal Records Project, www.Californiacoastline.org



EXHIBIT NO. 2

APPLICATION NO.

6-15-1717

2013 Aerial Photo



California Coastal Commission

2013 Aerial Photograph (Zoomed In)

Subject Site
225 Pacific

215 Pacific

211 Pacific

231 Pacific

219 Pacific



Copyright (C) 2002-2010 Kenneth & Gabrielle Adelman, California Coastal Records Project, www.Californiacoastline.org



EXHIBIT NO. 3

APPLICATION NO.

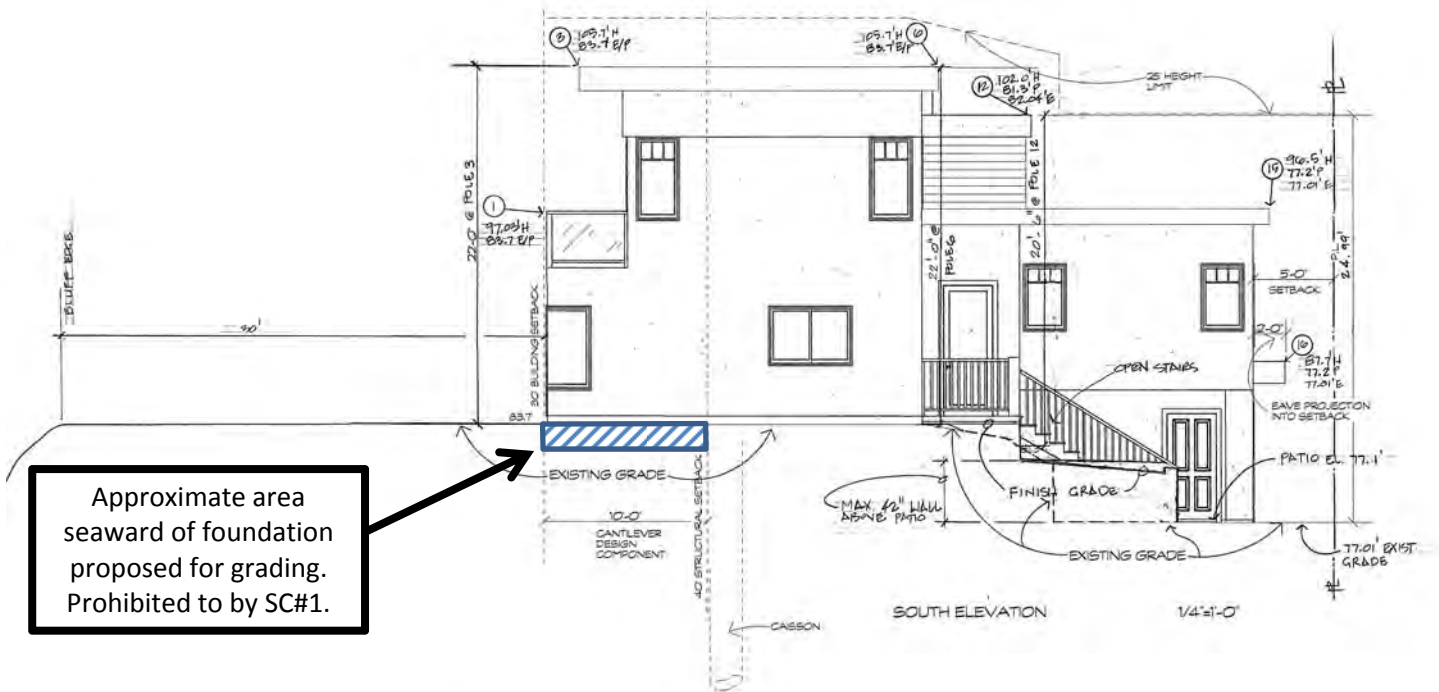
6-15-1717

2013 Aerial Photo (Zoom)



California Coastal Commission

SOTUH ELEVATION PLAN



← OCEAN

EXHIBIT NO. 5

APPLICATION NO.

6-15-1717

South Elevation Plan



California Coastal Commission

CALIFORNIA COASTAL COMMISSION

San Diego Coast Area Office
7575 Metropolitan Drive, Suite 103
San Diego, CA 92108-4421
(619) 767-2370
www.coastal.ca.gov

FILE COPY

Page: 1

Date: November 1, 2010

Permit Application No.: 6-09-033

COASTAL DEVELOPMENT PERMIT

On October 14, 2010, the California Coastal Commission granted to:

O'Neal Family Trust, S.O. Altfillisch, Baker Trust, Mark Barr and Felicia Schenkel and Gary and Diane Garber

this permit subject to the attached Standard and Special Conditions, for development consisting of

Construction of an approximately 256.3 ft.-long, 35 ft. high, colored and textured concrete tiedback seawall, and concrete backfill on the public beach below five single family homes.

more specifically described in the application filed in the Commission offices.

The development is within the coastal zone at

Five separate residential blufftop lots at 211, 215, 219, 225 and 231 Pacific Avenue, City-owned bluffs and beach (Fletcher Cove Beach Park), Solana Beach, San Diego County. [APNs: 263-323-02, 263-323-01, 263-312-16, 263-312-15, 263-312-14]

Issued on behalf of the California Coastal Commission by

PETER M. DOUGLAS
Executive Director

By:  Nicholas Dreher
Coastal Program Analyst

ACKNOWLEDGMENT:

The undersigned permittee acknowledges receipt of this permit and agrees to abide by all terms and conditions thereof.

The undersigned permittee acknowledges that Government Code Section 818.4 which states in pertinent part that: "A Public entity is not liable for injury caused by the issuance. . . of any permit. . . " applies to the issuance of this permit.

IMPORTANT: THIS PERMIT IS NOT VALID UNLESS AND UNTIL A COPY WITH THE SIGNED ACKNOWLEDGMENT HAS BEEN RETURNED TO THE OFFICE. 14 Cal. Admin. Code Section 13158(a).

Date_____
Signature of Permittee

EXHIBIT NO. 6

APPLICATION NO.
6-15-1717

CDP 6-09-033

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California Coastal Commission

COASTAL DEVELOPMENT PERMIT

Date: November 1, 2010

Permit Application No.: 6-09-033

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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 on which the Commission voted on the application. 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. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **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.
5. **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.

SPECIAL CONDITIONS:

This permit is for one shoreline protective device on City-owned property to protect residential development located on 5 separately-owned residential properties; thus, each applicant shall be responsible for compliance with the following conditions as the conditions apply to their residential property, the entire protective device and/or that portion of the device below the applicant's individual residential site.

The permit is subject to the following conditions:

1. **Final Revised Plans.** **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicants shall submit for review and written approval of the Executive Director, final plans for the proposed seawall that are in substantial conformance with the submitted plans submitted on February 18, 2010 by TerraCosta Consulting. Said plans shall first be approved by the City of Solana Beach and be revised as follows:

- a. It shall include sufficient detail regarding the construction method and technology utilized for texturing and coloring the seawall, and the concrete backfill behind the seawall. Said plans shall confirm, and be of sufficient detail to verify, that the seawall and limited concrete backfill closely matches the adjacent color and texture of the natural bluffs, including provision of a color board indicating the color of the material.
- b. Any existing permanent irrigation system located on the bluff top sites shall be removed or capped.

COASTAL DEVELOPMENT PERMIT

Date: November 1, 2010

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- c. All runoff from impervious surfaces on the top of the bluff shall be collected and directed away from the bluff edge towards the street.
- d. Existing accessory improvements (i.e., guest house, decks, patios, walls, windscreens, etc.) located in the geologic setback area on each residential site shall be detailed and drawn to scale on the final approved site plan and shall include measurements of the distance between the accessory improvements and the bluff edge (as defined by Section 13577 of the California Code of Regulations) taken at three or more locations. The locations for these measurements shall be identified through permanent markers, benchmarks, survey position, written description, or other method that enables accurate determination of the location of structures on the site. No modifications to, removal and/or replacement of any existing accessory structures is authorized by this permit and any such actions shall require a separate coastal development permit or permit amendment.

The applicants shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. Encroachment on Public Property/Impacts to Public Trust Lands. By acceptance of this permit, the applicants agree, on behalf of themselves and all successors and assigns, to the following limitations on use of the blufftop residential parcels (APNs 263-323-02, 263-323-01, 263-312-16, 263-312-15, 263-312-14):

- 1) This coastal development permit authorizes the seawall for twenty years from the date of approval (i.e., until October 14, 2030). No modification or expansion of the approved seawall, or additional bluff or shoreline protective structures shall be constructed, without approval of an amendment to this coastal development permit by the Coastal Commission;
- 2) Any future redevelopment of the blufftop residential parcels shall not rely on the permitted seawall to establish geologic stability or protection from hazards. Redevelopment on the sites shall be sited and designed to be safe without reliance on shoreline or bluff protective devices. As used in this condition, "redevelopment" is defined to include: (1) additions; (2) expansions; (3) demolition, renovation or replacement that would result in alteration to 50 percent or more of an existing structure, including but not limited to, alteration of 50 percent or more of interior walls, exterior walls or a combination of both types of walls; or (4) demolition, renovation or replacement of less than 50 percent of an existing structure where the proposed remodel or addition would result in a combined alteration of 50 percent or more of the structure (including previous alterations) from its condition in October 2010; and
- 3) Prior to the issuance of the coastal development permit, the applicant shall submit written evidence that the City of Solana Beach has received a copy of the conditions of this Commission-approved coastal development permit and that it authorizes the proposed encroachment on City property.

3. Extension of Seawall Authorization or Seawall Removal. Prior to the expiration of the twenty year authorization period for the permitted seawall, the property owners shall submit to the Commission an application for a coastal development permit amendment to either remove the seawall in its entirety, change or reduce its size or configuration, or extend the length of time the

COASTAL DEVELOPMENT PERMIT

Date: November 1, 2010

Permit Application No.: 6-09-033

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seawall is authorized. Provided a complete application is received before the 20-year permit expiration, the expiration date shall be automatically extended until the time the Commission acts on the application. Sufficient information shall accompany any amendment application to conform with the permit filing guidelines at the time and to allow the Commission to consider the following in review of the proposed permit amendment:

- 1) An analysis, based on the best available science and updated standards, of beach erosion, wave run-up, sea level rise, inundation and flood hazards prepared by a licensed civil engineer with expertise in coastal engineering and a slope stability analysis, prepared by a licensed Certified Engineering Geologist and/or Geotechnical Engineer or Registered Civil Engineer with expertise in soils, in accordance with the procedures detailed in the Local Coastal Program (LCP), if certified or the City Zoning Code;
- 2) An evaluation of alternatives that will increase stability of the existing principal structure for its remaining life, or re-site new development to an inland location, such that further alteration of natural landforms and/or impact to adjacent tidelands or public trust lands is avoided;
- 3) An analysis of the condition of the existing seawall and any impacts it may be having on public access and recreation, scenic views, sand supplies, and other coastal resources;
- 4) An evaluation of the opportunities to remove or modify the existing seawall in a manner that would eliminate or reduce the identified impacts, taking into consideration the requirements of the LCP, if certified, and the protection required for remaining properties subject to this coastal development permit;
- 5) For amendment applications to extend the authorization period, a proposed mitigation program to address unavoidable impacts identified in subsection (3) above;
- 6) The surveyed location of all property lines and the mean high tide line by a licensed surveyor along with written evidence of full consent of any underlying land owner, including, but not limited to the City, State Parks, or State Lands Commission, of the proposed amendment application. If application materials indicate that development may impact or encroach on tidelands or public trust lands, written authorization from the underlying property owner and the State Lands Commission of the proposed amendment shall be required prior to issuance of the permit amendment to extend the authorization period.

4. **Mitigation for Impacts to Sand Supply.** **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicants shall provide evidence, in a form and content acceptable to the Executive Director, that a fee of \$72,415.04 has been deposited in an interest bearing account designated by the Executive Director, in-lieu of providing the total amount of sand to replace the sand and beach area that will be lost due to the impacts (such as loss of beach from physical encroachment of the seawall and the fixing of the back of the beach) of the proposed protective structures. All interest earned by the account shall be payable to the account for the purposes stated below.

The developed mitigation plan covers impacts only through the approved 20-year design life of the seawall. No later than 19 years after the issuance of this permit, the applicants or their successors in interest shall apply for and obtain an amendment to this permit that either requires the removal of the seawall or mitigation for the effects of the seawall on shoreline sand supply for the length of time the permit for this seawall is extended.

COASTAL DEVELOPMENT PERMIT

Date: November 1, 2010

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The purpose of the account shall be to establish a beach sand replenishment fund to aid SANDAG, or an alternate entity approved by the Executive Director, in the restoration of the beaches within San Diego County. The funds shall be used solely to implement projects which provide sand to the region's beaches, not to fund operations, maintenance or planning studies. The funds shall be released only upon approval of an appropriate project by the Executive Director of the Coastal Commission. The funds shall be released as provided for in a MOA between SANDAG, or an alternate entity approved by the Executive Director, and the Commission, setting forth terms and conditions to assure that the in-lieu fee will be expended in the manner intended by the Commission. If the MOA is terminated, the Executive Director may appoint an alternate entity to administer the fund for the purpose of restoring beaches within San Diego County.

5. Mitigation for Impacts to Public Access and Recreational Use. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall provide evidence, in a form and content acceptable to the Executive Director, that the full interim mitigation fee of \$256,300.00, required by the City of Solana Beach to address adverse impacts to public access and recreational use, has been satisfied.

WITHIN 6 MONTHS of the Commission's certification, as part of the certified LCP, of both the City's economic study of the impacts associated with shoreline devices and its method of calculating such fees, the applicants shall submit to the Executive Director for review and written approval, documentation of the final mitigation fee amount required by the City to address impacts of the proposed shoreline protection on public access and recreation. If the amount differs from the interim amount required above, then the applicants shall submit an application for an amendment to this permit to adjust the mitigation fee to be paid to the City to address adverse impacts to public access and recreational use resulting from the proposed development. In the event no mitigation program is certified as part of the LCP process, mitigation to address ongoing impacts to public access and recreation shall be re-assessed after the 20 year authorization period has expired.

6. Monitoring/Maintenance Program. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, a monitoring program prepared by a licensed civil engineer or geotechnical engineer to monitor the performance of the seawall which requires the following:

- a. An annual evaluation of the condition and performance of the seawall addressing whether any significant weathering or damage has occurred that would adversely impact the future performance of the structure. This evaluation shall include an assessment of the color and texture of the seawall and concrete backfill comparing the appearance of the structure to the surrounding native bluffs.
- b. Annual measurements of any differential retreat between the natural bluff face and the seawall face, at the north and south ends of the seawall and at 20-foot intervals (maximum) along the top of the seawall face/bluff face intersection. The program shall describe the method by which such measurements shall be taken.
- c. Provisions for submittal of a report to the Executive Director of the Coastal Commission by May 1 of each year (beginning the first year after construction of the project is completed) for a period of three years and then, each third year following the last the annual report, for the 20 years for which this seawall is approved. In addition, reports shall be submitted in the Spring immediately following either:

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Date: November 1, 2010

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1. An "El Niño" storm event – comparable to or greater than a 20-year storm.
2. An earthquake of magnitude 5.5 or greater with an epicenter in San Diego County.

Thus, reports may be submitted more frequently depending on the occurrence of the above events in any given year.

- d. Each report shall be prepared by a licensed civil engineer, geotechnical engineer or geologist. The report shall contain the measurements and evaluation required in sections a and b above. The report shall also summarize all measurements and analyze trends such as erosion of the bluffs, changes in sea level, the stability of the overall bluff face, including the upper bluff area, and the impact of the seawall on the bluffs to either side of the wall. In addition, each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the seawall.
- e. An agreement that, if after inspection or in the event the report required in subsection c above recommends any necessary maintenance, repair, changes or modifications to the project including maintenance of the color of the structures to ensure a continued match with the surrounding native bluffs, the permittees shall contact the Executive Director to determine whether a coastal development permit or an amendment to this permit is legally required, and, if required, shall subsequently apply for a coastal development permit or permit amendment for the required maintenance within 90 days of the report or discovery of the problem.

The applicants shall undertake monitoring in accordance with the approved monitoring program. Any proposed changes to the approved monitoring program shall be reported to the Executive Director. No changes to the monitoring program shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

7. Storage and Staging Areas/Access Corridors. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, final plans approved by the City of Solana Beach indicating the location of access corridors to the construction site and staging areas. The final plans shall indicate that:

- a. No overnight storage of equipment or materials shall occur on sandy beach or public parking spaces. During the construction stages of the project, the applicants shall not store any construction materials or waste where it will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery shall be placed, stored or otherwise located in the intertidal zone at any time, except for the minimum necessary to construct the seawall/slope reconstruction. Construction equipment shall not be washed on the beach or in the Fletcher Cove parking lot or access road.
- b. Access corridors shall be located in a manner that has the least impact on public access to and along the shoreline.
- c. No work shall occur on the beach on weekends, holidays or between Memorial Day weekend and Labor Day of any year.

COASTAL DEVELOPMENT PERMIT

Date: November 1, 2010

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d. The applicants shall submit evidence that the approved plans/notes have been incorporated into construction bid documents. The staging site shall be removed and/or restored immediately following completion of the development.

The applicants shall undertake the development in accordance with the approved plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

8. Storm Design/Certified Plans. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicants shall submit certification by a registered civil engineer that the proposed seawall has been designed to withstand storms comparable to the winter storms of 1982-83.

In addition, within 60 days following construction, the applicants shall submit certification by a registered civil engineer, acceptable to the Executive Director, verifying that the seawall has been constructed in conformance with the approved plans for the project.

9. Public Rights. The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights that exist or may exist on the property. By acceptance of this permit, each applicant acknowledges, on behalf of him/herself and his/her successors in interest, that issuance of the permit and construction of the permitted development shall not constitute a waiver of any public rights which may exist on the property.

10. Other Permits. **PRIOR TO COMMENCEMENT OF CONSTRUCTION**, the applicants shall provide to the Executive Director copies of all other required local, state and federal discretionary permits for the development authorized by CDP 6-09-033. The applicant shall inform the Executive Director of any changes to the project required by other local, state or federal agencies. Such changes shall not be incorporated into the project until the applicants obtain a Commission amendment to this permit, unless the Executive Director determines that no amendment is legally required.

11. State Lands Commission Approval. **PRIOR TO COMMENCEMENT OF CONSTRUCTION**, the applicants shall submit to the Executive Director for review and written approval, a written determination from the State Lands Commission that:

- a) No state lands are involved in the development; or
- b) State lands are involved in the development, and all approvals required by the State Lands Commission have been obtained; or
- c) State lands may be involved in the development, but pending a final determination of state lands involvement, an agreement has been made by the applicants with the State Lands Commission for the project to proceed without prejudice to the determination.

12. Assumption of Risk, Waiver of Liability and Indemnity Agreement. By acceptance of this permit, the applicants acknowledge and agree (i) that the site may be subject to hazards from erosion and coastal bluff collapse; (ii) to assume the risks to the applicants and the property that is

COASTAL DEVELOPMENT PERMIT

Date: November 1, 2010

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the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

13. **Deed Restriction.** **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the applicants shall submit to the Executive Director for review and approval documentation demonstrating that each applicant has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

14. **Best Management Practices.** **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT,** the applicants shall submit for review and written approval of the Executive Director, a Best Management Plan approved by the City of Solana Beach that effectively assures no shotcrete or other construction byproduct will be allowed onto the sandy beach and/or allowed to enter into coastal waters. The Plan shall apply to both concrete pouring/pumping activities as well as shotcrete/concrete application activities. During shotcrete/concrete application specifically, the Plan shall at a minimum provide for all shotcrete/concrete to be contained through the use of tarps or similar barriers that completely enclose the application area and that prevent shotcrete/concrete contact with beach sands and/or coastal waters. All shotcrete and other construction byproduct shall be properly collected and disposed of off-site.

The applicants shall undertake the development in accordance with the approved Plan. Any proposed changes to the approved Plan shall be reported to the Executive Director. No changes to the Plan shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.