

CALIFORNIA COASTAL COMMISSION

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**RECORD PACKET COPY****Item Mon 8L**

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 Staff Report: November 16, 2000
 Hearing Date: December 12-15, 2000
 Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-00-081

APPLICANT: Peter Cramer

AGENT: Mark H. Singer, Architect

PROJECT LOCATION: 3904 Calle Ariana, San Clemente, Orange County

PROJECT DESCRIPTION: Construction of a new one-story, 15' high, 3844 square foot single-family residence with an attached 574 square foot two-car garage and partial basement on a vacant coastal bluff top lot. Approximately 143 cubic yards of grading (all cut) is required for site preparation and basement excavation.

LOCAL APPROVALS RECEIVED: City of San Clemente Approvals-in-Concept dated November 24, 1999 and September 25, 2000.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends the Commission **APPROVE** the proposed development with six (6) special conditions. The subject site is a vacant coastal blufftop lot located between the first public road and the sea in the private gated community of Cypress Shores in San Clemente. The primary issue addressed in the staff report is assurance that the proposed development is appropriately set back from the bluff edge to be consistent with the geologic hazard and visual resource policies of the Coastal Act. The proposed development conforms to the blufftop setback policies in the certified LUP, as development will be set back in accordance with a stringline drawn between the nearest corners of the adjacent single-family residences.

Special Condition 1 requires the applicant to submit final plans that show evidence of conformance with geotechnical recommendations, including those regarding site preparation, foundation design, and drainage. Special Condition 2 requires the recordation of an assumption of risk deed restriction. Special Condition 3 requires the recordation of a no future blufftop protective device deed restriction. Special Condition 4 requires the applicant to record a deed restriction, which ensures that the applicant and future landowners are aware that future development requires a new coastal development permit or an amendment to this permit. Special Condition 5 requires the submittal of a drainage and run-off plan which demonstrates that rooftop run-off will be taken to the street. Lastly, Special Condition 6 requires submission of a final landscaping plan which shows that only drought-tolerant natives will be planted in the rear yard area and restricts any in-ground irrigation.

SUBSTANTIVE FILE DOCUMENTS:

City of San Clemente Certified Land Use Plan; *Staff Recommendation on Major Amendment 1-95 San Clemente Land Use Plan; Geotechnical Investigation, Proposed Single Family Residence, 3904 Calle Ariana, Lot 96, Tract 4202, San Clemente, California* prepared by Petra Geotechnical, Inc. dated February 24, 2000 and *Updated Geotechnical Investigation Report, Proposed Single-Family Residence, 3904 Calle Ariana, Lot 96, Tract 4202, San Clemente, California* dated October 20, 2000.

Coastal Development Permits: 5-00-034 (McKinley-Bass); 5-99-351 (McMurray); 5-99-231 (Smith); 5-99-204 (Brown)—application withdrawn; 5-98-508 (Desert Cities Properties); 5-98-469 (Ferber); 5-98-300 (Loughnane); 5-98-273-G (McKinley & Bass); 5-98-210 (Nelson); 5-98-178 (McMullen); 5-98-082 (Westberg); 5-98-064 (Barnes); 5-98-020 (Conrad); 5-97-371 (Conrad); 5-97-185 (Schaeffer); 5-97-107 (Spruill); 5-95-121 (Watson); 5-95-069 (Westberg); 5-94-256 (Colony Cove); 5-94-243 (Gilmour), 5-94-213; 5-94-199 (Westberg); 5-93-307 (Ackerly); 5-93-304 (Rosenstein); A5-DPT-93-275 (La Ventana); 5-93-243 (La Ventana); 5-93-143 (Mertz & Erwin); 5-93-254-G (Arnold); 5-93-181 (Driftwood Bluffs); P-3967 (Cypress West); Engineering geologic report by C. Michael Scullin of Canoga Park, California titled *Engineering Geological Feasibility of Design for a Single Family Residence, Lot 35, Tract 897, 2014 Calle de Los Alamos, San Clemente, California (Project #79149)* dated July 22, 1979; Draft Environmental Impact Report Elmore Ranch, 1978, Final Soil Engineering and Engineering Geologic Grading Report P3967; "Mass Movement and Seacliff Retreat along the Southern California Coast" by Antony R. Orme in Bull. Southern California Acad. Sci. 1991; "Greatly Accelerated Man-Induced Coastal Erosion and New Sources of Beach Sand, San Onofre State Park and Camp Pendleton, Northern San Diego County, California" by Gerald G. Kuhn in Shore and Beach, 1980; "High-Quality, Unbiased Data are Urgently Needed on Rates of Coastal Erosion" by Wendell Gayman.

LIST OF EXHIBITS:

1. Vicinity Map
2. Assessors Parcel Map
3. Project Plans
4. Plate 2 (Site Sections) from Geotechnical Investigation
5. Letter from Commission Senior Geologist dated November 1, 2000

STAFF RECOMMENDATION:

Staff recommends that the Commission APPROVE the permit application with special conditions.

MOTION:

I move that the Commission approve CDP #5-00-081 pursuant to the staff recommendation.

Staff recommends a YES vote. This will result in adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION:

I. APPROVAL WITH CONDITIONS

The Commission hereby **GRANTS** a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, 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 of the Coastal Act, is located between the sea and the first public road nearest the shoreline and is in conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse effects on the environment within the meaning of the California Environmental Quality Act.

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. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. Conformance of Design and Construction Plans to Geotechnical Report

- A. All final design and construction plans, including foundations, grading and drainage plans, shall be consistent with all recommendations contained in the *Geotechnical Investigation, Proposed Single Family Residence, 3904 Calle Ariana, Lot 96, Tract 4202, San Clemente, California* prepared by Petra Geotechnical, Inc. dated February 24, 2000, as supplemented by the *Updated Geotechnical Investigation Report, Proposed Single-Family Residence, 3904 Calle Ariana, Lot 96, Tract 4202, San Clemente, California* dated October 20, 2000. **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 evaluation approved by the California Coastal Commission for the project site.

- B. 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.

2. Assumption of Risk, Waiver of Liability and Indemnity

- A. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards such as bluff erosion and landslides; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
- B. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

3. No Future Blufftop Protective Device

- A. By acceptance of this permit, the applicant agrees, on behalf of himself and all other successors and assigns, that no blufftop protective device(s) shall ever be constructed to protect the development approved pursuant to Coastal Development Permit No. 5-00-081, including future improvements, in the event that the property is threatened with damage or destruction from bluff failure in the future. By acceptance of this permit, the applicant hereby waives, on behalf of himself and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235.
- B. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, which reflects the above restriction on development. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

4. Future Development Deed Restriction

- A. This permit is only for the development described in Coastal Development Permit No. 5-00-081. Pursuant to Title 14 California Code of Regulations section

13253(b)(6), the exemptions otherwise provided in Public Resources Code section 30610 (b) shall not apply to the entire parcel. Accordingly, any future improvements to the permitted structure, including but not limited to repair and maintenance identified as requiring a permit in Public Resources section 30610(d) and Title 14 California Code of Regulations sections 13252(a)-(b), which are proposed within the restricted area shall require an amendment to Permit No.5-00-081 from the Commission or shall require an additional coastal development permit from the Commission or from the applicable certified local government.

- B. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, reflecting the above restrictions on development within the parcel. The deed restriction shall include legal descriptions 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.

5. **Drainage and Runoff Control**

- A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for review and approval of the Executive Director, a drainage and runoff control plan. The drainage and runoff control plan shall show that all roof drainage, including roof gutters, collection drains, and sub-drain systems for all landscape and hardscape improvements for the residence and all yard areas, shall be collected on site for discharge to the street through piping without allowing water to percolate into the ground. The applicant shall maintain the functionality of the approved drainage and runoff control plan to assure that water is collected and discharged to the street without percolating into the ground.
- B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

6. **Submittal of Landscaping Plan**

- A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit a landscaping plan which demonstrates the following:
- (a) All planting shall provide 90 percent coverage within 90 days and shall be repeated if necessary to provide such coverage;
 - (b) All plantings shall be maintained in good growing condition throughout the life of the project, and whenever necessary, shall be replaced with new plant materials to ensure continued compliance with the landscape plan;
 - (c) Landscaped areas in the rear yard area not occupied by hardscape shall be planted and maintained for erosion control and native habitat enhancement purposes. To minimize the need for irrigation and minimize encroachment of non-native plant species into adjacent existing native

plant areas all landscaping shall consist of native, drought resistant plants. Invasive, non-indigenous plant species that tend to supplant native species shall not be used;

- (d) Landscaped areas in the front yard area can include ornamental or native, drought-tolerant plants. Vegetation installed in the ground shall consist of native, drought tolerant plants. Other vegetation which is placed in above-ground pots or planters or boxes may be non-invasive, non-native ornamental plants. Only native, drought tolerant ground covers shall be placed on the site, and;
- (e) No permanent in-ground irrigation systems shall be installed on site. Temporary above ground irrigation is allowed to establish plantings.

B. The permittee shall undertake development in accordance with the approved plan. Any proposed changes to the approved final plan 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.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. PROJECT DESCRIPTION AND LOCATION

1. Project Location

The project site is located at 3904 Calle Ariana, a vacant coastal blufftop lot between the first public road and the sea in the private gated community of Cypress Shores in the City of San Clemente, County of Orange (Exhibits 1 and 2).

The subject site is surrounded to the north and south by existing single-family residences, to the east by Calle Ariana, and to the west by a coastal bluff. To the northwest, the bluff slope descends to a railroad and sandy beach below. To the southwest, the bluff slope descends to a private community park.

The coastal bluffs in San Clemente are not subject to direct wave attack because they are separated from the beach by the Orange County Transportation Authority (OCTA) railroad tracks and right-of-way. The railroad tracks have a rip-rap revetment which protects the tracks from erosion and wave overtopping. Though not subject to direct wave attack, the bluffs are subject to weathering caused by wind and rain.

The nearest vertical coastal access is available approximately one half mile north of the site at San Clemente State Beach. Lateral public access is located seaward of the railroad right-of-way at the beach below the subject site. The mean high tide line is located approximately 185 feet from the railroad tracks.

2. Project Description

The proposed project involves construction of a new one-story, 15-foot high, 3844 square foot single-family residence with an attached 574 square foot two-car garage, partial basement and rear yard deck on a vacant coastal bluff top lot (Exhibit 3, Project Plans). The 554 square foot basement will be located beneath the northwest corner of the proposed residence.

Approximately 143 cubic yards of grading is required for site preparation and basement excavation. Excavated material will be taken to a construction site in the northern portion of San Clemente, outside of the coastal zone.

The site is a relatively level, trapezoidal-shaped parcel lying at elevations of approximately 75 to 78 feet above mean sea level. The property has been previously graded during construction of the frontage road (Calle Ariana) and community park. As such, the natural bluff edge has been altered, resulting in an irregular inland curve along the southwestern portion of the lot. The northwestern portion of the rear yard descending slope consists of a virtually unaltered 60-foot high bluff that descends to the railroad tracks beneath. The western/southwestern portion of rear yard slope descends approximately 30 feet to the level ground surface of the adjacent community park.

The proposed project will be set back from the existing bluff edge in conformance with the existing structural and deck stringlines. As such, the residence will be located approximately 60 feet back from the northwestern bluff edge and a minimum of 16 feet from the southwestern bluff edge. The proposed rear yard deck will be located approximately 10 feet from the bluff edge at its closest point. No subterranean blufftop stabilization structures are proposed. Blufftop stability and appropriate setbacks will be discussed further in Section B (Blufftop Stability) and Section C (Scenic Resources) of the current staff report.

The project will also involve landscaping of the front, side and rear yard areas. A preliminary landscaping plan has been submitted which demonstrates that landscaping will consist of native groundcover and shrubs in the rear yard area and a mix of native and ornamental plants in the front yard area. The plan also includes a gravel and stone paver courtyard located in the rear yard area. Existing ornamental shrub vegetation on the bluff slope will remain undisturbed. The plan notes that no permanent, in ground irrigation is to be placed at the bluff side of the lot. However, as will be discussed on page 15, staff recommends that in ground irrigation be restricted throughout the entire lot.

3. Prior Commission Actions in Subject Area / Similar Special Conditions

Many of the homes in the immediate vicinity were constructed prior to passage of the Coastal Act. As such, there are few examples of Commission actions on new residential development along this stretch of Calle Ariana. However, as discussed below, there was a De Minimus Waiver issued for a project four lots south of the subject site and several coastal development permits have been issued for projects on coastal bluffs in the areas north and south of the subject site.

5-97-315 (Bengard)

On December 10, 1997, the Commission approved DeMinimus Wavier 5-97-315 (Bengard) for the demolition of an existing two-story 3987 square foot single-family residence (2651 square feet street level and 1336 square feet lower level) with a 638 square foot garage and construction of a three story 8560 square foot single-family residence (2708 square foot upper floor, 2865 street level and 2987 square foot lower level) with a 916 square foot garage at 3912 Calle Ariana, four lots south of the subject site. Grading consisted of 355 c.y. of cut to be utilized on site.

The rationale for the approval of the development approved by 5-97-315-W stated that *"the site is located between Calle Ariana and a private community park and is not located on a coastal bluff."* The project currently under consideration at 3904 Calle Ariana overlooks the ocean to the west and northwest and a community park to the southwest. Prior to the construction of the community park, the entire site was a natural coastal bluff. The site remains highly visible from the beach below. Therefore, the entire subject site is considered a coastal bluff.

Similar Projects on Blufftop Lots in San Clemente

Coastal Development Permit 5-98-508 allowed construction of a 25 foot high, 6,600 square foot single-family residence with a 3-car garage and 6 parking spaces on a vacant lot at 115 Vista Blanca, less than one half mile north of the subject site. No grading was proposed. The Commission imposed special conditions regarding assumption of risk, conformance with geologic recommendations, future development, restriction on future bluff protective devices, landscaping, and drainage and irrigation. The project conformed to both the stringline and the 25 foot setback requirements.

Administrative Permit 5-95-121 (Watson) allowed the construction of a two-level 4669 square foot residence and 825 square foot three-car garage on a blufftop lot at 4016 Calle Ariana, less than one half mile south of the subject site. No special conditions were imposed. The project was allowed to be constructed in conformance with the existing stringline setback from the bluff edge. As such, the project is sited approximately 10 feet from the bluff edge.

Coastal Development Permit 5-85-391 (Miller) allowed the construction of a new single family residence on a vacant lot at 2014 Calle de Los Alamos, approximately two miles north of the subject site. In this case, the proposed development was approved as it conformed with a stringline which provided at least an 18 foot setback from the bluff edge. It should be noted that the edge of the bluff is roughly linear at the Calle de Los Alamos location, whereas the bluff edge is not linear at the subject site (3904 Calle Ariana). As such, the proposed building setback at the subject site ranges from a 16-foot minimum to a 60-foot maximum from the existing bluff edge, as discussed in the subsequent section.

B. BLUFFTOP STABILITY

Blufftop development poses potential adverse impacts to the geologic stability of coastal bluffs, to the preservation of coastal visual resources, and to the stability of residential structures. Coastal bluffs in the City of San Clemente are composed of fractured bedding which is subject to block toppling and unconsolidated surface soils which are subject to sloughing, creep, and landsliding. The setback and stringline policies of the Commission were instituted as a means of limiting the encroachment of development seaward to the bluff edges on unstable bluffs and preventing the need for construction of revetments and other engineered structures to protect development on coastal bluffs, as per Section 30253 of the Coastal Act.

1. Coastal Act and City of San Clemente Certified Land Use Plan (LUP) Policies

Section 30253 of the Coastal Act states:

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.*

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

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

The City of San Clemente Certified LUP contains policies limiting new development on coastal bluff faces to public staircases and policies establishing stringlines for purposes of limiting the seaward encroachment of development onto eroding coastal bluffs. Although the standard of review for projects in San Clemente is the Coastal Act, the policies of the Certified LUP are used as guidance. These policies include the following:

Policy VII.13:

Development shall be concentrated on level areas (except on ridgelines and hilltops) and hillside roads shall be designed to follow natural contours. Grading, cutting, or filling that will alter landforms (e.g.; bluffs, cliffs, ravines) shall be discouraged except for compelling reasons of public safety. Any landform alteration proposed for reasons of public safety shall be minimized to the maximum extent feasible.

Policy VII.14 states:

Proposed development on blufftop lots shall be set back at least 25 feet from the bluff edge, or set back in accordance with a stringline drawn between the nearest corners of adjacent structures on either side of the development. This minimum setback may be altered to require greater setbacks when required or recommended as a result of a geotechnical review.

Policy VII.16 states:

In a developed area where new construction is generally infill, no part of a proposed new structure, including decks, shall be built further onto a beachfront than a line drawn between the nearest adjacent corners of the adjacent structures. Enclosed living space in the new unit shall not extend further seaward than a second line drawn between the most seaward portions of the nearest corner of the enclosed living space of the adjacent structures.

Policy VII.17 of the LUP also limits the type of development allowed on bluff faces. It states:

New permanent structures shall not be permitted on a bluff face, except for engineered staircases or accessways to provide public beach access where no feasible alternative means of public access exists.

Both the stringline policy and the 25 foot bluff setback policy could be applied in this situation because the applicant is proposing infill development between existing single-family residences on a blufftop lot. The applicant originally submitted plans in which the proposed residence was set back 25 feet from the northwestern portion of the bluff and as close as 5 feet from the southwestern portion of the bluff. Commission staff expressed concern over the reduced setback in the southwestern portion of the property. As such, the applicant submitted substantially revised project plans and an updated geotechnical report. The revised plans submitted by the applicant show that the project now conforms to the structural and deck stringline setbacks from the bluff edge. Consequently, the proposed residence will be set back as much as 60 feet from the northwestern bluff edge and a minimum of 16 feet from the southwestern edge. Hardscape development in the rear yard will be set back a maximum of 45 feet to a minimum of 10 feet from the bluff edge. The standard that staff has been using on coastal bluffs for hardscape setbacks is 10 feet, or consistent with the stringline where appropriate.

2. Bluff Stability and Erosion

This section includes a general discussion of the causes of bluff erosion in the southern California region, particularly San Clemente, and specific bluff erosion at the project site.

a. Generalized Findings on Bluff Erosion

In general, bluff erosion is caused by environmental factors and impacts caused by man. Environmental factors include seismicity, wave attack, drying and wetting of soils, wind erosion, salt spray erosion, rodent burrowing, percolation of rain water, poorly structured bedding, and soils conducive to erosion. Factors attributed to man include bluff oversteepening from cutting roads and railroad tracks, irrigation, over-watering, building too close to the bluff edge, improper site drainage, use of impermeable surfaces to increase runoff, use of water-dependent vegetation, pedestrian or vehicular movement across the bluff top and toe, and breaks in water or sewage lines. In addition to runoff percolating at the bluff top site, increased residential development inland also leads to increased water percolation through the bluff.

There are numerous articles about seacliff retreat and bluff erosion in coastal literature. Much of this literature pertains to bluffs subject to wave attack and to large-scale landsliding. Antony R. Orme wrote a paper entitled "Mass Movement and Seacliff Retreat along the Southern California Coast" published in the Bulletin of the Southern Academy of Science in 1991. He states that there are other factors in bluff erosion besides wave attack, including weathering of coastal cliffs by salt spray evaporation. The coastal bluffs at the project location are subject to wind-borne salt spray from the ocean.

In conclusion Orme states:

Seacliff retreat is a natural process which, if unheeded, threatens human life and livelihood, and which can be aggravated by human activity. It will continue to occur and therefore responsible coastal management must require that human activity be set back an appropriate distance from cliff tops and diverted from unstable and potentially unstable terrain.

According to Orme, a major source of bluff instability in the Los Angeles area was the construction of the Pacific Coast Highway and the railroad. Like Los Angeles, the coastal bluffs in the City of San Clemente were disrupted by the construction of the Pacific Coast Highway and the railroad. Wherever the railroad tracks removed the toe of a coastal bluff, that coastal bluff became unstable. The bluffs in the Cypress Shores private community are separated from the ocean by the railroad. However, the railroad construction activity happened early in the century, and although the coastal bluffs in San Clemente were impacted by the railroad construction, they are still natural coastal bluff landforms up to 100 feet high. These coastal bluffs would be eroding with or without the railroad construction. As stated in the Marblehead focused EIR:

In the case of the Marblehead site, the geomorphic process responsible for bluff erosion is no longer wave action. El Camino Real has been constructed along the base of the bluff, with the AT&SF railroad and housing also having been built between the road and the shoreline. Instead of erosion by wave action, the bluffs continue to erode partly due to oversteepening that resulted from construction of the railroad and El Camino Real.

The Marblehead bluffs are located in the northern part of San Clemente, but the composition of the coastal bluffs in San Clemente is similar. There are railroad tracks located at the base of the coastal bluffs at the project location. The tracks contribute to coastal bluff erosion by not allowing talus and landslide materials to accumulate and by causing vibration in the bluffs due to passing trains.

There are two recent, major coastal bluff stabilization projects in the City of San Clemente (La Ventana and Colony Cove) where residences on coastal bluffs have either been destroyed or endangered by bluff failure [CDPs 5-93-243 (San Clemente), A5-DPT-93-275 (Dana Point)]. Other residences on coastal bluffs in San Clemente have received permits to install caissons or other foundation protection measures (CDPs 5-00-034 (McKinley-Bass); 5-99-351 (McMurray); 5-93-181 (Driftwood Bluffs), 5-93-307 (Ackerly), and 5-93-143 (Mertz & Erwin) because existing decks or residences were threatened by bluff erosion.

Landsliding of coastal bluffs below La Ventana Street in the City of Dana Point resulted in the destruction of five homes. Landsliding of the bluffs below Colony Cove resulted in the undermining of terrace walls and patio structures. The La Ventana geotechnical report discusses drainage. The primary cause of the La Ventana Landslide was water infiltration into the bluff along a deep seated slope failure line. The report states that water seepage onto the bluff face was longstanding and that landscaping on the rear yards of some bluff top homes may have contributed to the accumulation of water in the slopes.

Additionally, in a letter dated October 1, 1999 discussing a bluff repair project at 327 and 327 1/2 Paseo De Cristobal [5-00-034 (McKinley-Bass)], Stoney-Miller Consultants made the following general observation regarding San Clemente: *"The failure was the result of seepage flows along the lithologic contact between the Terrace Deposit and Bedrock. This contact is a geologic feature that underlies the majority of the City of San Clemente east of the shoreline bluff to the Interstate 5 Freeway. Irrigation and rainfall throughout this area provides recharge to the perched water at this contact."*

The Commission has received many application requests to resolve geotechnical problems and protect existing structures on coastal bluffs and coastal canyons in San Clemente which were caused by inadequate drainage systems, i.e., broken irrigation lines, overwatering, directing uncontrolled runoff to the bluff slopes, and differential settling due to improperly compacted fill.

An emergency permit was issued in 1990 for massive grading of unstable bluffs at the Marblehead site. Landsliding in 1990 had caused repeated closures of the Pacific Coast Highway at the base of the bluffs. Unlike the La Ventana and Colony Cove sites, there was no development on the Marblehead bluffs. The Marblehead Bluffs erosion problem was created in part by the construction of the railroad and the Pacific Coast Highway which resulted in oversteepening of the bluffs. The Marblehead geological report by Zeiser Kling Consultants, Inc., discusses the process of bluff retreat:

The oversteepened bluffs fail due to erosion, such as wave action along the base of the bluff, and due to other environmental factors such as water saturation during periods of abundant rainfall. Fallen debris accumulates at the foot of the slopes where it forms an unstable talus pile. Secondary failures occur as the talus erodes. As more failures occur, the bluff retreats landward. In its mature state, the landform no longer has the appearance of a bluff. The talus pile grows into a large "apron" that buries the bluffs, but continues to fail intermittently as it seeks its angle of repose. The landform may become temporarily stable when the talus apron is large enough to cover the bluff face, protecting the otherwise steep slopes from exposure and possibly buttressing the base of the slopes.

The Marblehead and other geotechnical reports state that the process of coastal bluff erosion can be slowed by landscaping, setting buildings back from the blufftop and constructing impact barriers at the base of the bluff, or by grading and terracing the slope.

The Colony Cove, La Ventana, and Marblehead bluff stabilization projects are located several miles north of the project site. However, there are bluff stability problems along the entire stretch of San Clemente coastal bluffs as evidenced by applications for foundation support systems for residences on coastal bluffs and by foundation support systems built prior to

passage of the Coastal Act. Much of the development on coastal bluffs prior to the Coastal Act was constructed close to the bluff top edge and later required support systems for failing patios, decks and other improvements.

In addition to documentation of the instability of coastal bluffs in San Clemente, Gerald G. Kuhn published an article entitled "Greatly Accelerated Man-Induced Coastal Erosion and New Sources of Beach Sand, San Onofre State Park and Camp Pendleton, Northern San Diego County, California," in which it is noted that 80% of the cliffs between the San Onofre Nuclear Power Plant and Target Canyon have experienced landslides. Camp Pendleton is located less than one-half mile south of the project site.

b. Site Specific Geotechnical Data

The applicant initially submitted a geotechnical report prepared by Petra Geotechnical, Inc. dated February 24, 2000 entitled *Geotechnical Investigation, Proposed Single Family Residence, 3904 Calle Ariana, Lot 96, Tract 4202, San Clemente, California*. In response to a request by Commission technical staff, the applicant submitted a subsequent report prepared by Petra Geotechnical, Inc. entitled *Updated Geotechnical Investigation Report, Proposed Single-Family Residence, 3904 Calle Ariana, Lot 96, Tract 4202, San Clemente, California* dated October 20, 2000.

The updated report presents the results of the previous field investigation and laboratory testing and provides updated geotechnical recommendations based on the new design of the proposed structure. The methods of investigation for the report included: (1) a review of available aerial photographs for the years 1932 through 1997; (2) field exploration consisting of a site reconnaissance, filled mapping, the drilling of two exploratory borings, and the collection of relatively undisturbed and bulk earth materials; and (3) laboratory testing of collected samples.

The geotechnical report findings state that the subject site is located on the edge of an elevated coastal marine terrace. The elevated terrace extends along the majority of the San Clemente Coastline and is characterized by an upper surface that slopes very gently from the base on the Santa Ana Mountains southwest to the sea cliffs along the Pacific Coast. The local geology is characterized primarily by terrace deposits overlying bedrock materials of the Tertiary-age Capistrano Formation. The report documents that the site is underlain by bedrock.

Regarding site and slope stability, the consultant states, "*the slope along the southwestern edge of the property is considered to be grossly stable ad free form mass movement and excessive erosion. This conclusion is based generally on the favorable structure of the bedrock and overlying terrace deposits, on the heavy protective growth of vegetation that currently covers the upper portion of the slope exposing the terrace deposits, and on the other positive factors presented previously in this report.*" Other positive factors identified in the report include the results of the aerial photography review, the distance from an existing ancient landslide, and the wide buffering beach located between the mean high tide line and the railroad tracks.

The report admits that the surficial terrace deposits that comprise the face of the upper portion of the slope may experience a certain amount of minor erosion due to the effects of rainfall and weathering, and minor block failures may occasionally occur within the exposed bedrock materials along steeply inclined joints. However, as stated in the report, "*these erosion and occasional minor block failures are not expected to have any adverse impact on the overall integrity of the bluff face or on the integrity of the proposed structure provided that the recommendations of this report are incorporated into the design and construction of the proposed development.*"

The report includes recommendations regarding grading, site preparation, site drainage, seismic considerations, and foundation design. Of primary importance is the geotechnical consultant's

recommendation concerning appropriate setback from the bluff edge. According to the report, the consultant recommends the following:

"...the proposed residence should be set back beyond an imaginary plane projected from the toe of the coastal bluff (from the surface of the bedrock and exclusive of any overlying talus) up through the Capistrano Formation Bedrock at a slope ratio of 1.5:1, (horizontal to vertical). This imaginary setback plane is shown in profile on cross section A-A', (Plate 2)¹. This setback requirement is based on the results of our geotechnical investigation and reflects the geological conditions present on the bluff and the observed anticipated mechanisms of potential future bluff recession over a span of the next 50 years (the design life of the project).

Based on the enclosed site plan, the setback of the proposed building will conform to the requirements of the string line method of setback per the City of San Clemente, the setback requirements of the Uniform Building Code, and will extend beyond an imaginary 1.5:1 setback plane from the toe of the steep portion of the adjacent slope. Based on all of these conditions the proposed setback of the residence from the coastal bluff is considered acceptable from a geotechnical point of view and will provide adequate protection of the proposed residence during the lifetime of the project (at least 50 years)."

The report concludes that from a soils engineering and engineering geologic point of view, the subject site is considered suitable for the proposed development and construction provided certain recommendations are incorporated into the design criteria and project specifications.

The Commission's Senior Geologist has reviewed the updated geotechnical report and finds that the project, as redesigned, will be consistent with the geologic stability sections of the Coastal Act if properly conditioned for (1) conformance with the geotechnical recommendations and (2) prohibition of any permanent irrigation system in the rear yard of the lot (Exhibit 5).

3. Conclusions and Determination of Consistency

The coastal bluff at the subject site is considered grossly stable. Nearby residences have not experienced substantial erosion. In addition, the bluff face supports a substantial amount of vegetation, which means that less surface area is open to erosion from the wind, salt spray, exposure to the sun, and wetting and drying. The vegetation also means that there are root systems adding cohesion to the soils.

The proposed development is consistent with the recommended structural stringline setback and both the 10 foot hardscape setback and the stringline deck setback. However, as has been noted in this staff report, bluff failures have been attributed to over-watering, broken irrigation lines, broken water lines, and inadequate drainage systems. These types of failures in some instances have created the need for blufftop protective devices, such as caisson and grade beam systems to protect existing structures.

To meet the requirements of the Coastal Act, bluff and cliff developments must be sited and designed to assure stability and structural integrity for their expected economic lifespans while minimizing alteration of natural landforms. Bluff and cliff developments (including related storm runoff, foot traffic, site preparation, construction activity, irrigation, waste water disposal and other activities and facilities accompanying such development) must not be allowed to create or contribute significantly to problems of erosion or geologic instability on the site or on surrounding geologically hazardous areas which would then require stabilization measures such as caissons, pilings or bluff re-structuring.

¹ Plate 2 is included in the current staff report as Exhibit 4.

Geologic reports for blufftop development recommend setbacks for fixed residential structures and recommendations for other blufftop improvements. As was stated in the section on generalized bluff erosion, there is ample evidence in the City of San Clemente that the bluffs are adversely impacted by human development. Specifically, 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.

Geologic reports generally include recommendations for landscaping, but unlike other engineering specifications, these recommendations are not reviewed and implemented by the consulting geologist/engineer. For instance, Petra recommends the following:

"...a surface drainage system consisting of surfacing yard drains, earth swales and sheet flow gradients in landscape areas, and sloped flatwork should be designed for the site to collect surface water and direct it to the adjacent street. The subdrain systems for the proposed retaining walls should be designed to drain by gravity to a sump pump equipped with a submersible pump. The pump should then discharge water accumulated within the sump to the gutter of the adjacent street through a force main.

The report also provides more specific recommendations regarding site drainage, including (1) sealing planter bottoms within five feet of basement walls, (2) extending areas drains into planters located within five feet of building foundations to mitigate excessive infiltration of water into the foundation soils; (3) concrete flatwork inclined away from building foundation and basement subdrains routed to sump pump; and (4) implementation of a watering program in landscaped areas to maintain a uniform, near optimum moisture condition in soils.

Development on blufftop lots in San Clemente are required to submit landscape plans, consisting primarily of native plants, for the review and approval of the Executive Director, in order to be found in conformance with Section 30253 of the Coastal Act. The applicant must also submit drainage and irrigation plans to demonstrate that geotechnical recommendations have been incorporated accordingly. In this instance the applicant has not yet submitted a drainage and irrigation plan or a final landscape plan.

a. Special Conditions and Coastal Act Consistency

The Commission requires applicants on blufftop lots to comply with certain specific special conditions to bring the project into compliance with the resource protection policies of the Coastal Act. In this case, the special conditions include: conformance with geotechnical recommendations; recordation of assumption of risk, no future bluff protective device, and future development deed restrictions; and submittal of a drainage, irrigation, and landscaping plan.

Special Condition 1 requires the applicant to submit foundation plans, which have been reviewed, signed and stamped by a geotechnical consultant. The geotechnical report includes specific recommendations for foundations, footings, etc. which will ensure the stability of the proposed residential structure. Only as conditioned for conformance with geotechnical recommendations does the Commission find that the proposed development conforms with Section 30253 of the Coastal Act.

Special Condition 2 requires the recordation of an assumption of risk deed restriction. Although adherence to the required bluff top setback will minimize the risk of damage from erosion, the risk is not eliminated entirely. Therefore, the standard waiver of liability condition has been attached through Special Condition No. 2. By this means, the applicant is notified that the residence is being built in an area that is potentially subject to bluff erosion that can damage the applicant's property. The applicant is also notified that the Commission is not liable for such damage as a result of approving the permit for development. Finally, recordation of the

condition ensures that future owners of the property will be informed of the risks and the Commission's immunity for liability.

Special Condition 3 of the permit requires the applicant to record a deed restriction on the property placing the applicant and their successors in interest on notice that no bluff protective devices shall be permitted unless alternatives (described in the condition) are demonstrated to be infeasible. The development could not be approved if it included provision for a bluff protective device. Instead, the Commission would require the applicant to set the development further landward. The condition states that in the event any bluff protective work is proposed in the future, the applicant acknowledges that as a condition of filing an application for a coastal development permit, the applicant must provide the Commission or its successor agency with sufficient evidence enabling it to consider all alternatives to bluff protective works, including consideration of relocation of portions of the residence that are threatened, structural underpinning, or other remedial measures identified to stabilize the residence that do not include bluff or shoreline stabilization devices.

Whereas Special Condition 3 applies to bluff protective measures, Special Condition 4 is a future development deed restriction which states that any future improvements or additions on the property, including hardscape improvements, grading, landscaping, vegetation removal and structural improvements, require a coastal development permit from the Commission or its successor agency. This condition ensures that development on coastal bluffs which may affect the stability of the bluffs and residential structures or may require future bluff protective structures, require a coastal development permit.

Special Condition 5 requires the applicant to submit a drainage and run-off plan for the review and approval of the Executive Director. In keeping with the geotechnical recommendations, this condition requires that the drainage system reduces water infiltration into the subgrade soils and directs surface waters away from the building foundations, walls and sloping areas. In addition, the condition requires that all rooftop drainage be taken to the street to minimize infiltration.

Special Condition 6 requires that the applicant submit a final landscaping plan which consists primarily of native, drought-tolerant plants and prohibits in-ground irrigation throughout the entire lot. This special condition requires that areas not occupied by hardscape be planted primarily with native, drought tolerant plants indigenous to the area. The condition distinguishes between the types of plants allowed in the rear, side and front yards. Non-native ornamental plants are allowed in the front and side yards only if they are kept in containers. Rear yard, bluff top plantings consist entirely of native, drought-tolerant plants. Native, drought-tolerant plants common to coastal bluffs serve the following functions: require watering originally (1-3 years) but not after they become established, drought-tolerant plants have deep root systems which tend to stabilize soils, are spreading plants and tend to minimize the erosive impact of rain, and provide habitat for native animals. The condition allows for the placement of non-drought-tolerant, water-dependent plants in containers, i.e., boxes and planters, along the side and front yards.

In recent actions on unstable bluffs [5-00-334 (McKinley-Bass), 5-98-469 (Ferber)], the Commission has required that no in-ground irrigation systems be installed on blufftop lots. This special condition conforms with the previous actions of the Commission regarding in-ground irrigation systems. The condition does acknowledge that temporary above ground watering is allowed for plant establishment and growth.

Section 30253 of the Coastal Act states that new development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard, and assure stability and structural integrity, and neither create nor contribute significantly to erosion, 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 (emphasis added).

Only as conditioned for conformance with geotechnical recommendations, assumption of risk, no future blufftop protective devices, future improvements, submittal of a drainage and irrigation plan, and submittal of a final landscaping plan, does the Commission find the proposed development in conformance with section 30253 of the Coastal Act.

C. SCENIC RESOURCES

Section 30251 of the Coastal Act pertains to visual resources. It 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...

The project is located on a blufftop lot south of San Clemente State Beach, a highly scenic popular beach area. Consequently, it is necessary to ensure that the development will be sited to protect views to and along the beach area and minimize the alteration of existing landforms. The certified LUP states that San Clemente State Beach is "one of the most heavily utilized facilities in the State Parks system, generating two million visitors annually." The facilities at San Clemente State Beach include 210 parking spaces, 157 camping sites, 72 hookups for campers, bathrooms and showers. In addition, the LUP notes that a 7.5 acre lot to the south of the State Beach which was given to the State Parks as a condition of a subdivision permit is rugged canyon terrain and will be kept in its natural state.

In order to ensure that the visual appearance of the bluff is protected, the applicant is being conditioned to comply with a future development deed restriction and landscape condition. The future development deed restriction ensures that improvements are not made at the blufftop which could affect the visual appearance of the coastal bluff or affect the stability of the bluff. The landscape condition requires that the applicant install native, drought-tolerant plants along the bluff-top and rear yard and that only temporary irrigation to establish the plants is permitted. These native plants will be compatible with the native plants already in existence on bluff faces in San Clemente.

Therefore, the Commission finds that, as conditioned for the landscaping condition and future development deed restriction, the project is consistent with the visual resource protection policies of Section 30251 of the Coastal Act.

D. PUBLIC ACCESS AND RECREATION

Section 30212(a)(2) of the Coastal Act states:

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:

- (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,*
- (2) adequate access exists nearby, or,*
- (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.*

Section 30604(C) of the Coastal Act requires that permit applications between the nearest public road and the shoreline of any body of water within the coastal zone shall include a public access and recreation finding. The proposed development is located between the sea and the first public road in the private gated community of Cypress Shores. Vertical public beach access is available less than one mile north of the site at San Clemente State Beach. Lateral access to the Pacific Ocean and sandy beach is available immediately adjacent to the proposed development, seaward of the railroad tracks located at the toe of the adjacent slope.

The proposed development 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. However, the proposed development, construction of a single family residence on an existing subdivided parcel in an area inaccessible to the public, will not affect the existing public access condition. It is the locked gate community not this home that impedes public access.

A public access dedication can be required pursuant to Section 30212 only if it can be shown that the development either individually or cumulatively directly impacts physical public access, impacts historic public use, or impacts or precludes use of Public Trust Lands. In this situation, the development is located between the sea and the first public road, however, it does not impact access either directly or indirectly to the ocean. The project site is currently a vacant lot intended for single-family residential use and will not result in an intensification of use. The development will not create adverse impacts, either individually or cumulatively, on public access and will not block public access from the first public road to the shore. Therefore, the Commission finds that the proposed development is consistent with Section 30212 of the Coastal Act.

E. LOCAL COASTAL PROGRAM

Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act. The Commission certified the Land Use Plan for the City of San Clemente on May 11, 1988, and certified an amendment approved in October 1995. On April 10, 1998, the Commission certified with suggested modifications the IP portion of the Local Coastal Program. The suggested modifications expired on October 10, 1998. Consequently, the City does not have a fully certified LCP.

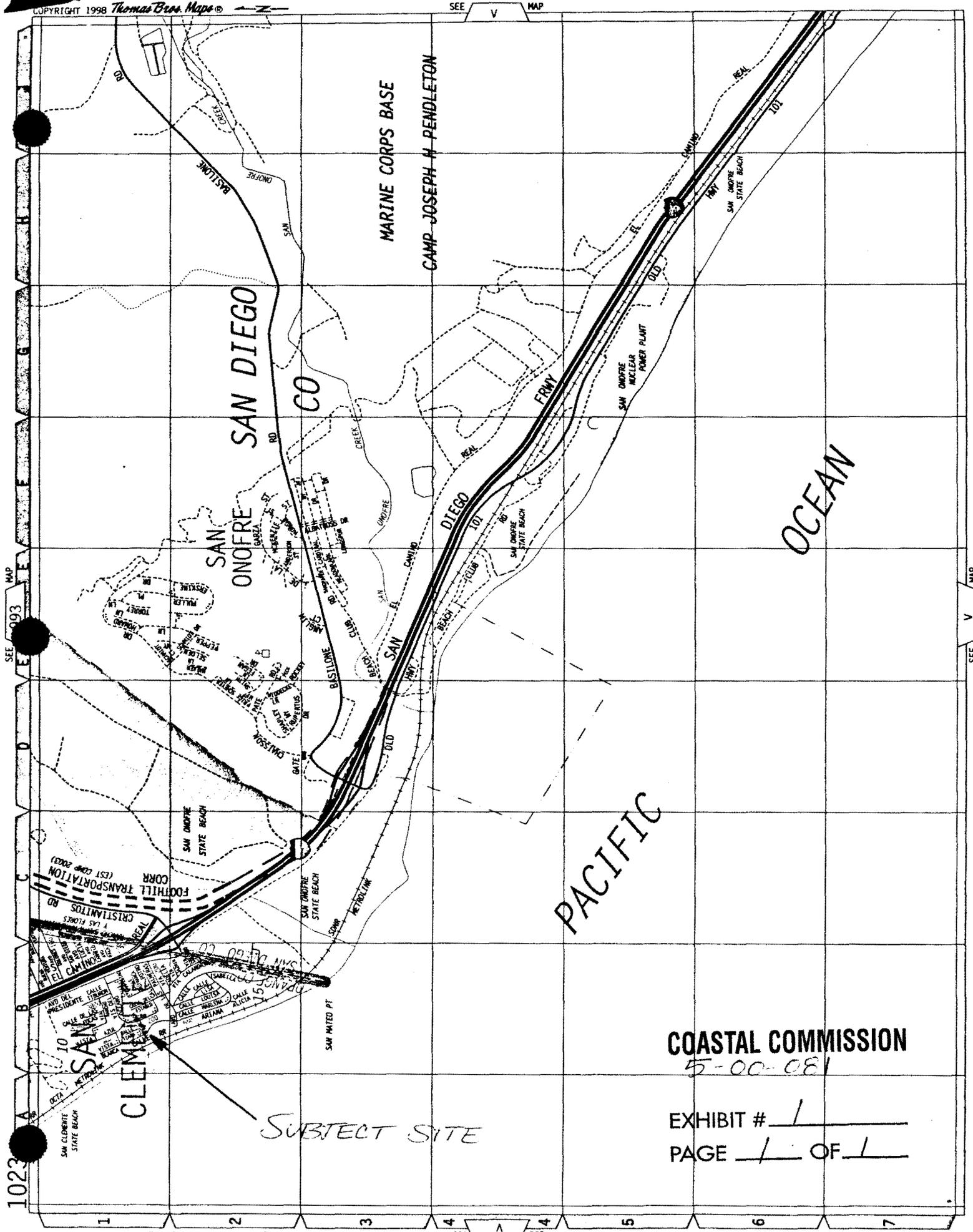
As conditioned, the proposed development is consistent with the policies contained in the certified Land Use Plan regarding public access. Therefore, approval of the proposed development will not prejudice the City's ability to prepare a Local Coastal Program for San Clemente that is consistent with the Chapter 3 policies of the Coastal Act as required by Section 30604(a).

F. CONSISTENCY WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

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 by any conditions of approval, 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 which the activity may have on the environment.

The proposed project has been conditioned in order to be found consistent with the geologic hazards and visual resource protection policies of the Coastal Act. Mitigation measures include

special conditions requiring conformance with deed restrictions regarding future development and assumption-of-risk, conformance with geotechnical recommendations, and requirements regarding drainage, irrigation, and landscaping will minimize all adverse effects. The proposed development, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act. There are no feasible alternatives or mitigation measures available which will lessen any significant adverse effect the activity would have on the environment. Therefore, the Commission finds that the proposed project is consistent with CEQA and the policies of the Coastal Act.



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EXHIBIT # 1
PAGE 1 OF 1

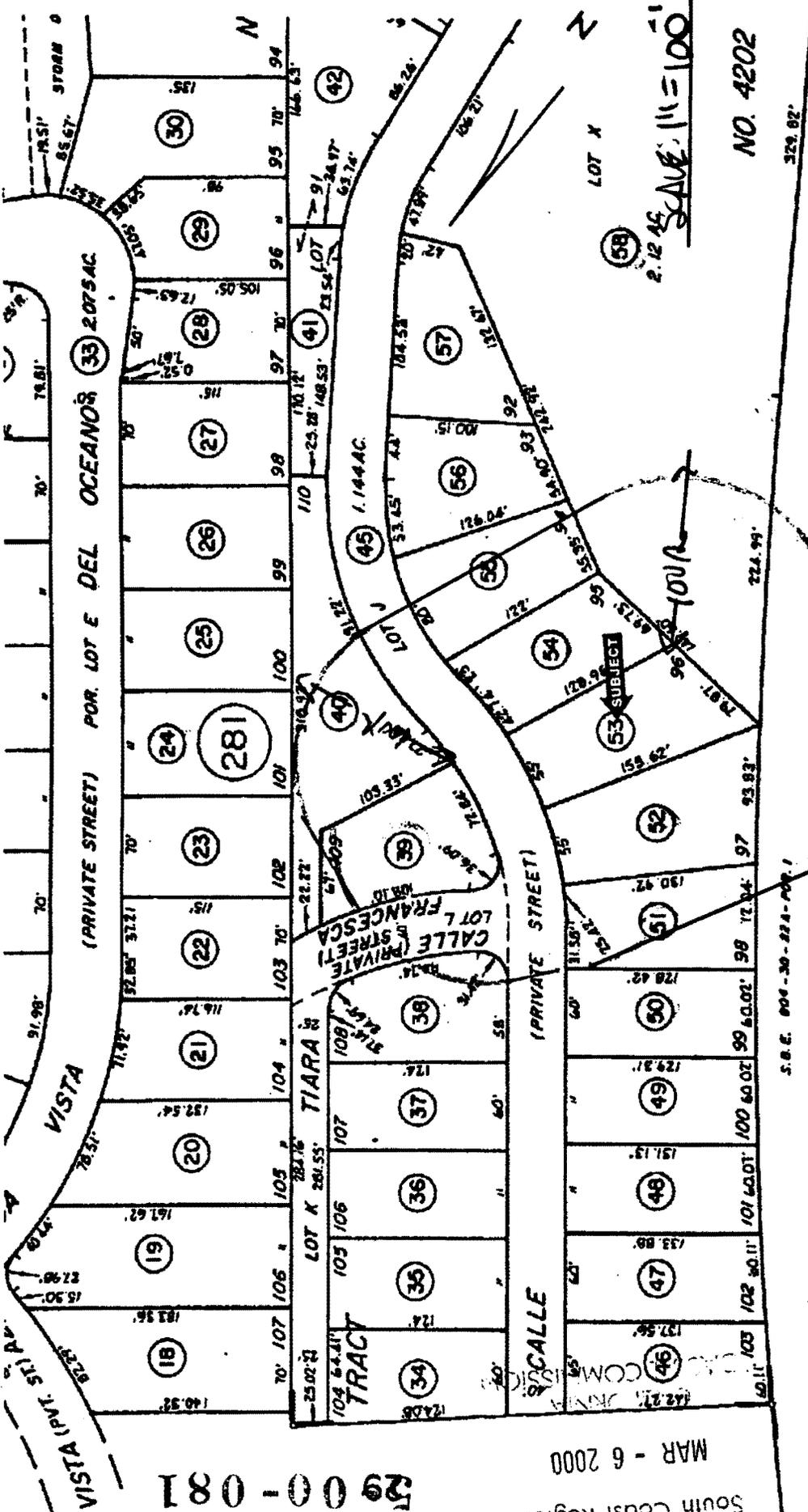
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SEE V MAP

1023

ORANGE CO.

MAP



NO. 4202

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NOTE - ASSESSOR'S BLOCK
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M.M. 152-34 TO 38 INC.
M.M. 461-30 TO 41 INC.

TRACT NO. 4202
TRACT NO. 10225

COASTAL COMMISSION

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EXHIBIT # 2
PAGE 1 OF 1

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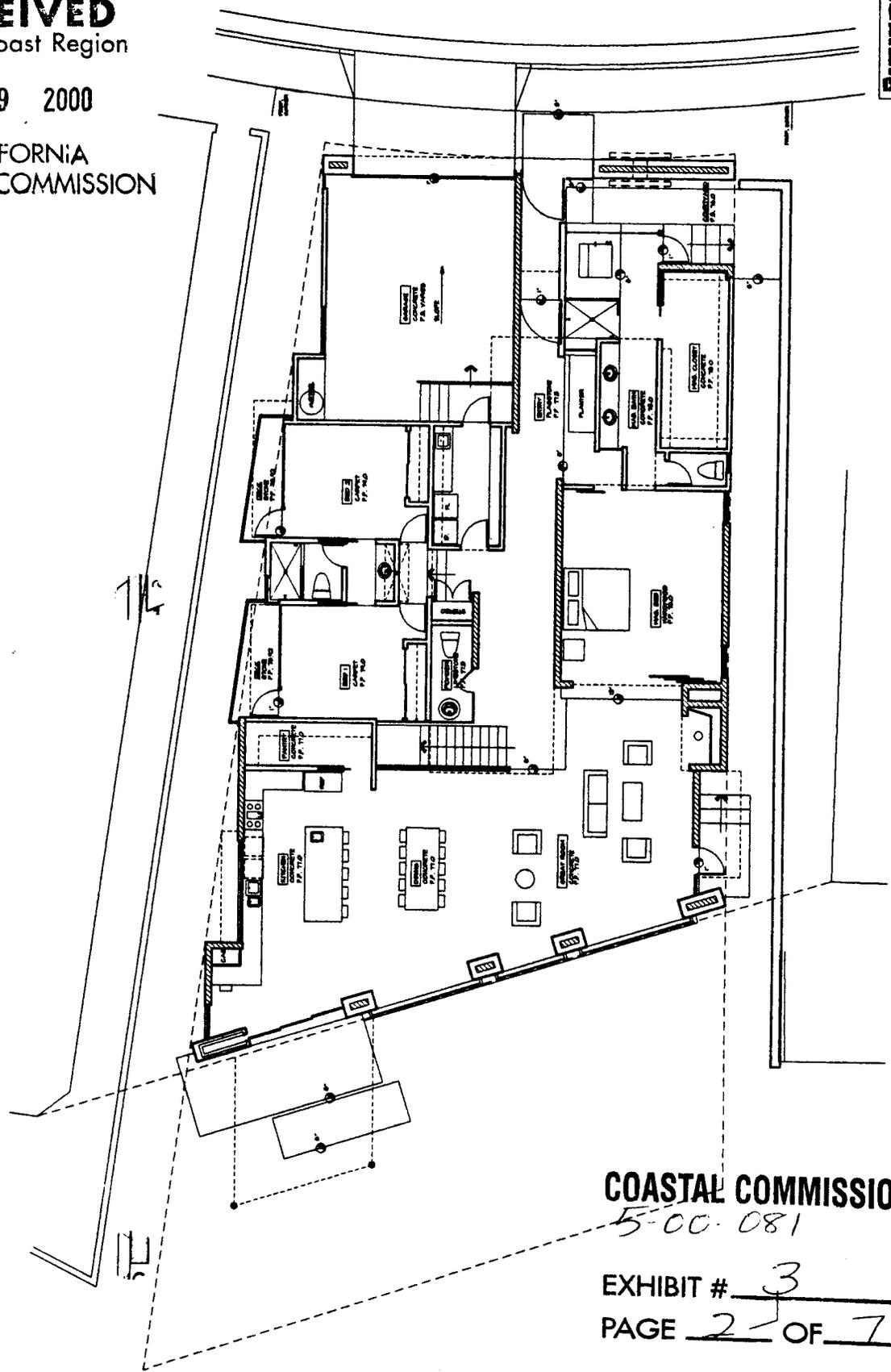
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SEE PLAN FOR FINISHES
 SEE PLAN FOR FIXTURES
 SEE PLAN FOR EQUIPMENT

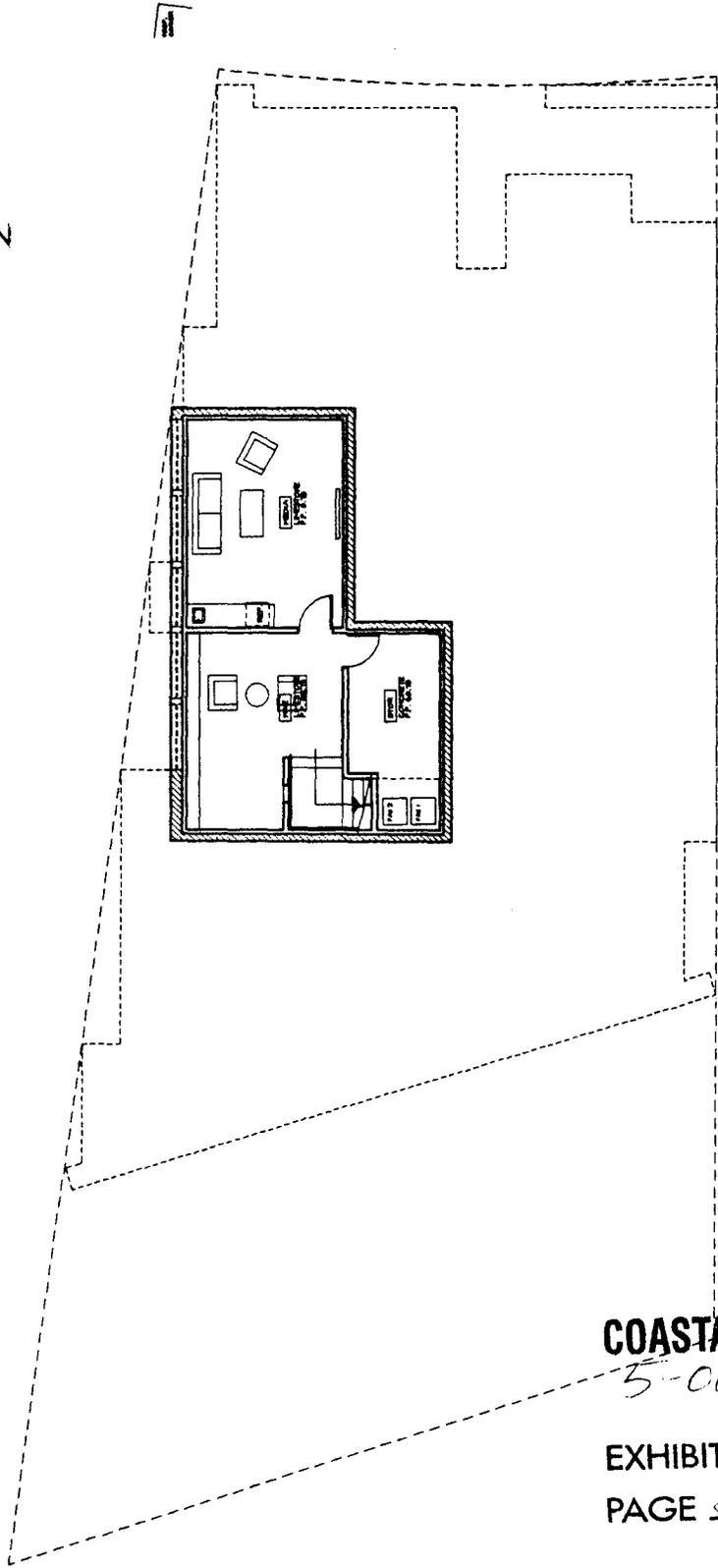
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UPPER LEVEL FLOOR PLAN

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ALL DIMENSIONS IN FEET AND INCHES
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 1/8" = 1'-0"

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LOWER LEVEL FLOOR PLAN

COASTAL COMMISSION

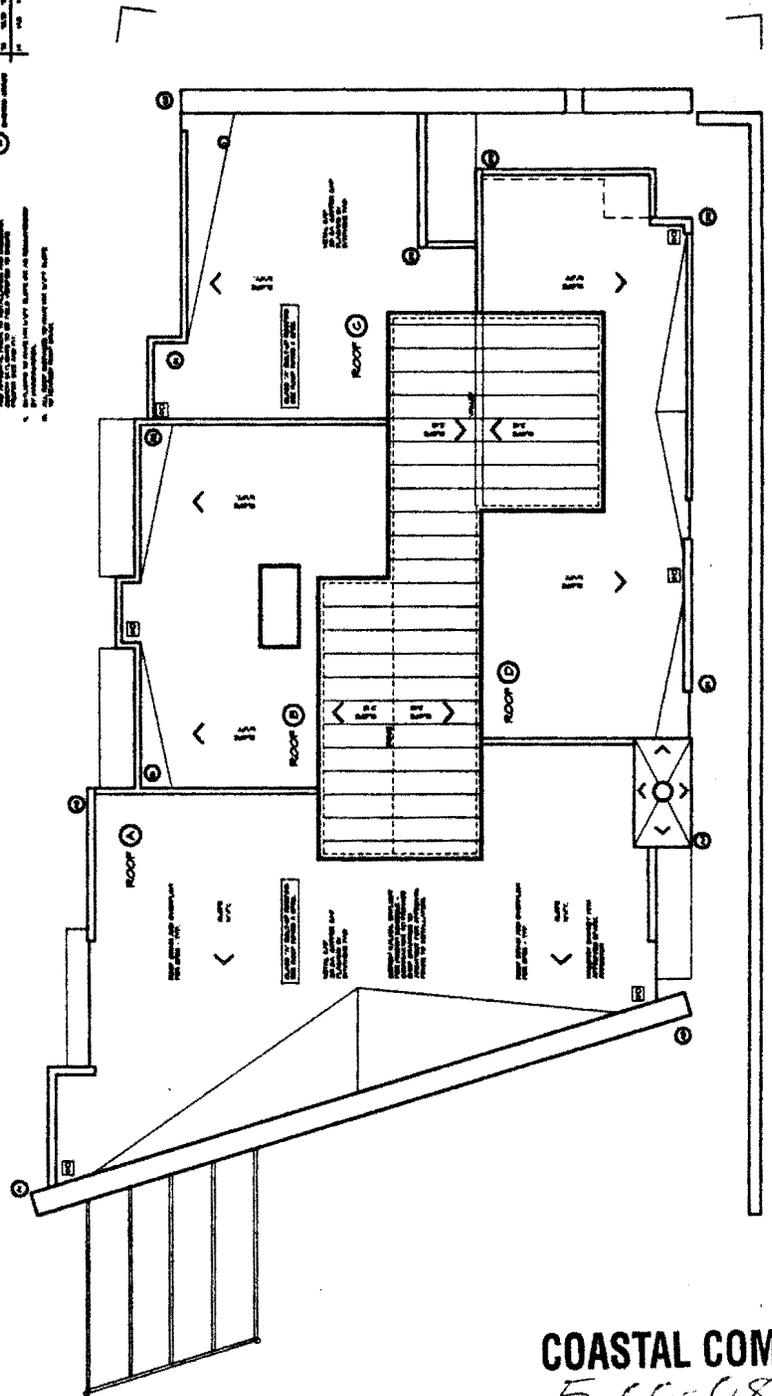
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EXHIBIT # 3

PAGE 3 OF 7

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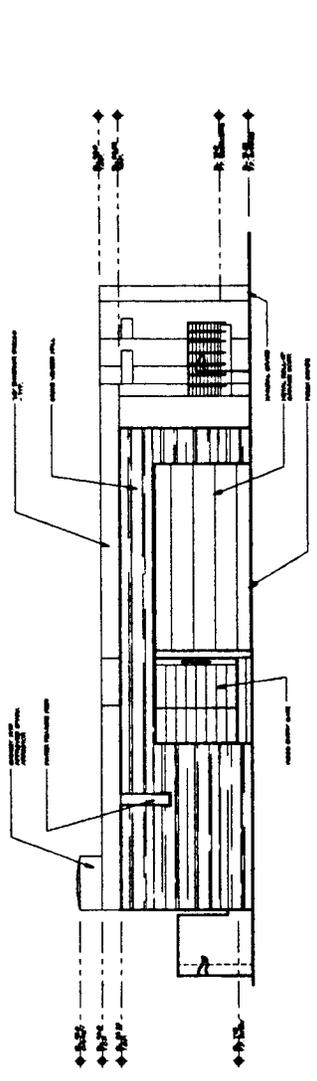


ROOF PLAN

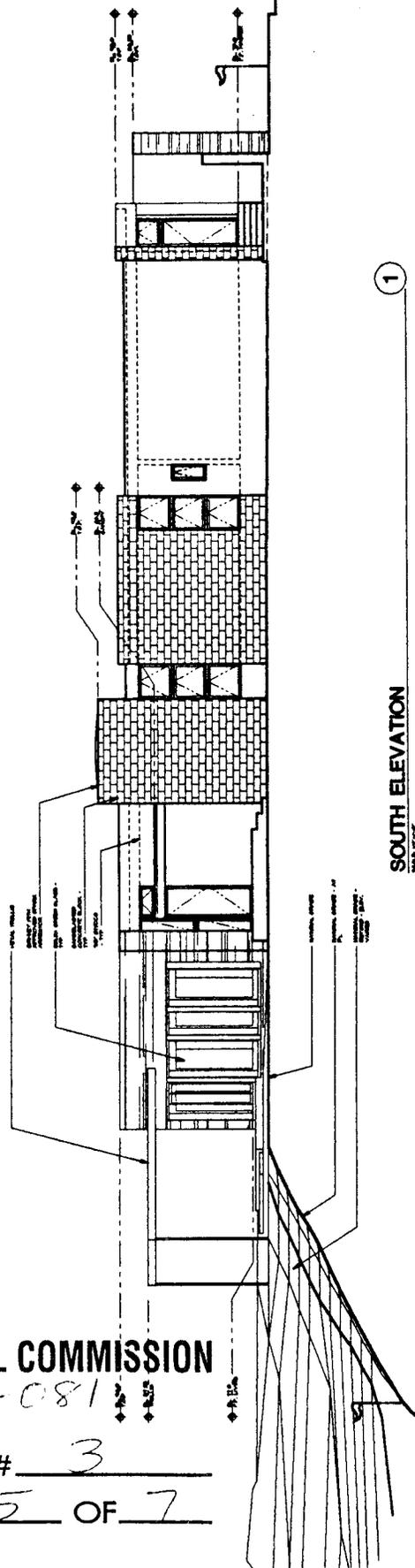
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EXHIBIT # 3
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EAST ELEVATION
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SOUTH ELEVATION
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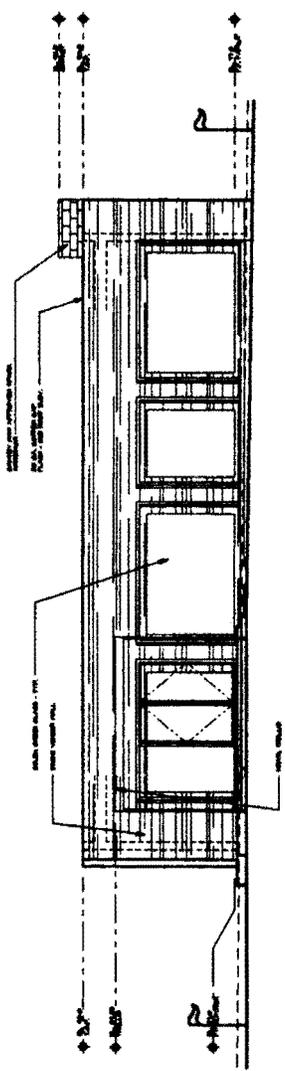
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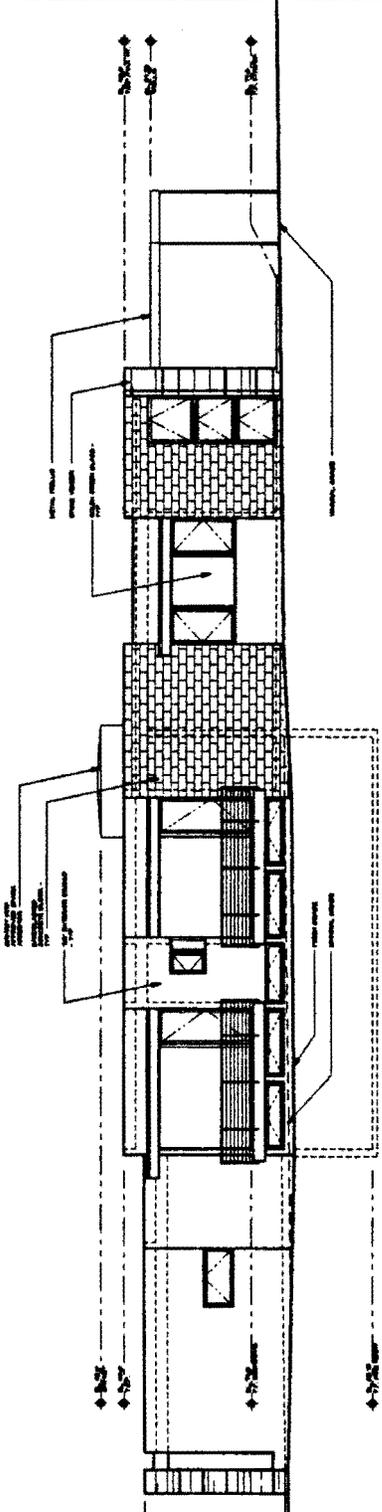
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WEST ELEVATION



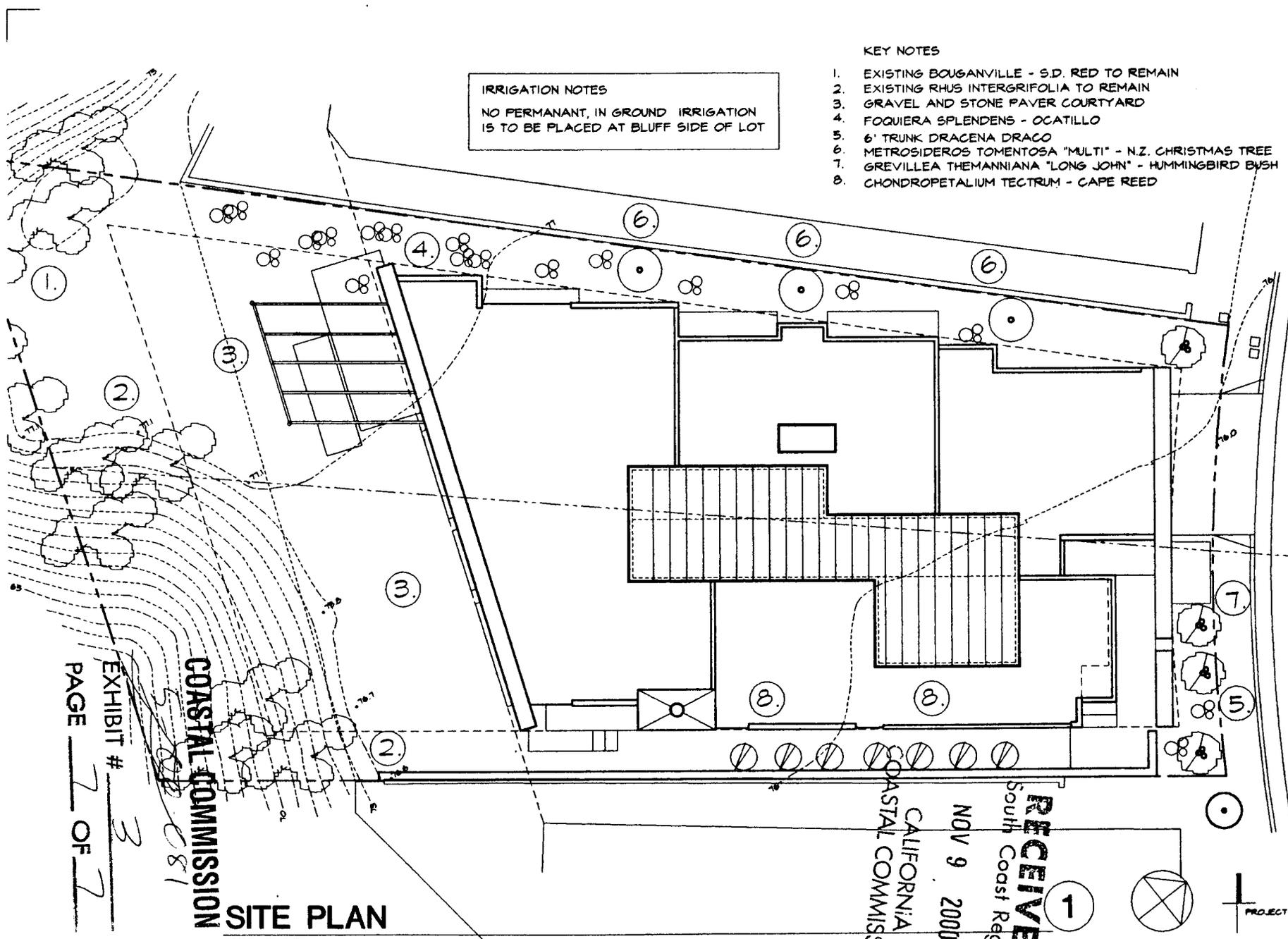
NORTH ELEVATION

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EXHIBIT # 3

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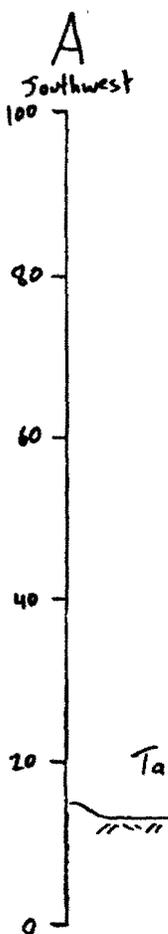


IRRIGATION NOTES
 NO PERMANENT, IN GROUND IRRIGATION IS TO BE PLACED AT BLUFF SIDE OF LOT

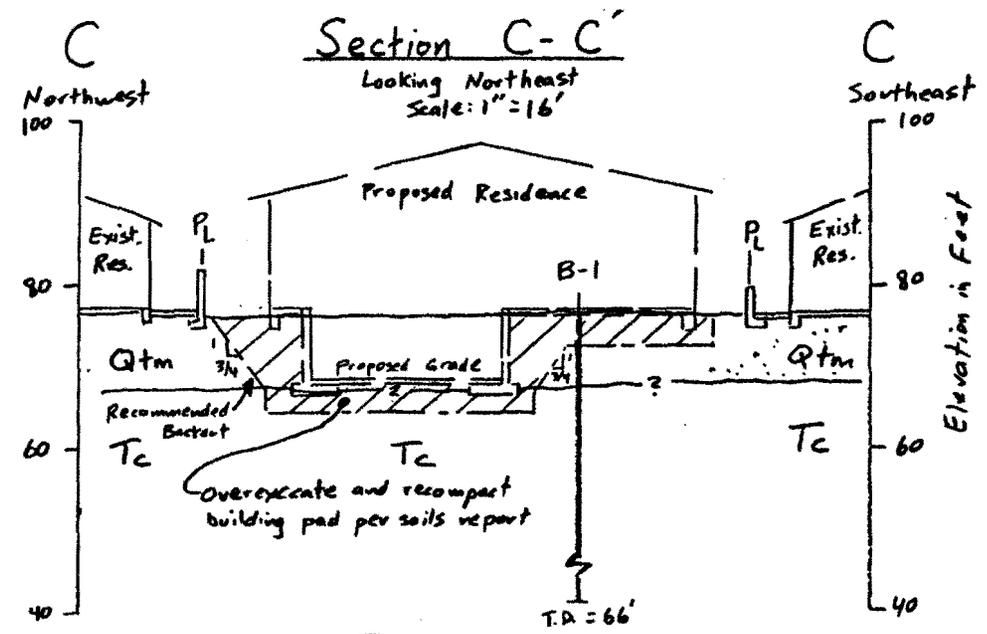
KEY NOTES

1. EXISTING BOUGANVILLE - S.D. RED TO REMAIN
2. EXISTING RHUS INTERGRIFOLIA TO REMAIN
3. GRAVEL AND STONE PAVER COURTYARD
4. FOQUIERA SPLENDENS - OCATILLO
5. 6' TRUNK DRACENA DRACO
6. METROSIDEROS TOMENTOSA "MULTI" - N.Z. CHRISTMAS TREE
7. GREVILLEA THEMANNIANA "LONG JOHN" - HUMMINGBIRD BUSH
8. CHONDRPETALIUM TECTRUM - CAPE REED

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Section A-A'
Looking Northwest
Scale: 1"=16'



Section C-C'
Looking Northeast
Scale: 1"=16'

Elevation in Feet

	PETRA GEOTECHNICAL, INC.
JN. 496-99	OCT. 2000
	PLATE 2

COASTAL COMMISSION
5-00-081
EXHIBIT # 4
PAGE 1 OF 1

CALIFORNIA COASTAL COMMISSION

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



1 November 2000

MEMORANDUM

To: Anne Kramer, Coastal Program Analyst
From: Mark Johnsson, Senior Geologist
Re: Cramer application (5-00-081)

I have completed my review of the following documents with respect to the proposed development at 3904 Calle Ariana, San Clemente:

- 1) Petra geotechnical investigation "Updated geotechnical investigation report, proposed single-family residence, 3904 Calle Ariana, Lot 96, Tract 4202, San Clemente, California," dated 20 October 2000, and signed by David Hansen (RCE 56591) and Robert Ruff (CEG 1165), 38 p. plus appendices.
- 2) Mark H. Singer, AIA Architects site plan "Cramer Residence II," dated 25 August 00, unsigned, 6 sheets.

As you are aware, reference (2) represents a major redesign of the project, largely undertaken in response to Coastal Commission concerns regarding the original proposal. As redesigned, I find that the project will be consistent with the geologic stability sections of the Coastal Act, the standard of review, if properly conditioned.

Two special conditions that I would recommend are that: 1) All recommendations set forth in the geologic report (reference 1) be strictly adhered to, and 2) A prohibition against the installation of any permanent irrigation system in the rear yard of the lot.

The site appears to be grossly stable, but the underlying Capistrano Formation is known to be very susceptible to ground movements, especially when saturated by ground water. In addition, the unit is known to have a high to very high potential for expansion when wet, which can lead to further site instability, foundation distress and buckling of retaining walls. Accordingly, in order to insure that the development will not contribute significantly to geologic instability, I recommend that irrigation on the rear lot be restricted to temporary, manually operated systems.

Although the stringline setback criteria results in a lesser bluff top setback than typically approved by the Commission (16 feet as opposed to the usual 25 feet), the geotechnical investigation has demonstrated to my satisfaction that the development

COASTAL COMMISSION

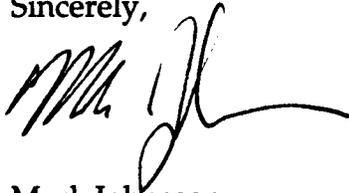
5-00-081

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will not be subject to excessive geologic instability, provided that the recommendations set forth in that document (reference 1) are adhered to.

I hope that this review is useful. Please do not hesitate to contact me if you have any further questions.

Sincerely,



Mark Johnson
Senior Geologist

COASTAL COMMISSION

5-00-081

EXHIBIT # 5

PAGE 2 OF 2