

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
27-4863



W12b

STAFF REPORT: APPEAL SUBSTANTIAL ISSUE AND DE NOVO HEARING

Filed: 03/25/99
49th day: 05/13/99
180th day: 09/21/99
Staff: SG
Staff report: 06/22/99
Hearing date: 07/14/99
Previous Commission
Action:
Open & continue: 05/13/99

Appeal Number A-3-PSB-99-026
Applicant Antone and Katherine Zaninovich
Appellants Commissioners Wan and Nava
Local Government City of Pismo Beach
Local Decision On February 9, 1999, the Planning Commission approved with conditions the demolition of an existing single family dwelling and the construction of a new single family dwelling on the same lot.
Project Location 307 Indio Drive, Pismo Beach, San Luis Obispo County (APN: 010-192-06)
Project Description 1) Demolition of a 2982 square foot single family residence located approximately eight to ten feet from the bluff edge of an ocean fronting lot and 2) the construction of a new 5169 square foot single family residence on the lot set back 29 feet from the bluff edge.
File Documents City of Pismo Beach Permit 98-120, City of Pismo Beach certified Local Coastal Program
Staff Recommendation Approval with Conditions

Staff Summary

On May 13, 1999, the Commission opened and continued the hearing on this appeal because the applicant had additional geologic information that had not been included with the file and that staff had not yet received in time to include it in an analysis of the project. The substantial issue hearing has been postponed at the request of the applicant pending staff's receipt of the additional geologic information. The information, in the form of a letter from the engineering

geologist to the project architect, and dated September 29, 1998, was received by Commission staff on June 14, 1999.

The project is located on an ocean fronting lot near the northern end of the City of Pismo Beach. The existing house is approximately eight to ten feet from the edge of the bluff. As approved by the Planning Commission, the proposed new house would be located 29 feet from the bluff edge (25 feet from the landward margin of an undercut portion of the bluff). The City's LCP requires that new houses be set back "a safe distance from the top of the bluff in order to retain the structures for a minimum of 100 years." Based on the original geologic report's estimated erosion rate of four inches per year, and the 100-year requirement, the house should be setback a minimum of 33 feet. The Planning Commission's decision was apparently based on the geologist's addendum letter wherein the geologist recommended changing the average erosion rate from four inches per year to three inches per year. Based on a structure's 100 year lifespan, an erosion rate of three inches per year would equal a setback of 25 feet. However, the supplemental geological analysis does not adequately support a reduction in the erosion rate as originally established. In addition, an evaluation of other projects in the vicinity of this project reveals that even the four inch/year erosion rate is likely a best case scenario. To address the shoreline hazard policy requirements of the LCP, particularly the requirement that new development not be allowed if it would require future shoreline protection, the development setback should be based on at least the original four inch per year erosion rate. Moreover, simply setting the new structure back to the projected 100 year erosion line does not necessarily guarantee structural stability for 100 years. **Staff recommends, therefore, that the Commission find that substantial exists, and the coastal development permit be approved with conditions that (1) require the house to be set back a minimum of 33 feet from the bluff edge to account for the estimated erosion over a 100 year period, plus an additional buffer, based on a supplemental site-specific-geological report, of a sufficient distance to ensure that the residential development approved under this permit will not need any shoreline protection for a 100-year lifespan, as required by the LCP; and (2) that future shoreline protection for the project approved herein be prohibited.**

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I. SUMMARY OF APPELLANT'S CONTENTIONS

Appellants Wan and Nava contend that the City's approval is inconsistent with the certified LCP for the following reasons (refer to Exhibit 1 for the full text):

Land Use Plan Safety Element Policy S-3 and Section 17.078.050(1) of the Zoning Ordinance together require 1) that structures be set back a safe distance from the blufftop in order to retain the structures for a minimum of 100 years and 2) a minimum setback of 25 feet from the blufftop with the possibility of a greater setback based on a geologic investigation. The City-approved project would be set back 29 feet, based on a time span of 75 years rather than 100 years as required by the LCP.

Section 17.078.060(5) of the certified Zoning Ordinance does not permit new development where it is determined that shoreline protection will be necessary for protection of the new structures now or in the future based on a 100 year geologic projection. The location of the City-approved project was based on a 75 year geologic projection, meaning that shoreline protection would be

necessary 25 years sooner than if the structure's location was based on a 100 year geologic projection.

II. LOCAL GOVERNMENT ACTION

On February 9, 1999, the City of Pismo Beach Planning Commission granted a coastal development permit for the demolition of a 2982 square foot single family residence and the construction of a new 5169 square foot single family residence on a bluff top lot in the northern portion of the City. A geologic investigation was performed that concluded that the average annual erosion rate at the site is 4 inches per year. The investigation recommended a setback of 25 feet from the bluff top and 25 feet from the landward end of the four foot depth of the undercut part of the bluff, sufficient to protect the structure for a period of 75 years (4 inches x 75yrs = 300 inches; $300 \div 12 \text{ inches} = 25 \text{ feet}$).

A subsequent addendum letter from the geologist recommended changing the erosion rate from four inches to three inches per year. Based on that addendum letter, the Planning Commission accepted the reduced erosion rate and established a setback based on three inches per year rather than four inches per year and required that the house be set back 25 feet from the most landward portion of the bluff.

III. STANDARD OF REVIEW FOR APPEALS

Coastal Act section 30603 provides for the appeal of approved coastal development permits in jurisdictions with certified local coastal programs for development that is (1) between the sea and the first public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tideline of the sea where there is no beach, whichever is the greater distance; (2) on tidelands, submerged lands, public trust lands, within 100 feet of any wetland, estuary, or stream, or within 300 feet of the top of the seaward face of any coastal bluff; (3) in a sensitive coastal resource area; (4) for counties, not designated as the principal permitted use under the zoning ordinance or zoning district map; and (5) any action on a major public works project or energy facility. This project is appealable because the lot is between the sea and the first public road paralleling the sea.

The grounds for appeal under section 30603 are limited to allegations that the development does not conform to the standards set forth in the certified local coastal program or the public access policies of the Coastal Act. Section 30625(b) of the Coastal Act requires the Commission to conduct a de novo coastal development permit hearing on an appealed project unless a majority of the Commission finds that "no substantial issue" is raised by such allegations. Under section 30604(b), if the Commission conducts a de novo hearing, the Commission must find that the proposed development is in conformity with the certified local coastal program. Section 30604(c) also requires an additional specific finding that the development is in conformity with the public access and recreation policies of Chapter Three of the Coastal Act, if the project is located between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone. This project is located between

the nearest public road and the sea and thus, this additional finding must be made in a de novo review in this case.

The only persons qualified to testify before the Commission on the substantial issue question are the applicant, persons who made their views known before the local government (or their representatives), and the local government. Testimony from other persons regarding substantial issue must be submitted in writing. Any person may testify during the de novo stage of an appeal.

IV. STAFF RECOMMENDATION ON SUBSTANTIAL ISSUE AND COASTAL DEVELOPMENT PERMIT

A. Staff recommendation on Substantial Issue:

Staff recommends that the Commission, after public hearing, determine that a substantial issue exists with respect to the grounds on which the appeal has been filed, because the City has approved the project in a manner that is inconsistent with the certified Local Coastal Program.

MOTION: *I move that the Commission determine that Appeal No. A-3-PSB-99-026 raises **NO** substantial issue with respect to the grounds on which the appeal has been filed.*

Staff recommends a **NO** vote on the preceding motion. This would result in a finding of substantial issue and bring the project under the jurisdiction of the Commission for hearing and action. To pass the motion, a majority of the Commissioners present is required.

B. Staff Recommendation on Coastal Development Permit:

Staff recommends that the Commission, after public hearing, approve the proposal as conditioned.

MOTION: *I move that the Commission approve Coastal Development Permit Number A-3-PSB-99-026 subject to the conditions below and that the Commission adopt the resolution of Approval with Conditions.*

Staff recommends a **YES** vote on the preceding motion. This would result in approval of the project as conditioned. A majority of the Commissioners present is required to pass the motion and adopt the following resolution:

Approval with Conditions

The Commission hereby grants a permit for the proposed development, subject to the conditions below, on the grounds that, as conditioned, the development will be in

conformity with the certified Local Coastal Program of the City of Pismo Beach, will be consistent with the public access and recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

V. RECOMMENDED CONDITIONS

A. Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date this permit is voted on by the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the project during its development, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

B. Special Conditions

1. Project Authorized

This permit authorizes the demolition of an existing single family dwelling and the construction of a new single family dwelling consistent with the revised plans required by Special Condition No. 3, below.

2. Development Setback Buffer

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, permittee shall submit to the Executive Director for review and approval two copies of a supplemental site-specific geological report that shall establish a development setback buffer landward of the minimum 100 year erosion setback for the purpose of assuring structural stability for a minimum of 100 years as required by LUP Policy S-3 and Zoning Ordinance Sections 17.078.050(1) and 17.078.060(5).

3. Revised Plans

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, permittee shall submit to the Executive Director for review and approval two copies of revised plans showing all proposed structures setback a minimum of 33 feet from the bluff edge or the landward extent of the undercut portion of the bluff, whichever is more landward, plus the buffer distance established by the supplemental geological report required by Special Condition No. 2 above.

4. City Approval

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, permittee shall provide the Executive Director with evidence that the revised plans have been reviewed and approved by the City of Pismo Beach.

5. Effect on City Conditions

This Coastal Commission action has no effect on conditions imposed on the project by the City of Pismo Beach pursuant to an authority other than the California Coastal Act.

6. Assumption of Risk/Shoreline Protection Prohibition

PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant as landowner shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide that:

- a) the applicant acknowledges and agrees that the site may be subject to hazards from waves and erosion;
- b) the applicant acknowledges and agrees 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;

- c) the applicant unconditionally waives any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards;
- d) the applicant agrees 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;
- e) the applicant agrees that any adverse impacts to property or life caused by the permitted project shall be fully the responsibility of the landowner;
- f) the applicant shall not construct, now or in the future, any shoreline protective device(s) for the purpose of protecting the residential development approved pursuant to coastal development permit A-3-PSB-99-026, including, but not limited to, foundations, at-grade patios, planters, fences, or decks, in the event that these structures are threatened with imminent damage or destruction from waves, erosion, storm conditions, or other natural hazards.

The document 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 Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

VI. FINDINGS AND DECLARATIONS

A. LCP Background

The City's LCP is composed of two documents, the Land Use Plan and the Zoning Ordinance. The Land Use Plan was comprehensively revised in 1992. Last year, the City submitted to the Commission the first comprehensive Zoning Ordinance revision since certification in 1983. Commission and City staffs have and are continuing to discuss suggested changes to the submitted document and it is expected that the revised Zoning Ordinance will come before the Commission in July.

B. Substantial Issue Findings

Appellants Wan and Nava contend that the City's approval is inconsistent with the geological setback policies of the LCP. Please see Exhibit 1 for the complete text of the appellants' contentions.

Land Use Plan Safety Element Policy S-3 and Section 17.078.050(1) of the Zoning Ordinance each contain two bluff top setback standards that apply to this lot. First, all structures are to be

set back a safe distance from the top of the bluff in order to retain the structures for a minimum of 100 years. Second, the minimum bluff setback for lots subdivided prior to January 23, 1981, is 25 feet, and a geologic investigation may be required that could result in a setback greater than 25 feet. Section 17.078.060(5) of the certified Zoning Ordinance does not permit new development where it is determined that shoreline protection will be necessary for protection of new structures now or in the future based on a 100 year geologic projection.

The subject lot was subdivided prior to January 23, 1981 and so requires a minimum setback of 25 feet, with the possibility of a greater setback based on a geologic investigation. A geologic investigation, which was performed in November 1997 by Gary Mann and Ron Church of Geo Source Incorporated, established a bluff setback based on an average erosion rate of four inches per year (see Exhibit 3 for the entire report).

Based upon field observation, pertinent literature, and other bluff stability studies in the area, a bluff retreat rate of 6 to 12 inches per year is assumed for the marine terrace deposits, and 4 inches for the shaley beds of the Monterey Formation. It should be noted that the assumed bluff retreat rates are considered an "average," whereas in nature, erosional process (sic) are often episodic and irregular. Short-term (yearly) bluff retreat rates may vary significantly from the long-term average. Due to the predominance of the interbedded opaline siltstone, sandstone, and hard porcelanite of unit Tmp of the Monterey Formation in the tidal zone of the bluff, which are somewhat harder than the more shaley units in the formation, and the anticipated wave run-up height, a bluff setback was established using a retreat rate of four inches per year.

The report concluded that

The bluff at the site appears to be actively retreating at an average rate of 4 inches per year. This information is based on our review of a San Luis Obispo County Parcel Map of Lot 5, Block 16, Tract Number 57, El Pismo Manor Number 1, dated August, 1950, and from the geologic reconnaissance. Based on a typical 75-year lifespan of use of the residence, and a retreat rate of four inches per year, a 25-foot setback measured from the top-of-bluff, and depth of undercutting landward of the top-of-bluff is required for this property. The top of the marine terrace deposits should be considered as the top-of-bluff for planning purposes at the present time, with a slight additional setback measure from the landward margin of the undercut.

The undercut portion of the bluff lies midway between the side lot lines. The landward margin of the undercut portion of the bluff is about four feet landward of the edge of the bluff. Measuring from that point would result in a setback of 29 feet from the edge of the blufftop for structures located midway between the side lot lines (blufftop erosion based setback of 25 feet plus four feet for depth of undercut portion), while structures nearer the side lot lines would only have to setback 25 feet from the edge of the blufftop. Assuming that the four inches per year erosion rate holds over time, this would protect the structure for a period of 75 years.

A subsequent addendum letter from Geo Source, dated September 29, 1998, (see Exhibit 4) for "clarification of the retreat rate and setback distance" stated:

The rates measured varied from less than 3 inches to approximately 4 inches per year depending on the materials encountered and the wave action. We selected the more liberal rate of 4-inches per year to reflect the erosional characteristics of the surface Quaternary Terrace deposits. However, these Quaternary Terrace deposits are of minor thickness and are covered with vegetation indicating they are stable. In addition, the rate was calculated from the base of the undercut rather than the seaward edge of the top of the bluff. If the rate was recalculated using the seaward edge, the retreat rate would be less than 3-inches per year.

In conclusion, since the site has only a minor amount (sic) the higher retreat rate materials and the majority of the bluff is composed of erosion resistant units of the Monterey Formation a bluff retreat rate of 3-inches per year would be a more applicable rate to establish the setback distance.

The Planning Commission required a setback of 29 feet across the entire width of the property. Based on a retreat rate of three inches per year, a 100 year setback would equal 25 feet. The Planning Commission's action apparently was based on the retreat rate of three inches as recommended in the geologist's addendum letter, rather than the four inches originally used, and was measured from the landward margin of the undercut portion of the bluff, approximately four feet landward of the bluff face.

The addendum letter states that the more liberal four inch per year rate reflects the erosional characteristics of the surface material, which is of minor thickness and apparently stable because it is vegetated and indicates that partly because of that and because the lower bluff materials are more erosion resistant, a retreat rate of only three inches is "a more applicable rate to establish the setback distance. However, it is this very surface material that would support the house and through which water, sewer, and gas lines would be placed. It seems imperative to establish an erosion rate based on this most erosion-prone material. Additionally, while the presence of vegetation may indicate that the terrace deposits are relatively stable, they are also relatively easily erodible.

In addition, as discussed in more detail in the de novo findings, there is a considerable uncertainty associated with the geological analyses in the vicinity of the project. Here, the geologic report established an overall average erosion rate of four inches per year based on the particular rates "of 6 to 12 inches per year. . .for the marine terrace deposits, and 4 inches for the shaley beds of the Monterey Formation." The addendum letter is not convincing in its attempt to establish a lesser overall estimated erosion rate, and it is not clear why the 4 inch per year rate, already a low estimate according to the original geologic report, should be further reduced. Thus, it is not clear that the "best case" assumption of a three inch per year erosion rate is appropriate. Moreover, even if this rate were correct, setting the new structure exactly on the projected 100 year erosion line does not necessarily guarantee structural stability for 100

years. Damage to structures typically occurs, and shoreline protection devices are typically approved, well before a bluff edge has retreated right up to a structure. Based on the original geological report and these other considerations, the City's action raises a substantial issue with the certified LCP. Policy S-3 states that the minimum setback for blufftop development is 25 feet but that "a greater setback may be applied as the geologic study would warrant." Section 17.078.050(1) similarly requires a minimum 25 foot setback but that "a greater setback may be applied if local conditions warrant." To be consistent with Policy S-3 and Section 17.078.050(1), the minimum required development setback with a 4 inch per year erosion rate is 33 feet ($100 \text{ years} \times .33 \text{ feet [4 inches]} = 33 \text{ feet}$), rather than 25 feet or 29 feet. The City-approved location of the house 29 feet from the current bluff edge at the estimated erosion rate would give the house only 88 years of protection ($29 \text{ feet} \div .33 = 87.8$). Thus, this action would also allow new development where a geologic projection indicates that shoreline protection may be necessary to protect the development in 88 years. In addition, there is no discussion of or permit condition prohibiting future shoreline protection or otherwise requiring use of non-shoreline structure alternatives for protecting the proposed house from future potential bluff erosion. This is inconsistent with the requirement of Section 17.078.060(5) that no new development be allowed where a geologic projection indicates that shoreline protection will be necessary within 100 years to protect the development.

Therefore, a substantial issue is raised regarding the consistency of the City's approval with LUP Policy S-3 and Zoning Ordinance Sections 17.078.050(1) and 17.078.060(5).

C. Findings for De Novo Hearing and Approval of a Revised Project

1. Geology and Setback from Bluff

The certified Local Coastal Program (LCP) of the City of Pismo Beach contains specific policies and standards for the purpose of ensuring the safety of structures built on ocean fronting lots. These LCP requirements were adopted in response to the Coastal Act's policies for the protection of the marine environment and policies regarding general development. Coastal Act Section 30235 permits "seawalls. . .when required to. . .protect existing structures. . .in danger from erosion. . . ." Section 30253 requires that new development not "in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs." The City's LCP narrows the requirements of Section 30253 by requiring new structures to be set back a sufficient distance so that they won't be endangered by erosion for a minimum of 100 years.

Geologic studies are critical to the implementation of the LCP geological hazards requirements. In this case, an initial investigation was prepared that established a four inch per year erosion rate, followed by a supplemental letter that adjusted the projected erosion rate to three inches per year. Although an initial professional judgment or recommendation may often be modified if further information becomes available, the history of geologic reports and recommendations regarding erosion rates and bluff setbacks in the Pismo Beach area encourages a cautious approach to acceptance of estimated erosion rates and established setbacks.

For example, in 1983 the Commission approved an addition on the bluff side of the Gustafson house at 107 Indio Drive, 14 lots downcoast from the Zaninovich parcel (4-83-479). That file indicates that the addition would be located within 25 feet of the bluff edge but "would not extend seaward of the existing porch." Although there is no geological report in the file, correspondence to the applicant states

We would note that with the recent storms the past few years the bluff retreat in Pismo Beach has exceeded the rates projected by geologists and as a result homes which were constructed utilizing the recommended 25 foot bluff set-back have had to be protected with emergency and permanent seawall and retaining devices.

In 1997 a geology report was prepared by Tom Wooley for a proposed seawall at this same site (Gustafson, A-3-PSB-98-062, denied). That report stated that "[t]he marine bluff below Lot 6 is presently eroding at an estimated rate of 6 to 12 inches per year. This rate will hazard the residence in 20 years or less." Marine terrace deposits make up the upper part of the bluff at the Gustafson site as at the Zaninovich site. The lower part of the bluff subject to wave attack at the Gustafson site is the Obispo formation while at the Zaninovich site the lower part of the bluff is the Monterey formation, so the erosion rates for the lower part of the bluffs are not directly comparable. The important point, though, is the level of uncertainty regarding erosion rates in the geological reports.

The 1975 geology report by Monte Ray for the Shelter Cove Lodge three miles downcoast from the Zaninovich parcel stated

Based on the investigations and data reviewed to date, it appears that an average rate of cliff erosion. . . would be about 2 inches per year in the resistant bedrock materials. Extending this indicates a period of 60 years would be required for waves to erode 10 feet into the base of the cliff.

The Shelter Cove Lodge was constructed in 1986. Yet in 1998, a mere 12 years later, erosion of a sea cave near the southern end of the property had reached a point where the structures there were becoming endangered and the Commission issued a permit (A-3-PSB-98-097) for the construction of a seawall.

Approximately one mile downcoast from the Zaninovich parcel is the Cliffs Hotel. The erosion rate estimated at the time of the hotel application in 1983 (4-83-490) was three inches per year. In a 1996 appeal of a City-approved permit for a revetment (A-3-PSB-96-100, denied), the erosion rate was estimated at between 4.5 inches (northern section of bluff) to 13 inches (southern section of bluff). In 1998, a geotechnical report for the Cliffs Hotel estimated erosion at 4 feet per year (A-3-PSB-98-049 and 4-83-490-A1).

Another, non-Pismo Beach, example is the recent seawall proposal on the northern coast of San Luis Obispo County, at San Simeon Acres (La Playa San Simeon Homeowner's Assn., A-3-SLO-99-019, pending). The staff report for the original apartment development (4-86-236)

states

The applicant's geotechnical consultant indicates that the subject parcel experiences an average bluff retreat of 4 inches per year. . . With the assumed 4 inch per year retreat rate for the bluff, the proposed 25 ft. blufftop development setback would yield a life span for the structure of 75 years. The consultant concludes that bluff protection devices, i.e., rip-rap, seawalls, etc., will not be necessary in the foreseeable future.

Yet, in 1998, only 12 years after the geology report concluded that a setback based on a retreat rate of four inches per year was adequate to assure the safety of the structure, the County approved a seawall on the same site to protect the structure from continuing bluff erosion. The March 19, 1998 geologic bluff study by Earth Systems Consultants states that the average bluff retreat rate is "almost five inches per year" or an inch more than the earlier estimate.

Thus there is a wide variety of estimated erosion rates and a large inherent uncertainty about "safe" setbacks in geology reports prepared at different times for the same sites along a three mile section of the northern coast of Pismo Beach and for the one site mentioned on the northern coast of San Luis Obispo County. Some of the variety may be due to differing geological formations or review of erosion over differing time periods. At the same time, the Commission is increasingly confronting situations where earlier geological studies that established "safe" setbacks, are being revised upwards to support the need for shoreline protection. Some of these changes may be based on new information, or increased experience. Regardless, this experience highlights the considerable uncertainty embedded in these geological studies. In light of this, the Commission does not find the conclusion of the addendum letter, that the erosion rate on the subject site should be reduced from four to three inches per year, to be convincing. The Commission finds that the setback on this parcel must be based at a minimum on an estimated average retreat rate of four inches per year.

As discussed above in the Substantial Issue findings, the erosion rate initially established for this site is four inches per year. Over a 100 year period, an erosion rate of four inches per year would result in 33 feet of erosion. Thus, a new structure on this site should be set back a minimum of 33 feet from the bluff edge. Because of the undercutting of a portion of the bluff, the 33 foot setback should be measured from the landward edge of the undercut portion; otherwise the setback would be less than the projected amount of erosion over a 100 year period. However, the City approved the proposal with a setback of only 25 feet from the undercut portion of the bluff (29 feet from the bluff top edge). This is inconsistent with Policy S-3 which requires a setback based on 100 years.

The minimum setback of 33 feet, though, is also probably not enough to ensure the safety of a new house on this site for 100 years worth of erosion, as required by the LCP. The house will become endangered by erosion well before 100 years have passed (or the equivalent amount of erosion has occurred). This is because by the time 100 years of erosion has occurred, the seaward edge of the house will be at the bluff edge. Almost assuredly damage to the house would have already occurred (e.g., cracking of foundation and skewing of the frame resulting in

breakage of water, sewer, and gas pipes, and inability to open and close doors and windows) and/or the Building Official would have "red-tagged" the house indicating its uninhabitable status due to the damage and/or because of the danger of parts or all of it falling to the beach. Thus it is necessary to set back the house a somewhat greater distance than the 33 feet projected by the geological information in order to ensure its safety for 100 years.

At present it is unknown just how much more beyond 33 feet landward a new house on this site ought to be located to ensure its safety for 100 years. The existing house is no more than 10 feet back from the bluff edge and apparently has as yet suffered no damage. In other cases, signs of damage may be seen where the distance from an existing structure to the bluff edge is somewhat more. Fifteen feet is probably a reasonable buffer amount to set back from the 100 year setback, to truly allow for 100 years worth of erosion that does not endanger the structure. However, just as the 100 year setback is a site-specific figure based on site-specific geology, the buffer amount will also be based on site-specific geology. Therefore this permit is conditioned to require a site-specific, geologically based estimate of a buffer amount to be added to the 33 foot bluff edge/bluff undercut setback in order to ensure that after 100 years worth of erosion, a new structure on this lot will still be safe from erosion.

Finally, Section 17.078.060(5) states:

New development shall not be permitted where it is determined that shoreline protection will be necessary for protection of the new structures now or in the future based on a 100 year geologic projection.

The purpose of this section is to insure that new development will not require the installation of shoreline protection for the its economic life (in this case assumed to be 100 years) and, more broadly, to effectuate the Coastal Act section 30253 policy goal of avoiding shoreline protection construction for new development. Given the inherent geologic uncertainty as well as significant risks associated with blufftop development, further assurance that no future shoreline protection will be required on this site is needed to meet the requirement of section 17.078.060(5). The subject lot is one of 33 blufftop lots along Indio Drive in Pismo Beach. At least six of these lots have seawalls, generally south of this project, and at least two were approved by the Commission (see Hudson, A-3-PSB-93-070; Conroy, A-3-PSB-97-015). The Commission recently denied a seawall proposed for Gustafson (A-3-PSB-98-062). There are no seawalls on the parcels adjacent to the subject lot. Thus, although the shoreline in this area is generally retreating, it is not a case where the majority of the developed coast is already armored, such as portions of the City of Capitola or the Live Oak section of Santa Cruz County. Rather, existing seawalls are limited and far between. In contrast to areas where armoring is extensive, and completion or filling of gaps of existing shoreline protective works could possibly make sense under certain circumstances (e.g., to mitigate erosional end effects), a compelling need for a future seawall at this location is not foreseeable for the life of the project if it is setback appropriately. In light of this fact, and the need to assure structural stability without future shoreline protection, this permit is conditioned to require the applicant to record a deed restriction that (1) addresses the assumption of risk from hazards associated with waves and erosion and that (2) prohibits construction of any shoreline protective device(s) for the purpose

of protecting the development authorized by this permit. Therefore, the Commission finds that the project, as conditioned, is consistent with the City of Pismo Beach certified Local Coastal Program.

2. Access

Coastal Act Section 30212 states that

- (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,

LUP Policy PR-22 states that

For all developments on parcels located along the shoreline, a lateral public access easement in perpetuity extending from the oceanside parcel boundary to the top of the bluff shall be required for the purpose of allowing public use and enjoyment of dry sandy and rocky beaches, intertidal and subtidal areas.

The City's staff report says that City Condition A.6 implements Policy PR-22. However, Condition A.6 is shown struck through, indicating it was deleted and is followed by a parenthetical note that the condition was amended by the Planning Commission on 2/9/99. This appears to be inconsistent with the LCP. Notwithstanding the LCP access requirement, none is needed here because when this area was subdivided in the 1950s, it was in unincorporated San Luis Obispo County and lateral access was dedicated to the County, as indicated on the Assessor's Parcel Maps for the area. Therefore, the City's action relative to public access is consistent with LUP Policy PR-22 and Coastal Act Section 30212.

VII. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of 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 effects which the activity may have on the environment. The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary for Resources as being the functional equivalent of environmental review under CEQA. Accordingly, the Commission finds that the project as proposed could have significant adverse effects on the environment within the meaning of CEQA; that there are feasible alternatives which would significantly reduce the project's adverse effects; and, accordingly, only as conditioned can a finding of conformance with CEQA requirements be made.

CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE

25 FRONT STREET, SUITE 300

SANTA CRUZ, CA 95060

(408) 427-4863

APPEAL FROM COASTAL PERMIT
DECISION OF LOCAL GOVERNMENT

RECEIVED

MAR 24 1999

Please review attached appeal information sheet prior to completing this form.

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREASECTION I. Appellant(s):

Name, mailing address and telephone number of appellant(s):

Commissioner Sara Wan; Commissioner Pedro NavaCalifornia Coastal Commission45 Fremont Street, Suite 2000(415) 904-5200San Francisco, CA 94105ZIPArea Code Phone No.SECTION II. Decision Being Appealed

1. Name of local/port government:

City of Pismo Beach

2. Brief description of development being appealed:

Demolition of existing single family dwelling and construction of new single family dwelling on a blufftop parcel.

3. Development's location (street address, assessor's parcel number, cross street, etc.):

307 Indio Drive, Pismo Beach.

4. Description of decision being appealed:

a. Approval; no special conditions: _____

b. Approval with special conditions: XX

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-3-PSB-99-026DATE FILED: 3/25/99DISTRICT: Central Coast

EXHIBIT 1

A-3-PSB-99-026

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

a. ___ Planning Director/Zoning
Administrator

c. XX Planning Commission

b. ___ City Council/
Board of Supervisors

d. ___ Other: _____

6. Date of local government's decision: February 5, 1999

7. Local government's file number: 98-120

SECTION III. Identification of Other Interested Persons

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

a. Name and mailing address of permit applicant:

Antone and Katherine Zaninovich
311 Road 148
Delano CA 93215

b. 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 that you know to be interested and should receive notice of this appeal.

1. Carolyn Johnson, Public Services Department, 760 Mattie Road, Pismo Beach CA 93449
2. Bruce McFarlan, 331 Park Avenue, Pismo Beach CA 93449

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 that continues on the next page.

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

The City of Pismo Beach Planning Commission granted a coastal development permit for the demolition of a 2982 square foot single family residence and the construction of a new 5169 square foot single family residence on a bluff top lot in the northern portion of the City, the new residence to be set back 29 feet from the bluff. The

EXHIBIT 1

A-3-PSB-99-026

project as approved by the City is inconsistent with the following sections of the City's certified Local Coastal Program.

1. Land Use Plan Safety Element Policy S-3 and Section 17.078.050(1) of the Zoning Ordinance each contain two bluff top setback standards that apply to this lot. First, all structures are to be set back a safe distance from the top of the bluff in order to retain the structures for a minimum of 100 years. Second, the minimum bluff setback for lots subdivided prior to January 23, 1981, is 25 feet, and a geologic investigation may be required that could result in a setback greater than 25 feet. The subject lot was subdivided prior to January 23, 1981 and so requires a minimum setback of 25 feet, with the possibility of a greater setback based on a geologic investigation. A geologic investigation was performed that concluded that the average annual erosion rate is 4 inches per year. Based on that the investigation recommended a setback of 25 feet, sufficient to protect the structure for a period of 75 years. The Planning Commission required a setback of 29 feet, presumably adding 4 feet to take into consideration an area of the bluff that is undercut by 4 feet. However, to be consistent with Policy S-3 and Section 17.078.050(1), the *minimum* required setback with a 4 inch per year erosion rate is 33 feet ($100 \text{ years} \times .33 \text{ feet [4 inches]} = 33 \text{ feet}$), rather than 25 feet or 29 feet. The City-approved location of the house 29 feet from the current bluff edge at the estimated erosion rate would give the house only 88 years of protection ($29 \text{ feet} \div .33 = 87.8$). Policy S-3 and Section 17.078.050(1) require that the setback give the structure protection from bluff erosion for 100 years. At the estimated erosion rate on this site, a setback of 33 feet is necessary. Therefore, the City's approval of the project with a 29 foot setback is inconsistent with LUP Policy S-3 and Section 17.078.050(1) of the Zoning Ordinance.

2. Section 17.078.060(5) of the certified Zoning Ordinance does not permit new development where it is determined that shoreline protection will be necessary for protection of the new structures now or in the future based on a 100 year geologic projection. At a rate of 4 inches per year, over a 100 year period erosion would remove 33 feet of bluff ($100 \text{ feet} \times .33 \text{ feet [4 inches]} = 33 \text{ feet}$). The City's action would allow new development to be 29 feet from the bluff edge. At 4 inches per year, erosion would remove 29 feet of bluff in 88 years. The City's action would allow new development where a geologic projection indicates that shoreline protection may be necessary to protect the development in 88 years. This is inconsistent with the requirement of Section 17.078.060(5) that no new development be allowed where a geologic projection indicates that shoreline protection will be necessary within 100 years to protect the development. In addition, there is no discussion of or permit condition prohibiting future shoreline protection or otherwise requiring use of non-shoreline structure alternatives for protecting the proposed house from future potential bluff erosion.

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.

EXHIBIT | 13

A-3-PSB-99-026

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 3)

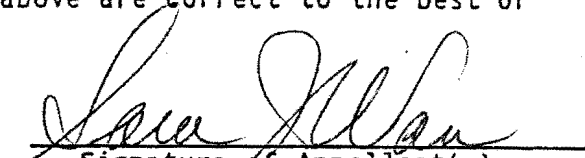
State briefly your reasons for this appeal. Include a summary description of Local Coastal Program, Land Use Plan, or Port Master Plan policies and requirements in which you believe the project is inconsistent and the reasons the decision warrants a new hearing. (Use additional paper as necessary.)

(See Attached)

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.


Signature of Appellant(s) or
Authorized Agent

Date March 24, 1999

NOTE: If signed by agent, appellant(s) must also sign below.

Section VI. Agent Authorization

I/We hereby authorize _____ to act as my/our representative and to bind me/us in all matters concerning this appeal.

Signature of Appellant(s)

Date _____

EXHIBIT 1, 4

A-3-PSO-99-026

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 Attached)

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.



Signature of Appellant(s) or
Authorized Agent

Date March 24, 1999

NOTE: If signed by agent, appellant(s) must also sign below.

Section VI. Agent Authorization

I/We hereby authorize _____ to act as my/our representative and to bind me/us in all matters concerning this appeal.

Signature of Appellant(s)

Date _____

EXHIBIT 1, 5

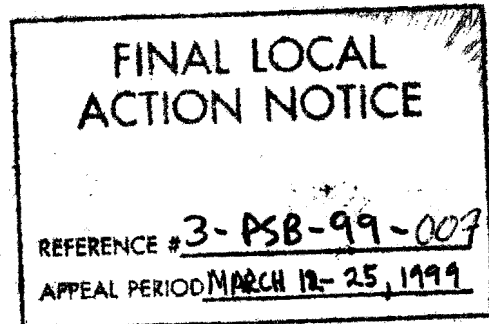
A-3-050-9006

NOTICE OF ACTION BY THE CITY OF PISMO BEACH
ON A COASTAL DEVELOPMENT PERMIT

DATE: March 5, 1999

TO: California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

ATTN: STEVE GUINEY



FROM: City of Pismo Beach
Public Services Department
760 Mattie Road
Pismo Beach, CA 93449

RE: Action by the City of Pismo Beach on a Coastal Development Permit for the following
project located within the Pismo Beach Coastal Zone:

RECEIVED

MAR 11 1999

APPLICANT:

OWNER/AGENT

Name: Antone & Katherine Zaninovich
Address: %311 Road 148, Delano, CA 93215
Telephone No. (805)725-1173

CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

Application File No.: 98120
Site Address / APN: 307 Indio Drive/ 010-192-008
Project Summary: Demolish existing structure and construction of a new single-family residence.
Date of Action: February 9, 1999
Action by: X Planning Commission City Council Staff
Action: Approved
X Approved with conditions/modifications
 Denied
 Continued: to meeting of: ~~March 9, 1999~~

Attachments: X Conditions of Approval
X Findings
X Staff Report

Appeal Status: Yes Appealable to the Coastal Commission (see note)

NOTE: Appealable to the California Coastal Commission pursuant to Coastal Act Section 30603. An aggrieved person may appeal this decision to the Coastal Commission within ten working days following Coastal Commission receipt of this notice. Any appeal of this action must be filed in writing to the Coastal Commission using forms obtainable from the Santa Cruz district office at the address identified above.

EXHIBIT 2

A-3-PSB-99-026

EXHIBIT 1
PROJECT COMPLIANCE WITH GP/LCP,
ZONING CODE REQUIREMENTS AND
GROWTH MANAGEMENT ORDINANCE

GP/LCP Consistency: This project is located within the Sunset Palisades Planning Area A-2 as designated by the General Plan/LCP Land Use Map. As proposed, the project is consistent with the Land Use Map designation of Low Density Residential and the following applicable GP/LCP policies:

Policy LU-A-6 Concept: The proposed new single-family residence is consistent with Policy A-6 that emphasizes maintaining coastal views and compatibility of infill development with the existing community. The proposed height is consistent with the two-story existing structure. The new structure will appear as one-story from Indio Drive, and with a lower level, two-stories from the ocean elevation.

Policy LU-A-7 a. Height Of Structures- Indio Drive: Structures on Indio Drive are required to have a maximum height of 15 feet measured from the highest site natural grade and 25 feet from the center of the building footprint. The proposed residence complies with this standard.

Policy LU-A-11 Beach Access And Bluff Protection: The proposed bluff top setback is 25 feet and is therefore consistent with this policy. A geology report was submitted which confirmed this setback based on the rate of retreat (discussed below). No structures, including decks, paved areas are allowed in the bluff top setback. Condition A.2 requires removal of the proposed deck from plans.

Policy D-2b Building and Site Design Criteria: Entrances are to be readily identifiable from the street and designed to pedestrian scale. In this case, the entry is clearly designated and the two-car garage is set back and faces perpendicular to the street.

D-38 Side Yard View Corridors Where side yards provide a view from the street to the ocean, the side yards should be maintained as open visual access corridors. Condition A.7 requires that the side yard is open to the sky and free from all visual obstructions including trees and shrubs.

PR-22 This policy requires the granting of lateral public access easement from the oceanside parcel boundary to the top of the bluff. Conditions A.6 implements this policy.

Zoning Code Designation/Consistency: This application was deemed complete on October 15, 1998. As proposed, the project is consistent with regulations of the applicable R-1 Zone. The site is within the Coastal Zone. Thus, this project is subject to the (1983) Zoning Code.

EXHIBIT 2
A-3-P5B-99-026

4-85

2B-3

Development Standards: (Zoning Code, GP/LCP)

Item	Permitted/Required	Code Section	Proposed
Lot Area	5,000 s.f. minimum	17.102.060.2	14,417 s.f.- Existing
Building Height	15' from highpoint; 25' from center of building pad	17.081.020.2 HL-2	15' and 25'
Building Floor Area	9,352 s.f. maximum	17.102.090.2	5,169 s.f.
Building Floor Area Ratio	86% of first 2700 s.f. lot area + 60% of remaining lot area = 64.84%	"	35.8%
Second Floor Area	2,281	17.105.135	2,317
Second Floor Area Ratio	80%	"	81%* (exceeds maximum limit by 36 s.f.)
Lot Coverage	5,144 maximum	17.102.080.2	3,597 s.f.
Lot Coverage Ratio	55% maximum	"	25%
Planting Area	2,883 s.f. minimum	17.102.095	5,590 s.f.
Planting Area Ratio	20% minimum	"	39%
Yard Setbacks			
Front	15' minimum	17.102.020	28'
Left Side	5' minimum	17.102.030.1	15'
Right Side*	5' minimum	"	5'
Bluff Top	25' minimum	LU-A-11	25'*
Parking Spaces	Location: 2 within garage Size: 10'x20'	17.108.020.1 17.108.030.1.d	2 in Garage
Garage Setback	20' minimum	17.108.030	28'
Driveway Width	12' minimum & 16' maximum	GP/LCP D.2.f.	18'*

Condition A.2 requires:

- 1) 80% maximum on main floor area v. lower living and garage area
- 2) a maximum 16 foot wide driveway cut.
- 3) Removal of proposed deck in bluff top setback
- 4) Stairs in sideyard setback shall not extend any closer than 4' to the side yard property line.

EXHIBIT 2 , 2

A-3-PSB-99-026

E-815

2B-4

Analysis of Zoning Code Overlay Zones:

Architectural Review Overlay Zone: (Chapter 17.069) - Applications subject to Architectural Review include Development Permits per Zoning Code Section 17.105.120(1). Pursuant to Section 17.069.020(3), the Planning Commission shall review developments to ensure the construction is an appropriate size, structures which are compatible with adjacent structures and the immediate neighborhood and the visual quality of the Planning Area.

The proposed single family residence is architecturally compatible with the Sunset Palisades neighborhood.

Architectural Review comments are as follows:

- Exner (8/11/98): 1) New structures (decks) must be 25' from bluff top. 2) Is this parcel in a Specific Plan? 3) Is the 5' side setback allowed? 4) Will new landscaping and irrigation cause bluff erosion? 5) A very somber looking house?

Staff Response: 1) Statement is correct - condition A.2 requires removal of proposed new deck from plans. 2) The parcel is not located within a Specific Plan area. The lot was created in 1950 (El Pismo Manor) 3) Five feet is the minimum side setback and as proposed, the project complies. 4) The irrigation plan shows automatic shut offs and checks on the drip valve system. The geology report also reviewed the landscape and irrigation system. The recommendations of the geology report is a part of this approval (Condition A.5.) 5) A color and material board will be available at the meeting. The concrete roofing and fiber cement exterior siding could viewed as somber. Staff believes that the structure fits well into the neighborhood. The structure appears as one-story from Indio Drive and takes advantage of the blufftop setting with balconies and decks.

- Exner (new comments 11/26/98) 1) Driveway widths should be no more than 18 feet. 2) There seems to be a very large amount of area covered by pavers - will this cause runoff/bluff erosion?

Staff Response: 1) Condition A.2 requires a maximum 16 - foot wide driveway for the new driveway. The northerly driveway is an existing 20 foot concrete apron. 2) The proposed deck is not allowed per General Plan policy LU-11. This will eliminate the pavers from the bluff top area.

- J. Stocksdales (8/10/98): 1) Nice plans. 2) Is it possible to push home toward street? 3) Are beach stairs a health and safety issue? (No new comments submitted in November)

Staff response: 1) Comment noted 2) The applicant is attempting to maximize the ocean view by locating the new home as close as possible to the bluff. The new residence is proposed 15 feet further from the bluff top than the existing residence. 3) Policy LU-A-11 (Sunset Palisades) states that vertical accessways should be limited to these rocky and intertidal areas. The policy goes on to say that no new public or private beach stairways shall be allowed and if existing stairways are damaged or destroyed, they shall not be repaired or replaced.

2-25

EXHIBIT 2 .3
A-3-PSB-99-026

2B-5

Archaeological Review Overlay Zone: (Chapter 17.063) - Section 17.063.020 requires an archaeological surface survey unless previously surveyed. Monitoring during construction is also required and the standard procedure for work to cease on the site if resources are encountered during construction (Condition A.4).

An archaeological report, dated May 17, 1998, prepared by C.A. Singer was submitted with the application. Based on a surface survey and review of past work in the vicinity, archaeological/cultural materials were noted on the lot. However, it is concluded that they are displaced from other portions of site the previously discovered site. Therefore, the removal and reconstruction of a single family residence will not have an adverse impact on known cultural resources. No intact cultural materials are expected in the area of excavation for the new house. Monitoring by an archaeologist and a representative of the Chumash is required during excavation. No soil with displaced cultural materials shall be exposed from the site. These mitigation monitoring measures are incorporated as Condition A.4

Coastal Appeal Overlay Zone (Chapter 17.072) - The site is located within the Coastal Appeal Overlay zone. City determinations on development on this area can be appealed to the California Coastal Commission.

Coastal Access Overlay Zone (Chapter 17.066): The lateral shoreline access dedication required by this section is implemented per Condition A. 6. Lots created prior to 1981 are not required to provide a blufftop lateral easement.

Hazards and Protection Overlay Zone (Chapter 17.078) A geology report, prepared by Geo Source, Inc. dated November, 1997, was submitted with the application. It addresses the site's soils characteristics, erosion control measures, and the bluff retreat for setback purposes. To err on the side of caution, the report uses a retreat rate of 4 inches per year to establish the bluff top setback; the retreat rate and the erosion resistant Monterey formation indicate that 3 inches per year is the likely retreat rate. Recommendation's of the geology report must be incorporated per Condition A.5.

EXHIBIT 2 p 4
A-3-PSB-99-028

2-85

2B-6

EXHIBIT 2

As Amended by the Planning Commission 2/9/99

CITY OF PISMO BEACH CONDITIONS OF APPROVAL
PLANNING COMMISSION MEETING OF FEBRUARY 9, 1999
PERMIT/CASE NO. 98-120/ CDP / ARP/LP
LOCATION: 307 INDIO DRIVE, APN 010-192-008

The conditions set forth in this permit affect the title and possession of the real property which is the subject of this permit and shall run with the real property or any portion thereof. All the terms, covenants, conditions, and restrictions herein imposed shall be binding upon and inure to the benefit of the owner (applicant, developer), his or her heirs, administrators, executors, successors and assigns. Upon any sale, division or lease of real property, all the conditions of this permit shall apply separately to each portion of the real property and the owner (applicant, developer) and/or possessor of any such portion shall succeed to and be bound by the obligations imposed on owner (applicant, developer) by this permit.

Authorization: Subject to the conditions stated below, approval of Permit No. 98-120 granting the permittee permits to demolish a 2,454 square foot single family residence and construct a 5,169 s.f. single-family residence, as shown on the approved plans with City of Pismo Beach stamp of February 9, 1999. Approval is granted only for the construction and use as herein stated; any proposed changes shall require approval of amendments to these permits by the City of Pismo Beach. *The house shall be moved back from the bluff four feet to a total of 29'. (Amended by PC 2/9/99)* Approval is not granted for any structure in the bluff top setback.

Findings For Approval:

1. The proposed construction of a 5,169 square foot single family residence is compatible with the visual quality of the Sunset Palisades Planning Area.
2. The proposed construction of a 5,169 square foot single-family residence is consistent with the General Plan, LCP Land Use Plan category of Medium Density Residential.
3. The proposed construction of a 5,169 square foot single-family residence will be in conformance with the requirements of the Zoning Code No. 320.
4. The project complies with the coastal access requirements of the City's Zoning Code, Local Coastal Plan, and California Coastal Act.

Effective Date: This permit shall become effective upon the passage of 20 days following the Planning Commission approval, provided that an appeal has not been filed to the City Council within 10 working days. The filing of an appeal shall stay the effective date until an action is taken on the appeal.

Expiration Date: The applicant is granted two years for inauguration (i.e. building permits issued and construction begun) of this permit. The permits will expire on February 9, 2001 unless inaugurated prior to that date. Time extensions are permitted pursuant to Zoning Code Section 17.121.160 (2).

EXHIBIT 2 .5

A-3- PSB- 99- 0 26

Environmental Determination: This project is Categorically Exempt, Class 3, Section 15303 under the California Environmental Quality Act (CEQA).

The property owner and the applicant (if different) shall sign these Conditions of Approval within ten (10) working days of receipt; the permit is not valid until signed by the property owner and applicant.

I HAVE READ AND UNDERSTOOD, AND I WILL COMPLY
WITH ALL ATTACHED STATED CONDITIONS OF THIS PERMIT
Approved by the Planning Commission on February 9, 1999

Applicant

Date

Property Owner

Date

EXHIBIT 2 .6

A-3- PSB- 99- 026

Standard Conditions, Policies And Selected Code Requirements:

Conditions as indicated below have been deemed to be of a substantive nature on the basis of the Planning Commission's decision. These conditions cannot be altered without Planning Commission approval.

A. Conditions Subject To Compliance Prior To Issuance Of A Building Permit:

Planning Division:

1. Building Permit Application. To apply for building permits submit five (5) sets of construction plans along with five (5) copies of the conditions of approval noting how each condition has been satisfied to the Building Division.
2. Compliance With Planning Commission Approval. The construction plot plan and building elevations provided for zoning clearance shall be in conformance with the Planning Commission's approval and conditions of approval.
 - The square footage of the main living area shall not exceed 2,281 s.f. (80%) of the square footage of the lower living area and the garage/boat storage area.
 - The new driveway shall be reduced in width to 16 feet.
 - The proposed new deck located in the bluff top setback shall be removed from the building plans. (Not permitted per GP Policy LU-11).
 - Stairs in the right side yard setback shall not extend more than 1 foot into the required setback to the property line.

Development standards for the project are as noted below:

Item	December 8, 1998 Planning Commission Approved Project Standards
Building Height	15' from high point of the lot and 25' from the center of the building footprint.
Building Floor Area	5,169 s.f.
Building Floor Area Ratio	35%
2nd Floor Area	2,281 s.f.
2nd Floor Area Ratio	80%
Lot Coverage	3,597 s.f.
Lot Coverage Ratio	25%

EXHIBIT 2 17
A-3-PSB-99-026

Item	December 8, 1998 Planning Commission Approved Project Standards
Planting Area	5,590 s.f.
Planting Area Ratio	39%
Yard Setbacks	
Front (Living Area)	28'
Left Side	15'
Right Side	5'
Rear (Blufftop)	25'
Parking Spaces	2 in Garage + Boat Storage
Garage Setback	28'
Driveway Width	16'

3. Colors And Materials. Colors and materials shall be consistent with those described on the architectural elevations as reviewed and approved by the Planning Commission.

4. Archaeology. The project shall be consistent with the archaeological report prepared by Robert Gibson, dated May 17, 1998; the following mitigations shall be implemented as follows:

A) Archaeological monitoring during excavation to be accompanied by an archaeologist and representative of the local Chumash. No soil containing cultural materials shall be exported from lot.

B) In the event of unforeseen encounter with subsurface materials suspected to be of an archaeological or paleontological nature, all grading or excavation shall cease in the immediate area, and the find left untouched until a qualified professional archaeologist or paleontologist, whichever is appropriate, is contacted and called in to evaluate and make recommendations as to disposition, mitigation and/or salvage. The applicant for development shall be liable for costs associated with the professional investigation. These requirements shall appear on building plans.

5. The project shall incorporate the conclusions and recommendations of the geologic bluff study, prepared by Geo Source, November, 1997, attached hereto as Exhibit 1.
6. ~~Lateral accessway easement of the area between the toe of the bluff and the mean high tide line is required to be dedicated to the State Department of Parks and Recreation.~~ (Amended by PC 2/9/99)

EXHIBIT 2(1)



GEO SOURCE INC

GEOLOGIC BLUFF STUDY
ZANINOVICH RESIDENCE
307 INDIO DRIVE
SHELL BEACH, CALIFORNIA

RECEIVED
JUL 17 1998
CITY OF PISMO BEACH
PLANNING DEPT.

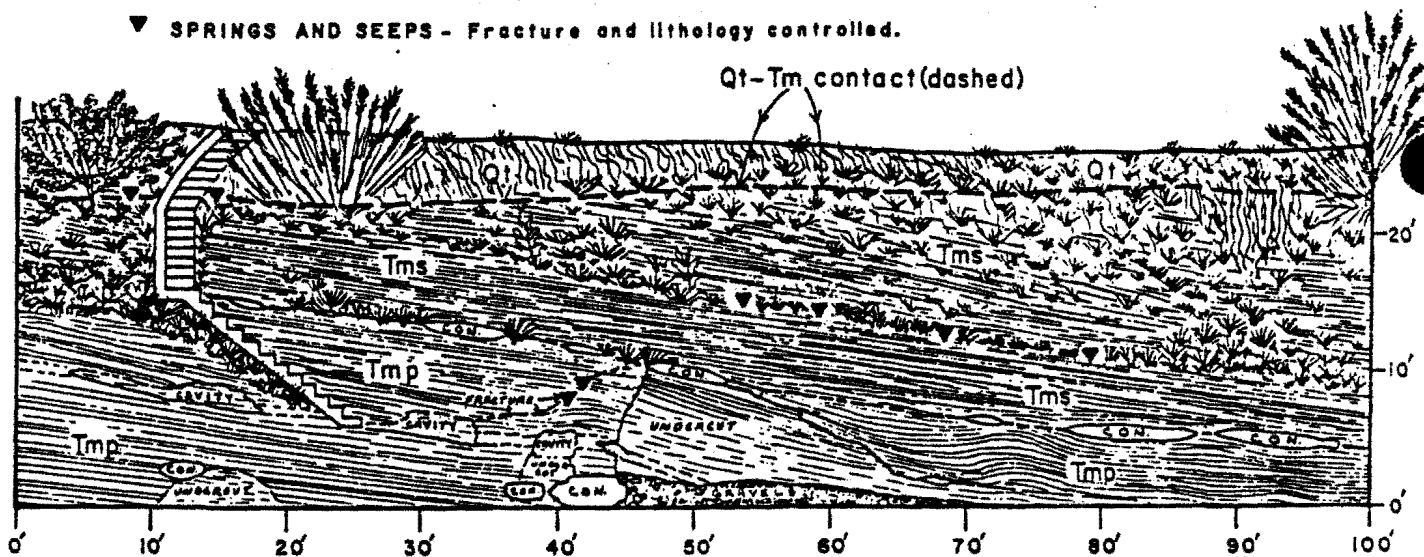
NOVEMBER 1997

LEGEND

Qt - QUATERNARY AGE MARINE TERRACE - Clayey sand with gravels near base.

Tm - TERTIARY (MIOCENE) AGE MONTEREY FORMATION - Tms - Interbedded opaline shale and siltstone, 1/2"-2" thick. Tmp - Interbedded opaline siltstone, sandstone, and porcelanite, 1"-4" thick. Contains resistant dolomitic lenticular concretions (con.).

▼ SPRINGS AND SEEPS - Fracture and lithology controlled.



PREPARED BY:

GEO SOURCE INC
141 SUBURBAN ROAD, SUITE D-1
SAN LUIS OBISPO, CA 93401

EXHIBIT 3

A-3-PSB-99-026

RECEIVED

~~JUL 17 1998~~
CITY OF PISMO BEACH
PLANNING DEPT.

MATERIALS ENGINEERING

MATERIALS TESTING

GEOTECHNICAL ENGINEERING

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**GEOLOGIC BLUFF STUDY
307 INDIO DRIVE
SHELL BEACH, CALIFORNIA**

1.0 INTRODUCTION

In accordance with your request, we have performed a geologic study of the bluff located along the southwestern boundary of the project site in the Shell Beach area of the city of Pismo Beach, California. The primary purpose of this geologic bluff study is to establish a building setback with respect to geologic structure, rock lithology, and anticipated future bluff retreat, and to compile available information relevant to local bluff conditions. This report is in accordance with requirements outlined in the State of California Coastal Commission "Statewide Interpretive Guidelines", adopted May 5, 1981.

2.0 SITE DESCRIPTION

The project site is located at 307 Indio Drive at the north end of Shell Beach as shown on the site vicinity map, Figure 1. The configuration of the site and bluff edge is shown on the site plan, Figure 2. The site is currently occupied by an existing residence. The residence is presently located on the southwest part of the lot, with a patio area and retaining wall located between the residence and the bluff. A small avocado orchard is located on the northeast corner of the lot. A driveway located on the north side provides access to the residence from Indio Drive. The site slopes gently to the southwest towards the top of the bluff at an average grade of approximately 5 percent to 7 percent.

The southwest property boundary occupies 100 feet of ocean view bluff frontage. The northwest margin of the bluff is approximately 28 feet high, and slopes slightly down to an approximate height of 26 feet at the southwest end. The upper three to five feet of the bluff slopes back towards the site at grades of 20 percent to 30 percent, with the patio area being approximately 30 feet in elevation. The remainder of the bluff maintains near vertical relief, with a small undercut occurring near the center of the bluff face. A narrow, gravelly-cobble beach, and a bedrock-outcrop tidal zone is located along the base of the bluff. The bedrock-outcrop tidal zone offers good protection from direct wave action on the bluff during low and intermediate level tidal stages. The base of the bluff may experience direct wave action during high tides. The beach is only accessible during times of low tide.

3.0 FIELD STUDY

The field study consisted of a detailed site reconnaissance to observe and map bluff geologic structure and conditions on site. The reconnaissance was conducted on November 21, and November 24, 1997. The bluff geology was mapped at a scale of 1 inch = 10 feet, and photo mosaics were acquired that cover the entire bluff face from multiple perspectives. A geologic map, Figure 3, of the bluff along the project site was prepared from data collected during the reconnaissance (see Appendix A). The key (top of figure 3) identifies the geologic units shown on the bluff geologic map.

4.0 REGIONAL GEOLOGY

The site is located in the Coast Range Geomorphic Province of California. The province consists of northwest-trending mountains and valleys located between the Great Valley of

California and the Pacific Ocean. The project site is situated near the north terminus of a northwest-trending, wave-cut, marine terrace, which lies southeast of the San Luis Mountain Range, locally referred to as the Irish Hills. The seaward edge of the terrace is called a sea cliff or bluff. The bedrock part of the bluff along the site consists of interbedded opaline (or porcelaneous) shale, siltstone, and sandstone of the Miocene age Monterey Formation (Tm), which is capped by a thin veneer of Quaternary age marine terrace deposits (Qt) (Figure 3).

The marine terrace deposits consist of a dark brown to reddish brown clayey sand with occasional gravel beds occurring near the base. These deposits are generally poorly consolidated and are prone to slump or wedge type slope failures. They constitute the upper four to six feet of the bluff. The terrace deposits are less resistant to weathering and erosion than the underlying shale of the Monterey formation, however, because of the thin soil cover and stabilization by vegetation, the terrace deposits are fairly stable at this location.

5.0 BLUFF EROSION AND GEOLOGY

Bluff erosion and retreat primarily occurs because of direct wave action during winter and astronomical high tides, traffic (animal, human, etc.) on the bluff edge and face, uncontrolled surface drainage, bluff geometry (height, steepness), geologic units and structure (hardness of rock, presence of fractures, folds), and coastal configuration. The following is a brief discussion of these aspects and how they affect the subject site.

5.1 Site Geology and Geologic Units

The configuration of the bluff is primarily a function of the geologic structure and geologic units (lithology) of which it is composed. The opaline (porcelaneous) shale, siltstone, and sandstone beds of the Monterey Formation in this area are relatively competent (hard) and resistant to erosion. The near vertical grade of the bluff is a reflection of the mature stages of retreat in this type of rock. Erosion along the bluff is occurring by fracturing and weathering of the thinly interbedded rock units by direct wave impact and impact of rock (cobble, boulder) projectiles against the base of the bluff. When wave energy is focused along weak rock areas, such as fractures, joints, or bedding planes, portions of the bluff are eroded and undercut. Eventually the undercut areas fail and a block or wedge shaped portion of the bluff falls on to the beach. Incipient undercutting is occurring near the center of the bluff, although there is currently no threat of failure of large blocks.

The Tertiary (Miocene) age Monterey Formation (Tm) is informally divided into two units, Tms and Tmp for the purposes of this study (Figure 3). Unit Tms overlies unit Tmp and is composed of finely interbedded opaline shales and siltstones that have an average thickness of less than $\frac{1}{2}$ to approximately 2 inches (Figure 3). Unit Tms is less resistant to erosion than the lower unit Tmp, however, only unit Tmp is subjected to direct wave action at this site. Unit Tmp occupies the basal part of the bluff and is composed of interbedded opaline siltstones with some opaline sandstone, and porcelanite. The porcelanite has a vitreous and glassy appearance and contains many fine fractures. The porcelanite is a hard, amorphous, siliceous rock with disseminated silt and clay that was formed by the accumulation of diatom skeletons on the sea floor. The interbedded porcelanite, opaline siltstones, and minor sandstones are approximately one to four inches thick in unit Tmp.

A few small amplitude folds occur in unit Tmp as a result of soft-sediment gravitational

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deformation when the rocks were still soft sea-floor sediments. These two small anticlinal folds are located at position 42 feet and position 73 feet (Figure 3). The small fold at position 42 feet is associated with a small fracture that localizes small seeps of groundwater at positions 38 - 43 feet. The folds are slightly more prone to erosion than adjacent rock because of increased microfracturing within the fold-axis area, however these structures are not currently localizing more erosion than adjacent areas, and represent no significant erosion problems to the bluff.

Units Tms and Tmp are separated by a zone of lenticular, dolomitic concretions that dip to the southwest (Figure 3). The formation dip is measured at approximately 12 to 14 degrees southeast, and the strike is approximately N 24 degrees W. The Monterey Formation therefore dips back into the bluff and to the southeast. This concretionary zone forms the roof of a small undercut that slopes from approximately 8 feet to 3 feet in height toward the southeast, from a position of 45 to 70 feet respectively along the bluff (Figure 3). The maximum penetration of the undercut is approximately 6 to 7 feet at the northeast end, and shallows to about 2 feet towards the southeast. The vertical datum is approximately mean high tide. The penetration of the undercut is measured from the outer, northwest, seaward edge of the bluff. The remaining southeast part of the bluff between 70 to 100 feet is approximately vertical in grade, with slight undercuts of one to two feet occurring between 70 to 100 feet in position (Figure 3).

The northwest part of the bluff between 0 and 45 feet slopes steeply to the east (about 75 to 85 percent), with a recessed bench occupying the northwest, lower margin of the bluff between 10 and 5 feet in elevation, and coincident with an eroded, shaley interbed within unit Tmp. The eroded shaley interbed localizes a few cavities, or small voids along the northwest part of the bluff, and localizes the undercut section of the bluff (Figures 3 and 4). Photo mosaic Figure 4 shows the relationship of the eroded interbed to the position of the recessed bench (at base of the staircase), and to the localization of the undercut area where the eroded, and mechanically weak, shaley interbed intersects the tidal zone (approximately mean high tide line). Photo mosaic Figure 4 also shows the relationship of the resistant concretionary zone to formation of a relatively stable roof of the undercut. Photo mosaic Figure 5 is a pan across the entire 100 feet of bluff with a perspective looking southeast from the northwest corner of the bluff. This perspective shows that most of the eroded shaley interbed within unit Tmp lies above wave base.

Photo mosaic Figure 6 is a pan across the entire bluff with a perspective looking northwest from the southeast corner of the bluff. This perspective shows that the southwest (near) part of the bluff is approximately vertical in grade, with the undercut area deepening gradually from the southwest to the northeast. The scalloped and relatively shallow penetration of the undercut indicates that it is a fairly youthful, or incipient bluff erosion feature. Because the erosion that causes the undercut is focused along the thin (about 10 inches thick) zone of opaline shales within unit Tmp, and the formation dips into the bluff at about 12 to 14 degrees, the erosion is mostly progressing northeastward. The presence of a few, hard, dolomitic concretions are now protecting the northeast part of the undercut from advancing unimpeded.

The overlying marine terrace deposits (Qt) are very susceptible to surface water erosion and wave erosion because of their poorly to moderately consolidated nature. Indications of springs both in these deposits and along bedding planes within units Tms contribute to weathering of the terrace materials and contribute slightly to the process of erosion along the

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bluff face. A bedding plane controlled zone of seeps and springs occurs within unit Tms at the 8 foot elevation at the southeast end, and slopes upward to the 22 foot elevation at the intersection with the staircase (horizontal positions 10 - 15 feet) where it intersects the overlying marine terrace deposits (Qt). Springs are localized along the edges of the staircase where the water-bearing zone in Tms intersects the terrace deposits. This zone of springs and seeps do not contribute significantly to erosion and do not otherwise destabilize the bluff.

5.2 Bluff Geometry

As described above, the bluff along the site predominantly reflects a configuration characteristic of later, mature stages of bluff retreat. In addition, an undercut area currently exists along the sites central area. This is the most important feature identified in this project study, and the configuration of the proposed building setback reflects the mapped geometry of this feature.

This undercut feature indicates that primary or intermediary stages of bluff retreat are occurring on a small scale. The undercut measures about 25 linear feet along the base of the bluff. The northern portion of the corresponding overhang extends out approximately six to seven feet (horizontal position 48 feet) and narrows to about 2 feet at the southern end (horizontal position 70 feet) (Figure 3). The roof of the undercut ranges in elevation from approximately 8 to 3 feet above mean high tide. It is anticipated that failure of this portion of the bluff would result in bluff retreat into an area somewhere between the landward edge and seaward edge of the top-of-bluff, but it would be difficult to determine the time period for this occurrence. No bluff failure is imminent, and it is noted that the overhang is underlain by the competent zone of concretions. The configuration of the building setback (Figure 2) accommodates the measured position of the undercut under the seaward edge of the top-of-bluff, and the anticipated narrow-width (about six to seven feet) of bluff failure that may impact the bluff in future decades.

A secondary small undercut (three feet deep) occurs under the base of the staircase. Above this small undercut, a line of small cavities along the eroded shaley interbed in unit Tmp could result in future failure of a small part of the bluff along the lower reaches of the staircase. Such a failure would not result in an undercut of the northwest part of the bluff because the bluff is not vertical in this area and slopes eastward at between 70 to 80 percent. This consideration does not affect the computation of the building setback, but access to the beach could be affected if erosion of the lower part of the bluff results in undermining and failure of the lower part of the staircase.

5.3 Wave Action

Erosion from direct wave action is the primary mechanism of bluff retreat for sites with rock bluffs and thin or absent alluvial cover. In addition, impact from wave-borne projectiles such as cobbles and small boulders strike the base of the bluff during strong storms and high tides, fracturing and dislodging materials from the bluff. Under normal conditions, the primary zone affected by the wave action will be the base of the bluff in the tidal zone up to a vertical height of 5 to a maximum of 10 feet above sea level. The anticipated maximum wave height would be 8 to 10 feet above the base of the bluff. Therefore, the interbedded opaline siltstones, sandstones, and porcelanite of unit Tmp of the Monterey Formation would be the primary geologic unit impacted by wave action. Occasional high waves may erode unit Tms

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near the south part of the bluff during winter storms, although this area currently shows little or no undercutting. Wave action would have maximum impact when periods of highest tides and large storms were coincident.

The marine terrace deposits on the bluff are relatively thin and at a sufficient elevation above the beach grade, such that wave run-up will not have a significant impact on these materials.

5.4 Coastal Configuration

The predominant wave direction along the Central California coastline is from the northwest. These waves are generated by storms in the North Pacific from winds occurring within the "Aleutian Low". These waves generally have the greatest amplitude and impact on the coastal region of the site when compared to waves from the south.

The coastline in the vicinity of the site faces west-southwest. The waves coming from the northwest are partially refracted from Point Buchon and Point San Luis in this vicinity. The existing outcrops of the Monterey Formation extend out in to the ocean in a stepped configuration and act to function as a natural barrier to dissipate wave energy. The refracted waves would strike or break over these barriers in an oblique direction and oblique to the bluff. However, it is likely that these outcrops would also be submerged at times when high tides and winter storms are coincident.

Waves generated from infrequent tropical storms in the South Pacific Ocean will have minimal to moderate impact on the site. The coastline trends east-west from Point San Luis towards the Shell Beach area. The area between these locations, known as Avila Bay, is significantly impacted by waves originating in the south. The site, however is located in a transitional area between this portion of the coast and where the coastline maintains a northwest-southwest direction along the southern Shell Beach and Pismo Beach areas. From a regional standpoint, the natural barriers provided by Point Sal and Point Conception generally refract and absorb the impact of swells generated by the storms in the South Pacific Ocean. The natural barrier formed by dipping beds of the Monterey Formation could also provide protection, but waves would impact at an angle close to perpendicular to the trend of the bedrock and could be directed nearly perpendicular to the bluff. It is therefore likely that the infrequent, subtropical-generated, southwest swell impacts the sites bluff and causes erosion. A small gap in the protective tidal rock outcrops facing southwest probably allows the southwest swell and infrequent storm waves to impact the bluff. Otherwise, the bluff is well protected from the more frequent and typically larger northwest storm waves.

6.0 BLUFF RETREAT

Based upon field observation, pertinent literature, and other bluff stability studies in the area, a bluff retreat rate of 6 to 12 inches per year is assumed for the marine terrace deposits, and 4 inches for the shaley beds of the Monterey Formation. It should be noted that the assumed bluff retreat rates are considered an "average," whereas in nature, erosional process are often episodic and irregular. Short-term (yearly) bluff retreat rates may vary significantly from the long-term average. Due to the predominance of the interbedded opaline siltstone, sandstone, and hard porcelanite of unit Tmp of the Monterey Formation in the tidal zone of the bluff, which are somewhat harder than the more shaley units in the formation, and the anticipated wave run-up height, a bluff

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setback was established using a retreat rate of four inches per year.

7.0 CONCLUSIONS

In its present condition, the bluff at the site appears to be actively retreating at an average rate of 4 inches per year. This information is based on our review of a San Luis Obispo County Parcel Map of Lot 5, Block 16, Tract Number 57, El Pismo Manor Number 1, dated August, 1950, and from the geologic reconnaissance. Based on a typical 75-year lifespan of use for the residence, and a retreat rate of four inches per year, a 25-foot setback measured from the top-of-bluff, and depth of undercutting landward of the top-of-bluff is required for this property. The top of the marine terrace deposits should be considered as the top-of-bluff for planning purposes at the present time, with a slight additional setback measured from the landward margin of the undercut. The locations of the top-of-bluff, as well as the undercut section are shown on Figure 2. Additionally, building foundation setbacks from the top of the bluff should be in accordance with soils engineering criteria.

In order to reduce bluff retreat, foot traffic should be directed away from the bluff. Any man-made coastal access structures, such as stairways, should be designed and built to maintain the stability of the bluff, as is currently the case.

8.0 CLOSURE

This report is valid for conditions as they exist at this time for the type of development described herein. The investigation was performed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the locality of this project under similar conditions. No other representation, warranty, or guarantee, either expressed or implied, is made.

If changes with respect to development type or location become necessary, if items not addressed in this report are incorporated into plans, or if any of the assumptions stated in this report are not correct, this firm shall be notified for modifications to this report.

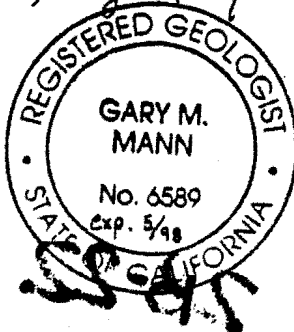
If you have any questions please contact the undersigned at (805) 543-5493

Sincerely

GEO SOURCE INC

Gary Mann
Project Geologist
RG 6589

Gary M. Mann



R. Church
Ron Church
Senior Engineer
GE 2184



EXHIBIT 3, 7

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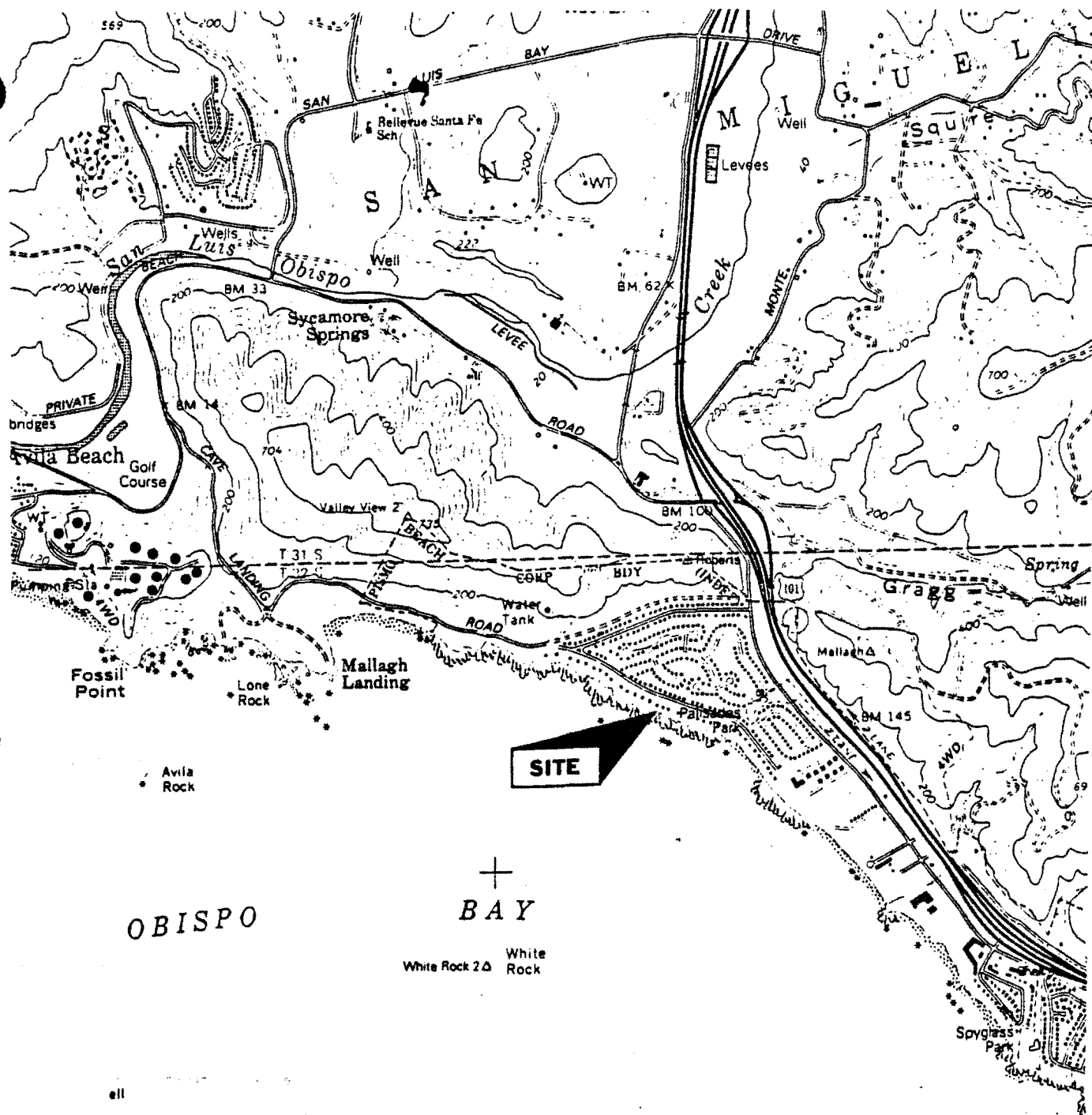
FIGURES

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SITE

OBISPO

BAY

White Rock 2A White Rock



EXHIBIT 3

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GEO SOURCE INC

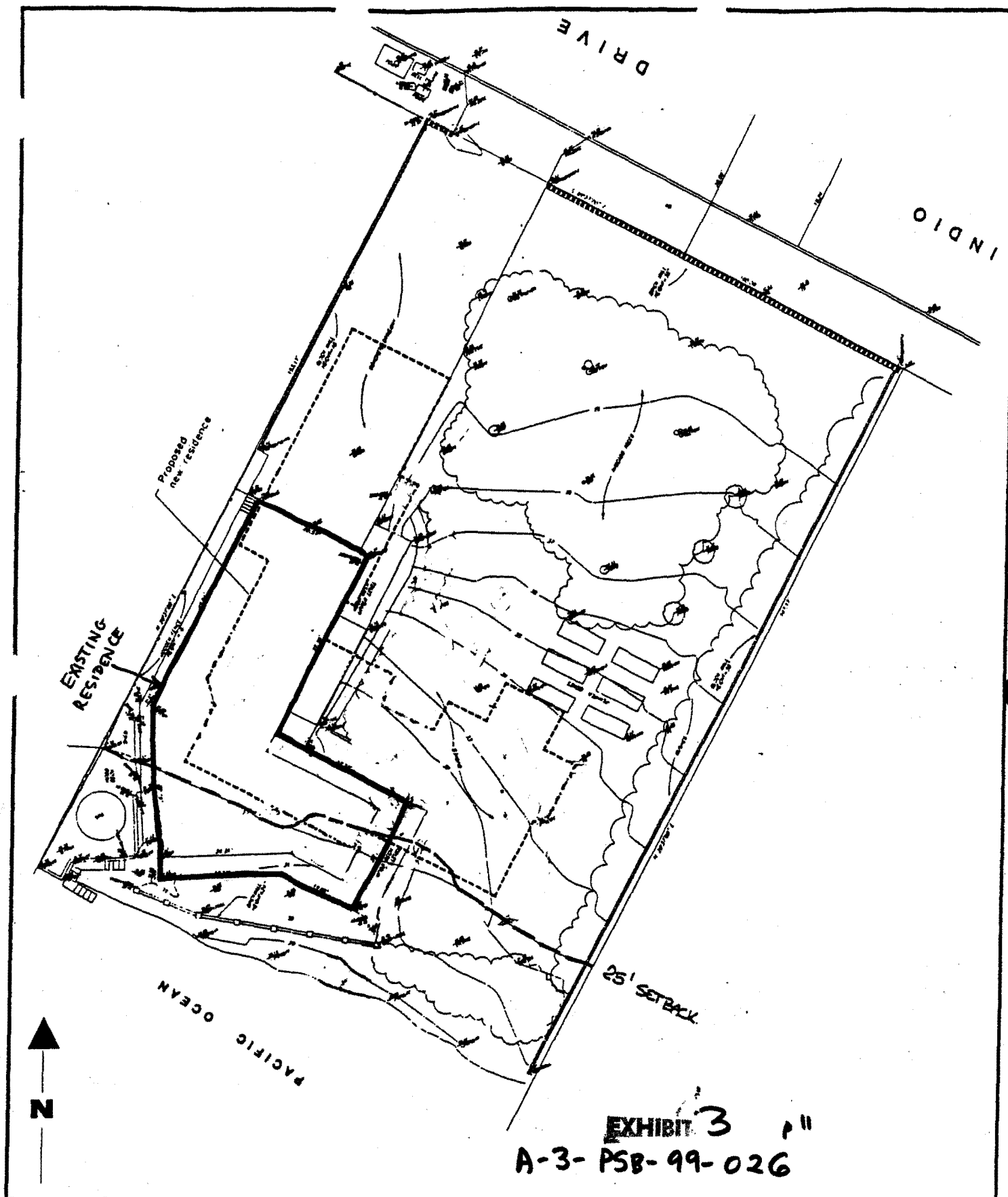
**SITE LOCATION MAP
ZANINOVICH RESIDENCE
307 INDIO DRIVE
SHELL BEACH, CALIFORNIA**

Project No.

Figure No.

97-S032

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GEO SOURCE INC

SITE PLAN
ZANINOVICH RESIDENCE
307 INDIO DRIVE
SHELL BEACH, CALIFORNIA

Project No.

Figure No.

97-3032

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LEGEND

Qt - QUATERNARY AGE MARINE TERRACE - Clayey sand with gravels near base.

Tm - TERTIARY (MIOCENE) AGE MONTEREY FORMATION - Tms - Interbedded opaline shale and siltstone, 1/2"-2" thick. Tmp - Interbedded opaline siltstone, sandstone, and porcelanite, 1"-4" thick. Contains resistant dolomitic lenticular concretions (con.).

▼ SPRINGS AND SEEPS - Fracture and lithology controlled.

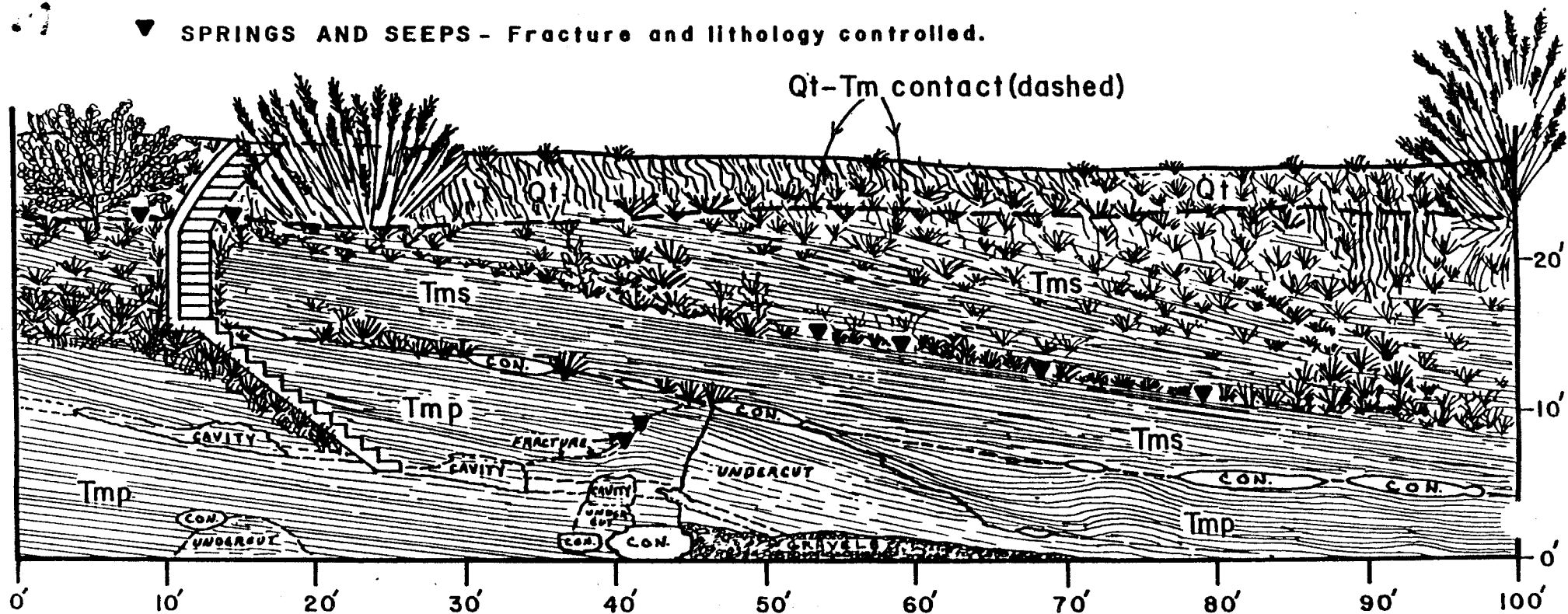
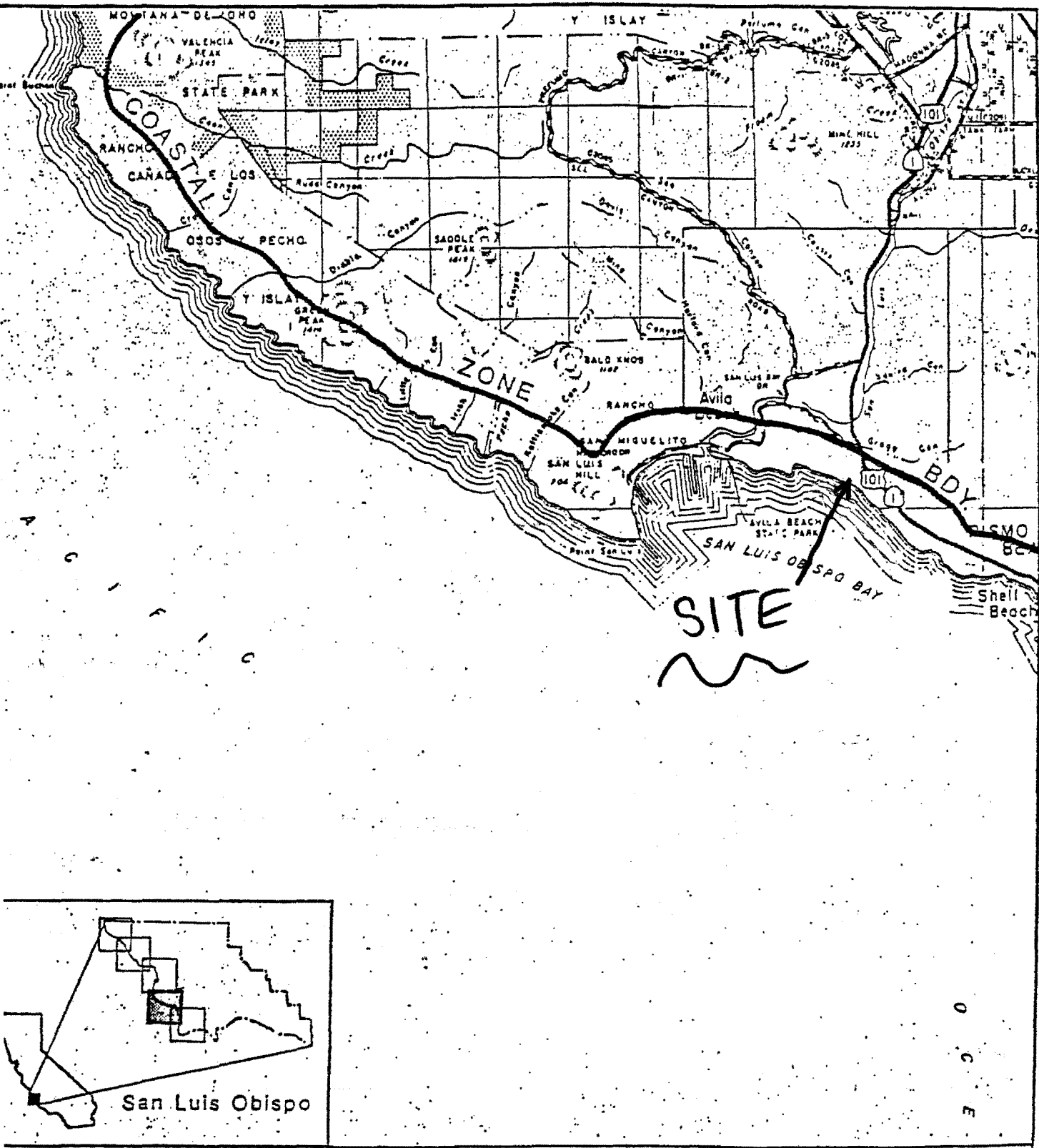


FIGURE 3
GEOLOGIC MAP OF BLUFF
ZANINOVICH RESIDENCE
307 INDIO DRIVE
PISMO BEACH, CALIFORNIA
SCALE: 1 INCH = 10 FEET

GEO SOURCE, INC.

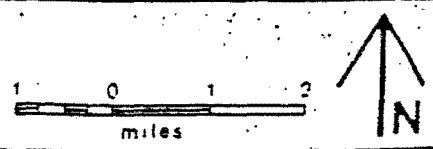
EXHIBIT 3 p.2
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California Coastal Commission

LOCATION MAP



County of San Luis Obispo

EXHIBIT 7

Sheet 4 of 5

A-3-PSB-99-026



GEO SOURCE INC

Santa Maria Office: 2320-D Thompson Way, Santa Maria, Ca 93455, ph 349-0140, fax 349-8861
SLO Office: 141 Suburban Road, Suite D-1, San Luis Obispo, Ca 93401, ph 543-5493, fax 543-2748

September 29, 1998
Project 97-S032

Antone Zaninovich
c/o Tom Reay - Architect
780 Caudill
San Luis Obispo, California 93401

Subject: Bluff Setback
307 Indio Drive
Shell Beach, California

- Ref: 1) Geologic Bluff Study, 307 Indio Drive, Shell Beach, California by Geo Source Inc., dated November 29, 1997, Project 97-S032.
- 2) Application Completeness/Review - Project #98-120, Coastal Development Permit & Architectural Review (307 Indio Drive) by Cannon & Associates, dated August 14, 1998.

Dear Antone:

This addendum provides clarification of the retreat rate and setback distance at the above noted project. The retreat rate provided in Reference 1 was presented as a specific value when a range of values would have been more representative. The rates measured varied from less than 3 inches to approximately 4 inches per year depending on the materials encountered and the wave action. We selected the more liberal rate of 4-inches per year to reflect the erosional characteristics of the surface Quaternary Terrace deposits. However, these Quaternary Terrace deposits are of minor thickness and are covered with vegetation indicating they are stable. In addition, the rate was calculated from the base of the undercut rather than the seaward edge of the top of the bluff. If the rate was recalculated using the seaward edge, the retreat rate would be less than 3-inches per year.

In conclusion, since the site has only a minor amount the higher retreat rate materials and the majority of the bluff is composed of erosion resistant units of the Monterey Formation a bluff retreat rate of 3-inches per year would be a more applicable rate to establish the setback distance.

We appreciate the opportunity to have been of service. If you require additional assistance, please do not hesitate to contact me at (805) 543-5493.

Sincerely,
GEO SOURCE INC.



Ron J. Church
Senior Engineer
GE #2184

EXHIBIT 4

A-3-PB-99-026

- c. Evaluating new development, particularly industrial, commercial or utility development, to ensure that construction or operation of the project will not cause hazardous conditions at an unacceptable level of risk.
- d. Requiring new development to avoid portions of sites with high hazard levels.

Bluff Erosion/Instability

Background

Approximately five miles of the northwest portion of the city's shoreline consists of cliffs and bluffs ranging in height from ten to one hundred feet. The rapidly receding nature of this long cliff line has claimed, and continues to threaten, a broad range of public and private investments located near the edge. This bluff erosion has been caused by both natural events and human activities, including development and intrusion up and down the unprotected banks. Eight areas of the city suffered damage from severe storms in 1978.

The Coastal Act (Section 30253) addresses bluff erosion as follows:

"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 con-

struction of protective devices that would substantially alter natural landforms along bluffs and cliffs."

Information regarding bluff erosion rates along the city's bluff areas is contained in the General Plan Technical Appendix.

The city completed a bluff erosion study addressing public ocean-front property in 1991. However, precise information regarding cliff retreat is not available for the majority of the privately-owned coastline. More information on a site-to-site basis is needed regarding the erosion process, rates of erosion, and exact locales of most severe cliff or blufftop erosion other than those identified by the City. Over the years, many types of protective structures have been built. No comprehensive information is available describing the devices, their maintenance requirements or long-term effects on the shoreline.

Policies

S-3 Bluff Set-Backs

All structures shall be set back a safe distance from the top of the bluff in order to retain the structures for a minimum of 100 years, and to neither create nor contribute significantly to erosion, geologic instability or destruction of the site or require construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.



The City shall determine the required setback based on the following criteria:

- a. For development on single family residential lots subdivided prior to January 23, 1981, the minimum bluff setback shall be 25 feet from the top of the bluff (blufftop is defined as the point at which the slope begins to change from near horizontal to more vertical). A geologic investigation may be required at the discretion of the City Engineer, and a greater setback may be applied as the geologic study would warrant.
- b. For all other development, a geologic study shall be required for any development proposed.

S-4 Blufftop Guidelines/Geologic Studies

Site specific geologic reports shall incorporate the information requirements contained in the State Coastal Commission's guidelines for Geologic Stability of Blufftop Development, as adopted May 3, 1977 and updated on December 16, 1981. This guideline is included in the Appendix. The report shall consider, describe and analyze the following:

1. A site specific erosion control plan to assure that the development would not contribute to the erosion or failure of any bluff face shall be prepared by a licensed engineer qualified in hydrology and soil mechanics for all blufftop development.
2. Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict

unusual geomorphic conditions that might affect the site. (See guidelines in the Appendix.)

3. Historic, current and foreseeable cliff erosion, including investigation of recorded land surveys and tax assessment records in addition to the use of historic maps and photographs where available and possible changes in shore configuration and sand transport.
4. Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joints, and faults.
5. 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.
6. Impact of construction activity on the stability of the site and adjacent area.
7. Ground and surface conditions and variations, including hydrologic changes caused by the development (i.e., introduction of irrigation water to the ground water system); alterations in surface drainage.
8. Potential erodibility of the site and mitigating measures to be used to ensure minimized erosion problems during and after construction (i.e., landscaping and drainage design).
9. Effects of marine erosion on seacliffs;
10. Potential effects of seismic forces resulting from a maximum credible earthquake; and
11. Any other factors that might affect slope stability.

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EXHIBIT 5, 2

→ 1. 17.078.050 Bluff Hazard, Erosion and Bluff Retreat Criteria and Standards
New structures shall be set back a sufficient distance from the bluff edge
to be safe from the threat of bluff erosion for a minimum of 100 years.
The City shall determine the required setback based on the following criteria:

- a. For development on single family residential lots subdivided prior to January 23, 1981, the minimum bluff setback shall be 25 feet from the top of the bluff (blufftop is defined as the point at which the slope begins to change from near horizontal to more vertical). A geologic investigation may be required at the discretion of the City Engineer, and a greater setback may be applied if local conditions warrant.
 - b. For all other development, a geologic study shall be required for any development proposed within the area between the face of the bluff and a line described on the blufftop by the intersection of a plane inclined at a 20 degree angle from horizontal, passing through the toe of the bluff or cliff, or fifty feet inland from the edge of the bluff, whichever is greater. All geologic reports prepared for blufftop development which do not address the area beyond the 20 degree rule, shall include a specific finding that no study beyond the area delimited by a line running from the base of the bluff to the top of the bluff at a 20 degree angle is necessary to assure the long term structural stability of the proposed development.
2. In addition to the criteria and standards for bluff top hazard setbacks as identified in this Section, additional building setbacks shall be required for specific planning areas as identified in the General Plan/ Local Coastal Program Land Use Plan to incorporate public access and recreational areas in addition to cliff retreat zones.
3. Geologic studies and reports shall consider, describe and analyze the following:
- a. Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict unusual geomorphic conditions that might affect the site.
 - b. Historic, current and foreseeable cliff erosion, including investigation of recorded land surveys and tax assessment records in addition to the use of historic maps and photographs where available and possible changes in shore configuration and sand transport.
 - c. Geologic conditions, including soil, sediment, and rock types and characteristics in addition to structural features, such as bedding, joints and faults;
 - d. Evidence of past or potential landslide conditions, the implications of such condition for the proposed development and the potential effects of the development on landslide activity;
 - e. Impact of construction activity on the stability of the site and adjacent area;
 - f. Ground and surface water conditions and variations, including hydrologic changes caused by the development (i.e., introduction of sewage, effluent and irrigation water to the groundwater system); alterations of surface drainage;
 - g. Potential erodibility of site and mitigation measures to be used to ensure minimized erosion problems during and after construction (i.e., landscape and drainage design);

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- h. Effects of marine erosion on seacliffs;
 - i. Potential effects of seismic forces resulting from a maximum credible earthquake; and
 - j. Any other factors that might affect slope or bluff stability.
4. A site specific erosion control plan for all permitted blufftop development shall be prepared by a registered engineer qualified in hydrology and soil mechanics and shall assure that the development would not contribute to the erosion or failure of any bluff face and will eliminate or mitigate any adverse impacts on local shoreline sand supply to the maximum extent feasible.

→ 17.078.060 Shoreline Protection Criteria and Standards

- 1. No permanent above ground structures shall be permitted on the dry sandy beach except facilities necessary for public health and safety, such as, but not limited to lifeguard towers and the pier.
- 2. Off-shore oil drilling or any other activity that may endanger the Pismo Clam, or recreational value of the beach shall be prohibited within the City's jurisdiction, and discouraged in adjacent outside ocean areas.
- 3. Sand mining offshore in the City's jurisdiction shall not be permitted.
- 4. Seawalls shall not be permitted, unless the city has determined that there are no other less environmentally damaging alternatives for protection of existing development or coastal dependent uses. If permitted, seawall design must (a) respect natural landforms; (b) provide for lateral beach access; and (c) use visually compatible colors and materials and will eliminate or mitigate any adverse impacts on local shoreline sand supply.
- 5. New development shall not be permitted where it is determined that shoreline protection will be necessary for protection of the new structures now or in the future based on a 100 year geologic projection.
- 6. Shoreline structures, including groins, piers, breakwaters, pipelines, outfalls or similar structures which serve to protect existing structures, or serve Coastal dependent uses and that may alter natural shoreline processes shall not be permitted unless the City has determined that when designed and sited, the project will:
 - a. Eliminate or mitigate impacts on local shoreline sand supply;
 - b. Provide lateral beach access;
 - c. Avoid significant rocky points and intertidal or subtidal areas; and
 - d. Enhance public recreational opportunities.
- 7. No additional development shall be permitted on any bluff face, except engineered staircases or accessways to provide public beach access, and pipelines for scientific research or coastal dependent industry. Drainpipes shall be allowed only where no other less environmentally damaging drain system is feasible and the drainpipes are designed and placed to minimize impacts to the bluff face, toe and beach.
- 8. Drainage devices extending over the bluff face shall not be permitted if the property can be drained away from the bluff face. All new drainage structures shall be constructed in such a manner that drainage water is not permitted to spill over or onto the bluff face.
- 9. For any development along the bluff top appropriate erosion control measures (i.e., set out in the "Erosion Control Handbook" in Appendix 2 of the General Plan/ Local Coastal Program Land Use Plan) shall be implemented.

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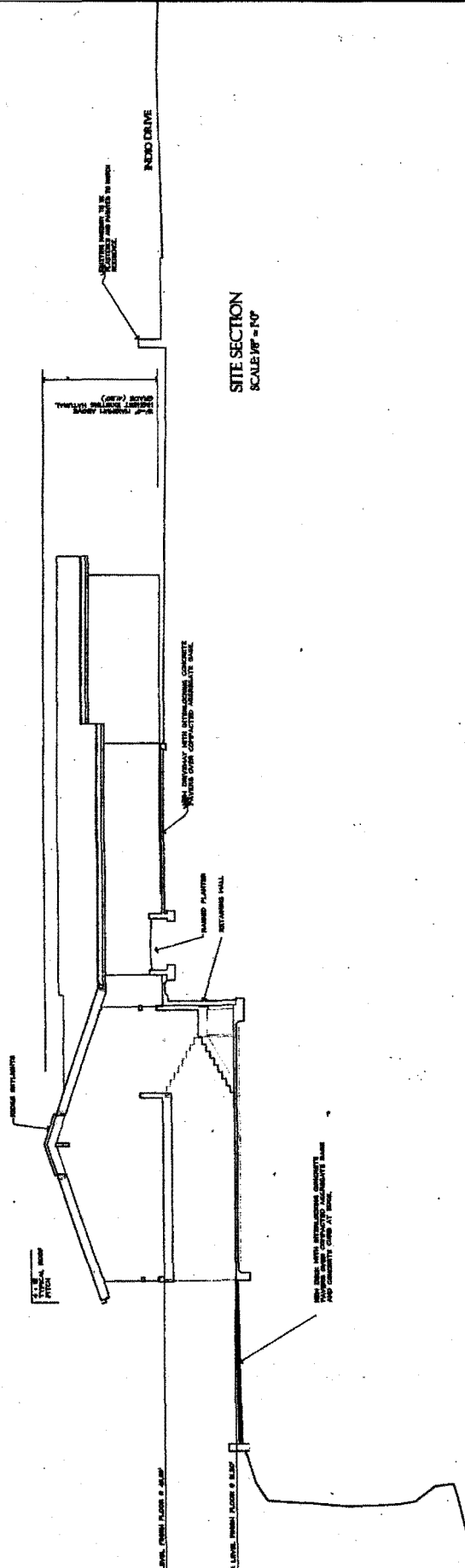


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