CALIFORNIA COASTAL COMMISSION

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REGULAR CALENDAR STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-01-151

Applicant: Peter Mitchell Sharon Seay Agent: Mike Lloyd

Description: Substantial demolition of an existing approx. 2,483 sq. ft., two-story single-family home (including garage) and reconstruction of an approx. 3,509 sq. ft. two-story single-family home (including garage) with an approx. 450 sq. ft. basement on a 5,470 sq. ft. blufftop lot.

Lot Area	5,470 sq. ft.
Building Coverage	2,096 sq. ft. (38%)
Pavement Coverage	1,788 sq. ft. (33%)
Landscape Coverage	1,362 sq. ft. (25%)
Unimproved Area	224 sq. ft. (4%)
Parking Spaces	2
Zoning	MR – Medium Residential 5-7 du/ac
Plan Designation	MR – Medium Residential 5-7 du/ac
Ht abv fin grade	23 feet

Site:

505 Pacific Avenue, Solana Beach, San Diego County. APN No.: 263-041-11

Substantive File Documents: Certified County of San Diego Local Coastal Program (LCP); City of Solana Beach General Plan and Zoning Ordinance; Design Review Permit/Structural Development Permit No. 17-00-34; "Shoreline Erosion Study, North Solana Beach, California", by Group Delta Consultants 1998 dated August 20, 1998; "Geotechnical investigation, Tide Beach Park seawall, Solana Beach, California", Group Delta Consultants 1998, dated December 30,1998; "Geologic evaluation of coastal bluff property, 505 Pacific Avenue, Solana Beach, California", Southland Geotechnical Consultants 2000, dated 8 March 2000; "Geotechnical investigation and foundation recommendations, for the proposed building addition to the Mitchell residence, located at 505 Pacific Avenue, Solana Beach, California", Engineering Design Group 2000, dated 13 March 2000; "Proposed modifications to the Mitchell residence located at 505 Pacific Avenue, Solana Beach, California: Existence of clean sand materials and influence on coastal bluff stability", Engineering Design Group, dated 14 September 2000; "Additions to the Mitchell residence, located at 505 Pacific Avenue, Solana Beach, California: Response to comments by Dr. Mark Johnsson regarding the slope stability analysis", Engineering Design Group 2002, dated 6 February 2001; "Addendum to geologic evaluation of coastal bluff property, 505 Pacific Avenue, Solana Beach, California", Southland Geotechnical Consultants 2001 dated 13 February 2001; "Proposed additions to the Mitchell residence, located at 505 Pacific Avenue, City of Solana Beach, California: Portions of building spanning over bluff set-back", Engineering Design Group 2001, dated 27 March 2001; "Response to letter regarding geologic evaluation of coastal bluff property, 505 Pacific Avenue, Solana Beach, California", Southland Geotechnical Consultants 2001, dated 18 September 2001; "Response to City of Solana Beach review comment, single-family residential addition, 505 Pacific Avenue, Solana Beach, California", Southland Geotechnical Consultants 2000, dated 27 November 2001; "Response to review comments from California Coastal Commission, geologic evaluation for proposed residential addition on coastal bluff property, 505 Pacific Avenue, Solana Beach, California", Southland Geotechnical Consultants 2002, dated 5 February 2002.

STAFF NOTES:

<u>Summary of Staff's Preliminary Recommendation</u>: Staff recommends the Commission approve the proposed development with conditions. The main issue raised by the proposed development relates to the status of the existing home as a legal nonconforming structure in that the home is located within 9 feet of the edge of the bluff, within the required geologic setback area. As proposed, the applicants will leave the exterior walls of the existing home located within 40 ft. of the bluff edge and then demolish the rest of the home. Additionally, the interior of the home remaining in the geologic setback area will be completely rearranged and renovated. The end result will be essentially a new blufftop home in a nonconforming location.

To address the policy question relating to the extent of renovation of existing nonconforming blufftop structures which can occur without triggering the need to comply with current blufftop setbacks for new development, staff is recommending that the applicants submit revised plans which allow for no more than a 250 sq. ft. addition to the existing home and that the addition be located at least 40 from the edge of the bluff. This approach is consistent with policy language the Commission has certified in the LCP for the neighboring City of Encinitas which has a bluff-backed, eroding shoreline similar to Solana Beach. Because that LCP as submitted did not include policies which addressed the issues associated with managing the shoreline on a comprehensive basis, the LCP as modified pursuant to Commission action contains language which limits the extent of renovation to existing blufftop development to 10% of the structure or 250 sq.ft. whichever is greater, until a comprehensive plan is prepared and certified.

The City of Solana Beach is currently in the process of preparing an LCP for submittal to the Commission. Staff believes the certified LCP should contain policies which address renovations to existing nonconforming blufftop development, lower and upper bluff stabilization measures, seacave and notch fills as preventative measures, groundwater and beach nourishment as part of a comprehensive plan to limit impacts on the public bluffs and beaches and resultant impacts to public access, shoreline processes and visual quality of the natural landforms. Staff believes a Commission action to approve the substantial demolition and reconstruction of the existing blufftop residence, as proposed, would prejudice the preparation of an LCP which must address these issues to meet the requirements of the Coastal Act.

The applicant has already obtained the one-time extension allowed under the Permit Streamlining Act, which expires on May 14, 2002. The May 2002 heaing, therefore is the deadline for Commission action on this project.

I. PRELIMINARY STAFF RECOMMENDATION:

<u>MOTION</u>: I move that the Commission approve Coastal Development Permit No. <u>6-01-151</u> pursuant to the staff recommendation.

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development 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.

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II. Standard Conditions.

See attached page.

III. Special Conditions.

The permit is subject to the following conditions:

1. <u>Final Revised Plans</u>. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, final revised grading, site, and building plans for the proposed development that have been approved by the City of Solana Beach which shall demonstrate that the project has been revised to comply with the following requirements:

- a. All additions (including basement) to the existing residence shall be limited to 250 sq. ft. or 10% of the existing residential square footage (which ever is greater) and shall be located no closer than 40 feet landward of the edge of the existing bluff.
- b. Any existing permanent irrigation system located on the bluff top site shall be removed or capped and no new permanent irrigation system shall be installed.
- c. If landscaping is proposed, only drought tolerant, native and non-invasive plant materials shall be utilized.
- d. All runoff from the site shall be collected and directed away from the bluff edge towards the street.
- e. Existing accessory improvements (i.e., decks, patios, walls, etc.) located in the geologic setback area on the site shall be detailed and drawn to scale on the final approved site plan.

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 required.

2. <u>Assumption of Risk</u>. By acceptance of this permit, the applicant, on behalf of itself and its successors and assigns, acknowledges and agrees (i) that the site may be subject to hazards from erosion and bluff collapse; (ii) to assume the risks to the applicant 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.

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

3. <u>Future Response to Erosion</u>. If in the future the permittee seeks a coastal development permit to construct bluff or shoreline protective devices, the permittee will be required to include in the permit application information concerning alternatives to the proposed bluff or shoreline protection that will eliminate impacts to scenic visual resources, public access and recreation and shoreline processes. Alternatives shall include but not be limited to: relocation of portions of the principle structures that are threatened, structural underpinning, and other remedial measures capable of protecting the principal structures and providing reasonable use of the property, without constructing bluff or shoreline stabilization devices. The information concerning these alternatives must be sufficiently detailed to enable the Coastal Commission to evaluate the feasibility of each alternative, and whether each alternative is capable of protecting existing structures that are in danger from erosionNo shoreline protective devices shall be constructed in order to protect ancillary improvements (patios, decks, fences, landscaping, etc.) located between the principal residential structures and the ocean.

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a material amendment to this coastal development permit approved by the Commission or an immaterial amendment approved by the Executive Director.

4. <u>Future Development Deed Restriction</u>. This permit is only for the development described in coastal development permit No. 6-01-151. Pursuant to Title 14 California Code of Regulations Section 13250(b)(6), the exemptions otherwise provided in Public Resources Code Section 30610(a) shall not apply. Accordingly, any future improvements to the existing single family residence other than those authorized by coastal development permit No. 6-01-151, including but not limited to repair and

maintenance identified as requiring a permit in Public Resources Code section 30610(d) and Title 14 California Code of Regulations section 13252(a)-(b), shall require an amendment to permit No. 6-01-151 from the California Coastal Commission or shall require an additional coastal development permit from the California Coastal Coastal Commission or from the applicable certified local government.

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, reflecting the above restrictions on development. The deed restriction shall include legal descriptions of the applicant's entire parcel(s). The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

5. <u>Final Drainage Plans</u>. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, final drainage and runoff control plans, which shall be approved by Solana Beach. The plans shall document that the runoff from the roof, driveway and other impervious surfaces shall be collected and directed into pervious areas on the site (landscaped areas) for infiltration and/or percolation to the maximum extent practicable, prior to being conveyed off-site in a non-erosive manner.

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 required.

IV. Findings and Declarations.

The Commission finds and declares as follows:

1. Detailed Project Description. Proposed is the substantial demolition and renovation of an existing approximately 2,483 sq. ft., two-story single-family residence located within 9 feet of the edge of a coastal bluff in order to reconstruct an approximately 3,540 sq. ft., two-story single-family residence in the same location on the approximately 5, 470 sq. ft. lot. The proposal involves the retention of most exterior walls of that portion of the existing home that lies within 40 feet of the bluff's edge and the demolition of all portions of the existing residence that lie 40 feet landward of the edge of the bluff. In addition, interior walls of the remaining residence will be substantially altered or removed and rooms will be moved to new locations. In addition an approximately 450 sq. ft. basement will be constructed 40 ft. landward of the edge of the bluff below the proposed new addition. The existing residence was constructed in approximately 1966. Approximately one-half of the footprint of the existing residence is located within 40 ft. of the edge of the bluff. The majority of the new additions will

occur 40 feet landward of the edge of the bluff with the exception of an approximately 50 sq. ft. second story hallway which will connect the proposed second story to the existing second story located within the 40 ft. setback area. In addition, small portions of the second floor additions are proposed to be cantilevered seaward of the 40 ft. bluff setback area for approximately one to two feet.

Based on the plans by Mike Lloyd and Associates submitted by the applicant on September 24, 2001, the following renovations and additions proposed are:

First floor changes: The existing den, family room, a restroom and two-car garage that lie 40 ft. landward of the bluff edge will be demolished (approximately 840 sq. ft.). To replace the demolished first floor section of the home, the applicants propose to construct a two-car garage, family room, restroom, laundry room and a circular stairway which will result in approximately 1,260 sq. ft. of new first floor area. The undemolished portions of the first floor located within 40 feet of the bluff's edge will undergo substantial renovation including the removal of an existing fireplace from the east side of the structure, construction of a small room in place of the fireplace and a new fireplace in the southwest corner of the structure. The existing living room will be expanded through the elimination of the dining room, the dining room will be relocated to the northwest corner of the structure where currently a kitchen is located and the kitchen will be moved to the east side of the new dining room. Additional improvements include the removal of the stairway leading to the second floor, removal of a restroom and its replacement by a pantry adjacent to the new kitchen, a new window seaward of the proposed dining room, and new portions of walls between the living room, dining room and kitchen. In addition, interior walls on the east side of the existing kitchen and surrounding an existing restroom are proposed to be removed. Also, because the first floor landward of the 40 ft. setback line will be completely demolished, the eastern exterior walls of the remaining kitchen area will be removed (see Exhibits 3 and 5).

Second floor changes: A new second floor is proposed to be constructed 40 feet landward from the edge of the bluff above the new garage, family room, restroom and laundry room area. This second floor will include two bedrooms, two bathrooms and a circular stairway for a total of approximately 683 sq. ft. of new second floor area. In addition, a new hallway is proposed to connect the proposed second story to the existing second story located within the 40-foot geologic setback area. The proposed hallway and small portions of the proposed second story are described by the applicant as being designed to be cantilevered into the 40 ft. setback area such that its weight will be surcharged by foundations lying at least 40 feet landward the bluff edge. The existing approximately 726 sq. ft. second floor (consisting of two bedrooms, two bathrooms and closets) that lies within the 40 ft. geologic setback area will also be substantially renovated. Two existing bathrooms located in the northeast and southeast corners of the second floor will be removed and replaced by a single master bathroom to be constructed across the south side of the second floor. A single master suite is proposed to replace the existing two bedrooms and a new walk-in closet is proposed to replace the two existing closets. In addition the existing stairway leading to the first floor will be removed and most of the existing interior walls will be demolished and replaced by new walls. The

only exterior wall to be removed is a small section located at the northeast corner that is proposed to accommodate the new hallway which will connect the new second floor with the existing (see Exhibits 4 and 6).

<u>Basement proposal</u>: The applicant proposes to construct an approximately 450 sq. ft. basement area beneath the new structure located 40 feet landward of the bluff edge. The basement area will include a bathroom and circular stairway and will involve approximately 150 cu. yds. of grading (see Exhibit 7).

The blufftop lot is located above Tide Beach Park, a small headland protected cove, that contains an approximately 27 foot-high, 155 foot-long concrete bag seawall located at the base of an approximately 80 foot-high coastal bluff. Although plans for the original pre-Coastal Act seawall are unavailable, the wall is believed to consist of two to three layers of stacked bags of concrete that have a width of two to three bags, reinforced with rebar driven vertically through the bags at set intervals and was probably not designed for long-term protection of the developments at the top of the bluff. A public access stairway to Tide Beach Park is located two lots south of the proposed development site. The City of Solana Beach does not yet have a certified Local Coastal Program (LCP) and, therefore, Chapter 3 of the Coastal Act is the standard of review.

2. <u>Improvements to Nonconforming Blufftop Structures</u>. Section 30253 of the Coastal Act states, in part:

New development shall:

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

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

In addition, Section 30240(b) of the Act requires that:

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.

Both these sections are applicable to the Commission's review of new blufftop development and improvements to existing blufftop development such as that proposed. The policies are designed to assure that development in such hazardous locations and adjacent to parks and recreation areas, such as the public beach, are sited and designed to reduce risks and to prevent impacts which would significantly degrade those areas. In review of blufftop development in nonconforming locations, i.e. with insufficient geologic setbacks, the Commission must assure any development which is approved will not contribute to the destruction of the site or the surrounding area, in this case the adjacent public parkland comprised of the bluffs and beach. Approved development must also be designed to prevent impacts to those areas. One means to assure such protection of public beach recreational areas is to assure, to the extent possible, that improvements or new development will not require protective devices that substantially alter the natural landforms along bluffs and adversely impact visual quality, coastal processes and public access along the shoreline.

The existing single-family structure is non-conforming with respect to the City of Solana Zoning Ordinance regarding setback requirements for blufftop developments. Section 17.16.20(B) of the City's Zoning Code defines a nonconforming structure as a building, structure or improvement that:

1. Does not conform to the development standards described in this title, together with all building standards including, without limitation, height, setbacks, density, parking, type of building, or coverage of lot by structure; and

2. Did comply with the development standards contained in this title in effect at the time the building, structure or improvement was constructed or structurally altered and was lawfully constructed.

The existing residence is located as close as 9 feet from the edge of an approximately 80 ft. high coastal bluff. The City's municipal code requires that blufftop structures be setback at a minimum of 40 feet landward of the bluff edge unless an engineering geology report is prepared that certifies a setback of less than 40 feet (but not less than 25 feet) is adequate to assure the residence will be safe from erosion over an estimated 70 years. The applicant's geotechnical reports document that the existing structure located within 40 feet of the bluff edge may be threatened over its remaining lifetime. Additionally, by City standards, the existing structure is nonconforming in that is does not maintain a 40 ft. setback from the edge of the bluff. In the most recent Commission actions for new blufftop development in Solana Beach, the Commission has required a minimum 40 ft. geologic setback unless the applicant waives future protection for those structures located within the geologic setback area and agrees to remove the residential structure if threatened (ref. Coastal Development Permits 6-95-139/Mintern, 6-06-21/Ratowski and 6-97-50/O'Neal). However, because of the increasing number of bluff sloughages and collapses and the recent discovery of a layer of a clean sands layer within the bluffs along the Solana Beach shoreline, even with a waiver of future protection, reduction in the 40 ft. setback for new development is not prudent.

A. <u>Retention of Nonconforming Structures</u>. The subject applicants propose to demolish a substantial portion of the existing approximately 2,483 sq. ft. single-family residence, rebuild and expand the demolished section through the construction of a first and second story and the addition of a basement. In addition, the remaining portion of the residence within the 40 ft. geologic setback area will be retained but will be substantially altered with interior demolition and redesign. Although most of the

existing exterior walls located within 40 feet of the bluff edge will remain, none of the interior area will be unaffected by the interior demolition, redesign and relocation of rooms.

Section 30253 of the Coastal Act requires that new development be setback to a safe location so as not to require shoreline protection in the future which would result in adverse effects to the natural bluff and beach (see Section 3, below). The demolition/remodel will essentially result in a new residence located in a nonconforming location within 9 feet from the edge of a coastal bluff. As a new residence, the project is inconsistent with the Coastal Act provisions concerning protection of beaches and bluffs. The goal of Section 30253 is to avoid construction of upper and lower bluff stabilization devices that alter natural landforms and coastal processes. The certified LCP should contain ordinances which specifically define the extent of renovation that can occur without requiring conformance to current standards, or, in other words how much the existing nonconforming structure can be expanded or improved without increasing geologic risk. In this case, the City's current zoning ordinances relating to nonconforming structures can provide some guidance in interpreting when that threshold has been exceeded

The City's nonconforming structure regulations at Section 17.16.020 of the City's municipal code, identify the type of work that can be done without triggering a requirement to bring a nonconforming structure into conformance with current standards. The regulations indicate "[r]outine internal and external repairs may be performed on a nonconforming structure." In addition, Section 17.16.060 of the City's code allows additions to occur to nonconforming structures as long as the addition does not "increase the size or degree of the existing nonconformity." The purpose of these regulations is to limit the type and extent of work that can be performed on nonconforming structures. And as Section 17.16.060 specifically identifies, "[t]his section shall not be interpreted to allow the reconstruction of a nonconforming structure". Thus, the policy issue is whether the proposed project constitutes "routine internal and external repairs" which do not "increase the size or degree of the existing nonconformity" and whether or not the proposed development represents the "reconstruction of an nonconforming structure". The Commission believes this question must be specifically addressed in the nonconforming structure regulations of the City's certified LCP in order to guide future blufftop development and avoid complete armoring of the City's shoreline to the extent possible.

B. Whether the Project Constitutes Repair.

As stated, one of the goals of the Coastal Act is to protect the natural bluffs and beaches. New development or reconstruction of a nonconforming structure which has inadequate setbacks to protect it from erosion over its lifetime, may result in demands for shoreline protection which can result in adverse impacts to the bluffs and beach. In light of this goal, the Commission finds that the term "repair" is intended to mean minor activities that allow a nonconforming structure to be kept in adequate condition. This term does not include demolition, expansion, construction of additions, and such other work that results in reconstruction of the nonconforming structure. To interpret this term otherwise would not allow for achievement of the goals of the Coastal Act. The Commission finds that the proposed demolition, remodel and renovation are so extensive it does not constitute repairs or routine maintenance. Rather, the work amounts to a reconstruction of the existing residence resulting in a new residence in a nonconforming location.

C. Whether the Project Increases the Degree of Nonconformity. The purpose of any nonconforming structure regulations is to allow continued use of existing legal nonconforming structures which have become nonconforming due to changes in the zoning code, provided the degree of nonconformity is not increased or expanded. The regulations are not intended to allow redevelopment of a property solely in reliance on the nonconforming regulations without regard to other requirements for discretionary permits, community land use policies and current zoning requirements. As previously described, the proposed project is not a repair or even an addition to, but is a substantial demolition and reconstruction of a nonconforming single-family residence.

From a policy standpoint, the Commission finds that a larger nonconforming structure with an inadequate geologic setback increases the degree of nonconformity and increases the time period that the nonconformity will exist, thereby increasing the risk to the structure. Additionally, it is not appropriate to only consider the safety of the proposed additions because, for purposes of required shoreline or bluff protection, the additions would not be considered independent of the existing residence. In this case, the Commission finds that the development clearly increases the degree of nonconformity because it is a substantial demolition and reconstruction of a single-family residence with the proposed retention of those portions that are located within the geologic setback area and which are nonconforming. The proposal will extend the life of both the existing and new portions of the residence in a higher risk location than would be required for new development which is inconsistent with Section 30253 requirements to minimize risk and not require shoreline protective devices.

The Commission finds there is a significant precedential concern if ordinances addressing nonconforming structures are not interpreted broadly in light of the goals of the Coastal Act and the significance of the coastal resources that are affected by blufftop development. The concern is, if nonconforming structure regulations are interpreted to allow substantial demolition and reconstruction of an essentially new development in the same nonconforming location when only the nonconforming portion is retained and renovated rather than demolished, the line of development will never be moved inland. This is problematic because the setbacks are established based on bluff recession rates over the anticipated life of the structure, typically 75 years. The Commission finds the redevelopment of the property as proposed increases the degree of nonconformity because:

- 1. It allows for retention of a significantly larger nonconforming principal residence with inadequate geologic blufftop setbacks;
- 2. It extends the life of the existing nonconforming structure which is at the near middle of its 75 year lifespan for a typical residence;

3. It precludes options for future site development to be brought into conformance with the Coastal Act.

Thus, the proposed project does not constitute "routine" repair nor even an minor addition to an existing home; and it increases the size and degree of nonconformity associated with the nonconforming residence. The Commission finds that, due to the significance of the public recreational resources impacted by bluff and shoreline protective devices when necessary to protect development along the Solana Beach shoreline, to perpetuate larger, newer development in a hazardous location which will require such protection is inconsistent with Section 30240 and 30253 of the Coastal Act.

4. <u>Blufftop Stability.</u>

The applicants propose to demolish a substantial portion of the existing approximately 2,483 sq. ft. single-family residence, rebuild and expand the demolished section through the construction of a new story and a second story and basement. The only portion of the residence that is proposed to be retained is all the square footage that is located within the 40 ft. geologic setback area. In addition, this remaining portion of the residence within 40 feet of the bluff edge will be substantially altered with interior demolition and redesign. Although portions of the existing exterior walls located within 40 feet of the bluff edge will remain, none of the interior area will be unaffected by the interior demolition, redesign and relocation of rooms. Therefore, the proposed project is not simply an addition to an existing structure, but more accurately described as a new residential structure. Therefore, the proposed development should be reviewed as new development located on the blufftop.

The site of the proposed development is on top of an approximately 80 ft.-high coastal bluff area of the City of Solana Beach. Because of the natural process of continual bluff retreat, coastal bluffs in this area and at the subject site are considered a hazard area. Because of erosion below the subject property, an approximately 150 ft. long, 27 ft.-high seawall was constructed at the toe of the bluff prior the implementation of the Coastal Act. Although no plans of the wall's construction are available, it is believed to consist of stacked bags of concrete that have a width of two to three bags, reinforced with rebar driven vertically through the bags at set intervals. Therefore, the seawall is not comparable in design and is not expected to perform as well as currently designed walls. In fact, in 1998 the Commission approved repairs to the seawall which had been damaged by ongoing erosion caused by wave action resulting from the El Nino storms of 1997-98. During the El Nino storms of 1997-98, the beach level in this pocket beach had declined such that the foundation of the wall was exposed and storm waves siphoned bluff material from under the seawall creating an approximately 3 foot-wide, 20 foot-deep sinkhole behind a northern section (CDP No. 6-98-148/City of Solana Beach). Therefore, the existing seawall probably does not provide the same level of protection as present day designed seawalls and its presence highlights the hazardous nature of this specific site in terms of ongoing threats from bluff erosion to development at the top of the bluff. A number of significant bluff failures have occurred along this stretch of coastline including several slides on the bluffs just north and south of the subject site. In

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addition, documentation has been presented in past Commission actions concerning the unstable nature of the bluffs in this area of the coast (ref. CDP Nos. 6-87-391/Childs; 6-92-82/Victor, 6-92-212/Wood, 6-93-181/Steinberg, 6-97-165/Wood, Lucker; 6-98-148/City of Solana Beach; 6-99-91/Becker; 6-99-95/City of Solana Beach, 6-99-100/Presnell, et.al). In addition, since 1997, the Executive Director has approved 35 emergency permits for shoreline protection along the Solana Beach shoreline. Clearly the potential exists for significant bluff retreat in this area.

In response to slope stability problems found in Solana Beach and Encinitas, in the past, the Commission typically required that all new development observe a minimum setback of 40 feet from the top of the bluff, with a reduction to 25 feet allowed subject to the finding of a certified engineering geologist that bluff retreat will not occur to the extent that the principal permitted structure would be endangered within its economic life (75 years). When the County of San Diego had jurisdiction over the area, the County adopted the Coastal Development Area regulations as part of their LCP Implementing Ordinances, which had similar requirements. The City of Solana Beach has also utilized a 40 foot setback which may be reduced to 25 feet following a discretionary review process which finds that the construction will not be subject to foundation failure during the economic life of the structure. However, due to the number of slope collapses in the area and, in the case of Solana Beach, the recent discovery of a mid-bluff layer of clean sands within the bluffs, the Commission now typically requires that a minimum 40-foot setback development be maintained in Solana Beach and Encinitas. In addition, the Commission has required a geologist's certification that bluff retreat will not occur to the extent that a seawall or other shoreline protective devices would be required to protect the new development within the economic life of the structure.

In the case of the subject residence, the existing nonconforming structure is sited as close as 9 ft. from the bluff edge and the applicant's geotechnical reports have identified that the portions of the residence within the 40 ft. geologic setback area may be threatened within a 75 year lifetime.

"The existing residence is setback a minimum of 9 feet from the bluff edge and may be affected by bluff retreat during the next 75 years. With time, the bluff will retreat and the wall, patio and western edge of the existing residence may become undermined. If the structural integrity of the westerly bluff-top improvements is reduced, portions of them may need deeper foundations or may need to be removed from the site. ("Geotechnical investigation and foundation recommendations, for the proposed building addition to the Mitchell residence, located at 505 Pacific Avenue, Solana Beach, California", Engineering Design Group 2000, dated 13 March 2000)."

As Section 30253 of the Coastal Act requires that new development minimize risks to life and property and not in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs, the Commission has identified alternatives to shoreline protection that include use of increased setbacks, removing/relocating structures, removal of permanent irrigation devices and support of buildings on pilings as practical alternatives to shoreline and bluff protective devices. In the case of the proposed development, the applicant is not proposing to minimize risk to the existing portions of the residence located within the geologic setback area, but instead is proposing to maintain the structure's nonconforming status and, with the proposed demolition, remodel and additions, make it a "new home". While the applicants have acknowledged the existing portions of the residence within 40 feet of the bluff edge could be removed if threatened in the future, they are not proposing its removal should it become threatened. Instead, they simply identify it as a future alternative available to the property owner. As such, the proposal involves the construction of a new development located only 9 feet from the bluff edge, which the applicant's geotechnical report has identified may be threatened within 75 years.

The applicants' geology report identifies that the bluff is composed of an underlying approximately 15 ft. high Torrey Sandstone base overlain by marine terrace deposits. An approximately 27 ft. high seawall consisting of stacked bags of concrete reinforced with rebar lies at the base of the bluff. The seawall covers the Torrey Sandstone and portions of the marine terrace deposits above it and extends below two properties south of the subject site and onto the property north of the site. In describing the bluff face above the seawall, the reports states that:

"The overlying approximately 45 vertical feet of the bluff generally slopes at an overall gradient of approximately 40 degrees and is sparsely to moderately vegetated (with succulents and sea lavender). ("Geologic Evaluation of Coastal Bluff Property, 505 Pacific Avenue, Solana Beach, California", by Southland Geotechnical Consultants, dated March 8, 2000.) "

The report also indicates that:

"No major out-of-slope dip components were noted on site that would indicate adverse slope conditions. Indications of deep-seated landslide features were not observed during our research studies or site visits."

As cited above, Section 30253 and 30240 of the Coastal Act require new blufftop development to be sited and designed to minimize risks to life and property, to not require the construction of protective shoreline devices, and to prevent impacts which would significantly degrade parks and recreation areas, such as the adjacent beach and bluffs. In order to achieve those requirements, new blufftop development must be sited as far landward as possible to avoid the need for shoreline protection over its lifetime. To determine that location the Commission requires extensive slope stability analysis of the bluff to determine an appropriate setback for new development. To that end, the applicant's geotechnical representatives have prepared limited slope stability analysis for the site. Their findings indicate that the "coastal bluff adjacent to the Mitchell residence is grossly stable with a factor safety in excess of 1.5." ("Response to Comments by Dr. Mark Johnsson Regarding Slope Stability Analysis", by Engineering Design Group dated February 6, 2001) In addition, the applicants' representatives have performed a pseudostatic analysis demonstrating that the bluff is "globally stable" with a factor of

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safety 1.1 during earthquake loading. The Commission staff geologist, Dr. Mark Johnsson, has reviewed the applicants' documentation and concurs with their assertion that the bluff is grossly stable in excess of a 1.5 factor of safety and has an approximately 1.1 factor of safety during earthquake loading (See attached Exhibit 12). However, despite requests from Commission staff, the applicants' representatives have failed to perform a slope stability analysis for the upper bluff; although they indicate in the February 6, 2001 letter that "[t]he bluff system may be subject to surficial bluff type failure indicative of face erosion". As Dr. Johnsson notes in his attached memo, "[b]luffs of the Torrey Sandstone overlain by marine terrace deposits are common grossly stable, even where the upper bluff has a very low factor of safety". In absence of an upper bluff stability analysis for the subject site, Dr. Johnsson has relied on upper bluff stability analysis performed in the area by Group Delta Consultants Inc. in 1998 ("Shoreline erosion study, north Solana Beach, California" by Group Delta Consultants, Inc. dated August 20, 1998). His conclusion is that the distance from the base of the upper bluff terrace deposits where the 1.5 factor of safety emerges corresponds to is approximately 9 to 17 feet landward of the bluff edge. As Dr. Johnsson indicates, "[t]hese distances are crudely scaled from the figures presented in the report; the fact that the cross-sections in the two reports do not agree makes the establishment of a precise position impossible."

In order to determine an adequate geologic setback for new development, it is necessary to perform not only a slope stability analysis to determine the potential for sudden or repeated bluff sloughages over 75 years, but also it is necessary to apply a predicted erosion rate. While the applicants' representatives have cited a 1976 study which approximates the erosion rate for the area to be .22 to .33 feet per year, the Commission's staff geologist cites a more recent FEMA-funded study for the region that ranges from .13 to .46 feet per year (see citations in Exhibit 12). Dr. Johnsson indicates that he would typically recommend the Commission apply the more conservative estimate (.46 ft. per year) for the Solana Beach shoreline in order to allow for the potential of erosion rate increases resulting from the rate of sea level rise in response to global warming. However, in this case the site is located within a cove area protected by headlands such that the recessed coastal bluff below the subject site may be experiencing less erosion than the bluffs in other areas of Solana Beach. Dr. Johnsson therefore recommends the application of the average erosion rate established by the recent FEMA-funded study, i.e., .27 ft. per year. This translates into an expected bluff retreat over the next 75 years of approximately 20.25 feet. Applying the slope stability information which estimates stability over the next 75 years to be somewhere between 9 and 17 feet of the bluff edge with the approximately 20 feet of expected erosion, Dr. Johnsson recommends a minimum 37 ft. setback for any new development from the edge of the bluff.

While a setback of 37 ft. may be adequate, the Commission has not recently approved any new development closer than 40 feet from the edge of the bluff. In addition, the Commission recognizes that slope and bluff stability is an inexact science and that geotechnical reports cannot be considered (nor do they claim to be) infallible. In addition, as Dr. Johnsson notes in his attached memo, the applicants' reports failed to perform a site-specific upper bluff slope stability analysis. He also notes that they failed completely evaluate the uncertainty regarding the location and effect of a clean sands

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layer below the subject site which he suspects is located behind the existing concrete bag seawall. With this additional information the minimal setback location could be subject to change. Therefore, because of this uncertainty and previous Commission precedent, a 40 ft. setback should be the minimum for any new development at this site.

Clearly from the preceding discussion, the proposed new development involving demolition and reconstruction of the existing structure within 9 ft. of the bluff edge is inconsistent with Sections 30253 and 30240 regarding the siting of new development on the blufftop. The Coastal Act requires new blufftop development to be sited as to not require shoreline protection. Although an existing seawall is located at the base of bluff below the subject development, the design of the seawall has not been demonstrated to have been constructed in a manner to provide permanent protection to the proposed development. In past review of proposed developments on project sites where there is an existing seawall, the Commission has found that development must be setback a minimum of 40 feet because the presence of a seawall demonstrates that the site is hazardous such that a reduction of the geologic blufftop setback is not justified. These requirements have also been incorporated into other certified LCPs in San Diego County.

Therefore, the Commission cannot approve the development as proposed. In addition, until the Commission and the City through its LCP can address the extent of blufftop development that can occur to nonconforming blufftop structures without requiring that they be brought into conformity, blufftop additions to nonconforming structures should be minimized. In the City of Encinitas which is located directly north of Solana Beach, the Commission recognized similar concerns in approving the City's LCP. The Encinitas LCP limits additions to blufftop residences to no more than 10% of the existing structure or 250 sq. ft., which ever is greater, until such time that the City has an adopted and certified comprehensive plan that addresses blufftop developments especially as it relates to minimizing alteration of the bluff and beach.

Specific requirements should be included within the City's LCP that identify ways to minimize the alteration of the natural bluff and encroachment onto the adjacent public parkland. In some cases, it may not be possible to avoid the construction of some form of lower bluff stabilization, including seacave fills, notch fills, and/or seawalls. However, in most cases, there is sufficient distance remaining between the toe of the bluff and the blufftop development to avoid upper bluff stabilization structures and total armoring of the shoreline. Measures which address how to bring nonconforming blufftop structures into conformity such that upper and/or lower bluff protection can be avoided is what must be addressed in the nonconforming structure regulations in the City's LCP. Until such time that the City has such measures in place, the Commission finds it would be premature to allow reconstruction of nonconforming blufftop structuresin ways that would preclude these options and require upper and lower bluff stabilization measures. If the subject development is redesigned to include only a minimal addition outside of the geologic setback area such that the development does not result in a new home in a nonconforming location and, therefore does not increase the degree of the existing nonconformity or risks to the structure, the Commission can find the addition is consistent with the Sections 30253 and 30240 of the Coastal Act.

Because the intent is that improvements to a nonconforming structure be minimal until approval of a comprehensive plan, the proposed 250 sq. ft. limit should not include any additional features such as a basement. Therefore, Special Condition #1 has been attached which requires the submission of revised project plans that limit the proposed addition to no more than 250 sq. ft. to be located landward of the 40 ft. setback area.

Although a 40 ft. setback will minimize the risk of damage from erosion, the risk is not entirely eliminated. The Commission finds that in order for the proposed development to be consistent with the Coastal Act, the applicants must assume the risks of damage from coastal erosion. As such, Special Condition #2 requires the applicants to execute assumption of risk documents, waiving any liability on the part of the Commission for approving the proposed development.

As the applicants' geotechnical reports demonstrate, the subject site is subject to erosion which may overtime threaten the existing development and may result in request for shoreline protection which would have an adverse impact on the surrounding natural bluffs and the adjacent beach. Special Condition #3 has been attached which requires a deed restriction be recorded acknowledging that alternative measures which do not result in additional impacts to the adjacent public property must be analyzed and implemented, if feasible, on the applicants blufftop property should the need for further stabilization of the residence occur. In this way, the applicant and future buyers are put on notice that the site is in a hazardous location and measures on the subject property which would reduce risk to the principle residential structures should be considered, to avoid further impacts to the adjacent public parkland.

The condition will ensure that future property owners will be aware that any future proposals for shoreline protection, such as upper bluff stabilization, will require a thorough alternative analysis. If there are feasible alternatives to bluff or shoreline protection that would have less impact on visual quality, sand supply, or public access, and the residence is not imminently threatened, the Commission will require implementation of those alternatives. The condition also states that no shore or bluff protection shall be permitted for ancillary improvements located within the blufftop setback area. Through this condition, the property owner is required to acknowledge the risks inherent in the subject property and, prior to allowing the structure to be subject to imminent threat, the property owner should pursue alternatives which will reduce those risks and provide stability and reasonable use for the remaining economic life of the structure.

In addition, Special Condition #4 requires recordation of a deed restriction that puts the applicant and subsequent owners of the property on notice that a separate coastal development permit or amendment is required for any future additions to the residence or other development as defined by the Coastal Act on the subject site. Requiring an amendment or new permit for all future development allows the Commission to insure that such development will not create or lead to the instability of the coastal bluffs, impacts to pubic access or adverse visual impacts.

Finally, Special Condition #1 and #5 have been attached which requires the applicants to submit final plans for the project that demonstrate that all runoff on the top of the bluff is collected and directed away from the bluff, that all permanent irrigation on the blufftop be removed or capped and that disturbance to the sand and intertidal areas be minimized. In review of any development in a blufftop location, the Commission has required implementation of such measures to reduce risk and assure that overall site conditions which could adversely impact the stability of the bluff have been addressed.

In summary, the proposed development, as conditioned to be no more than a 250 sq. ft. addition, represents a minimal addition to a nonconforming blufftop structure. With conditions addressing future development of the site, future responses to erosion, and measures to protect coastal beaches and bluffs, the impact of the proposed project on the overall integrity of the bluff has been minimized to the maximum extent feasible. Therefore, the Commission finds the subject development, as conditioned, consistent with Section 30240 and 30253 of the Coastal Act.

3. <u>Runoff/Water Quality</u>. Section 30231 of the Coastal Act requires that the biological productivity of coastal waters be maintained by, among other means, controlling runoff:

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 entrapment, controlling runoff,

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. The City's approval requires that all drainage from the development site, including run-off from the roof, drain towards Pacific Avenue. In order to reduce the potential for adverse impacts to water quality resulting from drainage runoff from the proposed development, Special Condition #1 and #5 have been attached. Special Condition #1 requires that the applicant submit to the Executive Director any proposed landscaping plan indicating that only native, non-invasive or drought tolerant plant species be used on-site. This will limit the need for irrigation. In addition, to reduce the risk associated with unattended running or broken irrigation systems, Special Condition #1 restricts the property owner from installing permanent irrigation devices and requires the removal or capping of any existing permanent irrigations systems. In addition, Special Condition #5 requires that runoff from the roof, driveway and other impervious surfaces be directed into the landscaped areas on the site for infiltration and/or percolation, prior to being conveyed off-site. Directing on-site runoff through landscaping for filtration of runoff in this fashion is a well-established Best Management Practice for treating runoff from small developments such as the subject proposal. As conditioned, the drainage plan will serve to reduce any impacts to water quality from the project to insignificant levels. Therefore,

the Commission finds the proposed project consistent with Sections 30231 of the Coastal Act.

5. <u>Visual Resources</u>. Section 30251 of the Coastal Act requires that the scenic and visual qualities of coastal areas be protected:

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. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The subject development involves additions to an existing two-story blufftop residence. The proposed addition will occur on the landward side of the existing residence. As conditioned, the approved minor addition will be no larger than 250 sq. ft. and will be located landward of the 40 ft. geologic setback area; therefore, it is unlikely that the addition will exceed the height of the existing two-story structure. In any event, the addition cannot exceed the 25 ft. height limit for residential development in the area. Although the existing development is visible from the beach below, the proposed addition will not likely be visible from either the beach or the public beach access stairway (located two lots south of the subject site) since views of the addition will be blocked by the existing residence and by the neighboring single-family homes. Therefore, it is not anticipated that the proposed development will have any adverse effect on scenic or visual resources.

- 6. Public Access/Recreation. Section 30212 of the Coastal Act requires, in part:
 - (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:
 - (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,
 - (2) adequate access exists nearby, or, ...

The subject site is located between the Pacific Ocean and the first public roadway, which in this case is Pacific Avenue. The project site is located within a developed singlefamily residential neighborhood. Adequate public vertical access is provided two lots south of the subject site via a public stairway leading to the City of Solana Beach's Tide Beach Park, as well as approximately three blocks south at the City's Fletcher Cove Beach. Vertical access through the site is not necessary nor warranted, given the fragile

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nature of the bluffs. Therefore, the proposed project will have no direct impact on public access, consistent with the public access policies of the Coastal Act.

7. 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 cannot be made.

The subject site was previously in the County of San Diego Local Coastal Program (LCP) jurisdiction, but is now within the boundaries of the City of Solana Beach. The City is currently preparing an LCP for submittal to the Commission for review. Because of the incorporation of the City, the certified County of San Diego Local Coastal Program no longer applies to the area. However, the issues regarding protection of coastal resources in the area have been addressed by the Commission in its review of the San Diego County LUP and Implementing Ordinances. As such, the Commission will continue to utilize the San Diego County LCP documents for guidance in its review of development proposals in the City of Solana Beach until such time as the Commission certifies an LCP for the City.

In preparation of an LCP, the City of Solana Beach is faced with many of the same issues as the City of Encinitas, located immediately north of Solana Beach, whose LCP was certified by the Commission in March 1995. The City of Encinitas' LCP includes the intent to prepare a comprehensive plan to address the coastal bluff recession and shoreline erosion problems in the City. The plan will include at a minimum, bluff top setback requirements for new development and redevelopment; regulations for nonconforming structures, alternatives to shore/bluff protection such as beach sand replenishment, removal of threatened portions of a residence or the entire residence or underpinning existing structures; addressing bluff stability and the need for protective measures over the entire bluff (lower, mid and upper); impacts of shoreline structures on beach and sand area as well as mitigation for such impacts; impacts from groundwater and irrigation on bluff stability and visual impacts of necessary/required protective structures.

The bluffs in this section of the Solana Beach coastline are mostly in public ownership. Approval of blufftop development that results in substantial additions to existing nonconforming structures would send a signal that there is no need to address a range of non-structural alternatives to protect both the public bluffs and beaches and existing development such as those identified above. It would be premature to commit the entire Solana Beach shoreline to armoring without a thorough analysis of alternatives that include bringing nonconforming structures into conformity. Planning for comprehensive protective measures should include a combination of approaches including limits on future bluff development, ground and surface water controls, beach replenishment, continual lower bluff protection when required and constructed in substantial segments, groundwater control, and/or seacave and notch fills as preventative measures. Decisions regarding future bluff and shoreline protection must be done through a comprehensive planning effort that analyzes the impact of approving such protection on the entire City shoreline. These issues of shoreline planning will need to be addressed in a comprehensive manner in the future through the City's LCP certification process.

The City of Solana Beach is currently in the process of developing its LCP. In the case of the subject development, the proposed substantial renovation and expansion to a nonconforming residential structure has not been addressed in a comprehensive manner by either the City or the applicant. Based on the above findings, the proposed residential addition as submitted has been found to be inconsistent with the Chapter 3 policies of the Coastal Act in that the proposed development will result in the placement of a nonconforming structure within the geologic setback area such that bluff and/or shoreline protection will likely be necessary for its protection. In addition, the proposal involves a piecemeal approach to a region-wide problem. Therefore, the Commission finds that approval of the proposed expansion of the existing nonconforming structure would prejudice the ability of the City of Solana Beach to complete a certifiable local coastal program.

Until such time that the City examines ways to eliminate or minimize the degree of nonconforming blufftop structures to avoid total armoring of the City's shoreline, the Commission finds minimal additions to nonconforming blufftop structures should be permitted. As conditioned, a maximum 250 sq. ft. addition to the existing nonconforming structure will afford the applicant additional usable space and will afford the City time to prepare an LCP that addresses these issues in a comprehensive way.

8. <u>California Environmental Quality Act (CEQA)</u>. Section 13096 of the Commission's Code of 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 proposed project has been conditioned in order to be found consistent with the future development, public access, and geologic stability policies of the Coastal Act. Mitigation measures, including limiting the size of the addition to 250 sq. ft., recordation of deed restrictions addressing assumption of risk, future development and submittal of final project plans will minimize all adverse environmental impacts. 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, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and is consistent with the requirements of the Coastal Act to conform to CEQA.

STANDARD CONDITIONS:

- 1. <u>Notice of Receipt and Acknowledgment</u>. 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. <u>Expiration</u>. 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. <u>Interpretation</u>. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
- 4. <u>Assignment</u>. 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. <u>Terms and Conditions Run with the Land</u>. 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.

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CALIFORNIA COASTAL COMMISSION

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GEOTECHNICAL REVIEW MEMORANDUM

To: Gary Cannon, Coastal Program AnalystFrom: Mark Johnsson, Staff GeologistRe: CDP Application 6-01-151 (Mitchell/Seay)

In conjunction with the above coastal development permit application, I have reviewed the following documents:

- 1) Engineering Design Group 2000, "Geotechnical investigation and foundation recommendations, for the proposed building addition to the Mitchell residence, located at 505 Pacific Avenue, Solana Beach, California", 15 p. geotechnical report dated 13 March 2000 and signed by S. Norris (RCE 47672).
- 2) Southland Geotechnical Consultants 2000, "Geologic evaluation of coastal bluff property, 505 Pacific Avenue, Solana Beach, California", 11 p. geologic report dated 8 March 2000 and signed by S. Tanges (CEG 1386).
- 3) Engineering Design Group 2000, "Proposed modifications to the Mitchell residence located at 505 Pacific Avenue, Solana Beach, California: Existence of clean sand materials and influence on coastal bluff stability", 2 p. letter report dated 14 September 2000 and signed by S. Norris (RCE 47672).
- 4) Southland Geotechnical Consultants 2000, "Response to City of Solana Beach review comment, single-family residential addition, 505 Pacific Avenue, Solana Beach, California", 2 p. letter report dated 27 November 2002 and signed by S. Tanges (CEG 1386).
- 5) Southland Geotechnical Consultants 2001, "Addendum to geologic evaluation of coastal bluff property, 505 Pacific Avenue, Solana Beach, California", 2 p. geologic letter report dated 13 February 2001 and signed by S. Tanges (CEG 1386).
- 6) Engineering Design Group 2001, "Proposed additions to the Mitchell residence, located at 505 Pacific Avenue, City of Solana Beach, California: Portions of building spanning over bluff set-back", 1 p. letter report dated 27 March 2001 and signed by S. Norris (RCE 47672).



- 7) Southland Geotechnical Consultants 2001, "Response to letter regarding geologic evaluation of coastal bluff property, 505 Pacific Avenue, Solana Beach, California", 4 p. geologic letter report dated 18 September 2001 and signed by S. Tanges (CEG 1386).
- Southland Geotechnical Consultants 2002, "Response to review comments from California Coastal Commission, geologic evaluation for proposed residential addition on coastal bluff property, 505 Pacific Avenue, Solana Beach, California", 1 p. letter report dated 5 February 2002 and signed by S. Tanges (CEG 1386).
- 9) Engineering Design Group 2002, "Additions to the Mitchell residence, located at 505 Pacific Avenue, Solana Beach, California: Response to comments by Dr. Mark Johnsson regarding the slope stability analysis", 2 p. letter report dated 6 February 2001 [sic] and signed by S. Norris (RCE 47672).

In addition, I have reviewed two reports, not dealing primarily with the proposed development, that were submitted in support of the application:

- 10) Group Delta Consultants 1998, "Shoreline erosion study, north Solana Beach, California", 51 p. report dated 20 August 1998 and signed by W. F. Crampton (RCE 23792 GE 245) and P. C. Brikhahn (CEG 1243 RCE 55341).
- Group Delta Consultants 1998, "Geotechnical investigation, Tide Beach Park seawall, Solana Beach, California", 7 p. geotechnical report dated 30 December 1998 and signed by W. F. Crampton (RCE 23792 GE 245) and B. R. Smillie (CEG 207).

Finally, I have reviewed two letters, dated 17 September 2000 and 20 August 2201, from Mr. W. Scott Williams of CalBeach advocates to the Mayor and City Council of Solana Beach, expressing geologic concerns about the proposed development. I have visited the site numerous times, and on 11 November 2001 I examined the subject property from the beach specifically to evaluate the proposed development.

Consistency with Coastal Act section 30253 requires, in relevant part, that the proposed development "minimize risks to life and property in areas of high geologic, flood, and fire hazard" and "assure stability and structural integrity, and neither create nor contribute significantly to erosion and geologic instability."

It is my understanding that the proposed development consists of additions to an existing structure, most of which are to be supported by foundation elements set back a minimum of 40 feet from the bluff edge. The new second story hallway, however, is proposed to extend to within 32.5 feet of the bluff edge and be supported by the existing foundation. It is my understanding that the existing structure is located as close as 10 to 15 feet from the bluff edge. I note that consistency with section 30253 requires that new

development not require a shoreline protective device in order to assure geologic stability, so it is necessary to evaluate the stability of the bluff as though the existing concrete-bag seawall at the base of the bluff were not present.

References (1) and (2) contain recommendations for foundation design and siting that address slope stability and retreat concerns. They do not contain quantitative slope stability analyses, nor do they provide site-specific long-term estimates of bluff retreat rates. Following my initial review of these reports, I communicated to you the need for the applicants to demonstrate quantitatively the stability of the slope, a need which I understand you passed on to the applicant. In response, one page from reference (7) was faxed to Commission staff, together with summary computer output from a quantitative slope stability analysis addressing the stability of the entire bluff with regard to global failure. My evaluation of this summary output was presented in my 17 December 2001 email to you, which you communicated to the applicant on 2 January 2002:

"The materials you faxed to me are in support of the qualitative statement by the applicant's geotechnical consultant, Susan Tanges of Southland Geotechnical Consultants, that the bluff is grossly stable. Unfortunately, they are not sufficient to demonstrate this assertion. No data are provided concerning cohesion, unit weight, or friction angle of the materials in the bluff, an integral part of these analyses. Not only are the values themselves necessary, but the direct shear test data, triaxial shear test data, or other documentation supporting these values are necessary as well. Generally, it is necessary to show that the bluff is grossly stable not only under a static condition, but also during earthquake loading. Finally, I note that these analyses were undertaken with the Janbu method. The Janbu method is very sensitive to assumptions concerning the distribution of shear and normal forces between slices used in the analyses; a better choice might be the Bishop, Spencers, Morgenstern-Price, or Generalized Limit Equilibria methods. Attached is a set of guidelines for performing slope stability analyses of coastal bluffs for review by the Commission.

Of particular importance is a test for susceptibility of the upper bluff to fail by shallow landslide."

As indicated, I provided some guidelines for performing slope stability analyses to facilitate Staff's evaluation of the stability of the proposed development, and suggested that the applicant's consultants contact me with any questions that they might have. References (8) and (9) were in response to these comments. As requested, the applicants submitted a pseudostatic analysis demonstrating that the bluff was globally stable (FS=1.1) during earthquake loading. Further, they provide justification, which I can accept, for their use of Janbu's method of analysis, for the orientation of the analyzed cross section, and for the absence of a perched water table in their analysis.

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They declined, however, to provide the requested documentation supporting their choice of strength parameters, stating that:

"The cohesion and friction angles utilized in our analysis are based upon a cumulation [sic] of values collected over a long period of time in the onsite units. Values are the result of numerous laboratory tests conducted on numerous sites in the general vicinity of the project. In general, soil parameters utilized are conservative for these units which can be verified by review of other soils reports within the general vicinity of the site. It is our opinion that these values are generally representative of onsite soils materials from a conservative standpoint and are suitable for use in the slope stability analysis."

The values themselves, not provided previously, were included in the report and do appear reasonable, given my experience with these formational units at other sites. Nevertheless, the values are not supported by test results, which were specifically requested, and so it is impossible for me to evaluate how they were determined and how they might apply to the subject site.

More important, the requested analysis for stability of the marine terrace deposits making up the upper bluff was not performed. Instead, reference (9) concludes with the statement:

"Slope stability analyses for coastal bluff of this type are generally limited and, in our opinion, secondary to a thorough geologic reconnaissance by the project CEG. Slope stability analyses are generally limited by numerical assumptions and cannot adequately reflect the intricacies of the bluff system which can be observed by the project geologist. It is our opinion that the provided analysis adequately reflects, to the extent realistically possible by numerical analysis, that the coastal bluff adjacent to the Mitchell residence is grossly stable with a factor of safety in excess of 1.5. This conclusion has been confirmed by visual analysis of the bluff (by the CEG) and historical performance. The bluff system may be subject to surficial bluff type failure indicative of face erosion. Face stability is very difficult to model in a slope stability analysis. This phenomenon is more legitimately analyzed by use of aerial photographs and past erosion rates as opposed to intense slope stability analysis."

Although I concur that the analyses in reference (9) demonstrate gross stability, I cannot concur that the stability of the upper bluff has been adequately addressed. Bluffs of the Torrey Sandstone overlain by marine terrace deposits commonly are grossly stable, even where the upper bluff has a very low factor of safety. Other consultants working in northern San Diego County have provided numerous pairs of quantitative analyses separating these two stability concerns. Although several obvious existing failures on

the subject site and adjacent properties (not addressed in references (2), (4), (5), (7), or (8)) do represent surficial slumps indicative of face erosion, and can be considered through analysis of the long-term bluff retreat rate, a deeper instability in the upper bluff cannot be assessed except through quantitative analysis. This has become the standard of practice in evaluating coastal bluffs throughout the state.

Reference (2) indicates that the upper bluff has an average slope of 40 degrees. In the absence of site-specific data, the work of Group Delta on upper bluff stability may be used. As reported in reference (10), Group Delta has conducted numerous slope stability analyses in order to model the upper bluff. From figure 27 of that report, a minimum factor of safety of somewhat less than 1.5 might be expected on a bluff of that inclination. The distance from the *base* of the upper bluff to the point on the upper bluff where the 1.5 factor-of-safety line emerges is approximately 70 feet, as indicated in figure 27. This corresponds to a position approximately 9 feet landward of the bluff edge, using the cross-section provided in reference (2), or approximately 17 feet landward of the bluff edge, using the cross-sections provided in reference (9). These distances are crudely scaled from the figures presented in the report; the fact that the cross-sections in the two reports do not agree makes the establishment of a precise position impossible. The existing structure appears to be located 10-15 feet from the bluff edge at it closest point.

I note that there appears to be no disagreement between the applicant and Commission staff on the location of the bluff edge. I concur that the bluff edge is correctly identified in reference (2).

Reference (2) cites a study by Lee and others (1976) that provide an estimate of the maximum historic bluff retreat of 0.22 to 0.33 feet per year. I was unable to obtain this reference, but note that the current state of our knowledge of regional long-term bluff retreat rate in Solana Beach is represented by the recent FEMA-funded study reported in Moore et al. (1999) and Benumof and Griggs (1999). This work, which represents the current state of the art, indicated that annual bluff retreat rates in Solana Beach have historically (1932-1994) ranged from a low of 4 cm/yr (0.13 ft/yr) to a high of 14 cm/yr (0.46 foot/yr), roughly consistent with the figures cited from the Lee et al. reference above. In the absence of site-specific data, I recommend the adoption of the average value reported in Benumof and Griggs (1999) for Solana Beach, 8.24 cm/yr (0.27 ft/yr). I would normally recommend a more conservative approach—adoption of the highest historic rate—in order to allow for potential increases in the bluff retreat rate as a result of anticipated acceleration of the rate of sea level rise in response to global warming. This site, however is located at the rear of a small cove. Although the development of this cove might indicate a relatively higher rate of erosion at this location in the recent geologic past, the recessed nature of the coastal bluff at the site appears to result in some protection from wave impact at the present time, and so a relatively lower erosion rate will likely be experienced at this site over the expected lifetime of the development. Nevertheless, I recommend use of the average value reported in Benumof and Griggs

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(1999), rather than the low-end value, to allow for acceleration of the bluff retreat rate in conjunction with sea level rise. Assuming a 75-year design life, this translates to an expected bluff retreat of 20.25 feet.

I concur with references (5) and (6) that the proposed foundation design will not adversely affect site stability. According to reference (3), a clean sand lens, present on many properties further to the south in Solana Beach, has not been found at this site. I disagree with the statement in reference (3) that the presence of this sand "would not result in a significant reduction in soil design parameters." Although its strength is similar to the strength of the terrace deposits when confined, this sand has zero cohesion, and when exposed on the bluff face causes extensive raveling and undermining of the bluff. At this site, however, the sand layer was not observed. If present, it likely is contained behind the concrete-bag seawall at the site.

A conservative approach to establishing setbacks might be to expect the bluff configuration to remain the same as at present over the course of its retreat. To ensure stability at the end of 75 years, the current setback required to assure stability might be added to the expected retreat. With the limited information provided, it would appear that a 9 to 17 foot setback would assure stability with regard to failure of the upper bluff. To this figure should be added the expected bluff retreat on the basis of a 75-year design life (20 feet), for a total of 29-37 feet. One would generally require a buffer (typically ten feet) be added to the expected bluff retreat value in order to ensure that the foundation elements are not actually being undermined at the end of the 75-year period, to allow access for any remedial actions (such as foundation underpinning or relocation of the structure), to allow for an acceleration of bluff retreat rates over the historic rate due to anticipated acceleration in the rate of sea level rise, and to allow for general uncertainty in predicting geologic processes into the future. In this case, however, such a buffer may be absorbed by the buffer necessary to ensure stability against landsliding of the upper bluff.

The proposed forty-foot setback for the addition thus appears to be adequate to assure stability against landsliding and bluff retreat for its expected economic lifespan. As proposed, however, a part of the addition is to be supported by the existing foundation. This appears to be against the recommendations of reference (1), which indicates that the existing building footings are 8 to 10 inch deep cast-in-place footings, and are unsuitable for support of the proposed second-story additions.

I note that the present structure will be threatened before the addition. It is impossible to say exactly when the existing structure will be threatened, by erosion. The long-term average bluff retreat rate presumably has been appreciably slowed by the presence of the existing seawall, but the upper bluff is still subject to surficial erosion and slumping, as is evident from the debris flow scars and shallow slumps on the bluff face. Considering the proximity of the existing structure to the bluff edge, it is possible that a single substantial failure of the upper bluff could threaten the stability of the shallow

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foundations that support the existing residence. Without a quantitative analysis of the stability of the upper bluff, it is impossible to accurately assess how likely such a failure is to occur. Given the relatively shallow angle of approximately 40 degrees quoted in reference (2), imminent failure would appear to be unlikely.

I hope that this review is helpful. Please do not hesitate to contact me if you have additional questions.

Sincerely,

Mode for

Mark Johnsson, Ph.D., CEG

Additional references cited:

- Benumof, B. T., and Griggs, G. B., 1999, The dependence of seacliff erosion rates on cliff material properties and physical processes: San Diego County, California: Shore and Beach, v. 67, no. 4, p. 29-41.
- Moore, L. J., Benumof, B. T., and Griggs, G. B., 1999, Coastal erosion hazards in Santa Cruz and San Diego counties, California: Journal of Coastal Research, v. 28, p. 121-139.

CALBEACH ADVOCATES P.O. Box 1085 Solana Beach, CA 92075

COPY FOR YOUR INFORMATION

E-Mail wsw@solanalaw.com

August 20, 2001



AUG 2 1 2001

CALIFORNIA COASTAL COMMISSION SAN DIEGO COAST DISTRICT

Mayor and City Council City of Solana Beach 635 South Highway 101 Solana Beach, CA 92075

Re: 505 Pacific Avenue/August 21, 2001 Public Hearing Agenda

Dear Honorable Mayor and Members of the City Council:

CalBeach Advocates strongly opposes approval of the above referenced project. If nothing else, the City's past history in approving the construction of massive homes too close to the edge of our coastal bluff, followed by the approval of seawalls to protect the new homes, should have been instructive. Approval of this project will condemn the City to repeat history and, even worse, at taxpayer expense.

THE GEOLOGY REPORT IS INADEQUATE

The Geology Report Did Not Even Verify That The Stronger Torrey Sandstone Formation Is In Back Of The Existing Sand Bag Seawall.

Astonishingly, the geology report says that the stronger Torrey Sandstone formation "is interpreted to be" in back of the existing sand bag seawall. (Geology Report, page 3.) It is incredible that the most critical factor in determining erosion rates is left to "interpretation" rather than actual site verification. This is especially true since the cove at Tidepark was obviously formed by more rapid erosion at this exact location! The geology report should have analyzed and detailed exactly why the cove has eroded so much more than the adjacent headlands. Was there a sea cave collapse? Is the geologic formation behind the sand bag seawall substantially more susceptible to erosion than the adjacent headlands (as is the case at Fletcher Cove and at Del Mar Beach Club)? Is more wave energy focused on the cove versus the adjacent headlands? Without this information, the report's estimate of bluff retreat rates is valueless.



In fact, the City's own engineering files reveal the following. The sand bag seawall was built by a County Probation Department work crew in 1973. The Torrey Sandstone formation is <u>not</u> immediately in back of the seawall. Instead, file photos show that the wall was backfilled with ordinary beach sand to a depth at the top of approximately 10 to 20 feet. If the seawall fails (which it almost did in 1998), the base of the bluff will erode 10 to 20 feet almost immediately because of the beach sand backfill.

The Report Lacks Any Analysis Of The Stability Of The Sand Bag Seawall.

Thus, the stability of the bluff supporting the existing residences adjacent to Tidepark (including the portion of 505 Pacific proposed to be gutted and remodeled) obviously depends on the stability of the seawall among other factors. The geology report gives only vague assurances that the seawall "appears to be performing satisfactorily." (Geology Report, page 2.) This was, of course, only after the City taxpayers paid \$58,120 to repair the seawall in 1998. The geology report should analyze what more might be required in the future to insure that this archaic seawall continues to perform "satisfactorily."

Frankly, the geology report illustrates perfectly why the City should return to its prior policy of requiring a second opinion by a City retained independent geologist. If both the owners' consultant and City staff can overlook such obvious deficiencies, a second opinion is essential to insure the protection of the public's interest.

APPROVAL OF THE PROJECT WILL MEAN THE CITY HAS LEARNED NOTHING FROM HISTORY

The Project Amounts To The Construction Of A New Residence.

It is essential to look closely at the plans. The project is <u>not</u> just an addition with minor remodels. The project is a complete renovation and expansion of the existing residence.

Compare the existing "first floor plan" with the new "main floor plan." The existing kitchen will be gutted and replaced by a new dining room. The existing family room and den will be gutted and replaced with a much larger kitchen and family room. Compare the existing second floor plan to the new second floor plan. The two existing rooms, bathrooms, closet space, and stairway will be gutted and replaced with a large master bath and master suite with access from the addition. Interior walls will be removed or relocated on both stories. The addition will add a laundry room, bathroom, stairway access, three bedrooms on the second story, and a basement.

This is exactly what has occurred in virtually every recent "remodel" and "addition" project approved in the last decade along Pacific Avenue. The owner's recipe is: take an older, obsolete residence, tear it down (but call it a remodel and addition because you've left the foundation and a few walls or a chimney in place), and replace it with an entirely new residence. Obtain a geology report which says that the "new construction" (the addition) won't be subject to any threat from bluff top retreat within its 75 year economic lifetime. Then, one year, five years, or fifteen years later, when the inevitable bluff retreat occurs and threatens the "existing" residence, hire a different geologist or coastal engineer who will issue a report telling you that shoreline protection is necessary to prevent loss of your residence. The new geology report will say that something unforeseeable happened, such as <u>another</u> El Nino, earthquake, etc.

Worse yet, in this particular case, the owner will demand that the City and its taxpayers foot the bill for the shoreline protection. (Legally the City has no duty to prevent natural erosion from undermining private property (<u>Schooler v. State of California</u>), but the County built seawall destroyed the City's legal immunity.)

Isn't it time to just say "No" to this subterfuge?

The Geology Report Itself Indicates That The Residence Will Be Threatened Within Its Useful Life.

Even if you take the geology report at face value, the report itself shows that the reconstructed residence will be subject to erosion. The geology report indicates that the western foundation of the renovated residence will remain only 9 to 14.5 feet from the edge of the bluff. (Geology report, page 2.) The report also conservatively estimates the amount of erosion to occur as being between 16.5 and 24.8 feet over its 75 year useful economic life. (Geology report, page 7.) The geology report even says that the western edge of the residence may need to be removed! (Geology report, page 8.) Project approval will thus foreseeably result in an application for continued shoreline protection. This implicates both CEQA and the Coastal Act.

PROJECT APPROVAL WILL VIOLATE CEQA BECAUSE IT IS NOT CATEGORICALLY EXEMPT

Staff proposes the Council approve the project using a "categorical" exemption under CEQA. The proposed exemption cited is Section 15301(e) of the CEQA Guidelines. All so called "categorical exemptions" are subject to the exception that environmental review is required if "there is a reasonable possibility that the activity will have a significant impact on the environment due to unusual circumstances." (CEQA Guidelines section 15300.2(c).)

Clearly, seawalls on the public's beach and bluffs in Solana Beach result in far more than "a reasonable possibility" of significant environmental effect. (See, enclosed September 17, 2000 submittal on the previously proposed Corn/Scism categorical exemption.)

THE COASTAL ACT POLICIES REQUIRE DENIAL OF THE PROJECT

The City has often referred to Public Resources Code section 30235 of the Coastal Act to say that it has no choice but to approve seawalls "to protect existing structures in danger from erosion." There is another section of the Coastal Act which prohibits new development that will require seawall protection:

"Section 30253. Minimization of adverse impacts.

New development shall:

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
- (2) <u>Assure stability and structural integrity, and neither create nor contribute</u> significantly to erosion, geologic instability, or destruction of the site or surrounding area <u>or in any way require the construction of protective</u> <u>devices that would substantially alter natural land forms along bluffs and</u> <u>cliffs.</u> ..."

The City may not pick and choose the Coastal Act policies it would prefer to follow. The facts and circumstances of this case require denial of the project as proposed.

SUMMARY

In sum, the project will expand and completely renovate and expand the existing residence. The project proposes, for all intents and purposes, a brand new residence with a new useful economic life which will be threatened with destruction from bluff retreat in the near future. The entire project should be redesigned so that none of the structure will be in harms way during its useful economic life, as documented in a reliable and adequate geology report. Further, to be consistent with the Coastal Act, any right to have a seawall to protect this new development must be legally and enforceably waived.

Thank you for the opportunity to present these comments. Please make them part of the record of your proceedings.

Very truly yours,

CALBEACH ADVOCATES

W. SCOTT WILLIAMS

WSW:lg

Enclosure

cc: Gary Cannon, California Coastal Commission Sara Wan, Chairwoman, California Coastal Commission City Manager City Attorney Community Development Director City Engineer

