

CALIFORNIA COASTAL COMMISSION

SAN DIEGO AREA

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**Thu 7a**

Filed: January 11, 2002
49th Day: Waived
Staff: GDC-SD
Staff Report: December 19, 2002
Hearing Date: January 8-10, 2003

STAFF REPORT AND RECOMMENDATION ON APPEAL
SUSTANTIAL ISSUE

LOCAL GOVERNMENT: City of Encinitas

DECISION: Approved with Conditions

APPELLANTS: Commissioners Sara Wan and Patricia McCoy

APPEAL NO.: A-6-ENC-02-3

APPLICANT: Craig and Louann Berg

PROJECT DESCRIPTION: Demolish existing one-story residence and construct an approximately 3,383 sq. ft. two-story single-family residence, approximately 471 sq. ft. garage and approximately 328 sq. ft. mechanical/storage space on an approximately 10,477 sq. ft. blufftop lot.

PROJECT LOCATION: 1264 Neptune Avenue, Encinitas, San Diego County
APN 254-210-18

SUMMARY OF STAFF RECOMMENDATION:

The staff recommends that the Commission, after public hearing, determine that no substantial issue exists with respect to the grounds on which the appeal has been filed. Since the appeal was filed, the applicant has provided updated geotechnical information addressing the grounds for which appeals were filed. The Commission's staff geologist has reviewed the updated information and is satisfied that the proposed setback for the new residence will be adequate to protect the residence over its lifetime from the threat of erosion such that shoreline protection will not be necessary.

SUBSTANTIVE FILE DOCUMENTS: Certified City of Encinitas Local Coastal Program; Notice of Final Action for 01-162 DR/CDP dated 12/21/02; City of Encinitas Resolution No. PC 2001-79; Appeal Applications dated January 11, 2002; "Geotechnical evaluation of coastal bluff property, proposed single-family residence, 1264 Neptune Avenue, Leucadia area of Encinitas,

California" by Southland Geotechnical Consultants dated June 15, 2000; "Review of Geotechnical Evaluation of Coastal Bluff Property, Proposed single family residence, 1264 Neptune Avenue, Encinitas, California" by GeoPacifica dated April 5, 2001; "Response to Geotechnical Review Comment Comments, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California" by Southland Geotechnical Consultants dated April 30, 2001; "Review of responses to geotechnical review, Proposed single family residence--Berg residence, 1264 Neptune Avenue (APN 254-210-18), Encinitas, California by GeoPacifica dated August 14, 2001; "Response to City of Encinitas Review Comment, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California" by Southland Geotechnical Consultants dated October 22, 2001; "Additional Geotechnical Evaluation, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California", by Southland Geotechnical Consultants, February 25, 2002; "Coastal Bluff Stability, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California" by Southland Geotechnical Consultants dated June 4, 2002; "Revised Coastal Bluff Stability, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California" by Southland Geotechnical Consultants, dated November 13, 2002; "Coastal Bluff Stability, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California" by Southland Geotechnical Consultants November 4, 2002.

I. Appellants Contend That: The City's decision is inconsistent with several provisions of the City's LCP which require that new development on the blufftop be supported by a site specific geotechnical report that addresses the suitability of siting development based on overall site stability and the potential need of shoreline protection over the lifetime of the development. The appellants contend that the geotechnical report reviewed and approved by the City failed to consider specific LCP required criteria for geotechnical reports including evidence of past or potential landslide conditions and use of current erosion rate data. Because an adequate geotechnical assessment was not performed, the appellants contend that it is not known if the proposed bluff edge setback for the subject residence is adequate to assure structural stability for the life of the structure. In addition, the appellants contend that the City's failure to address an existing private access stairway located on the bluff face seaward of the proposed residence is inconsistent with provisions of the LCP which prohibit private access stairways on the face of the bluff.

II. Local Government Action. The coastal development permit was approved by the City of Encinitas Planning Commission on December 6, 2001. Specific conditions were attached which require all site runoff be directed away from the bluff to the street, prohibit future bluff protection for all accessory structures located within the 40 ft. coastal bluff setback if threatened in the future, require removal of threatened sections of accessory structures within the 40 ft. setback when bluff edge erodes within one foot of the accessory improvements, use of automatic shut-off systems for any automatic irrigation devices used on the property and use of Best Management Practices (BMP's)

designed to filter surface runoff through grass and landscape areas prior to collection and discharge.

III. Appeal Procedures.

After certification of a Local Coastal Program (LCP), the Coastal Act provides for limited appeals to the Coastal Commission of certain local government actions on coastal development permits. Projects within cities and counties may be appealed if they are located within mapped appealable areas. The grounds for appeal are limited to the assertion that "development does not conform to the certified local coastal program." Where the project is located between the first public road and the sea or within 300 ft. of the mean high tide line, the grounds of appeal are limited to those contained in Section 30603(b) of the Coastal Act. Those grounds are that the development does not conform to the standards set forth in the certified local coastal program or the access policies set forth in the Coastal Act.

Section 30625(b) of the Coastal Act requires the Commission to hear an appeal unless it determines that no substantial issue is raised by the appeal. If the staff recommends "substantial issue" and no Commissioner objects, the Commission will proceed directly to a de novo hearing on the merits of the project.

If the staff recommends "no substantial issue" or the Commission decides to hear arguments and vote on the substantial issue question, proponents and opponents will have 3 minutes per side to address whether the appeal raises a substantial issue. It takes a majority of Commissioners present to find that no substantial issue is raised. If substantial issue is found, the Commission will proceed to a full public hearing on the merits of the project. If the Commission conducts a de novo hearing on the permit application, the applicable test for the Commission to consider is whether the proposed development is in conformity with the certified Local Coastal Program.

In addition, for projects located between the sea and the first public road paralleling the sea, Sec. 30604(c) of the Act requires that a finding must be made by the approving agency, whether the local government or the Coastal Commission on appeal, that the development is in conformity with the public access and public recreation policies of Chapter 3.

The only persons qualified to testify before the Commission at the "substantial issue" stage of the appeal process are the applicant, persons who opposed the application before the local government (or their representatives), and the local government. Testimony from other persons must be submitted in writing. At the time of the de novo hearing, any person may testify.

IV. Staff Recommendation On Substantial Issue.

MOTION: *I move that the Commission determine that Appeal No. A-6-ENC-02-3 raises NO substantial issue with respect to the grounds on which the appeal has been filed under § 30603 of the Coastal Act.*

STAFF RECOMMENDATION OF NO SUBSTANTIAL ISSUE:

Staff recommends a YES vote. Passage of this motion will result in a finding of No Substantial Issue and adoption of the following resolution and findings. If the Commission finds No Substantial Issue, the Commission will not hear the application de novo and the local action will become final and effective. The motion passes only by an affirmative vote by a majority of the Commissioners present.

RESOLUTION TO FIND NO SUBSTANTIAL ISSUE:

The Commission finds that Appeal No. A-6-ENC-02-3 does not present a substantial issue with respect to the grounds on which the appeal has been filed under § 30603 of the Coastal Act regarding consistency with the Certified Local Coastal Plan and/or the public access and recreation policies of the Coastal Act.

V. Findings and Declarations.

1. Project Description. The proposed development involves the demolition of an existing one-story single-family blufftop residence and detached garage and construction of an approximately 3,383 sq. ft. two-story single-family residence, approximately 471 sq. ft. garage and an approximately 328 sq. ft. mechanical/storage space. Also proposed are an at-grade deck and other minor accessory improvements to be located within the 40-foot blufftop setback area. The existing single-family residence is set back approximately 27 feet from the edge of an approximately 70 foot-high coastal bluff and the subject residence is proposed to be set back approximately 40 feet from the edge of the bluff. An existing private beach access stairway descends down the bluff face to the beach.

The existing single-family residence was constructed prior to enactment of the Coastal Act and, subsequently, no other application for coastal development on the subject blufftop or on the bluffs below has been reviewed or approved by the Commission. In addition, based on a review of the City file, there is no evidence of any existing shoreline protection devices on or below the subject bluff. The approximately 10,477 sq. ft. subject site is located on the west side of Neptune Avenue in the Leucadia community of the City of Encinitas approximately 3 blocks north of the Beacons Beach access pathway.

2. Geologic Stability. Public Safety (PS) Policy 1.3 of the City's LUP requires that:

The City will rely on the Coastal Bluff and Hillside/Inland Bluff Overlay Zones to prevent future development or redevelopment that will represent a hazard to its owner or occupants, and which may require structural measures to prevent destructive erosion or collapse.

In addition, PS Policy 1.6 of the LUP requires that:

The City shall provide for the reduction of unnatural causes of bluff erosion, as detailed in the Zoning Code, by:

- a. Only permitting public access stairways and no private stairways, and otherwise discouraging climbing upon and defacement of the bluff face; . . .

[. . .]

- f. Requiring new structures and improvements to existing structures to be set back 25 feet from the inland blufftop edge, and 40 feet from coastal blufftop edge with exceptions to allow a minimum coastal blufftop setback of no less than 25 feet. For all development proposed on coastal blufftops, a site-specific geotechnical report shall be required. The report shall indicate that the coastal setback will not result in risk of foundation damage resulting from bluff erosion or retreat to the principal structure within its economic life and with other engineering evidence to justify the coastal blufftop setback.

In addition, Section 30.34.020(D) of the City's Certified IP states, in part, that:

D. APPLICATION SUBMITTAL REQUIREMENTS. Each application to the City for a permit or development approval for property under the Coastal Bluff Overlay Zone shall be accompanied by a soils report, and either a geotechnical review or geotechnical report as specified in paragraph C "Development Processing and Approval" above. Each review/report shall be prepared by a certified engineering geologist who has been pre-qualified as knowledgeable in City standards, coastal engineering and engineering geology. The review/report shall certify that the development proposed will have no adverse affect on the stability of the bluff, will not endanger life or property, and that any proposed structure or facility is expected to be reasonably safe from failure and erosion over its lifetime without having to propose any shore or bluff stabilization to protect the structure in the future. Each review/report shall consider, describe and analyze the following: (Ord. 95-04)

1. Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict unusual geomorphic conditions that might affect the site;
2. Historic, current and foreseeable-cliffs erosion, including investigation or recorded land surveys and tax assessment records in addition

to land use of historic maps and photographs where available and possible changes in shore configuration and sand transport;

3. Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joints and faults;

4. Evidence of past or potential landslide conditions, the implications of such conditions for the proposed development, and the potential effects of the development on landslide activity;

5. Impact of construction activity on the stability of the site and adjacent area;

6. Ground and surface water conditions and variations, including hydrologic changes caused by the development e.g., introduction of irrigation water to the ground water system; alterations in surface drainage);

7. Potential erodibility of site and mitigating measures to be used to ensure minimized erosion problems during and after construction (i.e., landscaping and drainage design);

8. Effects of marine erosion on seacliffs and estimated rate of erosion at the base of the bluff fronting the subject site based on current and historical data; (Ord. 95-04)

9. Potential effects of seismic forces resulting from a maximum credible earthquake;

10. Any other factors that might affect slope stability;

11. Mitigation measures and alternative solutions for any potential impacts.

The report shall also express a professional opinion as to whether the project can be designed or located so that it will neither be subject to nor contribute to significant geologic instability throughout the life span of the project. The report shall use a current acceptable engineering stability analysis method and shall also describe the degree of uncertainty of analytical results due to assumptions and unknowns. The degree of analysis required shall be appropriate to the degree of potential risk presented by the site and the proposed project.

The proposed development involves the demolition of an existing single-family residence and construction of an approximately 3,383 sq. ft. two-story single-family residence, approximately 471 sq. ft. garage and approximately 328 sq. ft. mechanical/storage space on a blufftop lot. The proposed development will be setback 40 feet from the edge of the

bluff. The appellants contend that the geotechnical report prepared for the subject development, which asserts that the 40 foot setback will be adequate to protect the foundation of the residence from coastal erosion or retreat over its lifetime without requiring construction of any shoreline protective device, does not satisfy the requirements of the LCP. The appellants contend that the applicant's geotechnical report failed to examine the potential for landslides at the site and failed to use current and up to date erosion rate information as required by the LCP. The appellants identify that the geotechnical report based its findings on a visual examination of site and contend that visual inspections are inadequate to determine whether the site contains any potential zones of weakness such as clay seams. The appellants contend that approximately four blocks south of the proposed development site, on bluffs with very similar geologic conditions, a series of landslides have occurred in recent years which have threatened the residences at the top of the bluff resulting in numerous emergency permits for construction of seawalls and upper bluff protective devices.

The Commission's geologist indicates that the landslide on these nearby sites appear to have occurred along a remolded clay seam located within the Ardath Shale, resulting in a slide of the overlying Ardath Shale and terrace deposits during a period of high ground water. Therefore, the appellants contend that without additional geologic information addressing the landslide potential at the site and a current erosion rate, it cannot be determined if the proposed 40 foot bluff top setback will be adequate to protect the residence over its lifetime without requiring shoreline protection. Therefore, the appellants contend that the City's failure to require potential landslide and current erosion rate information pertaining to the site raises a substantial issue regarding the consistency of the proposed development with the LCP.

In response to the appeals filed in January of 2002, the applicants requested that the hearing on the issue of substantial issue be delayed until such time that additional geotechnical information could be provided to address the appellants' concerns and support the proposed development setback at 40 ft. from the edge of the bluff. Subsequently, the applicants have performed geologic borings at the subject site and prepared new geotechnical reports that evaluate the potential for landslides that include a detailed slope stability analyses and updated erosion rate information for the site. Over the last year, the applicant and his representatives have worked closely with the Commission's staff geologist to assure that all necessary information has been provided that addresses the issues raised by the appeal. As a result, the Commission's staff geologist has reviewed the updated geotechnical information and concurs that the proposed setback of 40 feet will adequately protect the proposed residence over its lifetime such that shoreline protection will not be necessary (ref. Exhibit #4 and #5).

As indicated by the staff geologist, in order to determine what setback would meet this requirement, it is necessary to:

- 1) Determine whether the bluff is grossly stable against landsliding; that is, if it meets certain minimum stability standards. The standard that is routinely applied in the grading industry, and that the Commission generally adopts in

evaluating coastal bluff stability, is a factor-of-safety against sliding of 1.5 (1.1 for the pseudostatic, or seismic, case). If the bluff does not possess a factor of safety of 1.5 or 1.1 (seismic), the position on the bluff face or bluff top at which this factor is attained must be determined.

- 2) Establish the expected bluff retreat over the economic life of the structure, from either site specific or regional data.

Based on the information provided by the applicant, it is the opinion of the Commission's staff geologist that the applicant has demonstrated that the minimum factor of safety against sliding of 1.5 (static) and 1.1 (pseudostatic) for the bluff stability is located at a point on the bluff face, seaward of the bluff edge. Therefore, it is not anticipated that the proposed residence, which is proposed to be sited approximately 40 ft. landward of the bluff edge, will be subject to a landslide over its lifetime.

The bluff will, however, be subject to long-term erosion and retreat and the geologic setback will need to be based on an accurate estimate of this retreat rate. No site specific data have been provided on bluff retreat rate at this site. In the absence of site-specific data, regional data from the literature may be substituted. The current state-of-the-art for establishing bluff retreat rates in this area is a FEMA-funded study done as part of a nationwide assessment of coastal erosion hazards. Data presented in Benumof and Griggs (1999), indicate that the long-term bluff retreat in the general area is from 0.15 to 0.49 feet per year. To allow for accelerated average bluff retreat rates in the future, which are a likely result of any acceleration in the rate of sea level rise, it is appropriate to establish the setback on the basis of the larger value (0.49 ft/yr). Given a 75-year design life as mandated by the LCP, about 37 feet of erosion might be expected. To this should be added a buffer, generally on the order of 10 feet, to allow for surficial slumping and so that the foundation is not actually being undermined at the end of the 75 years, and to allow for uncertainties in the analysis for a total setback of 47 feet. Although a 10 foot buffer is generally recommended, a buffer of only 3 feet, for a total setback of 40 feet (the "default value" under the LCP) is adequate at this site due to the very gentle slope of the upper bluff, which would cause bluff retreat to be somewhat lower for this area than for the Encinitas as a whole. Therefore, it is the opinion of the Commission's staff geologist that the proposed development setback of 40 ft. will provide a safe location for the residence such that it will not require shoreline protection over its lifetime consistent with of Section 30.34.020(D) of the City's Certified IP. While the City did not require a geotechnical report consistent with the policies of the LCP, the analysis relied on by the City and the subsequent analysis reviewed by the Commission's staff geologist reached the same conclusion; the proposed new home will not be subject to threat from erosion over its 75 year estimated lifetime with a 40 ft. bluff edge setback. Therefore, based on the information provided by the applicant and reviewed by the Commission's staff geologist, the subject appeals do not raise a substantial issue relating to Section 30.34.020(D) of the City's Certified IP.

The appellants also contend that an existing private access stairway leading from the blufftop lot to the beach below is inconsistent with Public Safety (PS) Policy 1.6 which

prohibits the permitting of private access stairways on the bluff face. The City's staff report identified the existence of the stairway but did not review it for consistency with the Certified LCP along with the proposed residence. Thus, the appellants contend the City's failure to address the private access stairway raises a substantial issue.

Commission staff has reviewed the City's file and examined a photograph of the bluff taken in June of 1972 which documents a diagonal footpath on the face of the bluff in the approximate location of the current stairway features. In addition, near the bottom of the bluff, some form of stairway appears to have been located leading to the beach. Another photograph in the City file taken in June of 1976 documents that additional portions of a stairway were constructed on the face of the bluff. Finally, a comparison of the 1976 photograph with current site conditions indicates that an additional section of stairway has been constructed since 1976. Commission staff has also reviewed Commission files and determined that no coastal development permits have been issued for private access stairways at the site prior to the City's implementation of the LCP in 1995. Therefore, based on the photographic documentation contained in the City file and the Commission's records, some portions of the existing stairway are unpermitted development and should be addressed. However, the question is whether the City was required to address the unpermitted stairway construction as part of the subject development request and whether, by not addressing it, the City action raises a substantial issue.

In this case, the applicant did not apply to alter the existing unpermitted stairway nor apply for an after-the-fact permit for retention of the stairway. In addition, the LCP does not contain provisions which require an applicant to include all after-the-fact development that has occurred on the site as part of a new development request if such development is not directly related to the proposed development. In this case, the issue of the existing stairway is not directly related to the determination of whether construction of the proposed residence is consistent with the policies of City's Local Coastal Program. As such, the unpermitted stairway was outside the scope of the City's review of the permit application. Therefore, the fact that the City did not address the unpermitted stairway is not inconsistent with the requirements of the LCP and its action does not raise a substantial issue. However, since the stairway has now been identified by the subject appeal as unpermitted development, the City should commence enforcement action to require the applicant to resolve the violation. In addition, if the City's enforcement action results in the property owner applying for a coastal development permit to retain or remove the stairway, any subsequent coastal development permit would be appealable to the Commission since the stairway lies within the Commission's appellate jurisdiction. If the City declines to take timely enforcement action, the Commission may initiate enforcement proceedings.

In summary, because the applicant has submitted substantial geologic documentation that a development setback of 40 ft. from the bluff edge will be adequate to protect the proposed residence from the threat of coastal erosion over its lifetime such that shoreline protection will not be necessary, the City's approval is consistent with the requirements of Section 30.34.020(D) of the City's Certified IP. In addition, although the P.S. Policy

1.6 of the LCP prohibits the construction of private access stairways on the bluff, the subject application for development did not include a request to repair, alter or permit the stairway and, as such, the stairway was outside the scope of the application acted upon by the City. Therefore, the City's action does not raise a substantial issue with respect to the grounds on which the appeal was filed.

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Site →

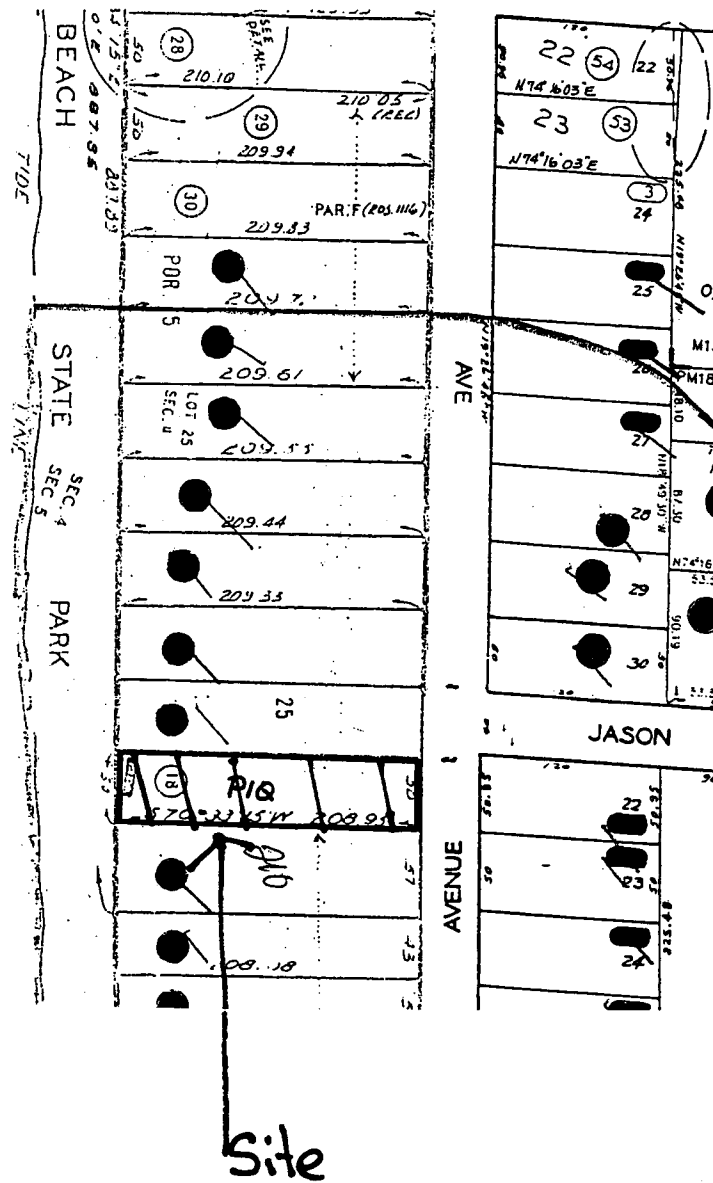
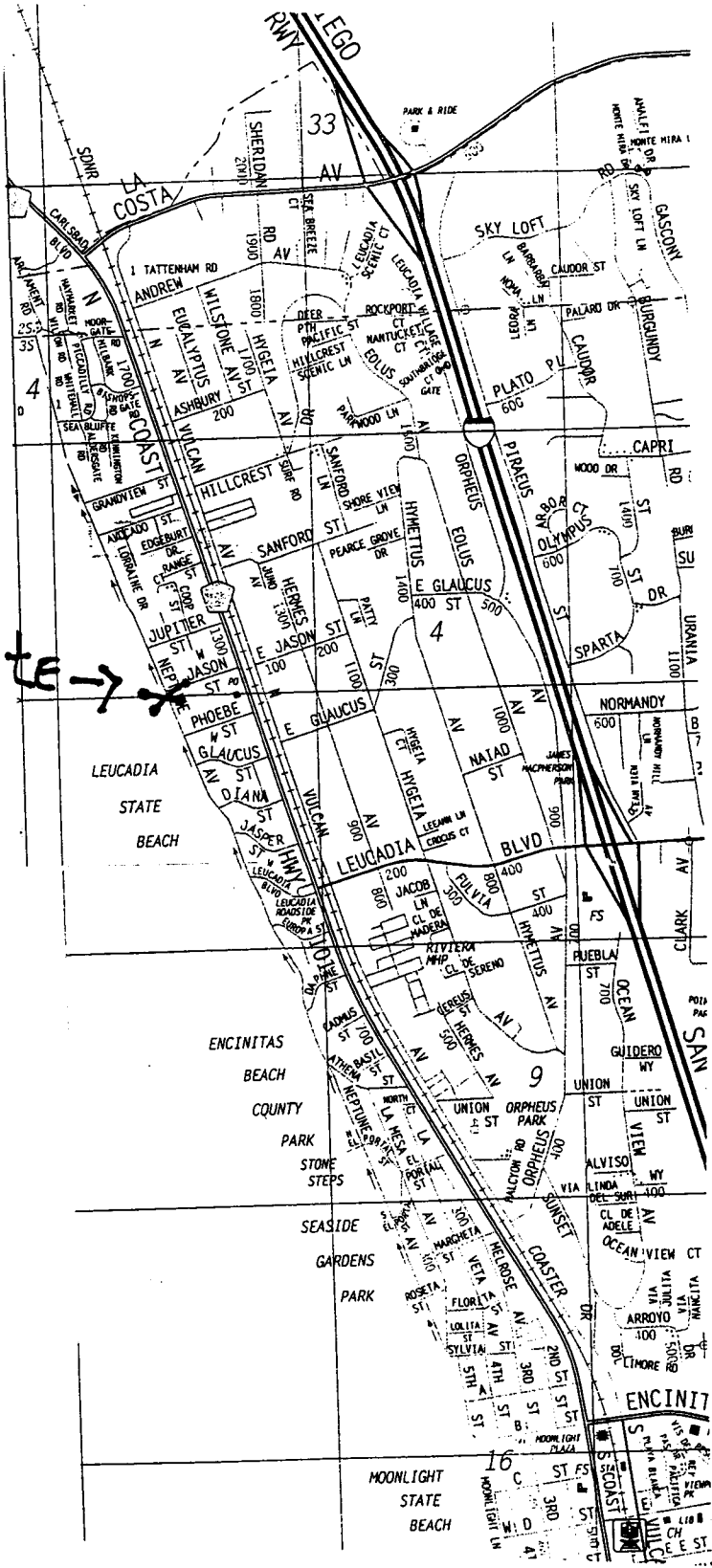

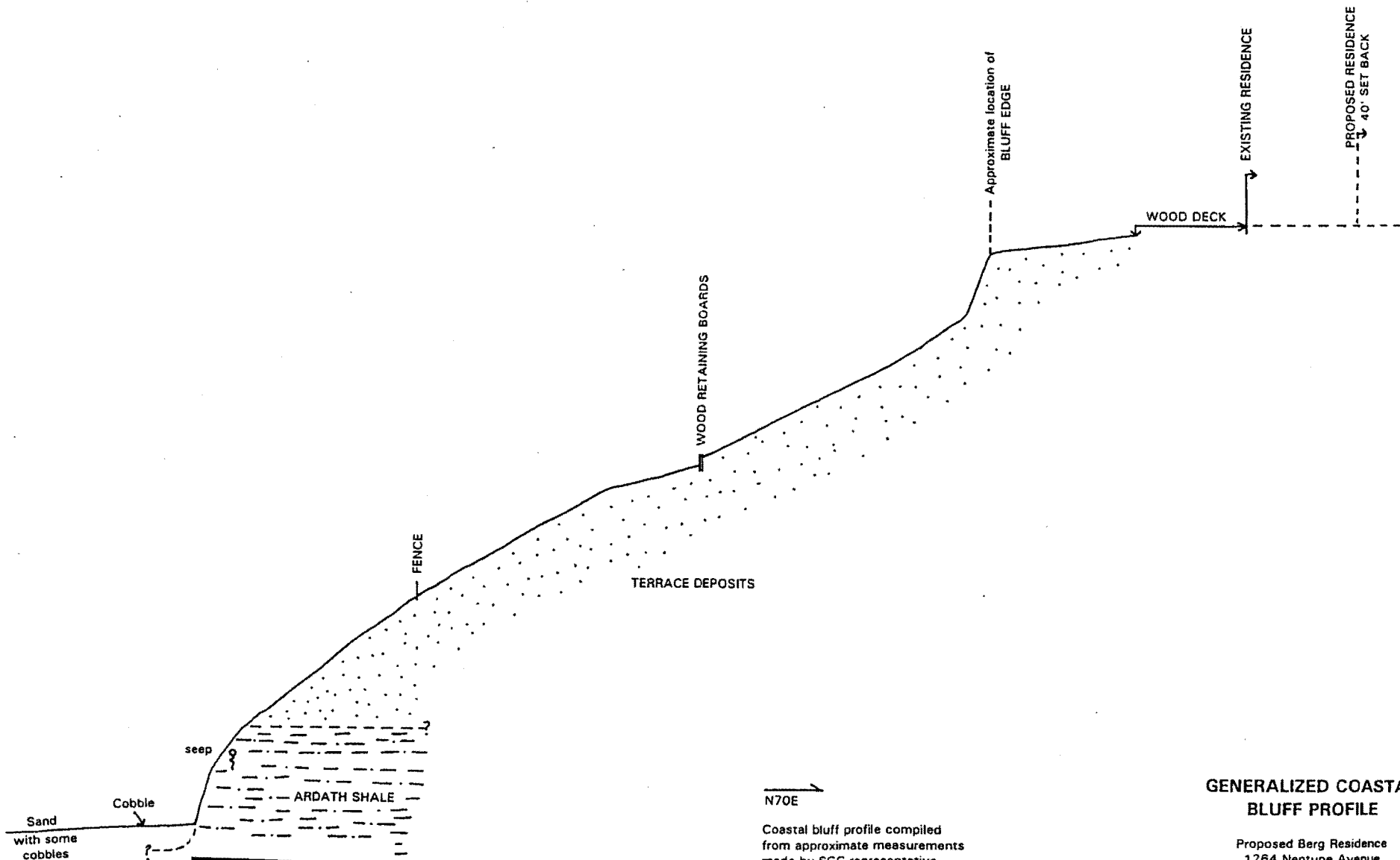


EXHIBIT NO. 1
APPLICATION NO.
A-6-ENC-02-3
Location Map
 California Coastal Commission



N70E

Coastal bluff profile compiled from approximate measurements made by SGC representative on 1 November 1999

(see FIGURE 2 for profile location)


Scale (approximate) 1 inch = 10 feet

GENERALIZED COASTAL BLUFF PROFILE

Proposed Berg Residence
1264 Neptune Avenue
Encinitas, California

Project No. 147A42

FIGURE

 California Coastal Commission	EXHIBIT NO. 1
	APPLICATION NO. A-6-ENC-02-
	Bluff Profile

SGC

CALIFORNIA COASTAL COMMISSION

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23 August 2002

STATUS MEMORANDUM

To: Gary Cannon, Coastal Program Analyst
From: Mark Johnsson, Staff Geologist
Re: Appeal A-6-ENC-01-116 (Refold)
Appeal A-6-ENC-02-003 (Berg)
Appeal A-6-ENC-01-47 (Conway and Associates)

AUG 29 2002

CALIFORNIA
COASTAL COMMISSION
SOUTH COAST DISTRICT

This memo is to update you on the status of my review of the stability of the coastal bluff between Grandview stairs and Beacon's stairs in Encinitas, which affects the above referenced appeals. In addition, this memo serves to highlight important issues arising from my review of the following geotechnical reports:

- 1) TerraCosta Consulting Group 2002, "Coastal Bluff Stability, 1616 Neptune Avenue, Encinitas, California", 4 p. geotechnical report dated 30 May 2002 and signed by W. F. Crampton (RCE 23792 GE 245) and B. R. Smillie (CEG 207).
- 2) Southland Geotechnical Consultants 2002, "Coastal Bluff Stability, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California", 2 p. letter dated 4 June 2002 and signed by S. E. Tanges (CEG 1386).
- 3) TerraCosta Consulting Group 2002, "Geotechnical investigation, 1616 Neptune Avenue, Encinitas, California", 18 p. geotechnical report dated 30 July 2002 and signed by W. F. Crampton (RCE 23792 GE 245) and B. R. Smillie (CEG 207).
- 4) Soil Engineering Construction, Inc. 2001, "Preliminary geotechnical evaluation of the coastal bluff properties, 1244 and 1252 Neptune Avenue, Encinitas, California", 9 p. geotechnical report dated 12 November 2001 and signed by J. Niven (CE 57517) and R. D. Mahony (CE 16459; GE 554).

I understand that Mr. Jim Knowlton of GeoPacifica has performed a review of some or all of these documents in his capacity as third-party independent reviewer for the City of Encinitas. I have spoken to Mr. Knowlton on several recent occasions concerning these reports and on the conditions of the coastal bluff at the locations of these projects. I have as yet, however, been unable to obtain copies of his reviews. I understand that Mr. John Niven, of Soil Engineering Construction, has recently retained a third-party geotechnical firm to provide further information concerning the coastal bluff at 1244-1252 Neptune Avenue; that report is not yet available. I have visited the sites many times, including on 28 March 2002 when I convened a site visit with a number of geologists working in the area, including the authors of references (1-3).

EXHIBIT NO. 4
APPLICATION NO.
A-6-ENC-02
Memo from Commission Geologist dated 8/23/02
Page 1 of 6

As you are aware, the issue before us is whether several clay layers encountered within the Eocene-aged bedrock in this part of Encinitas (variously identified as Ardath Shale or Santiago Formation) pose a risk for a translational landslide similar to that which occurred in the 800-block of Neptune Avenue in 1996. The clay layers have been observed in the coastal bluff at 1244-1252 and 1264 Neptune, but have not been observed as far north as 1616 Neptune Avenue. Nevertheless, the similar geologic setting at 1616 Neptune (and further north) leads to the possibility that the same clay layers may be present at depth, hidden beneath the beach sand and shingle, or that they may be discontinuous and present further landward of the bluff face. In order to sample the clay layers, two high-quality cores were obtained from the property at 1264 Neptune. I was able to briefly examine one of these cores in the field.

Reference (1) reports on the results of this coring operation, and addresses issues of coastal bluff stability in this section of Encinitas. Reference (2) essentially serves to endorse the interpretations advanced in reference (1), and applies them to the property at 1264 Neptune Avenue. Reference (3) expands on the interpretations set forth in reference (1), and applies them more specifically to the property at 1616 Neptune Avenue. Reference (4) was undertaken independently of any of the above work, and advances the view, diametrically opposed to those expressed in references 1-3, that the coastal bluff at 1244-1252 Neptune Avenue is very susceptible to a translational landslide.

The clay layers were sampled in the cores taken at 1264 Neptune Avenue on 29-30 March 2002, and one sample was subsequently subjected to a direct shear test. As reported in reference (1), the test was terminated prior to failure of the sample because its strength exceeded the strength of the testing apparatus. This was also true of several samples taken of the siltstone layers above and below the clay layers. Three of the siltstone samples were subjected to unconfined compression testing, and yielded relatively high unconfined compressive strengths of 10,400-18150 psf. Unfortunately, no unconfined compressive strength data for the clay layers are presented.

References (1) and (3) indicate that the unconfined compressive strength of the siltstone bedrock, as measured both by the test reported in reference (1) and by my own pocket penetrometer during a site visit, is quite high. Unconfined compressive strength is one measure of rock strength, and is roughly equal to twice a rock's shear strength at zero confining pressure, also known as cohesion. Under the confining pressures encountered within the bluff, shear strength will be greater. The relationship between shear strength and confining pressure varies in different types of rocks, and is described by the friction angle. Both the cohesion and friction angle are necessary components of a slope stability analysis. In reference (1) and (3), the very high unconfined compressive strength of these samples is used to indicate that their failure through a translational landslide mechanism is quite unlikely. Although this has not been explicitly demonstrated, I would concur with this assessment.

Reference (1) and (3) also indicate, however, that the clay layers encountered at 1264 Neptune Avenue similarly have very high strengths. Reference (3), for example, indicates that the seams have "pocket penetrometer values significantly in excess of 5 tsf." This is not true of the clay layers that I examined in outcrop. These layers were easily extracted with a knife, and were soft enough to be kneaded into a ball by hand. Pocket penetrometer values were not obtained because the material was too soft to depress the penetrometer plunger. In contrast, however, the clay layers that I examined in the core taken at 1264 Neptune Avenue appeared much harder, consistent with the direct shear test results.

Reference (3) advances the hypothesis that the clay layers encountered in outcrop have expanded as a result of stress release at the bluff face. The report references the work of Hart (2000), who identified the clay layer at the 800-block landslide as a "bedding parallel shear," as well as the classic work of Bejerrum (1967) and Skempton (1964; Skempton and Hutchinson, 1969) which do, in fact, support this interpretation. Mr. Walt Crampton, one author of references (1) and (3), also has indicated to me that he believes that weathering at the bluff face also has softened and weakened the clay. These explanations are reasonable, and would explain the fact that the clay layers are weak when encountered in outcrop, but much stronger when encountered in cores taken at some distance landward of the bluff face.

An alternative explanation is that water flowing along fractures softens and weakens the clay layers. If this were true, then weak zones might exist not only at the bluff face, but also in the vicinity of any fractures. Unfortunately, there are no data available to test this hypothesis.

Reference (3) places much emphasis on the difference between bedding parallel shear and on former landslide slip surfaces, as does Hart (2000). Even if the clay layers exposed in the bluff do not represent former landslide slip surfaces, and no back scarp is present, they nevertheless represent weak layers that could form future landslide slip surfaces.

In fact, this is the interpretation found in reference (4), which assumes that the clay layers are weak, remolded shear zones that extend indefinitely into the bluff. This reference contains a slope stability analysis for the bluff on the lot immediately south of the lot on which the cores were recovered, that yields a factor of safety of only 1.10 against a translational landslide. Although this interpretation would appear unlikely from the data obtained in the core, it is nevertheless possible that the clay layers remain weak some distance back into the bluff; although apparently not so far back as the location of the cores on the adjacent lot.

An additional point that may be important is that the clay layers are unlikely to be continuous in a north-south distance for more than a few tens of feet at a time, as the bedrock in this region is cut by scores of small normal faults, offsetting the clay layer.

Although they generally drop the clay layers down to the north, the clay layers can still be seen exposed in the bluff face (i.e., not at great depths and not buried by beach sand) for at least several hundred feet north of 1264 Neptune.

To summarize, there is apparently no disagreement that two weak clay layers are encountered in the bluff face in the vicinity of 1264 Neptune Avenue. Although quantitative data are lacking, these clay layers are apparently much stronger within the bluff, where encountered by coring. Although other interpretations are possible, the simplest interpretation is that the layers become weaker as they approach the bluff face due to their expansion through stress relief and due to weathering. Accordingly, they may become future slip surfaces on which landsliding could occur.

Modeling the factor of safety against such a landslide requires many assumptions. The model in reference (4), in which the clay layers are continuous and weak, appears to be inaccurate given the core data. Reference (3) contains no slope stability analysis against translational failure (although it does demonstrate a high factor of safety against a rotational failure in the overlying terrace deposits), citing the high unconfined compressive strength of the siltstones and the lack of direct evidence for a clay layer at that location.

In order to fully evaluate the likelihood of a translational failure, I would like to see slope stability analyses for these properties that contain the following elements:

- 1) The presence of the two clay layers
- 2) Weak shear strength for the clay layer at the bluff face. No shear strength data have been provided in any report on any of these properties. In the absence of such data, the City- and Commission-approved values that were used in the modeling of the 800-block landslide may be substituted. Those values are presented in the table below.
- 3) Higher shear strength values are appropriate for the clay layers further as they extend into the bluff. No shear strength data have been provided in any report on any of these properties. In the absence of such data, it is acceptable to use the same shear strength values as are adopted for the siltstones of the Santiago Formation/Ardath shale.
- 4) The point of transition (landward from the bluff face) from low to high values should be carefully evaluated. Without further data, the conservative interpretation is that the weak values should be used up to the location of the core; the higher values may be used landward of that position.
- 5) Higher shear strength values are appropriate for the Santiago Formation/Ardath Shale bedrock at the site. Again, no shear strength data

have been provided in any report on any of these properties. In the absence of such data, the City- and Commission-approved values that were used in the modeling of the 800-block landslide may be substituted. Those values are presented in the table below.

Geologic Unit	Sat. unit weight	c	ϕ
Terrace Deposits	110 pcf	0 psf	38°
Eocene bedrock	115 pcf	500 psf	26°
Clay layer	100 pcf	400 psf	8.3°

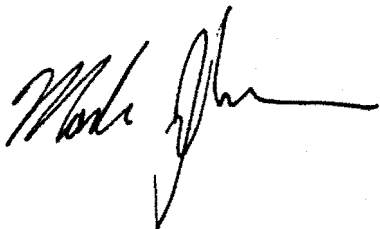
- 6) The models may account for any normal faults on the subject properties, which tend to disrupt the clay layers and improve slope stability. If this is too difficult to model quantitatively, the assumption of continuous clay layers is acceptable as it is conservative.

These elements should be applied to slope stability analyses undertaken for properties at 1244, 1252, and 1264 Neptune Avenue. There is some doubt as to whether the clay layers are present at 1616 Neptune; accordingly a conservative approach is to assume that they are present, as the geology is otherwise very similar. Analyses may also be performed under the assumption that they are not present, in order to quantify the degree of conservatism that such an assumption would have.

Analyses of slope stability against translational failure within the bedrock at these three sites, as outlined above, are necessary in order to determine what is an appropriate building setback. I unfortunately cannot make this assessment without such analyses.

I hope that this summary is helpful. Please pass this memo on to the applicants; whose geotechnical consultants should feel free to contact me if they have further questions.

Sincerely,



Mark Johnsson, Ph.D., CEG, CHG

Additional References Cited

Bjerrum, L., 1967, Progressive failure in slopes in over-consolidated plastic clay and clay shales: Journal of the Soil Mechanics and Foundations Division, Proceedings of the American Society of Civil Engineers, v. 93, no. SM5, p. 3-49.

A-6-ENC-01-116 (Refold)

A-6-ENC-02-003 (Berg)

A-6-ENC-01-47 (Conway and Associates)

- Hart, M. W., 2000, Bedding-parallel shear zones as landslide mechanisms in horizontal sedimentary rocks: *Environmental and Engineering Geoscience*, v. 6, no. 2, p. 95-113.
- Skempton, A. W., 1964, Long-term stability of clay slopes: *Geotechnique*, v. 14, no. 2, p. 77-101.
- Skempton, A. W., and Hutchinson, J. N., 1969, Stability of natural slopes, *in* *Proceedings of the 7th international conference on soil mechanics and foundation engineering*, Mexico, p. 291-340.

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400



16 December 2002

GEOLOGIC REVIEW MEMORANDUM

To: Gary Cannon, Coastal Program Analyst
From: Mark Johnsson, Staff Geologist
Re: Appeal A-6-ENC-02-003 (Berg)
Appeal A-6-ENC-01-116 (Refold)
Appeal A-6-ENC-01-47 (Conway and Associates)

This memo is to discuss the results of investigations conducted over the past year concerning the stability of the coastal bluff between Grandview stairs and just north of Beacon's stairs in Encinitas, which affects the above referenced appeals. It is appropriate to discuss these appeals together because the geologic issues at the three sites are nearly identical, the principal differences being the confirmed vs assumed presence of clay seams in the Eocene bedrock, and different topographic profiles of the bluffs. These studies were conducted by several geotechnical firms, involved site visits by a number of geologists practicing in the area, numerous site visits by Commission staff (including myself), and numerous discussions between Commission and City staff, as well as with the City's third-party Geotechnical Reviewer, Mr. James Knowlton. These and previous studies have been summarized in the following geotechnical reports, all of which I have reviewed in developing the recommendations outlined below:

1616 Neptune Avenue (Refold)

- 1) GeoSoils Inc. 2000, "Preliminary geotechnical evaluation and bluff study, 1616 Neptune Avenue, Encinitas, San Diego County, California", 30 p. geotechnical report dated 6 September 2000 and signed by D. L. Gooley, J. P. Franklin (CEG 1340) and A. R. Kleist (GE 476).
- 2) GeoSoils Inc. 2001, "Addendum geotechnical evaluation, 1616 Neptune Avenue, Encinitas, San Diego County, California", 6 p. supplemental geotechnical report dated 18 July 2001 and signed by J. P. Franklin (CEG 1340) and D. W. Skelly (RCE 47857).
- 3) 1616 Neptune Avenue, Encinitas, San Diego County, California", 4 p. supplemental geotechnical report dated 5 September 2001 and signed by J. P. Franklin (CEG 1340) and S. Farhan.
- 4) GeoSoils Inc. 2001, "Response to city review, 1616 Neptune Avenue, Encinitas, San Diego County, California", 4 p. supplemental geotechnical report dated 19 September 2001 and signed by J. P. Franklin (CEG 1340) and A. R. Kleist (GE 476).

EXHIBIT NO. 5

APPLICATION NO.

A-6-ENC-02-3

Memo from
Commission
Geologist dated
12/16/02

Page 1 of 7

- 5) GeoSoils Inc. 2001, "Response to California Coastal Commission Review dated November 5, 2001, pertaining to proposed improvements at 1616 Neptune Avenue, Encinitas, San Diego County, California", 7 p. geotechnical report dated 19 November 2001 and signed by J. P. Franklin (CEG 1340) and A. R. Kleist (GE 476).
- 6) TerraCosta Consulting Group 2002, "Coastal Bluff Stability Assessment, 1616 Neptune Avenue, Encinitas, California", 10 p. geotechnical report dated 21 February 2002 and signed by W. F. Crampton (RCE 23792 GE 245).
- 7) TerraCosta Consulting Group 2002, "Coastal Bluff Stability, 1616 Neptune Avenue, Encinitas, California", 4 p. geotechnical report dated 30 May 2002 and signed by W. F. Crampton (RCE 23792 GE 245) and B. R. Smillie (CEG 207).
- 8) TerraCosta Consulting Group 2002, "Geotechnical investigation, 1616 Neptune Avenue, Encinitas, California", 18 p. geotechnical report dated 30 July 2002 and signed by W. F. Crampton (RCE 23792 GE 245) and B. R. Smillie (CEG 207).
- 9) TerraCosta Consulting Group 2002, "Response to review comments, Coastal Bluff Stability, 1244-1616 Neptune Avenue, Encinitas, California", 9 p. geotechnical report dated 16 September 2002 and signed by W. F. Crampton (RCE 23792 GE 245) and G. A. Spaulding (CEG 1863).
- 10) TerraCosta Consulting Group 2002, "Second response to review comments, Coastal Bluff Stability, 1244-1616 Neptune Avenue, Encinitas, California", 9 p. geotechnical report dated 11 November 2002 and signed by W. F. Crampton (RCE 23792 GE 245).

1410 Neptune Avenue (Conway and Associates)

- 11) Engineering Geology Consultants 2001, "Preliminary engineering geological evaluation of the coastal bluff property, 1410 Neptune Avenue, APN: 254-210-06, Encinitas, California", 16 p. geotechnical report dated 10 May 2001 and signed by E. R. Artim (CEG 1084) and J. Niven (PE C56507).

1264 Neptune Avenue (Berg)

- 12) Southland Geotechnical Consultants 2000, "Geotechnical evaluation of coastal bluff property, proposed single-family residence, 1264 Neptune Avenue, Leucadia area of Encinitas, California", 16 p. geotechnical report dated 15 June 2000 and signed by G. Custenborder (CEG 1319) and C. R. Corbin (RCE 36302).
- 13) GeoPacifica 2001, "Review of Geotechnical Evaluation of Coastal Bluff Property, Proposed single family residence, 1264 Neptune Avenue, Encinitas, California", 2 p. geotechnical review letter dated 5 April 2001 and signed by J. Knowlton (RCE 55754 CEG 1045).
- 14) Southland Geotechnical Consultants 2001, "Response to Geotechnical Review Comment Comments, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California", 4 p. geotechnical response letter dated 30 April 2001 and signed by G. Custenborder (CEG 1319).
- 15) GeoPacifica 2001, "Review of responses to geotechnical review, Proposed single family residence--Berg residence, 1264 Neptune Avenue, (APN 254-210-18), Encinitas, California 92054", 2 p. geotechnical review letter dated 14 August 2001 and signed by J. Knowlton (RCE 55754 CEG 1045).

- 16) Southland Geotechnical Consultants 2001, "Response to City of Encinitas Review Comment, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California", 2 p. geotechnical response letter dated 22 October 2001 and signed by G. Custenborder (CEG 1319).
- 17) Southland Geotechnical Consultants 2002, "Additional Geotechnical Evaluation, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California", 4 p. geotechnical report dated 25 February 2002 and signed by G. Custenborder (CEG 1319).
- 18) Southland Geotechnical Consultants 2002, "Coastal Bluff Stability, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California", 2 p. letter dated 4 June 2002 and signed by S. E. Tanges (CEG 1386).
- 19) Southland Geotechnical Consultants 2002, "Revised Coastal Bluff Stability, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California", 2 p. letter dated 13 November 2002 and signed by S. E. Tanges (CEG 1386).
- 20) Southland Geotechnical Consultants 2002, "Coastal Bluff Stability, Proposed single-family residence, 1264 Neptune Avenue, Encinitas, California", 2 p. letter dated 4 November 2002 and signed by S. E. Tanges (CEG 1386).

1252-1244 Neptune Avenue (Ecke/Mangiapane)

- 21) Soil Engineering Construction, Inc. 2001, "Preliminary geotechnical evaluation of the coastal bluff properties, 1244 and 1252 Neptune Avenue, Encinitas, California", 9 p. geotechnical report dated 12 November 2001 and signed by J. Niven (CE 57517) and R. D. Mahony (CE 16459; GE 554).

I have prepared three previous geotechnical review memorandum on these appeals, each indicating the need for additional information. These area dated 5 November 2001, 25 January 2002, and 23 August 2002. References 9, 10, 19 and 20 (above) specifically address the final remaining questions posed in the 23 August 2002 memo. Today's memo serves as a review of those documents.

As you are aware, the remaining issue before us is whether several clay layers encountered within the Eocene-aged bedrock in this part of Encinitas (variously identified as Ardath Shale or Santiago Formation) pose a risk for a translational landslide similar to that which occurred in the 800-block of Neptune Avenue in 1996. The clay layers have been observed in the coastal bluff at 1244-1252 and 1264 Neptune, but have not been observed as far north as 1616 Neptune Avenue. Nevertheless, the similar geologic setting at 1616 Neptune leads to the possibility that the same clay layers may be present at depth, hidden beneath the beach sand and shingle, or that they may be discontinuous and present further landward of the bluff face.

Although the Encinitas LCP establishes a default setback of 40 feet, section 30.34.020D also states that a finding must be made that the:

A-6-ENC-01-116 (Refold)

A-6-ENC-02-003 (Berg)

A-6-ENC-01-47 (Conway and Associates)

development proposed will have no adverse affect on the stability of the bluff, will not endanger life or property, and that any proposed structure or facility is expected to be reasonably safe from failure and erosion over its lifetime without having to propose any shore or bluff stabilization to protect the structure in the future.

In order to determine what setback would meet this requirement, it is necessary to:

- 1) Determine whether the bluff is grossly stable against landsliding; that is, if it meets certain minimum stability standards. The standard that is routinely applied in the grading industry, and that the Commission generally adopts in evaluating coastal bluff stability, is a factor-of-safety against sliding of 1.5 (1.1 for the pseudostatic, or seismic, case). If the bluff does not possess a factor of safety of 1.5 or 1.1 (seismic), the position on the bluff face or bluff top at which this factor is attained must be determined.
- 2) Establish the expected bluff retreat over the economic life of the structure, from either site specific or regional data.

In my 23 August 2002 memo, I stated that in order to evaluate the likelihood of a translational failure, and in order to establish the position on the bluff face or top at which a factor of safety of 1.5 (static) or 1.1 (pseudostatic) is attained, I would need to review slope stability analyses for these properties that contain the following elements:

- 1) The presence of the two clay layers
- 2) Weak shear strength for the clay layers at the bluff face.
- 3) Higher shear strength for the clay layers within the bluff.
- 4) A careful evaluation (sensitivity analysis) of the point of transition (landward from the bluff face) from low to high values.
- 5) Higher shear strength values appropriate for the Santiago Formation/Ardath Shale bedrock.

I provided some default values for shear strength parameters (cohesion, friction angle) and unit weight that had been previously accepted by both the City and the Commission, and indicated that three-dimensional slope stability models could be used to more accurately model the discontinuous nature of the clay layers, as they are broken by normal faults that strike nearly normal to the bluff face. I indicated that a conservative approach was to assume that these clay layers were present at 1616 Neptune, even though they are not observed in the bluff face, but indicated that an additional analysis

that did not include the clay layers could be undertaken in order to quantify the degree of conservatism that such an assumption would have.

I had several conversations with Mr. Walt Crampton, principal engineer for Mr. Refold (1616 Neptune), concerning appropriate shear strength values and modeling techniques. These resulted in the following values, with which I concur:

<u>Geologic Unit</u>	<u>c</u>	<u>Φ</u>
Terrace Deposits	300 psf	33°
Eocene bedrock, >30 ft within bluff	3500 psf	28°
Eocene bedrock, <30 ft within bluff - horizontal	400 psf	28°
Eocene bedrock, <30 ft within bluff - vertical	0 psf	28°
Clay layer, >30 ft within bluff	5000 psf	8°
Clay layer, <30 ft within bluff	0 psf	8°

These values are complex because they are meant to reflect differences in the nature of the Eocene bedrock and the clay seams that Mr. Crampton believes occur in the outer 30 feet of the bluff. These differences, discussed in my 28 August 2002 memo, are the result of two effects, both primarily the result of stress release at the free bluff face. The first is the creation of vertical, bluff-parallel fractures in the dense Eocene bedrock. Mr. Crampton has modeled these fractures by giving the bedrock in the outer 30 feet much lower strength than further in the bluff. Further, the strength is modeled as being weaker in the vertical direction than in the horizontal direction. The second effect is the expansion of the clay layers, and a great reduction in their strength. Mr. Crampton has modeled this effect by giving the clay layer zero cohesion in the outer 30 feet. Mr. Crampton argued that the upper clay layer identified in the core taken at 1264 Neptune Avenue would be the critical layer on which sliding would occur, rather than the lower layer, and so modeled only failure along the upper layer. After much discussion and refinement of model parameters (including the review of an interim model contained in references 9 and 19) I concur with the assumptions Mr. Crampton has made in his modeling as reported in references 10 and 20.

The results of the analysis of the bluff at 1616 Neptune indicate that the bluff, as modeled above, does not possess a minimum factor of safety of 1.5 (static) or 1.1 (pseudostatic). The calculated values are approximately 1.2 and 1.0, respectively, as reported in reference 10. Accordingly, it is necessary to determine where on the bluff face or bluff top the 1.5 and 1.1 factors of safety are obtained. Reference 10 demonstrates that both of these values are obtained seaward of the bluff edge. Because the default setback and the setback needed for long-term bluff retreat is measured from the bluff edge, no additional setback is necessary for slope stability considerations.

The results of the analysis of the bluff at 1264 Neptune indicate that the bluff also does not possess a minimum factor of safety of 1.5 (static) or 1.1 (pseudostatic). The calcu-

lated values in this case are approximately 1.3 and 1.0, respectively, as reported in reference 20. Accordingly, it is necessary to determine where on the bluff face or bluff top the 1.5 and 1.1 factors of safety are obtained. Reference 20 demonstrates that both of these values are obtained seaward of the bluff edge. Because the default setback and the setback needed for long-term bluff retreat is measured from the bluff edge, no additional setback is necessary for slope stability considerations.

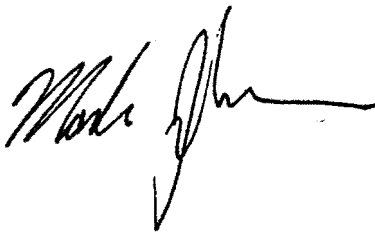
No such analysis has as yet been conducted for 1410 Neptune Avenue. Although the results are likely to be similar, it is not clear whether or not a setback for slope stability considerations is necessary at that site.

The analyses reported in reference 21, which report minimum factors of safety of only 1.1 (static) and 0.7 (pseudostatic) for the bluff at 1244-1252 Neptune Avenue do not include the same assumptions as the modeling reported above. Most important, they assume relatively weak values for the clay seem extending across the entire site. This assumption is not consistent with what we now know about the nature of the clay seem at large (>30 feet) distances within the bluff. Accordingly, the calculated factors of safety likely are much lower than what would be if modeled as above.

At both 1616 and 1264 Neptune Avenue, no setback is necessary for slope stability considerations. Next, it is necessary to establish what setback is necessary for long-term bluff retreat. No site specific data have been provided. In the absence of site-specific data, regional data from the literature may be substituted. As explained in my earlier memos, the current state-of-the-art for establishing bluff retreat rates in this area is a FEMA-funded study done as part of a nationwide assessment of coastal erosion hazards. Data presented in Benumof and Griggs (1999), indicate that the long-term bluff retreat in the general area is from 0.15 to 0.49 feet per year. To allow for accelerated average bluff retreat rates in the future, which are a likely result of any acceleration in the rate of sea level rise, I would recommend establishing a setback on the basis of the larger value (0.49 ft/yr). Given a 75-year design life as mandated by the LCP, about 37 feet of erosion might be expected. To this should be added a buffer of 10 feet to allow for surficial slumping and so that the foundation is not actually being undermined at the end of the 75 years, and to allow for uncertainties in the analysis for a total setback of 47 feet. I note that this distance is somewhat larger than the default 40-foot setback in the LCP. While the full 47 feet might be most desirable from a geotechnical point of view, the default 40-foot setback is probably acceptable for this section of Encinitas (Grandview Stairs to just north of Beacon's Beach; that is, the area underlain by the "Jupiter Siltstone" of Elliott) due to the very gentle slope of the upper bluff, which would cause bluff retreat to be somewhat lower for this area than for the Encinitas as a whole.

I hope that this summary is helpful. Please pass this memo on to the applicants; whose geotechnical consultants should feel free to contact me if they have further questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Johnsson', with a long horizontal flourish extending to the right.

Mark Johnsson, Ph.D., CEG, CHG

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.

Elliott, W. J., in press, Coastal landsliding, Leucadia, California, 41p.

CALIFORNIA COASTAL COMMISSION

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



APPEAL FROM COASTAL PERMIT
DECISION OF LOCAL GOVERNMENT

Please Review Attached Appeal Information Sheet Prior To Completing This Form.

SECTION I. Appellant(s)

Name: Commissioner Patricia McCoy
Mailing Address: 132 Citrus Ave.
Imperial Beach, Ca 91932
Phone Number: (619) 423-0495

RECEIVED

JAN 11 2002

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

SECTION II. Decision Being Appealed

1. Name of local/port government: City of Encinitas
2. Brief description of development being appealed: Demolition of an existing single-story residence and construction of an approximately 3,383 sq. ft. two-story single-family residence, approximately 471 sq. ft. garage and approximately 328 sq. ft. mechanical/storage space on a blufftop lot.
3. Development's location (street address, assessor's parcel no., cross street, etc.):
1264 Neptune Avenue, Encinitas, APN #254-210-18
4. Description of decision being appealed:
 - a. Approval; no special conditions: ☐
 - b. Approval with special conditions: ☒
 - c. Denial: ☐

Note: For jurisdictions with a total LCP, denial decisions by a local government cannot be appealed unless the development is a major energy or public works project. Denial decisions by port governments are not appealable.

TO BE COMPLETED BY COMMISSION:

APPEAL NO: A-6-ENC-02-003

DATE FILED: January 11, 2002

DISTRICT: San Diego

EXHIBIT NO. 6
APPLICATION NO.
A-6-ENC-02-3
Copies of Appeal Applications
Page 1 of 14
California Coastal Commission

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT
Page 2

5. Decision being appealed was made by (check one):

- a. ☐ Planning Director/Zoning Administrator c. ☒ Planning Commission
b. ☐ City Council/Board of Supervisors d. ☐ Other

Date of local government's decision: December 6, 2001

Local government's file number (if any):

SECTION III. Identification of Other Interested Persons

Give the names and addresses of the following parties. (Use additional paper as necessary.)

Name and mailing address of permit applicant:

Craig and Louann Berg
2010 Subida Terrace
Carlsbad, Ca 92008

Names and mailing addresses as available of those who testified (either verbally or in writing) at the city/county/port hearing(s). Include other parties which you know to be interested and should receive notice of this appeal.

SECTION IV. Reasons Supporting This Appeal

Note: Appeals of local government coastal permit decisions are limited by a variety of factors and requirements of the Coastal Act. Please review the appeal information sheet for assistance in completing this section, which continues on the next page.

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT
Page 3

State briefly your reasons for this appeal. Include a summary description of Local Coastal Program, Land Use Plan, or Port Master Plan policies and requirements in which you believe the project is inconsistent and the reasons the decision warrants a new hearing. (Use additional paper as necessary.)

See Attachment A dated Jan. 11, 2002

Note: The above description need not be a complete or exhaustive statement of your reasons of appeal; however, there must be sufficient discussion for staff to determine that the appeal is allowed by law. The appellant, subsequent to filing the appeal, may submit additional information to the staff and/or Commission to support the appeal request.

SECTION V. Certification

The information and facts stated above are correct to the best of my/our knowledge.

Signed: 
Appellant or Agent

Date: 1/11/02

Agent Authorization: I designate the above identified person(s) to act as my agent in all matters pertaining to this appeal.

Signed: _____

Date: _____

Attachment "A"
January 11, 2002

The proposed development involves the demolition of an existing one-story single family blufftop residence and detached garage and construction of an approximately 3,383 sq. ft. two-story single-family residence, approximately 471 sq. ft. garage and approximately 328 sq. ft. mechanical/storage space. The existing single-family is setback approximately 27 feet from the edge of the an approximately 70 foot-high coastal bluff and the proposed residence will be setback approximately 40 feet from the edge of the bluff. The subject site is located on the west side of Neptune Avenue in the Leucadia community of the City of Encinitas. An existing private beach access stairway descends down the bluff face to the beach. There is no indication of any existing shoreline protection devices on or below the subject bluff.

In approving blufftop developments, the City's Local Coastal Program (LCP) requires that the applicant demonstrate that the proposed development will be safe over its lifetime and not require shoreline protection. While the applicant's geotechnical report asserts that the proposed 40 foot setback from the bluff edge is adequate to protect the new development over its lifetime such that no shoreline protection will be necessary, the geotechnical reports do not provide adequate documentation in support of that assertion. The following LUP policies are applicable and state:

PS Policy 1.3: The City will rely on the Coastal Bluff and Hillside/Inland Bluff Overlay Zones to prevent future development or redevelopment that will represent a hazard to its owner or occupants, and which may require structural measures to prevent destructive erosion or collapse.

Policy 1.6: The City shall provide for the reduction of unnatural causes of bluff erosion, as detailed in the Zoning Code, by:

- a. Only permitting public access stairways and no private stairways, and otherwise discouraging climbing upon and defacement of the bluff face; . . .

[. . .]

- f. Requiring new structures and improvements to existing structures to be set back 25 feet from the inland blufftop edge, and 40 feet from coastal blufftop edge with exceptions to allow a minimum coastal blufftop setback of no less than 25 feet. For all development proposed on coastal blufftops, a site-specific geotechnical report shall be required. The report shall indicate that the coastal setback will not result in risk of foundation damage resulting from bluff erosion or retreat to the principal structure within its economic life and with other engineering evidence to justify the coastal blufftop setback.

In addition, Section 30.34.020 (D) of the certified Implementing Ordinances states, in part:

D. APPLICATION SUBMITTAL REQUIREMENTS. Each application to the City for a permit or development approval for property under the Coastal Bluff Overlay Zone shall be accompanied by a soils report, and either a geotechnical review or geotechnical report as specified in paragraph C "Development Processing and Approval" above. Each review/report shall be prepared by a certified engineering geologist who has been pre-qualified as knowledgeable in City standards, coastal engineering and engineering geology. The review/report shall certify that the development proposed will have no adverse affect on the stability of the bluff, will not endanger life or property, and that any proposed structure or facility is expected to be reasonably safe from failure and erosion over its lifetime without having to propose any shore or bluff stabilization to protect the structure in the future. Each review/report shall consider, describe and analyze the following: (Ord. 95-04)

1. Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict unusual geomorphic conditions that might affect the site;
2. Historic, current and foreseeable-cliffs erosion, including investigation or recorded land surveys and tax assessment records in addition to land use of historic maps and photographs where available and possible changes in shore configuration and sand transport;
3. Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joints and faults;
4. Evidence of past or potential landslide conditions, the implications of such conditions for the proposed development, and the potential effects of the development on landslide activity;
5. Impact of construction activity on the stability of the site and adjacent area;
6. Ground and surface water conditions and variations, including hydrologic changes caused by the development e.g., introduction of irrigation water to the ground water system; alterations in surface drainage);
7. Potential erodibility of site and mitigating measures to be used to ensure minimized erosion problems during and after construction (i.e., landscaping and drainage design);

8. Effects of marine erosion on seacliffs and estimated rate of erosion at the base of the bluff fronting the subject site based on current and historical data; (Ord. 95-04)
9. Potential effects of seismic forces resulting from a maximum credible earthquake;
10. **Any other factors that might affect slope stability;**
11. Mitigation measures and alternative solutions for any potential impacts.
[Emphasis Added]

The report shall also express a professional opinion as to whether the project can be designed or located so that it will neither be subject to nor contribute to significant geologic instability throughout the life span of the project. The report shall use a current acceptable engineering stability analysis method and shall also describe the degree of uncertainty of analytical results due to assumptions and unknowns. The degree of analysis required shall be appropriate to the degree of potential risk presented by the site and the proposed project. .

In the past several years, due to a number of factors, the City and Coastal Commission have been faced with a growing number of requests for permits to construct shore and bluff protection devices to protect existing blufftop development along the Encinitas coast. The applicant's geotechnical report identifies that a visual inspection of the bluff fronting the proposed development consists of an approximately 25 ft.-high sea cliff made up of Ardath Shale with approximately 50 feet of overlaying Terrace Deposits. No borings were performed into the bluff to determine if the site contains any potential zones of weakness such as clay seams. However, approximately four blocks south of the proposed development site, on bluffs with very similar geologic conditions, a series of landslides have occurred in recent years which have threatened the residences at the top of the bluff resulting in numerous emergency permits for construction of seawalls and upper bluff protective devices. The bluffs appear to have failed along a clay seam located within the Ardath Shale. Failure occurred when the effective stress at the level of the clay seam was reduced due to groundwater and resulted in a slide of the overlaying Ardath Shale and Terrace Deposits. However, the geotechnical investigation relied on by the City in its review of the subject development failed to perform work necessary to determine if a similar clay seam or any other landslide feature exists within the subject bluff. Without such a documentation, it is not known if the proposed 40 foot bluff top setback will be adequate to protect the residence over its lifetime without requiring shoreline protection.

In addition, the geologic report based the 40 foot setback in part on an erosion rate cited from a 1976 publication. It is not clear that this erosion rate applied specifically to the area

of the subject site, nor how the rate was calculated. Because the quoted rate is from a publication now over 25 years old, it could not have taken into account either the recent increase in severity of winter storms (especially the 1983-84 and 1997-98 El Ninos), nor recent advances in methodologies for determining long-term erosion rates of coastal bluffs.

Based on the above cited LCP provisions, new development must be supported by a geotechnical review that looks at a number of factors that include an evaluation of current and historical erosion rates for the site and the potential for landslides. While the report relied on by the City suggests that new development can be supported on the subject site with a 40 ft. setback, the basis for this recommendation has failed to adequately determine an erosion rate based on current information and the potential for landslides at the site as required by the LCP. Therefore, it is not clear if new development can be sited with a bluff setback of 40 feet without requiring shoreline protection.

In addition, as noted above, there is an existing private access stairway on the face of the bluff. In its review, the City did not determine whether the stairway on the face of the bluff predates the Coastal Act, or find that the stairs were legal nonconforming structures. The Commission has no record of coastal permits for the construction of the stairways at this location. As cited above, the City's LCP specifically prohibits private access stairways on the face of the bluff. Thus, the legal status of these structures must be addressed and their consistency with the certified LCP.

CALIFORNIA COASTAL COMMISSION

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



APPEAL FROM COASTAL PERMIT
DECISION OF LOCAL GOVERNMENT

Please Review Attached Appeal Information Sheet Prior To Completing This Form.

SECTION I. Appellant(s)

Name: Commissioner Sara Wan
Mailing Address: 22350 Carbon Mesa Road
Malibu, Ca 90265
Phone Number: (310) 456-6605

RECEIVED

JAN 11 2002

CALIFORNIA
COASTAL COMMISSION
SAN DIEGO COAST DISTRICT

SECTION II. Decision Being Appealed

1. Name of local/port government: City of Encinitas
2. Brief description of development being appealed: Demolition of an existing single-story residence and construction of an approximately 3,383 sq. ft. two-story single-family residence, approximately 471 sq. ft. garage and approximately 328 sq. ft. mechanical/storage space on a blufftop lot.
3. Development's location (street address, assessor's parcel no., cross street, etc.):
1264 Neptune Avenue, Encinitas, APN #254-210-18
4. Description of decision being appealed:
 - a. Approval; no special conditions: ☐
 - b. Approval with special conditions: ☒
 - c. Denial: ☐

Note: For jurisdictions with a total LCP, denial decisions by a local government cannot be appealed unless the development is a major energy or public works project. Denial decisions by port governments are not appealable.

TO BE COMPLETED BY COMMISSION:

APPEAL NO: A-6-ENC-02-003

DATE FILED: January 11, 2002

DISTRICT: San Diego

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT
Page 2

5. Decision being appealed was made by (check one):

- a. ☐ Planning Director/Zoning Administrator c. ☒ Planning Commission
b. ☐ City Council/Board of Supervisors d. ☐ Other

Date of local government's decision: December 6, 2001

Local government's file number (if any):

SECTION III. Identification of Other Interested Persons

Give the names and addresses of the following parties. (Use additional paper as necessary.)

Name and mailing address of permit applicant:

Craig and Louann Berg
2010 Subida Terrace
Carlsbad, Ca 92008

Names and mailing addresses as available of those who testified (either verbally or in writing) at the city/county/port hearing(s). Include other parties which you know to be interested and should receive notice of this appeal.

SECTION IV. Reasons Supporting This Appeal

Note: Appeals of local government coastal permit decisions are limited by a variety of factors and requirements of the Coastal Act. Please review the appeal information sheet for assistance in completing this section, which continues on the next page.

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT
Page 3

State briefly your reasons for this appeal. Include a summary description of Local Coastal Program, Land Use Plan, or Port Master Plan policies and requirements in which you believe the project is inconsistent and the reasons the decision warrants a new hearing. (Use additional paper as necessary.)

See Attachment A dated 1/11/02

Note: The above description need not be a complete or exhaustive statement of your reasons of appeal; however, there must be sufficient discussion for staff to determine that the appeal is allowed by law. The appellant, subsequent to filing the appeal, may submit additional information to the staff and/or Commission to support the appeal request.

SECTION V. Certification

The information and facts stated above are correct to the best of my/our knowledge.

Signed: *[Signature]*
Appellant or Agent

Date: *1/11/02*

Agent Authorization: I designate the above identified person(s) to act as my agent in all matters pertaining to this appeal.

Signed: _____

Date: _____

Attachment "A"
January 11, 2002

The proposed development involves the demolition of an existing one-story single family blufftop residence and detached garage and construction of an approximately 3,383 sq. ft. two-story single-family residence, approximately 471 sq. ft. garage and approximately 328 sq. ft. mechanical/storage space. The existing single-family is setback approximately 27 feet from the edge of the an approximately 70 foot-high coastal bluff and the proposed residence will be setback approximately 40 feet from the edge of the bluff. The subject site is located on the west side of Neptune Avenue in the Leucadia community of the City of Encinitas. An existing private beach access stairway descends down the bluff face to the beach. There is no indication of any existing shoreline protection devices on or below the subject bluff.

In approving blufftop developments, the City's Local Coastal Program (LCP) requires that the applicant demonstrate that the proposed development will be safe over its lifetime and not require shoreline protection. While the applicant's geotechnical report asserts that the proposed 40 foot setback from the bluff edge is adequate to protect the new development over its lifetime such that no shoreline protection will be necessary, the geotechnical reports do not provide adequate documentation in support of that assertion. The following LUP policies are applicable and state:

PS Policy 1.3: The City will rely on the Coastal Bluff and Hillside/Inland Bluff Overlay Zones to prevent future development or redevelopment that will represent a hazard to its owner or occupants, and which may require structural measures to prevent destructive erosion or collapse.

Policy 1.6: The City shall provide for the reduction of unnatural causes of bluff erosion, as detailed in the Zoning Code, by:

- a. Only permitting public access stairways and no private stairways, and otherwise discouraging climbing upon and defacement of the bluff face; . . .

[. . .]

- f. Requiring new structures and improvements to existing structures to be set back 25 feet from the inland blufftop edge, and 40 feet from coastal blufftop edge with exceptions to allow a minimum coastal blufftop setback of no less than 25 feet. For all development proposed on coastal blufftops, a site-specific geotechnical report shall be required. The report shall indicate that the coastal setback will not result in risk of foundation damage resulting from bluff erosion or retreat to the principal structure within its economic life and with other engineering evidence to justify the coastal blufftop setback.

In addition, Section 30.34.020 (D) of the certified Implementing Ordinances states, in part:

D. APPLICATION SUBMITTAL REQUIREMENTS. Each application to the City for a permit or development approval for property under the Coastal Bluff Overlay Zone shall be accompanied by a soils report, and either a geotechnical review or geotechnical report as specified in paragraph C "Development Processing and Approval" above. Each review/report shall be prepared by a certified engineering geologist who has been pre-qualified as knowledgeable in City standards, coastal engineering and engineering geology. The review/report shall certify that the development proposed will have no adverse affect on the stability of the bluff, will not endanger life or property, and that any proposed structure or facility is expected to be reasonably safe from failure and erosion over its lifetime without having to propose any shore or bluff stabilization to protect the structure in the future. Each review/report shall consider, describe and analyze the following: (Ord. 95-04)

1. Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict unusual geomorphic conditions that might affect the site;
2. Historic, current and foreseeable-cliffs erosion, including investigation or recorded land surveys and tax assessment records in addition to land use of historic maps and photographs where available and possible changes in shore configuration and sand transport;
3. Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joints and faults;
4. Evidence of past or potential landslide conditions, the implications of such conditions for the proposed development, and the potential effects of the development on landslide activity;
5. Impact of construction activity on the stability of the site and adjacent area;
6. Ground and surface water conditions and variations, including hydrologic changes caused by the development e.g., introduction of irrigation water to the ground water system; alterations in surface drainage);
7. Potential erodibility of site and mitigating measures to be used to ensure minimized erosion problems during and after construction (i.e., landscaping and drainage design);

8. Effects of marine erosion on seacliffs and estimated rate of erosion at the base of the bluff fronting the subject site based on current and historical data; (Ord. 95-04)
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