

CALIFORNIA COASTAL COMMISSION

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Hearing Date: June 13-16, 2000
Commission Action:

**RECORD PACKET COPY****STAFF REPORT: REGULAR CALANDER**

APPLICATION NUMBER: 5-99-432

APPLICANT: Mr. Warren Nichols

AGENT: Mr. Larry Steinle, LA Studio

PROJECT LOCATION: 109 South La Senda, Laguna Beach (Three Arch Bay), Orange County

DESCRIPTION OF PROJECT: Proposed stabilization of a portion of a coastal bluff by installing a rock anchor system, shotcrete wall, and a non-erosive groundwater drainage device under an existing residence. The proposed bluff top protective system will cover approximately 288 square feet of the bluff face.

SUMMARY OF STAFF RECOMMENDATION:

The subject application is to authorize the installation of a bluff top protective device and non-erosive groundwater drainage device. The major issues of the staff report relate to the installation of protective works on a coastal bluff. Staff recommends that the Commission **APPROVE** the proposed amendment subject to several conditions. The adopted special conditions concern: 1) an assumption-of-risk deed restriction; 2) conformance with geotechnical recommendations of the applicant's geotechnical consultants; 3) identification of construction responsibilities; 4) requirement to submit revised landscape plans showing the use of drought-tolerant native vegetation to reduce the amount of water added to groundwater levels on-site to minimize slope instability; 5) preparation and implementation of a monitoring plan for the proposed structure; 6) future maintenance requirements for the proposed structure, and 7) receipt of written review by the Regional Water Quality Control Board, San Diego Region (RWQCB).

LOCAL APPROVALS RECEIVED: City of Laguna Beach approval-in-concept dated November 15, 1999; City of Laguna Beach Board of Adjustment/Design Review Board approval, dated October 5, 1999; Three Arch Bay Architectural Review Committee approval, dated August 19, 1999.

SUBSTANTIVE FILE DOCUMENTS: Coastal development permits 5-82-257 (Shoepe); 5-94-095 (Hodges); 5-99-231 (Smith); 5-99-332-A1 (Frahm); *Review of Seepage Conditions (Report No. 00-3389)*, Geofirm (Project No. 70301-03), April 14, 2000; *Update Geotechnical Recommendations for Control of Groundwater Seepage (Report No. 00-3377)*, Geofirm (Project No. 70301-03), April 6, 2000; *Discussion of*

Options Regarding Bluff Slope Instability (Report No. 00-3339), Geofirm (Project No. 70301-03), February 23, 2000; Response to Comment by California Coastal Commission, Geofirm, January 28, 2000; Response and Revised Landscape Plan, LA Studio, January 3, 2000; Update Geotechnical Design Recommendations for Sea Cliff Stabilization (Report No. 9-3156), Geofirm (Project No. 70301-02), June 9, 1999; Topographic Survey Map, Toal Engineering (Job No. 7033), July 20, 1994; Geotechnical Evaluation of Groundwater Conditions (Report No. 3-1358), Geofirm (Project No. 70301-01), November 3, 1993; Geotechnical Review of Sea Cliff Erosion (Report No. 3-1224), Geofirm (Project No. 70301-00), April 29, 1993; Engineering Geologic Reconnaissance, 108 La Senda, Lot No. 100 and Portion of 99, Fred Pratley, Geotechnical consultant, August 17, 1978.

STANDARD OF REVIEW:

The City of Laguna Beach has a certified local coastal program ("LCP"). However, the proposed project is located within Three Arch Bay, one of several locked gate communities in Laguna Beach where certification has been deferred. Therefore, the standard of review is the Chapter 3 policies of the Coastal Act. The Laguna Beach certified LCP will also be used as guidance.

I. MOTION AND RESOLUTION

MOTION:

"I move that the Commission approve Coastal Development Permit No. 5-99-432 pursuant to the staff recommendation."

STAFF RECCOMENDATION OF APPROVAL:

I. APPROVAL WITH CONDITIONS

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

RESOLUTION TO APPROVE PERMIT:

The Commission hereby **APPROVES** a coastal development permit for the proposed development, which is located between the sea and the first public road, and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse

effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS:

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 reported to 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.

III. SPECIAL CONDITIONS:

1. ASSUMPTION OF RISK, WAIVER OF LIABILITY INDEMNIFICATION AGREEMENT, AND LANDOWNER OBLIGATIONS AND RESPONSIBILITIES
 - A. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from waves, storm waves, landslide, bluff retreat, erosion and earth movement; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from

such hazards; (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; (v) to remove the proposed development when bluff retreat reaches the point where the structure is threatened, and in the event that portions of the development fall to the beach before they can be removed from the bluff top or bluff face, the landowner shall remove all recoverable debris associated with these structures from the beach and ocean and lawfully dispose of the material in an approved disposal site.

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

2. **CONFORMANCE OF DESIGN AND CONSTRUCTION PLANS TO GEOTECHNICAL REPORT GEOLOGIC HAZARD**

- A. All final design and construction plans, including foundations, grading and drainage plans, shall be consistent with all recommendations contained in the following Geotechnical Reports: *Review of Seepage Conditions (Report No. 00-3389)*, Geofirm (Project No. 70301-03), April 14, 2000; *Update Geotechnical Recommendations for Control of Groundwater Seepage (Report No. 00-3377)*, Geofirm (Project No. 70301-03), April 6, 2000; *Discussion of Options Regarding Bluff Slope Instability (Report No. 00-3339)*, Geofirm (Project No. 70301-03), February 23, 2000; *Response to Comment by California Coastal Commission*, Geofirm, January 28, 2000; *Update Geotechnical Design Recommendations for Sea Cliff Stabilization (Report No. 9-3156)*, Geofirm (Project No. 70301-02), June 9, 1999; *Topographic Survey Map*, Toal Engineering (Job No. 7033), July 20, 1994; *Geotechnical Evaluation of Groundwater Conditions (Report No. 3-1358)*, Geofirm (Project No. 70301-01), November 3, 1993; *Geotechnical Review of Sea Cliff Erosion (Report No. 3-1224)*, Geofirm (Project No. 70301-00), April 29, 1993.
- B. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriate licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all of the recommendations specified in the above-referenced geologic evaluations approved by the California Coastal Commission for the project site.

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

3. CONSTRUCTION RESPONSIBILITIES AND DEBRIS REMOVAL

The permittee shall comply with the following construction-related requirements:

- (a) No construction materials, debris, or waste shall be placed or stored where it may be subject to wave erosion and dispersion;
- (b) Any and all debris resulting from construction activities shall be removed from the beach immediately;
- (c) No machinery shall be allowed at any time on the beach or intertidal zone;
- (e) Staging and storage of construction machinery and storage of debris shall not take place on the beach.
- (f) Any accidental spills of construction equipment fluids shall be immediately contained on-site and disposed of in an environmentally safe manner as soon as possible.

4. REVISED PLANS

- A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit revised plans to the Executive Director for review and approval. The revised plans shall show the following changes to the project:

1. LANDSCAPING

- (a) Plantings shall be of native, drought tolerant plants;
- (b) No permanent irrigation system shall be allowed on the property, including both the front and backyard areas. Only temporary irrigation to help establish the landscaping shall be allowed. The period of temporary irrigation shall be specified (e.g. number of months); and
- (c) The plantings established shall provide 90% cover in 90 days;
- (d) All required plantings will be maintained in good growing conditions through-out the life of the project, and whenever necessary, shall be replaced with new plant materials to ensure continued compliance with the landscape plan;
- (e) The landscaping plan shall show all the existing vegetation that is proposed to remain in place. Any existing irrigation system will be disconnected and capped off;

- (f) The plans shall be prepared and stamped by a licensed landscape architect.

2. ROCK ANCHOR SYSTEM AND SHOTCRETE WALL

- (a) Sufficient detail regarding the construction method and technology utilized for texturing and coloring the shotcrete wall. Said plans shall confirm, and be of sufficient detail to verify, that the shotcrete wall color and texture closely matches the adjacent natural bluffs, including provision of a color board indicating the color of the fill material.

- (b) The bluff top protective device shall conform as closely as possible to the natural contour of the bluff.

- B. The revised plans shall, prior to submittal to the Executive Director, be reviewed and certified by a qualified professional to ensure that they are consistent with the Commission's approval and with the recommendations contained in the following reports: *Discussion of Options Regarding Bluff Slope Instability (Report No. 00-3339)*, Geofirm (Project No. 70301-03), February 23, 2000; *Response to Comment by California Coastal Commission*, Geofirm, January 28, 2000, and *Update Geotechnical Design Recommendations for Sea Cliff Stabilization (Report No. 9-3156)*, Geofirm (Project No. 70301-02), June 9, 1999.
- C. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

5. SHORELINE PROTECTION MONITORING PLAN

- A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit a monitoring plan prepared by a licensed geologist or civil or geotechnical engineer for the review and approval of the Executive Director. The plan shall be sufficient to assess the condition of the bluff top protective device and shall include at a minimum:
 - 1. A description of the approved shoreline protection device;
 - 2. A discussion of the goals and objectives of the plan, which shall include the evaluation of the condition and appearance of the protection device; analysis of erosion trends and rock movement, and recommendations for repair, maintenance, modification or other work to the device;
 - 3. Provisions for taking measurements of the distance between the foundation of the existing residence and the bluff edge, including identification of exactly

where such measurements will be taken, (e.g. by reference to benchmarks, survey positions, points shown on an exhibit, etc.) and the frequency with which such measurements will be taken.

4. Provisions for submission of "as-built" plans, showing the permitted structure in relation to the existing topography and showing the measurements described in subsection (b)(3) above, within 30 days after completion of construction;
 5. Provisions for inspection of the condition of the shoreline protection device by a licensed geologist, or civil or geotechnical engineer, including the scope and frequency of such inspections.
- B. The permittee shall undertake development in accordance with the approved final plans. No changes to the plan shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

6. FUTURE MAINTENANCE

The permittee shall maintain the permitted bluff top protective device in its approved state except to the extent necessary to comply with the requirements set forth below and in the other special conditions herein. Maintenance of the bluff top protective device shall include maintaining the color, texture and integrity. Any change in the design of the project or future additions/reinforcement of the bluff top protective device beyond minor regrouting or other exempt maintenance as defined in Section 13252 of the California Code of Regulations to restore the bluff top protective device to its original condition as approved herein, will require a coastal development permit. However, in all cases, if after monitoring inspection, it is apparent that repair and maintenance is necessary, including maintenance of the color of the wall to ensure a continued match with the surrounding native bluffs, the permittee shall contact the Executive Director to determine whether permits are necessary, and shall subsequently apply for a coastal development permit for the required maintenance.

7. REGIONAL WATER QUALITY CONTROL BOARD REVIEW

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the review and approval of the Executive Director, written evidence from the Regional Water Quality Control Board demonstrating that the Regional Water Quality Control Board has reviewed and approved the proposed project, or a determination that no review is necessary from the RWQCB for the proposed project. If the Regional Water Quality Control Board requires any substantial changes to the project, as approved by the Commission, the changes shall be submitted to the Executive Director for a determination as to whether the changes require an amendment to this permit. Any changes that require an amendment shall not occur without an amendment to this permit.

IV. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION AND LOCATION

The applicant is proposing to install a rock anchor system and shotcrete wall to stabilize a coastal bluff and protect an existing single family residence at 109 La Senda, Laguna Beach, California. The subject site is located between the sea and the first public road at the top and on the face of a coastal bluff within the private, locked-gate community of Three Arch Bay in the City of Laguna Beach (Exhibit 1). The subsurface strata beneath the site consists of terrace deposits underlain by Tertiary San Onofre Breccia (Geofirm, 1999).

The existing residence is located upon a bluff top lot measuring 51 feet in width by approximately 125 feet in length (APN 056-193-31). From the top of bluff, the lot descends steeply from an elevation of approximately 90 feet above mean sea level (MSL) to the beach (Exhibit 2). The applicant also owns the adjacent 51-foot by 41-foot parcel to the south of the residence on the beach (APN 056-193-32). According to Mr. Larry Steinle of LA Studio, all of the proposed work will be conducted on parcel number 056-193-31 where the existing residence is located.

Spalling of a jointed section of the San Onofre Breccia has affected the eastern portion of the bluff (Geofirm, 1999). The applicant's consultant, Geofirm, has identified three contributing factors to the bluff instability: 1) Geologic Structures, 2) Groundwater seepage, and 3) the former location of a storm drain outlet. The storm drain outlet, which is owned by the Three Arch Bay Community Services District, previously discharged at the bluff top, which caused significant erosion of the talus at the base of the bluff and contributed to temporary groundwater infiltration into exposed rock joints. The storm drain outlet has since been modified to discharge at the base of the bluff to prevent further erosion of the subject property (Geofirm, 1999). In order to address the ongoing bluff instability caused by the existing geologic structures and groundwater seepage, the applicant is proposing to install a rock anchor system and a shotcrete wall on the easternmost portion of the exposed bluff face underneath the existing residence and install a subsurface drainage system to conduct groundwater from the bluff to the base of the bluff (Exhibit 3).

1. Rock Anchor System and Shotcrete Wall

Pursuant to the recommendations of the project geotechnical consultant, Geofirm, applicant proposes to install a rock anchor system on the easternmost portion of the bluff face, which is underneath the existing residence (Exhibit 3). The rock anchor system consists of 10 anchors installed to a minimum of 10 feet beyond the portion of the bluff that is considered to be unstable. Geofirm recommends that the anchors consist of high strength steel, epoxy grouted into a minimum 4-inch boreholes (Geofirm, 1999). The applicant is also proposing to install a shotcrete wall with a minimum thickness of 12 inches over the bluff face underneath the residence. The proposed protective device will cover approximately 288 square feet of the bluff face.

2. Drainage System

Pursuant to the recommendations of the project geotechnical consultant, Geofirm, the proposed drainage system would be installed at the base of the terrace deposits on the westernmost side of the property where there is a natural low point of the terrace deposit/San Onofre Breccia contact and concentrated groundwater seepage has been noted (Geofirm, 1999). Geofirm recommends that a 4-inch diameter, Schedule 40 polyvinyl chloride drain will be installed a minimum of 50 feet into the bluff as part of the proposed project (Geofirm, 2000; Exhibit 3). The drain system is designed to conduct groundwater to the beach via non-erosive drain lines. There are no proposed changes to the drainage of the residential structure, which drains through rain gutters to the rear hardscape, and into area drains where it is conducted through non-erosive drain lines to the beach. The property slopes from the street to the bluff edge, which does not allow drainage from the house to the street.

C. GEOLOGIC HAZARDS

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

New development shall:

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

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

The proposed project involves the stabilization of a portion of the bluff face beneath an existing residence. The applicant's consultant, Geofirm, has identified three contributing factors to the bluff instability: 1) Geologic Structures, 2) Groundwater seepage, and 3) the former location of a storm drain outlet. Geofirm stated in the June 1999 report that based on the bedrock strata and the bluff topography, the bluff can be considered a "neutral slope," which is generally favorable with respect to gross stability. Geofirm also states the presence of joints that transect the bedrock strata, and a fault that intersects these joints control potentially unstable wedges of rock in the bluff. Geofirm indicates that groundwater is perched at the contact between the terrace deposits and the upper jointed bedrock beneath the site. Concentrated groundwater seepage was noted at the lowest elevation of the terrace deposit/bedrock contact on the western side of the bluff. The storm drain outlet, which is owned by the Three Arch Bay Community Services District, previously discharged at the bluff top, which caused significant erosion of the talus at the base of the bluff and contributed to temporary groundwater infiltration into exposed rock joints. The storm drain outlet has since been modified to discharge at the base of the bluff to prevent further erosion of the subject property (Geofirm, 1999).

1. **Stabilization of Site**

The calculated factor of safety of the residence under static conditions is 1.0. The primary goal of the proposed rock anchor system and shotcrete wall is to provide support for the existing single family residence at 109 South La Senda. According to the applicant's geotechnical consultant, the proposed bluff repair needs to be carried out in a manner that will meet a minimum factor of safety of 1.5.

The applicant considered other geotechnical alternatives including a caisson/soldier pile system; cement treated slope, and re-landscaping of the bluff top. The primary goal of the proposed project is to protect the residence at the top of the bluff. While the rejected alternatives may provide site stability, they do not all provide for the minimum factor of safety required by the engineer to consider the site safe. The construction of a caisson/soldier pile system or a cement treated slope would also be more invasive than the proposed project. The geotechnical consultant has determined that the proposed project is feasible from a geotechnical standpoint and is able to achieve a minimum factor of safety of 1.5.

The proposed project is an acceptable method to achieve long-term stability of the site. Water entering the slope will be collected through an on-site drainage system to minimize off-site adverse impacts from erosion and would discharge in a manner that minimizes beach erosion. The geotechnical consultant has indicated that the proposed project would not result in adverse impacts to adjacent off-site properties and the minimum factor of safety of 1.5 would be met.

Further, the proposed project would provide a level of stability not achieved before on the subject site, and would stabilize the bluff at the site. The proposed project: 1) stabilizes the bluff face and 2) provides drainage control that addresses the issue of reducing groundwater on the site that contributes to bluff instability.

Section 30253 of the Coastal Act requires that new development minimize risks to life and property in areas of high geologic hazard. The applicant's geotechnical reports indicate that the subject bluff has a history of piecemeal spalling of jointed bedrock which was exacerbated by erosion related to the former outlet location of the local storm drain system (Geofirm, 1993). To minimize risks to life and property, the applicant's geotechnical consultant has stated that the project must achieve a minimum factor of safety of 1.5. The proposed project, according to information submitted by the applicant, will achieve a 1.5 factor of safety. Therefore, subject to the conditions below, the Commission finds that the project is consistent with Section 30253 because the project minimizes risks to life and property.

(a) Conformance with Geotechnical Recommendations

Recommendations regarding the design and installation of the rock anchor system, shotcrete wall, and drainage system have been provided in several reports and letters submitted by the applicant, including: *Review of Seepage Conditions (Report No. 00-3389)*, Geofirm (Project No. 70301-03), April 14, 2000; *Update*

Geotechnical Recommendations for Control of Groundwater Seepage (Report No. 00-3377), Geofirm (Project No. 70301-03), April 6, 2000; *Discussion of Options Regarding Bluff Slope Instability (Report No. 00-3339)*, Geofirm (Project No. 70301-03), February 23, 2000; *Response to Comment by California Coastal Commission*, Geofirm, January 28, 2000; *Update Geotechnical Design Recommendations for Sea Cliff Stabilization (Report No. 9-3156)*, Geofirm (Project No. 70301-02), June 9, 1999; *Geotechnical Evaluation of Groundwater Conditions (Report No. 3-1358)*, Geofirm (Project No. 70301-01), November 3, 1993; *Geotechnical Review of Sea Cliff Erosion (Report No. 3-1224)*, Geofirm (Project No. 70301-00), April 29, 1993. Adherence to the recommendations described herein on pages 9 and 10 and contained in the above listed reports is necessary to ensure that the proposed foundation distress and landslide remediation assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

Therefore, as a condition of approval, the Commission finds that it is necessary to impose Special Condition 2, which requires the applicant to submit final revised plans, subject to the review and approval of the Executive Director, which include signed statements of the appropriately licensed professional certifying that the final revised plans incorporate the geotechnical recommendations. In addition, the Commission finds it necessary to impose Special Conditions No. 5 and 6 to ensure proper monitoring and maintenance, under supervision of a licensed geologist or civil or geotechnical engineer, of the bluff-top protective device following construction.

(b) Assumption-of-Risk Deed Restriction

The geotechnical consultant has determined that bluff instability is inherent at the subject site. In addition, bluff-top development is inherently risky. Therefore, the Commission finds that, as a condition of approval, the applicant and all landowners of the subject site must record an assumption-of-risk deed restriction to inform the applicant and all current and future owners of the subject site that the site is subject to hazards from coastal erosion and potentially from wave attack.

Geotechnical evaluations do not guarantee that future bluff retreat or spalling of jointed bedrock will not affect the stability of the proposed stabilization project. There is always some risk of an unforeseen natural disaster, such as an unexpected landslide due to an unknown failure plane, erosion of the bluff due to unusually high wave activity, among other hazards, that would result in complete or partial destruction of the proposed stabilization project.

In case such an unexpected event occurs on the subject property, the Commission attaches Special Condition 1, which requires recordation of a deed restriction whereby the landowner assumes the risks of extraordinary erosion and geologic hazards of the property and accepts sole responsibility for the removal of any structural debris resulting from landslides, slope failures, or erosion on the site.

In addition, even though there is a potential for future geologic hazard, no one can predict when or if there might be bluff failure that would affect the proposed development since such failure appears to be episodic in nature. The Commission thus attaches Special Condition No. 1, which also requires recordation of a deed restriction whereby the landowner assumes the risks of extraordinary erosion and geologic hazards of the property and waives any claim of liability on the part of the Commission or its officers, agents, and employees for any damage due to these natural hazards; in addition, the landowner accepts sole responsibility for the removal of any structural debris resulting from landslides, slope failures, or erosion on the site.

The Commission further finds that Special Condition 1 must be attached because recordation of the deed restriction will provide notice of potential hazards of the property and help eliminate false expectations on the part of potential buyers of the property, lending institutions, and insurance agencies that the property is safe for an indefinite period of time and for further development indefinitely in the future.

(c) Landscaping

Erosion and bluff instability at the site have been attributed to the presence of ground water. The installation of lawns, in-ground irrigation systems, inadequate drainage, and watering in general are common factors precipitating accelerated bluff erosion, landsliding and sloughing, necessitating protective devices. The geotechnical consultant states that the irrigation system has been abandoned and adequate surface drainage improvements have been made at the site to reduce bluff top erosion. The adjacent storm drain outlet, which formerly allowed runoff to flow out at the bluff top, has been modified to direct runoff to the beach via flexible piping.

Native, drought-tolerant plants common to coastal bluffs require watering originally (1-3 years) but not after they become established. Drought-tolerant plants have deep root systems that stabilize soils, and are generally spreading plants that minimize the erosive impact of rain and provide habitat for native animals. The applicant has submitted a landscape plan that includes the use of non-native plant species on the bluff top. Since bluff instability at the site has historically been caused by the presence of water in the slope, and since the use of native, drought tolerant plant species minimizes the amount of water required for irrigation, the Commission imposes Special Condition 4. Special Condition 4 requires the applicant to submit a revised landscaping plan consisting of native, drought-tolerant plants, the elimination of any in-ground or permanent irrigation systems on the entire site; the use of plantings which provide 90% cover in 90 days; requires the applicant to maintain plantings in good growing condition through out the life of the project, and the preparation of the revised plan by a licensed landscape architect. The final revised landscape plan shall be subject to the review and approval of the Executive Director. The Commission finds these measures will reduce impacts related to the presence of water on the site and the adverse effect of erosion on the bluff top protective device.

(d) Conclusion (Geologic Hazards)

Therefore, as conditioned for: 1) recordation of an assumption-of-risk deed restriction, including requirements that the applicant shall be solely responsible for removal of debris resulting from hazards on the property, 2) the incorporation of geotechnical recommendations of the applicant's geotechnical consultant, 3) the requirement of construction responsibilities and debris removal, 4) the submission of revised landscape plans 5) a shoreline protection monitoring program, and 6) future maintenance of the bluff-top protective device, the Commission finds that the proposed bluff top protective device is consistent with Section 30253 of the Coastal Act.

D. SHORELINE PROTECTIVE DEVICES

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

Revetments, breakwaters, groins, harbor channels, bluff top protective devices, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.

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

New development shall:

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

The subject site includes approximately 51-feet of bluff top and bluff face. The adjacent parcel, which is also owned by the applicant, includes approximately 51-feet of sandy beach. The proposed development will occur upon the bluff face adjacent to the sandy beach. The subject beach is a south facing, pocket beach approximately 2,000 feet long flanked by headlands to the east and west and that project seaward of the crescent shaped beach by about 800 feet. The pocket beach is inaccessible except from Monarch Bay located south of the site during low tides.

The subject coastal development permit amendment is for a bluff repair/stabilization project that involves construction of a rock anchor system and shotcrete wall and a groundwater drainage system. The Commission's Coastal Engineer visited the site on March 1, 2000, and confirmed that toe of the bluff is well vegetated and the pocket beach is protected by both headlands to the east and west of the site, and a rocky intertidal zone.

1. Construction Which Alters Natural Shoreline Processes (Section 30235)

The proposed project involves the construction of a rock anchor system and a shotcrete wall that would reduce or limit bluff retreat, thus reducing the amount of bluff material for natural beach replenishment. Bluff retreat is caused in part by wave attack at the toe of a coastal bluff, which leads to bluff erosion. Bluff retreat and erosion are natural shoreline processes. Therefore, the proposed project involves construction that will alter natural shoreline processes. Thus, the Commission can approve the proposed rock anchor system and shotcrete wall only if they are: 1) required to protect existing structures, and 2) designed to eliminate or mitigate adverse impacts on shoreline sand supply.

2. Protection of Existing Structures (Section 30235)

As described above, the proposed rock anchor system and shotcrete wall would alter natural shoreline processes. However, if the unstable bluff face were to fail, the existing structure would be compromised. As previously explained on pages 9 and 10, the applicant's geotechnical consultant, Geofirm, has determined that the proposed project will adequately protect the existing structures on site.

3. Adverse Impacts on Shoreline Sand Supply (Section 30235)

Even if the shoreline protective device is necessary to protect existing structures, Section 30235 provides for the construction of a structure which alters natural shoreline processes only when the structure is designed to minimize adverse impacts to shoreline sand supply. The geotechnical assessment indicates that seacliff erosion in the area is episodic and occurs sporadically rather than continuously, during times of heavy storm events coupled with high tides. The assessment notes that the presence of dense vegetation at the toe of the bluff, and states that such vegetation acts to stabilize the erosion process and utilizes the groundwater available at the site (Geofirm, 1993). The geotechnical report also suggests that the presence of the existing talus and vegetation at the base of the bluff indicates that wave erosion is low in this area as those materials were not swept away by the 1982-1983 storms (Geofirm, 1993).

A coastal engineering assessment, by Noble Consultants, Inc., of seacliff retreat in the Three Arch Bay area was completed for permit number 5-99-332-A1 (Frahm), located at 33 Bay Drive, which is located approximately 1,200 feet north of the subject site. On an average annual basis, the assessment estimates the rate of seacliff retreat in the area to be approximately 0.1 to 0.2 feet per year. The assessment indicates that bluffs of Three Arch Bay only nominally contribute to the larger subregional sand supply. The assessment also indicates that the major source of sand in the area is the approximately twelve thousand (12,000) cubic yards of sediment which comes down nearby Aliso Creek every year.

Due to the size of the lot and the presence of vegetated talus at the base of the bluff, the Commission finds that the potential sand that the subject bluff would contribute to the pocket beach is minimal in comparison to the sediment supplied to the area by Aliso Creek. Therefore, the Commission finds that the proposed project will not result in significant adverse impacts upon shoreline sand supply.

4. Conclusion (Shoreline protective devices)

The Commission finds that the proposed project involves construction that would alter natural shoreline process. However, the Commission finds that: 1) the proposed project is necessary to protect the existing structure, and 2) the proposed project will not result in significant adverse impacts to natural shoreline sand supply. Thus, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30235 and 30253 of the Coastal Act.

E. MARINE AND WATER QUALITY

Section 30230 of the Coastal Act states:

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

Section 30231 of the Coastal Act states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The proposed project includes the construction of a drainage system that would collect groundwater. Drainage from the residence would not be affected because the existing drainage drains from roof gutters to area drains through a non-erosive drain pipe to the beach. The topography of the site slopes from the street toward the bluff edge, which does not allow for drainage to the street. The proposed new drain would direct the collected groundwater seepage to the beach through one outlet at the base of the bluff. The proposed drainage system would collect water that already seeps onto the beach from the subject site and inland areas. The applicant has submitted information to the California Regional Water Quality Control Board, San Diego Region ("RWQCB") about the project, but to date no response has been received. Special condition 7 requires that the applicant receive written review of the project, or a determination that no written review of the

project is needed, from the RWQCB prior to the issuance of the coastal development permit. Also, if the RWQCB review results in a substantial change to the proposed project that would require an amendment, the applicant will need apply for a coastal development permit amendment.

The subject site is located on a bluff-top above the beach. The applicant has indicated that no construction equipment or supplies would be placed upon the sandy beach. The applicant has indicated that contractors would be briefed as to minimizing the occurrence of and containing spills of petroleum and other toxic fluids. A health risk to marine life and swimmers would be created if toxic substances were to get on the beach and leak into the ocean. In addition, staging or storing construction equipment and material on the beach would take up beach area needed for grunion spawning, thus resulting in adverse impacts on the grunion.

In order to ensure that adverse impacts to marine resources and water quality are minimized, the Commission finds that it is necessary to require Special Condition 3 which prohibits the staging or storing of construction equipment or materials on the beach and to minimize and control spillage of toxic substances. Further, the Commission finds that the construction debris must be disposed of outside the coastal zone, or at an approved site in the coastal zone, to minimize adverse impacts on marine resources. Therefore, the Commission imposes Special Condition 3. As conditioned, the proposed project is consistent with Sections 30230 and 30231 of the Coastal Act.

G. VISUAL QUALITY

Section 30251 of the Coastal Act states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The proposed bluff repair involves the installation of a rock anchor system and a shotcrete wall. The proposed shotcrete wall to be installed as part of the proposed rock anchor system will be a visible feature on the face of the bluff, which is underneath the existing residence. The applicant proposes to match the color and texture of the proposed shotcrete wall to the natural color and texture of the surrounding bluff. The applicant also proposes to use native talus stones and sculptured rock to make the shotcrete more visually appealing by mimicking the surrounding rock formation.

The proposed project is located in a private community. Therefore, the proposed project would not block any public views to the shoreline. Public views along the coast from public trust land seaward of the mean high tide line would be similar to the views which currently exist since the bluffs are altered and developed with homes which step down the

bluff face. Further, since the private beach is flanked on either side by rocky headlands, which extend several hundred feet into the ocean, it would be difficult for the public to access the part of the beach seaward of the mean high tide line in order to view the bluffs. Even if the public were to be able to view the bluffs (e.g., from a boat offshore), the proposed development would be consistent with the character of the existing adjacent development to the east, which includes a soil cement slope.

In order to ensure that adverse impacts to the visual quality of the bluffs are minimized, the Commission finds that it is necessary to require Special Condition 4 which requires that revised plans show that the proposed project will match the color, texture, and contours of the existing bluff. As conditioned, the proposed project, is designed to protect the visual quality of the shoreline by matching the color and texture of the surrounding bluffs. In addition, the proposed project does not have any significant adverse impact public views to and along the ocean. Therefore, as conditioned, the Commission finds that the proposed project is consistent with Section 30251 of the Coastal Act.

I. PUBLIC ACCESS & RECREATION

Section 30604(c) of the Coastal Act requires that every coastal development permit issued for any development between the nearest public road and the sea include a specific finding that the development is in conformity with the public access and public recreation policies of Chapter 3. The proposed development is located between the sea and the nearest public road

The proposed project is located within an existing locked gate community located between the sea and the first public road paralleling the sea. Public access through this community does not currently exist. The proposed development will not effect the existing public access conditions. It is the locked gate community, not this home, that impedes public access. The proposed development, as conditioned, will not result in any adverse impacts to existing public access or recreation in the area. Therefore the Commission finds that the project is consistent with the public access and recreations policies of the Coastal Act.

J. LOCAL COASTAL PROGRAM

The City of Laguna Beach local coastal program ("LCP") is effectively certified. However, several locked-gate beachfront communities are areas of deferred certification, including Three Arch Bay. The subject site is located in Three Arch Bay. Therefore, the standard of review for the proposed project is conformity with the Chapter 3 policies of the Coastal Act and not the certified LCP. Section 30604(a) provides that a coastal development permit should not be approved for development that would prejudice the ability of the local government to prepare an LCP consistent with the Chapter 3 policies.

The certified LCP may be used for guidance in non-certified areas. Land Use Plan Policy 10-C provides, in part, that projects located in geological hazards areas are required to be designed to avoid the hazards where feasible. The proposed project would secure an unstable portion of the bluff and reduce groundwater seepage at the bluff top. Therefore the proposed project is consistent with the LCP.

Further, the proposed project, as conditioned, has been found to be consistent with the geologic hazard policies of Chapter 3 of the Coastal Act. Therefore, the Commission finds that the proposed project would not prejudice the ability of the City of Laguna Beach to prepare an LCP for the Three Arch Bay community, the location of the subject site, that is consistent with the Chapter 3 policies of the Coastal Act.

K. CALIFORNIA ENVIRONMENTAL QUALITY ACT

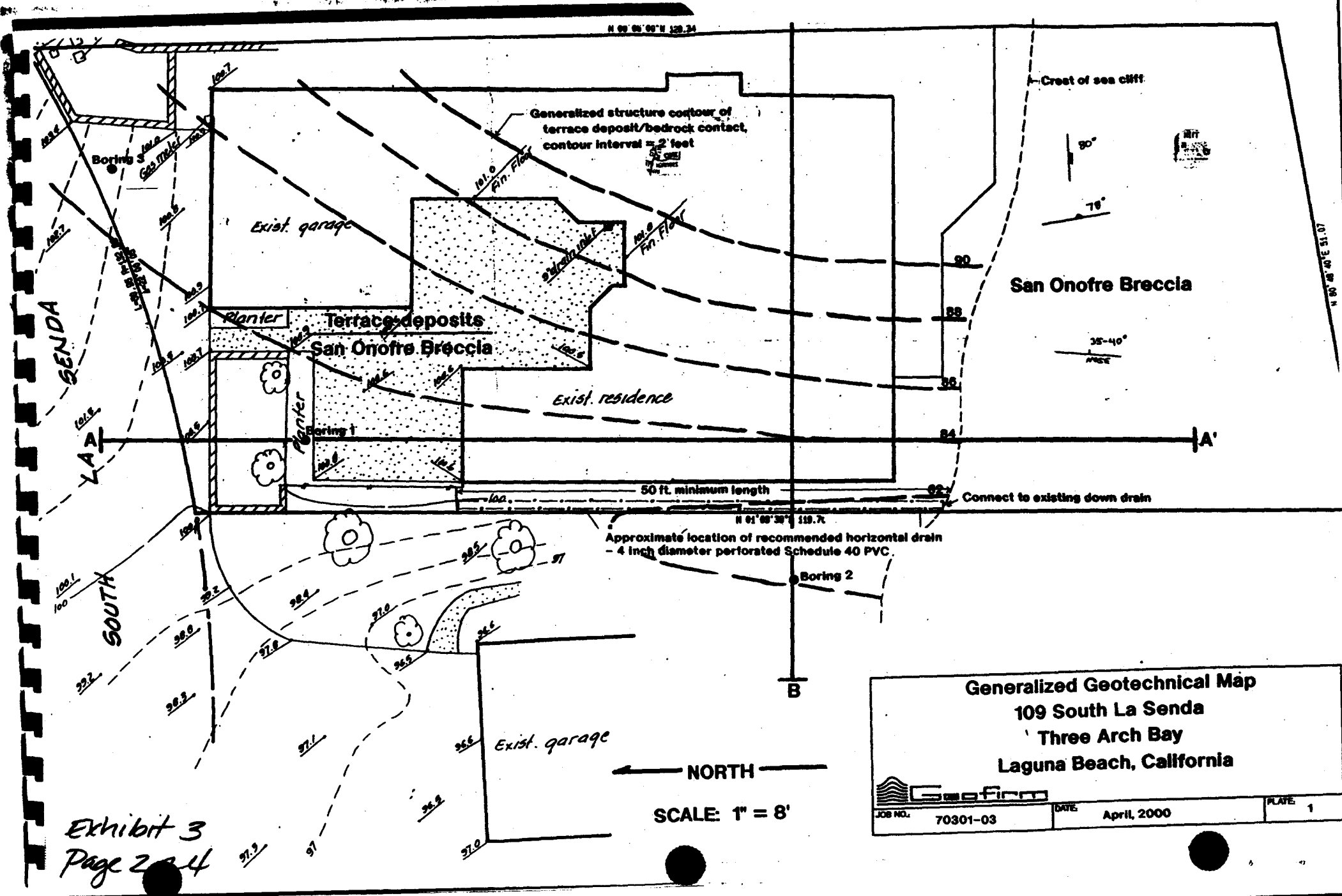
Section 13096 of Title 14 of the California Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect that the activity may have on the environment.

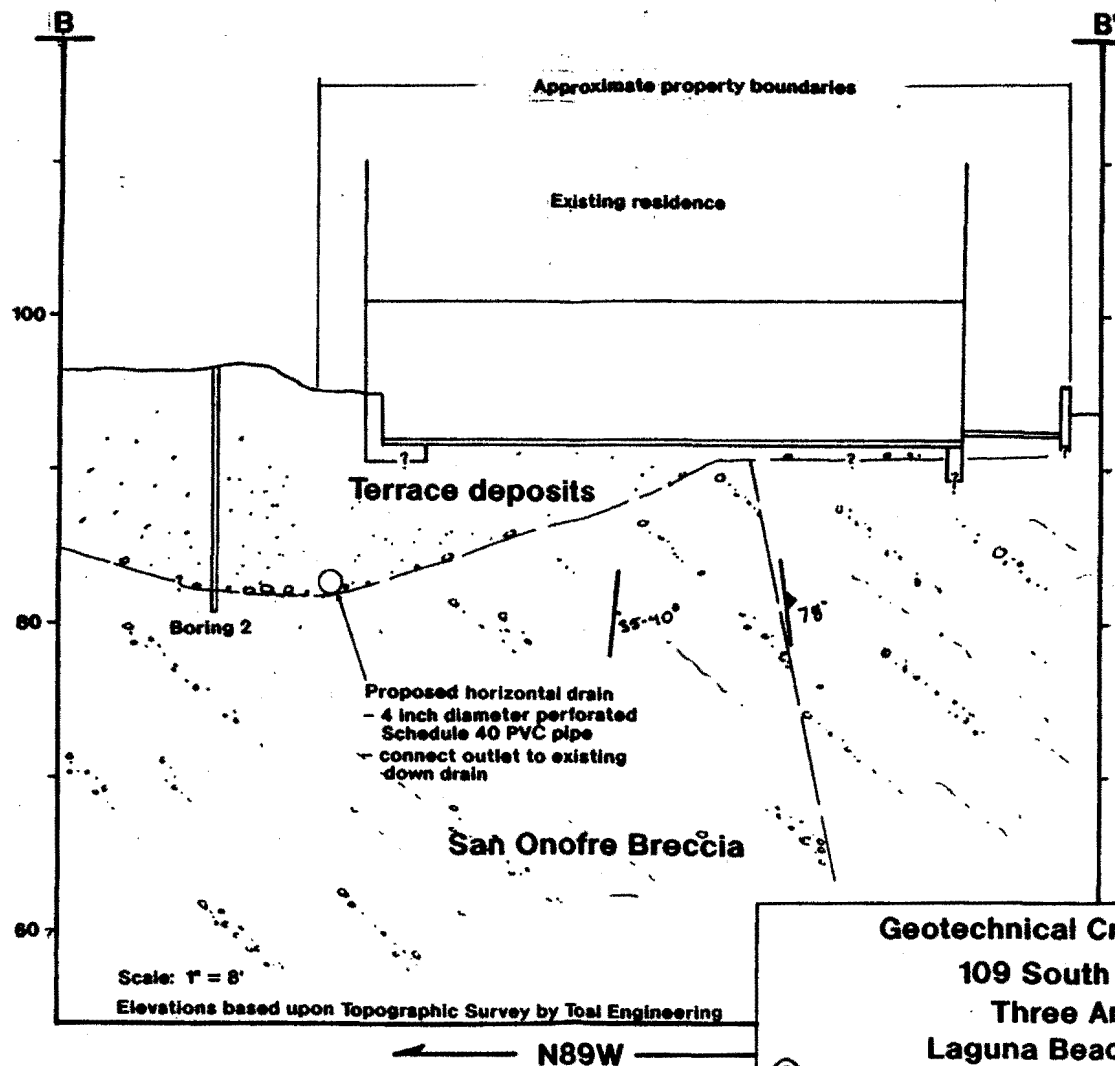
The applicant considered other geotechnical alternatives including a caisson/soldier pile system; cement treated slope, and relandscaping of the bluff top. The primary goal of the proposed project is to protect the residence at the top of the bluff. While the rejected alternatives may provide site stability, they do not all provide for the minimum factor of safety required by the engineer to consider the site safe. The construction of a caisson/soldier pile system or a cement treated slope would also be more invasive than the proposed project.

The proposed project is an acceptable method to achieve long-term stability of the site and the adjacent road. The proposed project would have no adverse impacts on the stability of adjacent properties. Further, the proposed development is located in an urban area. Development exists on the subject site. All infrastructures necessary to serve the site exist in the area.

The proposed project has been conditioned in order to be found consistent with the development policies regarding hazards, shoreline protection devices, and marine resources of Chapter Three of the Coastal Act. To assure structural stability and to minimize risks to life and property from geologic hazards, feasible mitigation measures requiring: 1) an assumption-of-risk deed restriction, 2) conformance with geotechnical recommendations, 3) construction responsibilities and debris removal, 4) landscaping with native plants and no permanent irrigation; 5) preparation and implementation of a shoreline device monitoring program; and 6) future maintenance of the shoreline device, will minimize any significant adverse environmental effects.

As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned, can be found consistent with the requirements of the Coastal Act to conform to CEQA.





Geotechnical Cross Section B-B'

109 South la Senda

Three Arch Bay

Laguna Beach, California



JOB NO.	DATE	PLATE
70301-03	April, 2000	2B

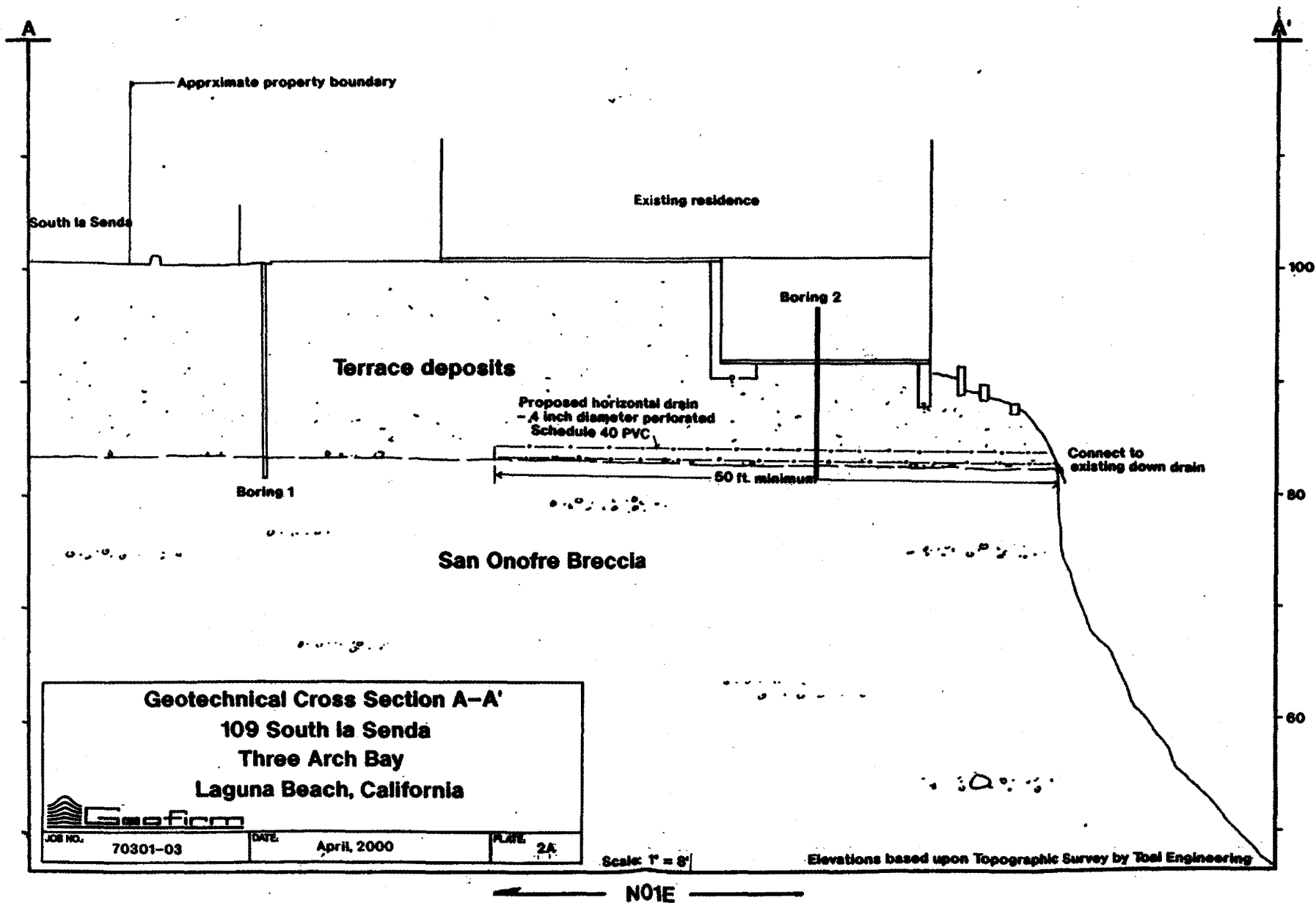


Exhibit 3
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