

**CALIFORNIA COASTAL COMMISSION**

South Coast Area Office  
200 Oceangate, Suite 1000  
Long Beach, CA 90802-4302  
(562) 590-5071

**W10b****ADDENDUM**

April 7, 2011

TO: Coastal Commissioners and Interested Parties

FROM: South Coast District Staff

SUBJECT: ADDENDUM TO **ITEM W10b**, COASTAL COMMISSION PERMIT APPLICATION **#5-10-058(Mahfood)** FOR THE COMMISSION MEETING OF **April 13-15, 2011**.

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**Correspondence**

On April 6, 2011, staff received a letter dated March 29, 2011 from Mr. James Hollinger representing the 903 Buena Vista Homeowners' Association in regards to Coastal Development Permit (CDP) Application #5-10-058 (Mahfood), Item W10b at 813 Buena Vista in the City of San Clemente. 903 Buena Vista is directly down coast from 813 Buena Vista the CDP subject site. In his letter, Mr. Hollinger expresses concerns that the current site has inadequate drainage and that the proposed bluff stabilization project does not adequately address drainage on the site.

Mr. Hollinger is correct to comment that the original application submittal for the proposed bluff stabilization plans do not include a drainage plan. Commission staff had similar concerns during our review of the application submittal and requested the applicant address drainage on the site. In response to staff's comments regarding drainage improvements, the applicant revised the project to include a drainage system including a sump pump at the west (bluff) side of the existing building to pump runoff to the east and onto Buena Vista (frontage road). The proposed drainage improvements are included in the project description on page 8 of the staff report dated March 24, 2011.

As the applicant did not submit a proposed drainage plan at the time drainage improvements were added to the project description, staff imposed Special Condition #5: Conformance of Design and Construction Plans to Geotechnical Report, requiring the applicant submit final design and construction plans including foundations, grading and drainage plans consistent with the recommendations contained in the geotechnical reports/evaluations as a prior to permit issuance condition, page 8 of the staff report dated March 24, 2011. Therefore, staff believes that as conditioned, the proposed bluff stabilization project addresses site drainage concerns.

**Revision to Staff Report**

To further clarify the intent of Special Condition 5, Commission staff recommends additional language to the wording of Special Condition 5 on page 5 of the staff report and to the staff findings on page 13 of the staff report and dated March 24, 2011.

Deleted language is in ~~strike through~~ and new language is in **bold, underlined italic**, as shown below:

On page 5 of the staff report:

5. 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 the recommendations contained in the Updated Geotechnical Engineering Evaluation Report prepared by Keith D. Tucker dated November 1, 2010 **and letter prepared by Keith D. Tucker dated June 8, 2010. 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 legally required.

On page 13 of the staff report:

Conformance with Geotechnical Recommendations

The geologic consultant has found that the subject site is suitable for the proposed development provided the recommendations contained in the geotechnical investigations prepared by the consultant, **Mr. Keith D. Tucker dated November 1, 2010 and June 8, 2010** are implemented in the design and construction of the project. Adherence to the recommendations contained in the above-mentioned geotechnical investigations, **including drainage improvements for the bluff side of the lot, is are** necessary to ensure that the proposed project assures stability and structural integrity, and neither creates nor contributes significantly to erosion, geologic instability, or destruction of the site or surrounding area. Therefore, **Special Condition #5** requires that the applicant **submit final foundation, grading and drainage plans conforming** to the geotechnical recommendations in the above mentioned geotechnical investigations.

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South Coast Region

APR - 6 2011

CALIFORNIA  
COASTAL COMMISSION

29 March 2011

To:  
California Coastal Commission  
South Coast District  
200 OceanGate, 10<sup>th</sup> Floor  
Long Beach, CA 90802-4416  
565.590.5071

From:  
903 Buena Vista Homeowners' Association  
Jim Hollinger, President  
903 Buena Vista #B  
San Clemente, CA 92672

Re: Permit Number: 5-10-058

Applicant(s): James Mahfood

Project Description: Coastal bluff slope stabilization consisting of vertical piles, wood lagging and backfill, tie back anchors at each soldier pile and a shotcrete wall connected to the piles with reinforcing steel to protect an existing 9-unit multiple-family residential structure on the bluff top.

Project Location: 813 Buena Vista, San Clemente (Orange county) (APN(s) 692.082.03)

Hearing date: Wednesday, April 13, 2011

Time: 9:00 AM - Item W10b

Place: Santa Barbara Board of Supervisors  
105 East Anapamu Street, Sant Barbara, CA

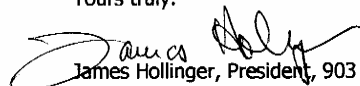
To: The Commission Staff,

I am representing the 903 BVHOA in bringing to the California Coastal Commission's attention that the above application, as described, does not address the main reason for the need for this stabilization project - drainage.

903 Buena Vista is a 7 unit condominium bluff structure directly down slope from 813 Buena Vista and has been impacted by 813 BV's inadequate drainage for years. This is an opportunity to address 813 BV stabilization problems and to focus on the main reason for this attempt to save a compromised building and the bluff that supports it.

We are requesting that the Commission take this letter under advisement.

Yours truly,

  
James Hollinger, President, 903 BVHOA

Note: Attached email sent to the City of San Clemente, Engineering Department.

3/29/2011

Draft of Email to Building Department S...

**From:** Jim & Jonell <jjhollinj@aol.com>  
**To:** LA38FT <LA38FT@aol.com>; rvmom <rvmom@cox.net>; mjlaubach <mjlaubach@gmail.com>  
**Subject:** Draft of Email to Building Department San clemente  
**Date:** Mon, Mar 28, 2011 8:37 pm

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We recently received notification of a Coastal Commission hearing pertaining to 813 Buena Vista plan # B09-0945. We have sent the Coastal Commission a letter of our concerns with the proposal. After receiving the notice I went to the City office and met with Sandy in the Engineering Department. After a personal discussion with her and a phone conversation with Zak Ponsen we felt compelled to send you this communication.

One of the biggest problems with 813 is the lack of drainage in the rear portion of the property. The Geologist only makes a recommendation in the submitted plans that all water should be diverted to Buena Vista but there are no plans on how to do this. The rear of the property has a gutter system on the eave of the roof but there is a large concrete patio on the rear that there is no visible evidence of any drainage system from that patio. In times of heavy rains the runoff from this patio is directed directly to our property and over the years has resulted in significant erosion on our slope. From our property we can only observe the wave of water cascading down the slope from the rear of 813. The recent storm caused a large tree to fall very close to the Boardwalk due to the uncontrolled runoff from this property.

We therefore request that prior to any permit being issued for repairs to 813 that they be required to submit a drainage plan for the rear of the property. If it is feasible to drain to Buena Vista using a pump that would be acceptable but a more practical way might be to put drains around the entire rear of the property and drain the water to the ocean.

Thank you

James Hollinger  
President  
903 Buena Vista HOA

Please advise your comments. I will cc to Sandy and Zak

**CALIFORNIA COASTAL COMMISSION**

South Coast Area Office  
200 Oceangate, Suite 1000  
Long Beach, CA 90802-4302  
(562) 590-5071

**W10b**

Filed: January 14, 2011  
49th Day: March 4, 2011  
180th Day: July 13, 2011  
Staff: Liliana Roman-LB  
Staff Report: March 24, 2011  
Hearing Date: April 13-15, 2011  
Commission Action:

**STAFF REPORT: REGULAR CALENDAR**

**APPLICATION NUMBER:** 5-10-058

**APPLICANT:** James Mahfood

**AGENT:** Keith D. Tucker, Consulting Engineer

**PROJECT LOCATION:** 813 Buena Vista, San Clemente, Orange County

**PROJECT DESCRIPTION:** Coastal bluff slope stabilization consisting of vertical soldier piles, wood lagging and backfill, tieback anchors at each soldier pile and a shotcrete wall connected to the piles with reinforcing steel to protect an existing pre-Coastal Act 9-unit multiple-family residential structure on a bluff top lot

**LOCAL APPROVALS RECEIVED:** City of San Clemente Engineering Division approval-in-concept dated 1/06/11; City of San Clemente Planning Division approval-in-concept dated 1/06/11

**SUBSTANTIVE FILE DOCUMENTS:** City of San Clemente Certified Land Use Plan (LUP); *Limited Geotechnical Investigation for Apartment Building at 811 Buena Vista in San Clemente, CA* prepared by Keith D. Tucker, Consulting Engineer dated 12/8/08; *Updated Geotechnical Engineering Evaluation of Recent Bluff Erosion near Apartment Building at 813 Buena Vista in San Clemente, CA*; prepared by Keith D. Tucker, Consulting Engineer dated 11/01/10; Summary Sheet San Clemente Geotechnical Review by Borella Geology Inc., dated 12/03/10

**SUMMARY OF STAFF RECOMMENDATION:**

Staff recommends **APPROVAL** of the proposed project with eleven (11) special conditions, which require 1) compliance with construction-related best management practices (BMPs), 2) cement slurry BMPs; 3) retaining wall color and texture plan; 4) future soldier pile/grade beam exposure plans; 5) conformance of design and construction plans to geotechnical report; 6) staging area for construction; 7) landscaping/re-vegetation plan; 8) assumption of risk, waiver of liability and indemnity; 9) future development; 10) future redevelopment shall not rely on permitted protective device and 11) generic deed restriction. The primary issues associated with this development are landform alteration and visual impacts.

**LIST OF EXHIBITS:**

1. Location Map
  2. Assessors Parcel Map
  3. Coastal Access Points Map
  4. Project Plans
  5. Site Photographs
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**STAFF RECOMMENDATION:**

**MOTION:**        *I move that the Commission approve Coastal Development Permit No. 5-10-058 pursuant to the staff recommendation.*

**STAFF RECOMMENDATION OF APPROVAL:**

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

**RESOLUTION TO APPROVE THE PERMIT:**

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

**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 on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. 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. Storage of Construction Materials, Mechanized Equipment and Removal of Construction Debris

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 enter the storm drain system leading to the Pacific Ocean;
- B. Any and all debris resulting from construction activities shall be removed from the project site within 24 hours of completion of the project;
- C. Erosion control/sedimentation Best Management Practices (BMP's) shall be used to control sedimentation impacts to coastal waters during construction. BMPs shall include, but are not limited to: placement of sand bags around drainage inlets to prevent runoff/sediment transport into the storm drain system and a pre-construction meeting to review procedural and BMP guidelines;
- D. Construction debris and sediment shall be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged into coastal waters. Debris shall be disposed of outside the coastal zone, as proposed by the applicant.
- E. Concrete trucks and tools used for construction of the approved development shall be rinsed off-site;
- F. Staging and storage of construction machinery and storage of debris shall not take place within the drainage channel and public Coastal Multi-Use Trail.

#### 2. Cement Slurry Best Management Practices

**PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit to the Executive Director, a Best Management Plan that effectively assures no cement slurry or other construction byproduct will be allowed to enter into coastal waters. During cement slurry application specifically, the Plan

shall at a minimum provide for all cement slurry to be contained through the use of tarps or similar barriers that completely enclose the application area and that prevent cement slurry contact with beach sands and/or coastal waters. All cement slurry and other construction byproduct shall be properly collected and disposed of off-site.

3. Retaining Wall Color and Texture Plan

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the review and approval of the Executive Director, a plan demonstrating that the color and texture of the structure will be compatible with the adjacent bluff. The plan shall include sufficient detail regarding the construction method and technology utilized for texturing and coloring the structure. Said plans shall confirm, and be of sufficient detail to verify, that the proposed structures closely match the adjacent color and texture of the natural bluffs, including provision of a color board indicating the color of the material. The plan shall demonstrate that:

1. the entire face of the proposed shotcrete wall structure (both above and below finished grades) will receive the architectural/sculpted treatment should the underground components become exposed by future erosion
2. the shotcrete wall structure and the caissons will be colored/constructed with concrete that has been colored with earth tones that are compatible with the adjacent bluff,
3. white and black tones will not be used,
4. the color will be maintained through-out the life of the structure,
5. the structure will be textured for a natural look that better blends with the bluff face
6. native vegetation appropriate to the habitat type may also be used if feasible to cover and camouflage the structure.

B. The permittee shall undertake development in accordance with the approved final color and texture 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 legally required.

4. Future Soldier Pile/Grade Beam Exposure Plans

In the event any subsurface project features subsequently become exposed to public view from the public beach and/or trail below the site, the applicant shall submit plans to the Executive Director, for his review and concurrence, that provide for visual and aesthetic treatment plans similar to those required in conjunction with this coastal development permit. The aesthetic treatment shall provide that exposed materials match the surrounding terrain to the extent feasible and minimize visual impact of the exposed features. The applicant shall identify proposed materials, colors, monitoring, and



maintenance plans, in conjunction with their submittal. The Executive Director shall determine whether the proposed work will require an amendment to this coastal development permit, a new coastal development permit, or whether no amendment or new permit is legally required.

5. 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 the recommendations contained in the Updated Geotechnical Engineering Evaluation Report prepared by Keith D. Tucker dated November 1, 2010. **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 legally required.

6. Landscaping/Re-Vegetation – Native, Drought Tolerant, Non-Invasive Plants

All areas affected by construction activities not occupied by structural development shall be re-vegetated for habitat enhancement and erosion control purposes. No permanent in-ground irrigation systems shall be installed in the bluff face. Temporary above ground irrigation is allowed to establish plantings. All planting shall be completed within 60 days after completion of construction.

Vegetated landscaped areas shall only consist of native, drought tolerant plants, which are non-invasive and appropriate to the habitat type. No plant species listed as problematic and/or invasive by the California Native Plant Society (<http://www.CNPS.org/>), the California Invasive Plant Council (formerly the California Exotic Pest Plant Council) (<http://www.cal-ipc.org/>), or as may be identified from time to time by the State of California shall be employed or allowed to naturalize or persist on the site. No plant species listed as a “noxious weed” by the State of California or the U.S. Federal Government shall be utilized within the property. All plants shall be low water use plants as identified by California Department of Water Resources (See: <http://www.owue.water.ca.gov/docs/wucols00.pdf>).

7. Construction Staging Area

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the permittee shall submit a plan for the review and approval of the Executive Director which indicates that the construction staging area(s) and construction corridor(s) will avoid impacts to public access, to beach areas or to sensitive habitat areas.

1. The plan shall demonstrate that:
  - (a) Construction equipment or activity shall not occur outside the staging area
  - (b) Public parking areas shall not be used for staging or storage of equipment
  - (c) Beach and trail areas shall not be used as staging or storage areas
  - (d) The staging area for construction of the project shall not obstruct vertical or lateral access to the beach
  - (e) No wetland and/or upland areas vegetated with native plants shall be used for staging or storage areas.
2. The plan shall include, at a minimum, the following components:
  - (a) A site plan that depicts:
    - (1) Limits of the staging area(s)
    - (2) Construction corridor(s)
    - (3) Construction site
    - (4) Location of construction fencing and temporary job trailers, if any

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 legally required.

8. Future Development

This permit is only for the development described in Coastal Development Permit No. 5-10-058. 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 development authorized by this permit, including but not limited to division of land, repair and maintenance activities identified as requiring a permit in Public Resources Section 30610(d) and Title 14 California Code of Regulations Sections 13252(a)-(b), shall require an amendment to Permit No. 5-10-058 from the Commission or shall require an additional coastal development permit from the Commission.

9. Assumption of Risk, Waiver of Liability and Indemnity

By acceptance of this permit, the applicants acknowledges and agrees (i) that the site may be subject to hazards from bluff and slope instability, erosion, landslides, sea level rise and subsequent wave uprush; (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.

10. Future Redevelopment Shall Not Rely on Permitted Protective Device

Any future redevelopment of the subject site shall not rely on the permitted upper bluff protective device to establish geologic stability or protection from hazards. Redevelopment on the site shall be sited and designed to be safe without reliance on shoreline or bluff protective devices. As used in this condition, "redevelopment" is defined to include: (1) additions; (2) expansions; (3) demolition, renovation or replacement that would result in alteration to 50 percent or more of an existing structure, including but not limited to, alteration of 50 percent or more of interior walls, exterior walls or a combination of both types of walls; or (4) demolition, renovation or replacement of less than 50 percent of an existing structure where the proposed remodel or addition would result in a combined alteration of 50 percent or more of the structure (including previous alterations) from its condition in April 2011.

11. Generic Deed Restriction

**PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the landowner(s) have executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

#### **IV. FINDINGS AND DECLARATIONS:**

The Commission hereby finds and declares:

##### **A. Project Description and Location**

###### Project Location

The proposed project is located on a tall, steep coastal bluff slope between the first public road and the sea at 813 Buena Vista in the City of San Clemente, Orange County (Exhibits 1 & 2). The coastal bluff is not currently subject to marine erosion as the OCTA railroad tracks (which are protected by a revetment) are located between the sea and the toe of the bluff. The site consists of a generally flat pad facing Buena Vista and descends 90 feet down a steep coastal bluff. The steepest portion of the bluff is in the upper 15-20 feet. The lot is developed with a pre-Coastal Act 9-unit, 2-story apartment structure on the bluff top with a zero setback from the bluff edge. There is a 3-foot wide concrete walk between the structure and the face of the bluff. The site is designated as Residential Medium Density (single family residential, duplexes, townhouses, and apartments; 15 units/gross acre) in the certified Land Use Plan. Surrounding development consists of multiple-family residences along Buena Vista.

The proposed project site is on a coastal bluff section overlooking the City of San Clemente Coastal Trail which runs parallel to the public beach. The proposed development would be visible from the trail and public beach. The nearest public beach access is available at the Mariposa access point located approximately 300 feet downcoast (Exhibit 3); this access point primarily serves adjacent residential areas. The City has designated all coastal bluffs as environmentally sensitive habitat areas (ESHA), also depicted in Exhibit 3.

###### Project Description

The applicant proposes to install an upper bluff stabilization system consisting of eight (8) 30-inch diameter concrete soldier piles 45-feet deep into the bluff and 8-feet apart. Horizontal wood beams for a 25-foot long section where the greatest loss of bluff has occurred are proposed between the vertical piles and along the upper 15-feet of the soldier piles. The proposed wall will be backfilled with compacted soil up to the existing building pad. Tie-back anchors are proposed at each pile location extending into the slope to provide greater vertical and lateral support for the existing 9-unit apartment structure. Additionally, the applicant proposes shotcrete lining connected to the piles to reduce visual impacts from the bluff stabilization project. Furthermore, the applicant proposes drainage improvements in the form of a sump pump at the southwest corner of the property to pump surface runoff easterly away from the bluff face and onto the surface street and to repair the damaged concrete slab at the top of slope by sealing cracks with grout to prevent future moisture/seepage into the underlying soils near the west bluff.

The proposed bluff protective device is located entirely on property owned by the applicant. Their ownership extends seaward, about two thirds down the bluff face. The lower third of the bluff, and the property seaward, including the railroad track and beach, is in public ownership by various public entities.

### Previous Commission Action

An Emergency Permit 5-10-161-G was issued on September 14, 2010, per 14 Cal. Admin. Code Section 13009 due to an unexpected slope failure resulting from over-saturation of the bluff slope that required immediate action to prevent or mitigate loss or damage to life, health, or property. The emergency permit authorized installation of eight (8) 30-inch diameter vertical soldier piles along the edge of a coastal bluff with wood lagging stacked in horizontal rows between the vertical soldier piles up to finished grade backfilled with compacted soil to address the immediate danger of slope failure. However, the applicant was unable to conduct any of the work approved under the emergency permit and is applying for a coastal development permit that includes long-term measures to permanently address slope stability at the site.

### **B. Minimization of Adverse Impacts**

Section 30251 of the Coastal Act states in part:

*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 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.*

Section 30253 of the Coastal Act states in part:

*New development shall:*

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

Section 30235 of the Coastal Act states in 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.*

City of San Clemente Land Use Plan Policy VII.13 states in part:

*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.*

#### Existing Structure / Danger from Erosion

The applicant submitted numerous geotechnical evaluations by Keith D. Tucker, Consulting Engineer with recommendations to remediate the developing instability on this portion of the coastal bluff. Due to natural rain and wind erosion from multiple rainy seasons and to water runoff from the site, the upper portion of the west bluff area has incurred erosion and sloughing over the past 10 years. The bluff has deteriorated and fallen away from under a 3-foot wide concrete sidewalk between the apartment structure and the bluff. A very steep section at a 0.2 to 1 (hor. to vert.) grade was observed below the 3-foot wide concrete sidewalk in the upper 15 to 20 feet of the west bluff, adjacent to the existing apartment building. The scarps of the slope failures have eroded up to the edge of the existing residential apartment structure at the top of the bluff. The only setback from the edge of the bluff for the residential structure is this 3-foot wide sidewalk. Portions of a 3-foot concrete walk along the west side of the structure on the bluff side are suspended in air as the ground beneath the concrete walk has eroded away.

The topographic map of the site (Exhibit 4, page 1) and a cross-section of the site (Exhibit 4, page 4) indicate the apartment structure sits on a layer of fill, underneath it are terrace deposits prone to erosion and finally the underlying Capistrano Formation bedrock (siltstone and sandstone). Bedding within the Capistrano Formation at this location dips gently to the north, which yields a favorable geologic condition regarding the gross stability of the slopes.

Cracking and settlement was observed in the southwest parking garage area approximately 25 feet inland of the bluff edge. A manometer level survey was performed in November, 2008 across the first floor of the west apartment unit discovered the west apartment unit had differential settlements of 2 1/8 inches from the high point. Slope Stability Analysis conducted at the same time revealed a 1.17 factor of safety (static) for the upper portion of the bluff. The pre-Coastal apartment structure does not meet the standard minimum 1.5 factor of safety.

To acquire the minimum factor of safety, the geotechnical reports recommend eight (8) 30-inch diameter concrete soldier piles 45-feet deep into the bluff and 8-feet apart and a 25-foot length of horizontal wood beams placed between each of the vertical piles in the upper 15-foot section of the soldier piles. The area landward of the piles will be backfilled with compacted soil up to the existing pad to fill the voids at eroded areas. Last, tie-back anchors will be installed, at each pile location, that extend into the slope to provide vertical and lateral support for the existing 9-unit apartment structure to meet minimum factor of

safety requirements. Approximately 15 feet of the face of the sculpted shotcrete concrete wall would be visible above the finished ground looking inland from the beach and trail below the project site, while the remainder of the structure is underground. As recommended in the geotechnical evaluation, the applicant also proposes to repair the damaged concrete slab at the top of slope by sealing cracks with grout to prevent future moisture/seepage into the underlying soils near the west bluff.

Furthermore, in a letter dated June 8, 2010, Mr. Keith D. Tucker recommended further repair measures to reduce erosion in the upper portion of the steep bluff area including a revised drainage system to include a sump pump at the west side (bluff side) of the existing building to pump runoff to the east and onto Buena Vista (frontage street).

Coastal Act Section 30235 acknowledges that cliff retaining walls and other such structural or “hard” methods designed to forestall erosion also alter natural landforms and natural shoreline processes. Accordingly, Section 30235 limits the construction of shoreline protective works to those required to serve coastal-dependant uses, or to protect existing structures or public beaches in danger from erosion, provided they are designed to eliminate or mitigate adverse impacts on shoreline sand supply. The Coastal Act provides these limitations because shoreline structures can have a variety of negative impacts on coastal resources including adverse effects on sand supply, public access, coastal views, natural landforms, adjacent properties, and overall shoreline dynamics. The Commission must always consider the specifics of each individual project, but under the standards established by Section 30235 of the Coastal Act, it prefers alternatives that avoid the need for shoreline armoring. In addition, the Commission has generally interpreted Section 30235 to require the Commission to approve protective devices for existing principal structures in danger from erosion.

### Feasible Alternatives

The first Section 30235 “test” that must be met before a shoreline protective device can be approved is that the proposed armoring is “required” to serve coastal-dependant uses or to protect existing threatened structures. In other words, shoreline armoring shall be permitted if it is the only feasible alternative capable of protecting the structure. Other alternatives typically considered include: the “no project” alternative; drainage and vegetation measures on the bluff face itself; abandonment or relocation of the threatened structures; sand replenishment programs; other less damaging structural alternatives; and combinations of some or all of these options.

#### *1. No Project Alternative*

Based on current conditions, the no-project option would result in continued erosion of the coastal bluff and additional exposure of the structure’s foundation. Such erosion would eventually cause the structure to fail completely.

## *2. Drainage and Landscaping*

Non-structural alternatives to the proposed upper bluff protective device include the use of landscaping and improved blufftop drainage controls to reduce erosion. While improved drainage controls and modifications to existing landscaping could slow coastal erosion, they would not, by themselves, be sufficient to protect the existing structure from being undermined by continued erosion from wind and rainstorms. Plantings and bluff drainage controls alone will not be adequate to address the erosion problem and the foundation of the existing structure will continue to be undermined by erosion .

## *3. Relocation of Threatened Structures*

Another alternative to protection devices is to relocate the threatened structures outside of harm's way. The applicant did not consider this alternative given the allowance for protective devices under Section 30235 of the Coastal Act.

## *4. Least Damaging Structural Alternatives*

Because there are no feasible non-structural alternatives, protection is needed along the upper bluff in order to protect the existing principal structure. The applicant contends that the proposed project represents the least damaging alternative.

The Commission staff geologist conducted a site visit and reviewed the geotechnical report and proposed plans and agrees that the need for the proposed work has been documented and concurs that the proposed work is the least environmentally damaging alternative as it has a minimal footprint thereby entailing a minimum amount of work on the coastal bluff. The applicant has sited the proposed caissons as close to the existing structure as is feasible given the needs for construction equipment and access. Compared to the other structural options, and as conditioned to address impacts to coastal resources, the proposed project is the least environmentally damaging structural alternative.

### Sand Supply Impacts

The coastal bluffs in San Clemente do not contribute/nourish beach sand supplies due to the Orange County Transit Authority (OCTA) railroad tracks located between the base of the bluff and the ocean and are protected by a rock revetment. There is a wide sandy beach between railroad tracks and the ocean, therefore there is no direct wave attack eroding the toe of the bluff along this section of coastal bluff to provide sand nourishment to the beach. Beach sediment is mostly fed by onshore transport of offshore sand. Therefore, the impact to sand supply by the proposed retaining wall is not a factor in this case.

### Conformance with Geotechnical Recommendations

The geologic consultant has found that the subject site is suitable for the proposed development provided the recommendations contained in the geotechnical investigation prepared by the consultant are implemented in design and construction of the project.



Adherence to the recommendations contained in the above-mentioned geotechnical investigations is necessary to ensure that the proposed project assures stability and structural integrity, and neither creates nor contributes significantly to erosion, geologic instability, or destruction of the site or surrounding area. Therefore, **Special Condition #5** requires that the applicant conform to the geotechnical recommendations in the above mentioned geotechnical investigation.

### Assumption of Risk

Although adherence to the geotechnical consultant's recommendations will minimize the risk of damage from erosion, the risk is not eliminated entirely. The site is an oceanfront bluff top site, which is inherently hazardous. Given that the applicant has chosen to implement the project despite potential risks from bluff erosion and landslides, the applicant must assume the risks. Therefore, the Commission imposes **Special Condition #9** requiring the applicant to assume the risk of the development. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand the hazards. Additionally, the Commission imposes **Special Condition #11** requiring the applicant record a generic deed restriction to ensure that future owners of the property will be informed of the conditions of this permit. As conditioned, the Commission finds the proposed project is consistent with Section 30253 of the Coastal Act.

### Visual Resources

There would be adverse impacts to views looking inland to the coastal bluff from the public beach and Coastal Trail. In order to address those visual impacts, the applicant proposes a shotcrete wall to cover the soldier piles and wood lagging. **Special Condition #3** requires the applicant provide a specific color and texture treatment plan that will blend the retaining wall in with the natural bluff face, thereby mitigating the visual impact of the retaining wall from the beach below. In addition to the color and texture, vegetation may also be used if feasible to cover the shotcrete wall. Additionally, **Special Condition #4** requires the applicant provide a plan for aesthetic treatment plans similar to those required in Special Condition #3 in the event any subsurface project features (i.e., soldier pile/grade beam structures) subsequently become exposed to public view from the public beach below. The aesthetic treatment shall provide that exposed materials match the surrounding terrain to the extent feasible and minimize visual impact of the exposed features.

### Future Redevelopment

Section 30235 of the Coastal Act requires the Commission to approve protection for existing principal structures in danger from erosion. However, as stated in Section 30253 of the Coastal Act, the use of such protection must be avoided when new development occurs. Therefore, the Commission imposes **Special Condition #10**. The intent of this condition is to limit further encroachment on the adjacent bluff (the lowermost elevations of

which are publicly owned) with additional mid-bluff or upper bluff protective devices, and to allow for potential removal of the approved protective device when it is no longer necessary to protect the development that required the protective device. The condition puts the property owner(s) on notice that redevelopment of the site should not rely on bluff or shoreline protective works for stability. Siting new development in a location that does not rely on protection would be feasible and would stop the perpetuation of development in hazardous locations that would eventually lead to complete armoring of the bluffs and long-term, adverse impacts to the bluffs. In addition, Special Condition #10 recognizes that the proposed protective device is being approved under Section 30235 to protect existing structures in danger from erosion. Any future redevelopment of the site will re-evaluate current conditions and new development should be sited safely, independent of any bluff or shoreline protection.

Special Condition #10 defines redevelopment to include additions and expansions, or any demolition, renovation or replacement which would result, cumulatively, in alteration or reconstruction of 50 percent or more of an existing structure. Thus, this condition requires that if an applicant submits an application to remodel 30% of the existing structure, then 5 years later seeks approval of an application to remodel an additional 30% of the structure, this would constitute redevelopment, triggering the requirement to ensure that the redeveloped structure is sited safely, independent of any shoreline protection. However, new or redevelopment of the site that would rely on the approved structure for protection is not consistent with Section 30253. The condition acknowledges future development on the site beyond repair and maintenance to the existing structures must meet the requirements of Section 30253 and not require bluff or shoreline protective devices that alter the natural landform of the bluffs.

### Conclusion

The Commission finds that only as conditioned as described above, can the proposed development be found consistent with Sections 30235, 30251 and 30253 of the Coastal Act which require that landform alteration be minimized, scenic coastal views be protected, and geologic stability be assured.

### **C. Marine and Land Resources**

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 will sustain the biological productivity of coastal waters and that will 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.*

Section 30240 of the Coastal Act states:

- (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*
- (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

### Sensitive Habitats and Resources

The City has designated coastal canyons and bluffs as ESHA in the certified Land Use Plan. Coastal bluffs act as open space and potential wildlife habitat, as well as corridors for native fauna. Decreases in the amount of native vegetation due to displacement by non-native vegetation have resulted in cumulative adverse impacts upon the habitat value of the bluffs. As such, the quality of bluff habitat must be assessed on a site-by-site basis. The coastal bluff at the subject site is considered somewhat degraded due to the presence of both native and non-native plant species. Based on the information provided by the applicant, no portion of the site contains resources that rise to the level of ESHA. No listed bird or animal species were observed in the project area (i.e., construction and staging areas). No sensitive plant species will be directly impacted by the proposed project.

The proposed retaining wall and backfilled areas will extend 15-feet down from the top of the bluff. This area has been denuded of vegetation and eroded over the last ten years preventing any roots to take hold. As proposed, a small temporary staging area on the bluff will be created by hand without the use of heavy equipment. A crane will be used from the frontage street to lower a mini drill rig (3'x9' in size) onto the bluff to drill in the soldier piles. A small flat area will be created at the base of the proposed wall area, naturally flatten out by using pipes and boards to retain soil. This will allow for a pad to be created with "minimal" grading into the bluff. Upon completion of the project, the pipe and board system is proposed to be removed along with the soil, leaving the bluff in its original non-graded condition but would require re-vegetation. As construction takes place on the bluff face, there is a risk that existing vegetation further down the bluff may also be disrupted. Therefore, the Commission imposes **Special Condition #6** requiring the applicant to re-

vegetate all areas disrupted by construction activities, not occupied by structural development for habitat enhancement and erosion control purposes. Any new necessary planting shall consist of native, drought tolerant plants, which are non-invasive and appropriate to the habitat type.

### Water Quality

The applicant is proposing a revised drainage system to include a sump pump at the west side of the existing building to pump runoff to the east and onto Buena Vista (frontage street) and the City's storm drains and away from the bluff. This will help address water quality concerns for the life of the project. To address possible adverse water quality impacts during construction, staff imposes **Special Condition #1** requiring Best Management Practices (BMPs), such as placement of sand bags around drainage inlets to prevent runoff/sediment transport into the storm drain system and the Pacific Ocean, use of debris fences as appropriate, a pre-construction meeting to review procedural and BMP guidelines and removal of construction debris and sediment from construction areas each day to prevent the accumulation of sediment and other debris which may be discharged to coastal waters. Such practices aim to protect water quality in the ocean during construction activities.

Furthermore, the Commission imposes **Special Condition #2** requiring the applicant submit a Best Management Practices Plan that effectively assures no cement slurry or other construction byproduct will be allowed to enter into coastal waters. During cement slurry application specifically, the Plan shall at a minimum provide for all cement slurry to be contained through the use of tarps or similar barriers that completely enclose the application area and that prevent cement slurry contact with beach sands and/or coastal waters. All cement slurry and other construction byproduct shall be properly collected and disposed of off-site.

Therefore, as conditioned, the Commission finds the proposed development consistent with the relevant marine and biological protection policies of the Coastal Act — Sections 30230, 30231 and 30240.

### **D. Public Access**

Section 30210 of the Coastal Act states:

*In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30212 of the Coastal Act states, in part:

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

*(2) Adequate access exists nearby, or,*

As shown in Exhibit 4, the proposed retaining wall will be located between the first public road and the sea directly inland of the OCTA railroad tracks.

Construction impacts, such as the obstruction of nearby beach access ways (i.e., Mariposa), or the San Clemente Coastal Beach Trail can affect the public's ability to access the adjacent public beach area. Construction access to the bluff will not necessitate use of any public beach accessways or the San Clemente Multi-Use Coastal Trail parallel to the beach adjacent to the railroad, neither will be closed off to the public during construction. As proposed, a crane will be used from the frontage street to lower a mini drill rig (3'x9' in size) onto the bluff to drill in the soldier piles. A small staging area on the bluff will be created by hand without the use of heavy equipment.

Furthermore, **Special Condition #5** requires the submittal of a project construction staging plan to ensure that the construction phase of the project does not adversely impact public access including on-street parking affecting beachgoers or in any other way affects coastal resources.

As conditioned, the Commission finds the development consistent with the public access and recreation policies of Chapter 3 of the Coastal Act.

#### **F. Local Coastal Program**

Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal development permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program that conforms to 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 Implementation Plan portion of the Local Coastal Program. The suggested modifications expired on October 10, 1998. The City re-submitted on June 3, 1999, but withdrew the submittal on October 5, 2000.

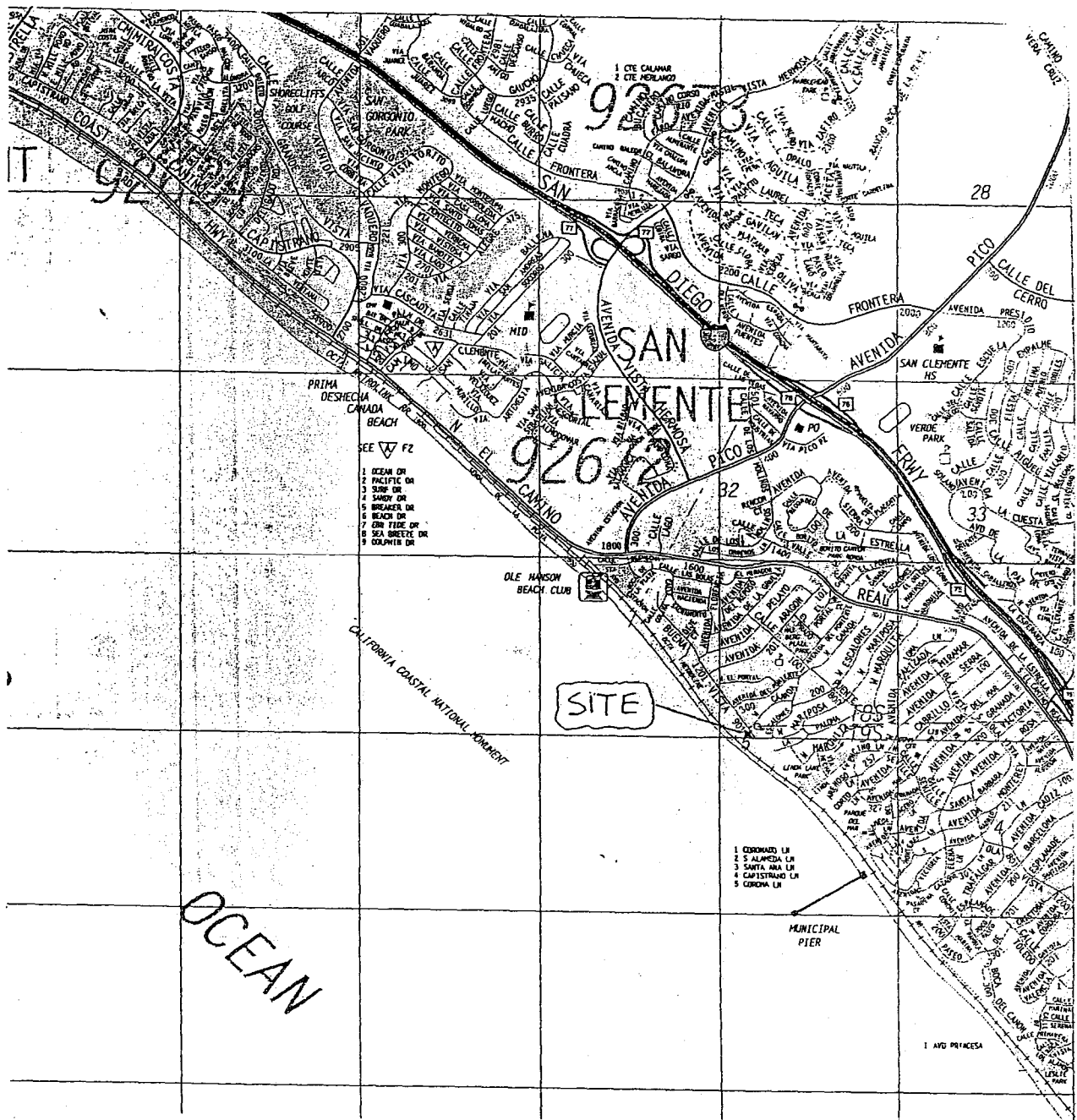
The proposed development, as conditioned, is consistent with the policies contained in the certified Land Use Plan. Moreover, as discussed herein, the development, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act. Therefore, approval of the proposed development will not prejudice 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).

**G. California Environmental Quality Act**

Section 13096 of the Commission's regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, 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 project is located within an existing residential neighborhood. Development already exists on the subject site. The proposed development has been conditioned, as follows, to assure the proposed project is consistent with policies of the Coastal Act: 1) compliance with construction-related best management practices (BMPs), 2) cement slurry BMPs; 3) retaining wall color and texture plan; 4) future soldier pile/grade beam exposure plans; 5) conformance of design and construction plans to geotechnical report; 6) staging area for construction; 7) landscaping/re-vegetation plan; 8) assumption of risk, waiver of liability and indemnity; 9) future development; 10) future redevelopment shall not rely on permitted protective device and 11) generic deed restriction.

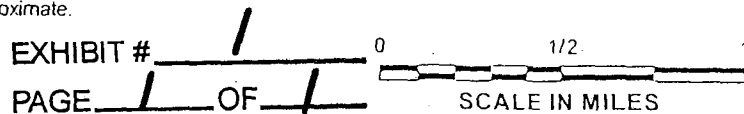
As conditioned, no feasible alternatives or feasible mitigation measures are known, beyond those required, which would substantially lessen any identified significant effect which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with CEQA.



NOTE:

**COASTAL COMMISSION**

1) All locations and dimensions are approximate.



**KEITH D. TUCKER**

Consulting Engineer

VICINITY MAP

APT. BUILDING @ 811 BUENA VISTA  
 SAN CLEMENTE, CA NOVEMBER, 2008

Figure 1





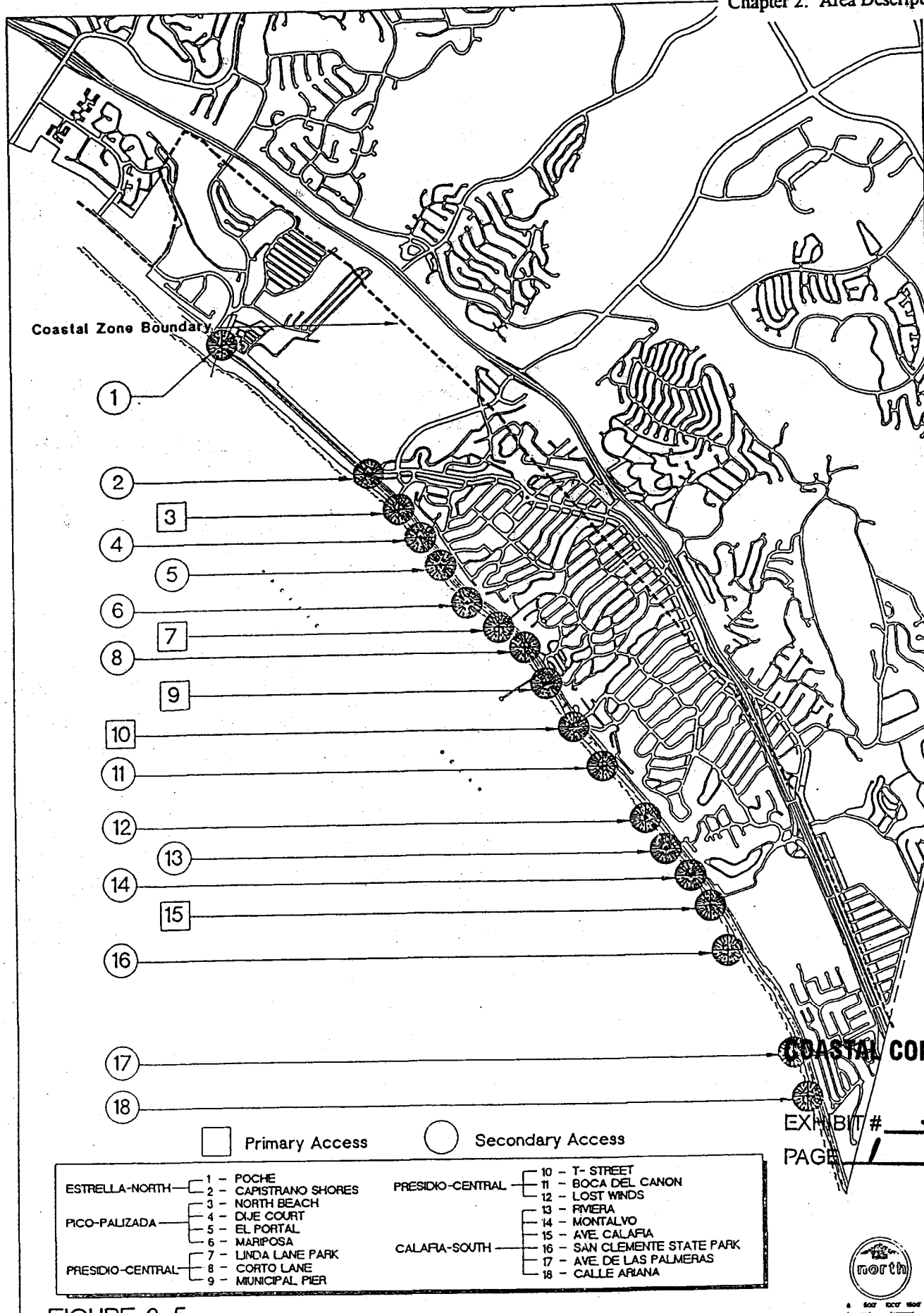


FIGURE 2-5

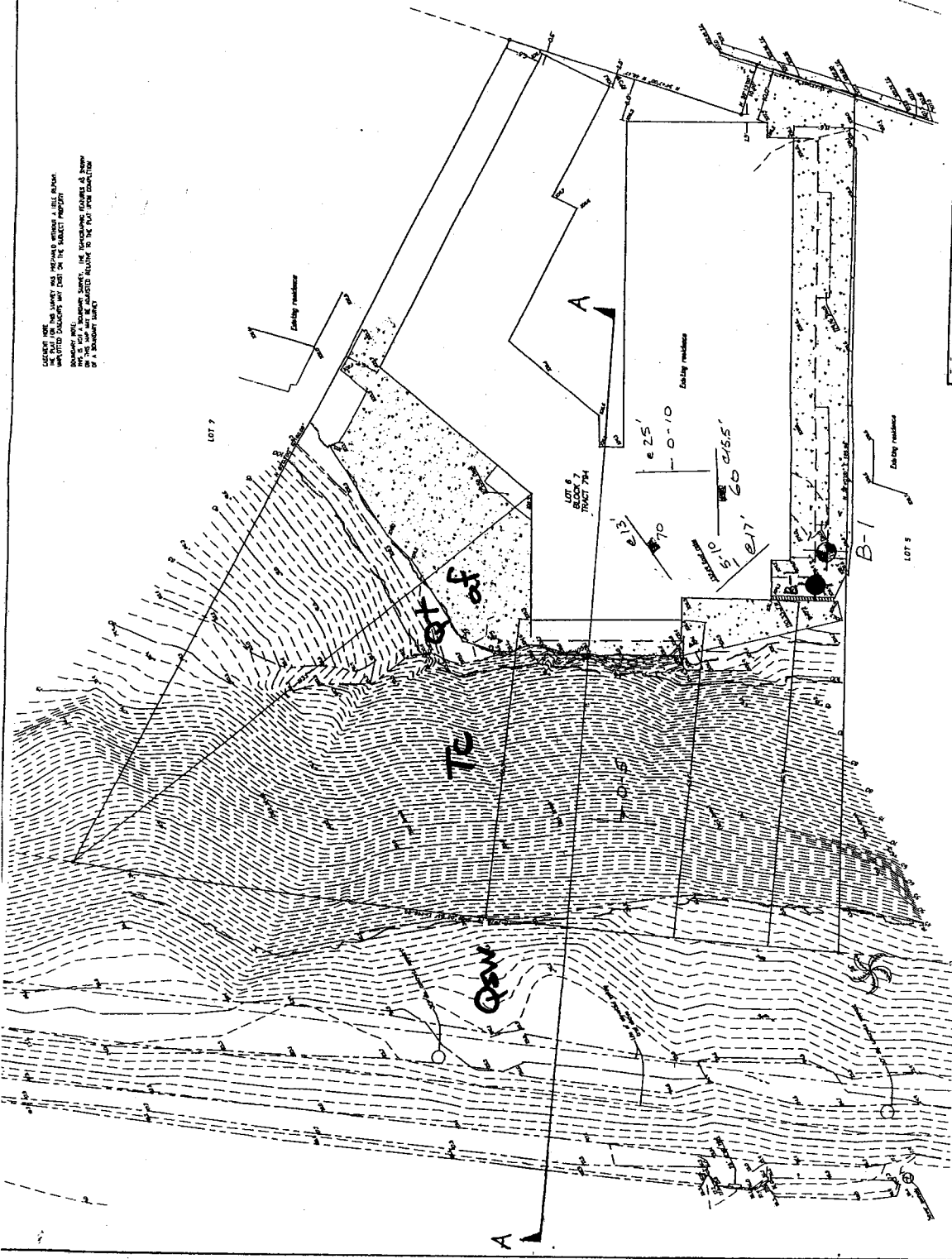
**CITY OF SAN CLEMENTE  
COASTAL ACCESS POINTS**



**LEGEND**

- af - fill
- Qsu - slopewash
- Qt - terrace deposits
- Tc - Capistrano Fm
- ~ - geologic contact
- ⊥ - joint
- ⊥ - bedding
- ⊙ - Boring by TASA (May, 1999)
- - Boring by KTUCKER (Nov, 2008)

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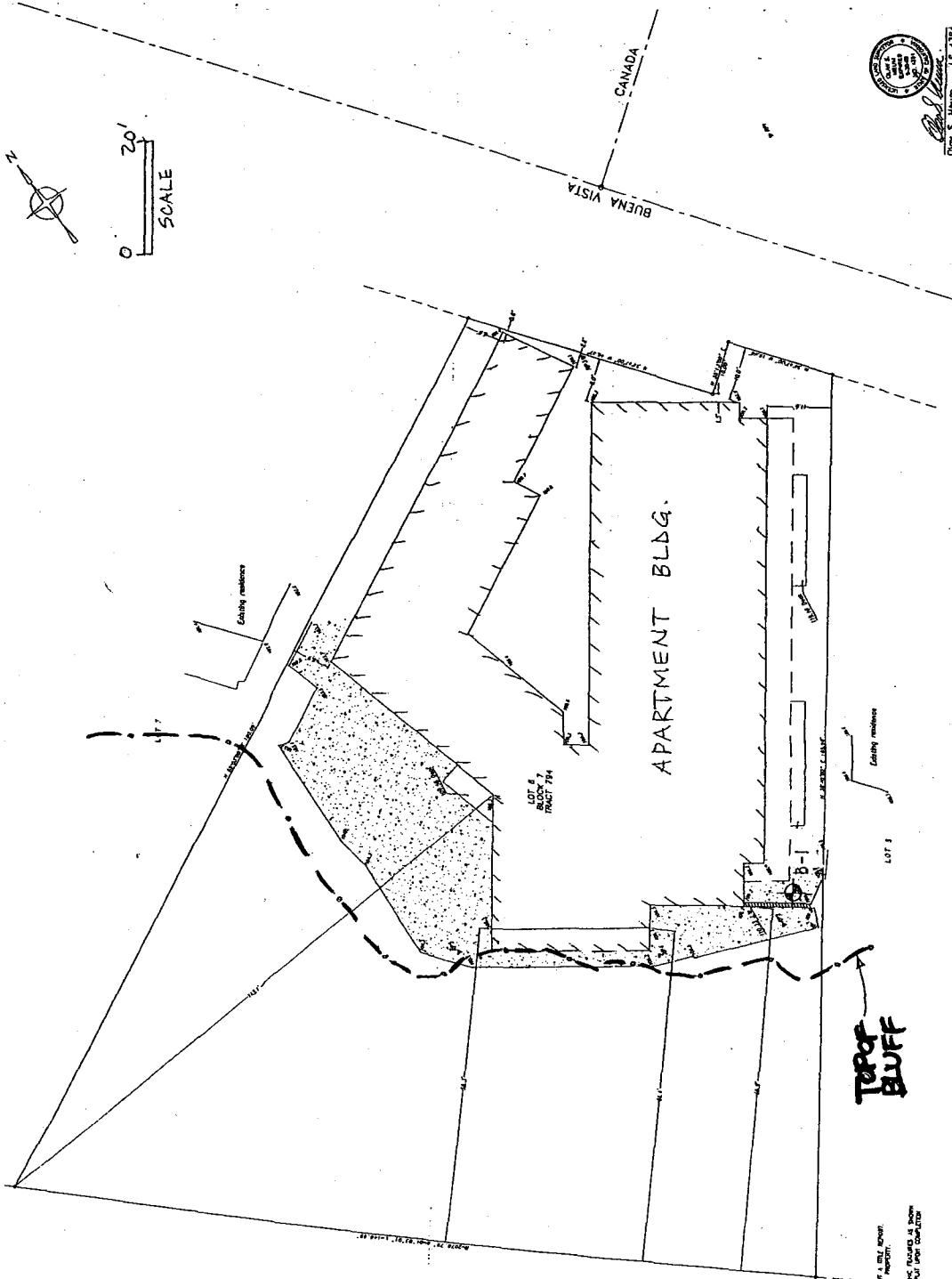
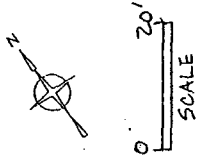
**KEITH D. TUCKER**  
Consulting Engineer

APT. BLDG. @ 613 BUENA VISTA  
SAN CLEMENTE, CA | DATE NOV. 2010

**SITE PLAN  
TOPOGRAPHIC MAP**

**COASTAL COMMISSION**

EXHIBIT # 4  
PAGE 1 OF 11



KEITH D. TUCKER  
Consulting Engineer

APT. BUILDING @ 811 BUENA VISTA  
SAN CLEMENTE, CA | DATE NOV. 2008

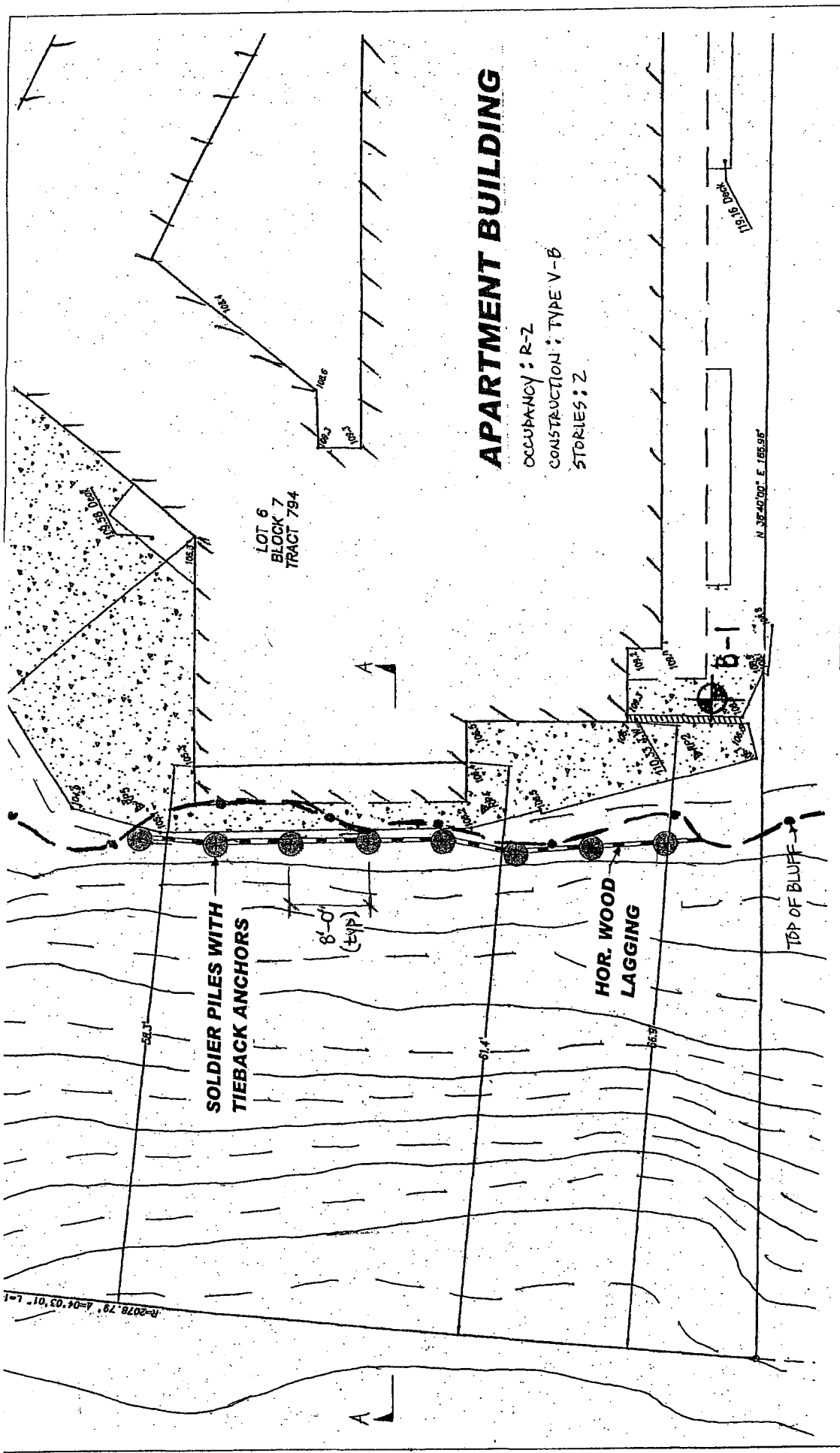
SITE PLAN  
SHOWING TOP OF  
BLUFF

FIGURE 2

LEGEND: 1. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.  
2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
3. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
4. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
5. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.

COASTAL COMMISSION

EXHIBIT # 4  
PAGE 2 OF 11



**APARTMENT BUILDING**

OCCUPANCY: R-2  
 CONSTRUCTION: TYPE V-B  
 STORIES: 2

LOT 6  
 BLOCK 7  
 TRACT 794

**SOLDIER PILES WITH  
 TIEBACK ANCHORS**

**HOR. WOOD  
 LAGGING**

TOP OF BLUFF

KEITH D. TUCKER  
 Consulting Engineer

SITE PLAN

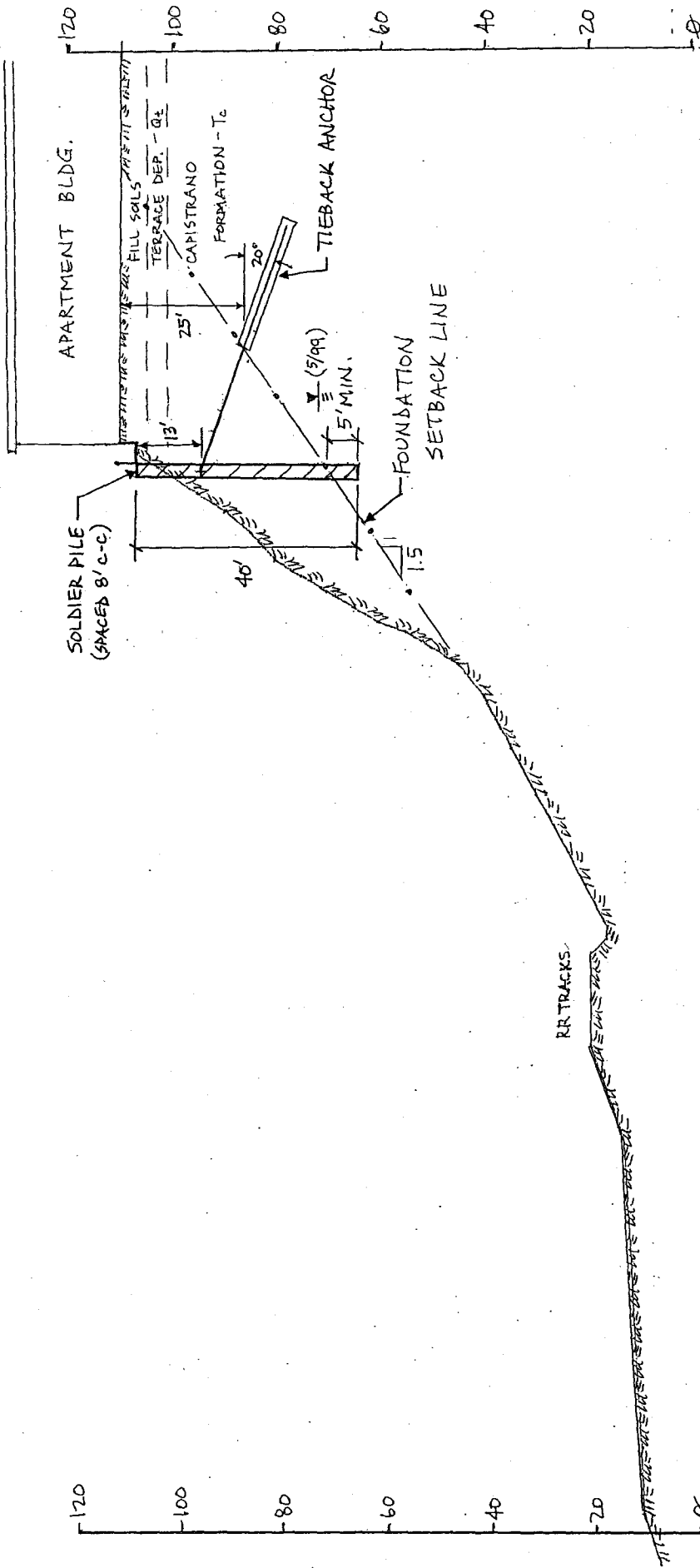
APT. BUILDING @ 813 BUENA VISTA  
 SAN CLEMENTE, CA DATE SEPT. 2009

**SOLDIER PILES**  
**WOOD LAGGING**

**COASTAL COMMISSION**

EXHIBIT # 4  
 PAGE 3 OF 11

FIGURE 1



SECTION A-A

TIE BACK ANCHORS

FIGURE 2

KEITH D. TUCKER

Consulting Engineer

APT. BUILDING @ BUENA VISTA

SAN CLEMENTE, CA DATE SEP. T. 2009

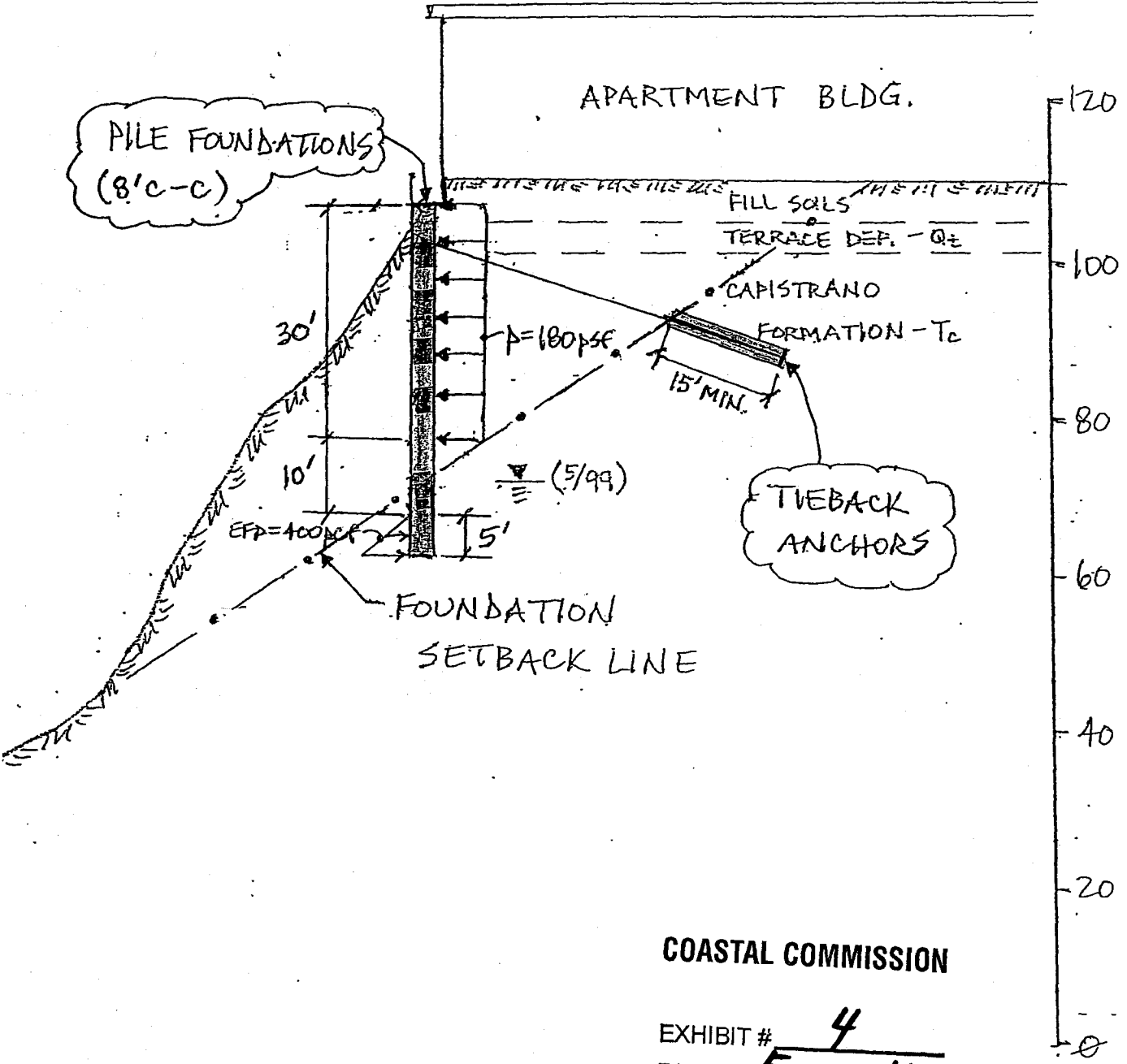
COASTAL COMMISSION

EXHIBIT #

4

PAGE

4 OF 11



COASTAL COMMISSION

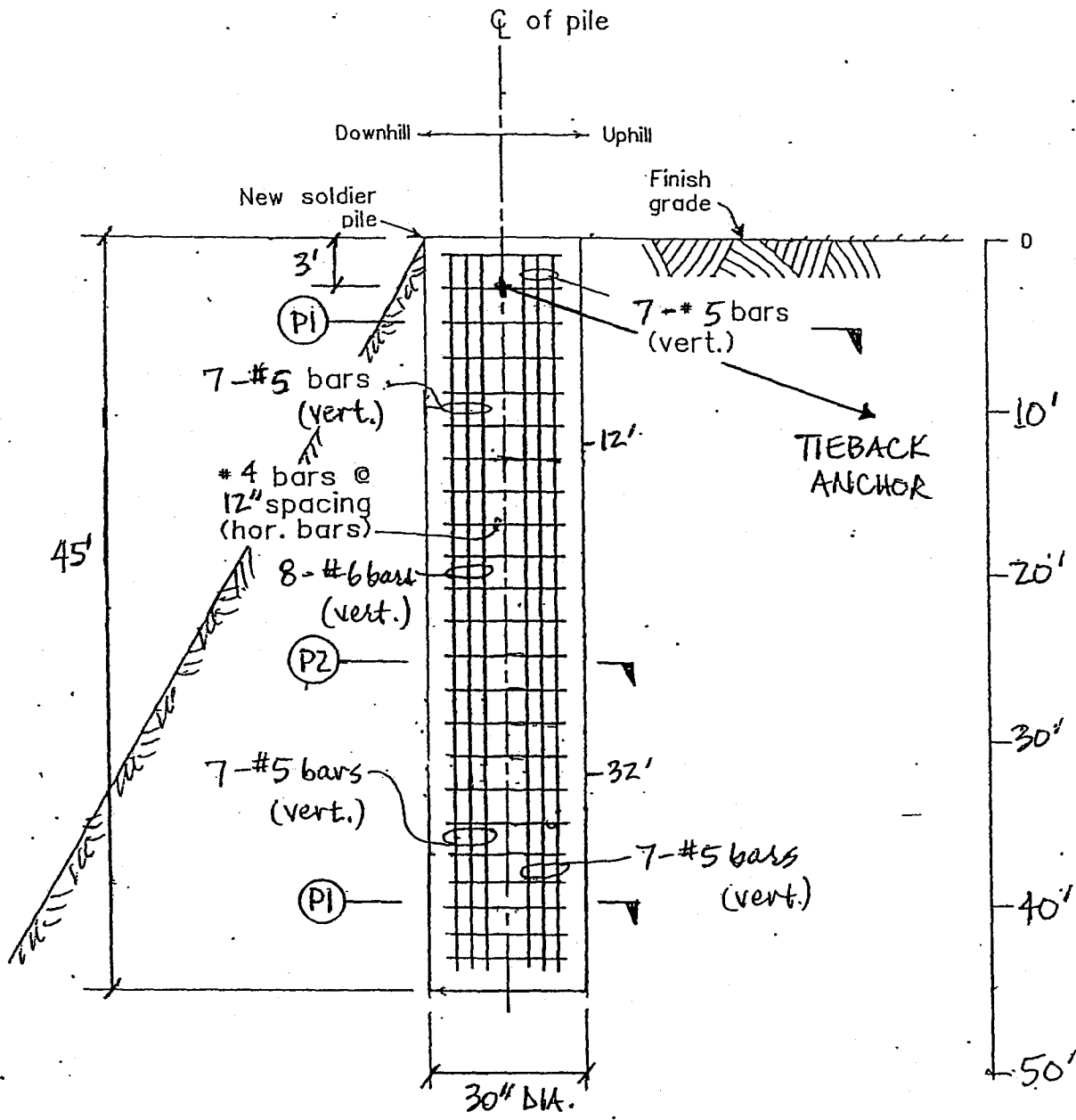
EXHIBIT # 4  
 PAGE 5 OF 11

KEITH D. TUCKER  
 Consulting Engineer

APT. BUILDING @ 813 BUENA VISTA  
 SAN CLEMENTE, CA | DATE NOV. 2010

SECTION A-A

FIGURE I



SOLDIER PILE DETAIL

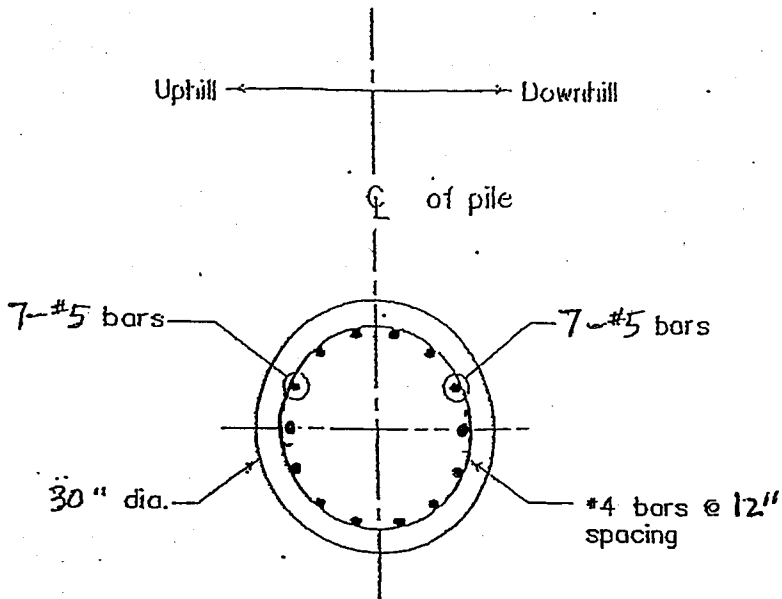
$f'_c = 3000$  psi and  $f_y = 60,000$  psi

ACOASTAL COMMISSION

EXHIBIT # 4  
PAGE 6 OF 11

KEITH TUCKER  
Consulting Civil Engineer

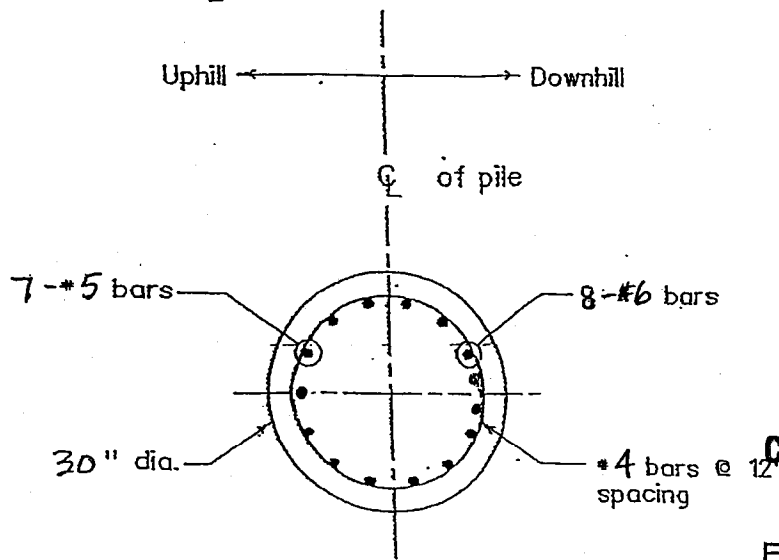
DATE NOV. 2010



SOLDIER PILE DETAIL

P1

DEPTH = 0-12'  
DEPTH = 32-45'



COASTAL COMMISSION

EXHIBIT # 4  
PAGE 7 OF 11

SOLDIER PILE DETAIL

P2

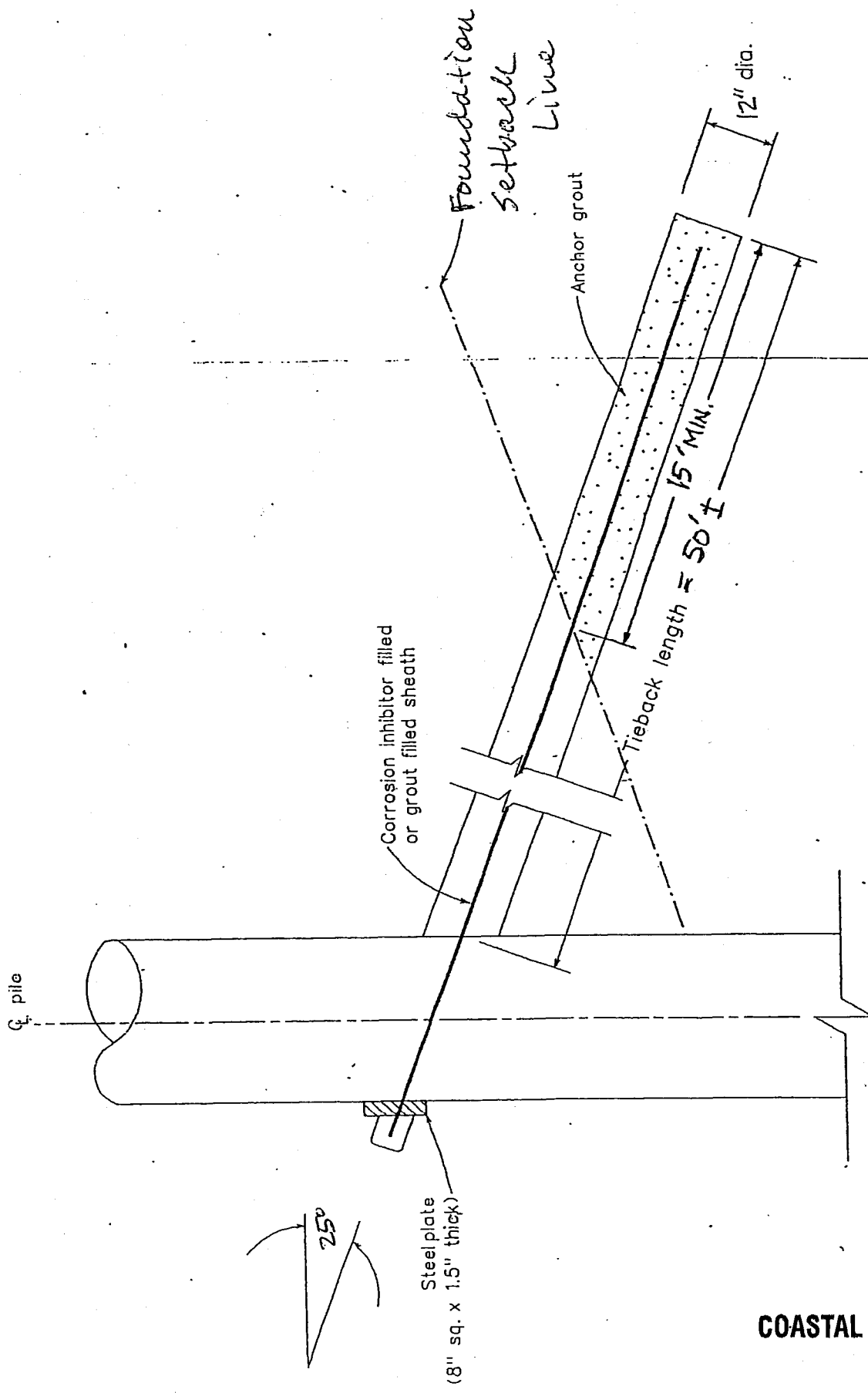
(DEPTH = 12-32')

KEITH D. TUCKER  
Consulting Engineer

SECTION

NOV. 2010

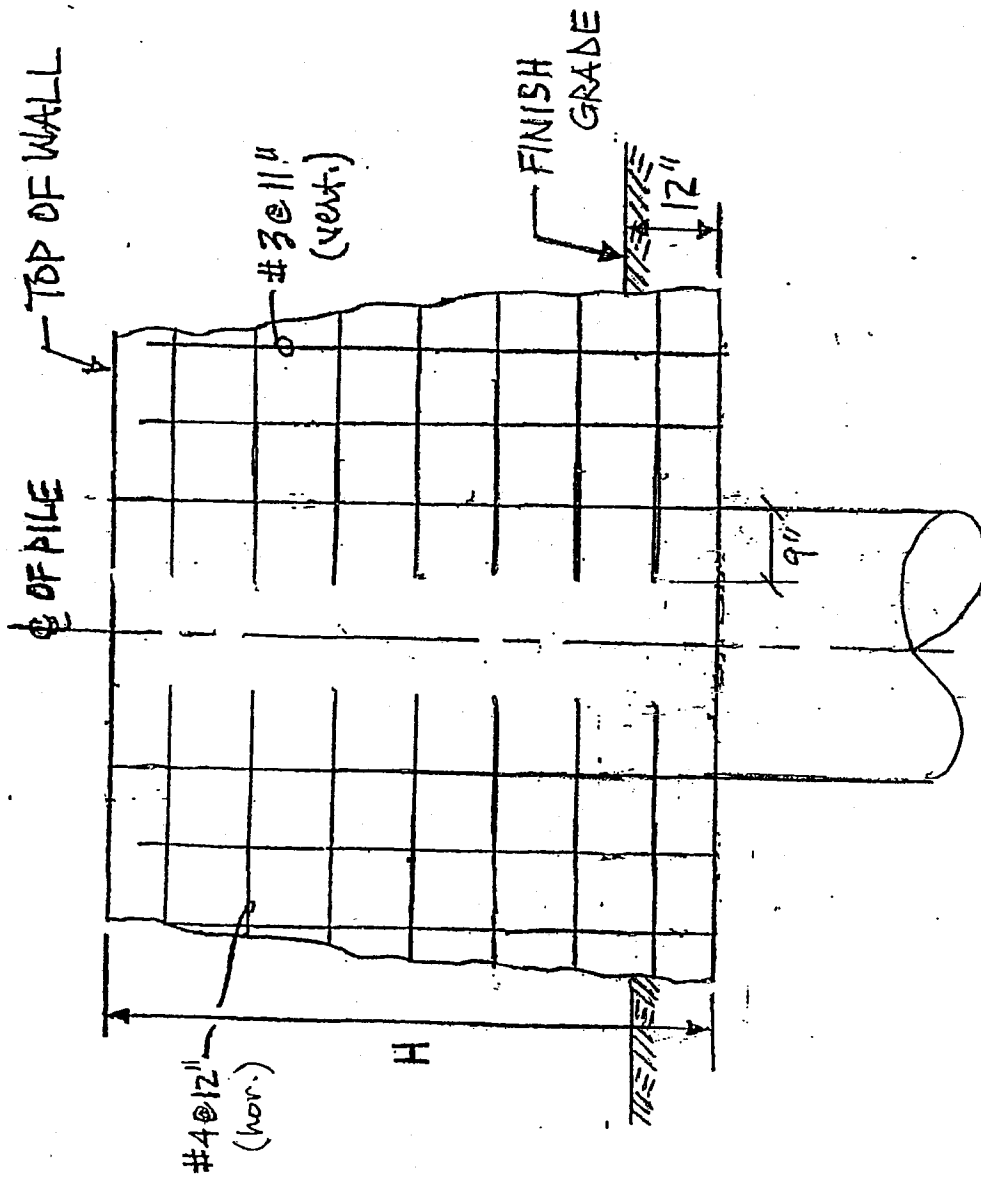




**COASTAL COMMISSION**

EXHIBIT # 4  
 PAGE 8 OF 11

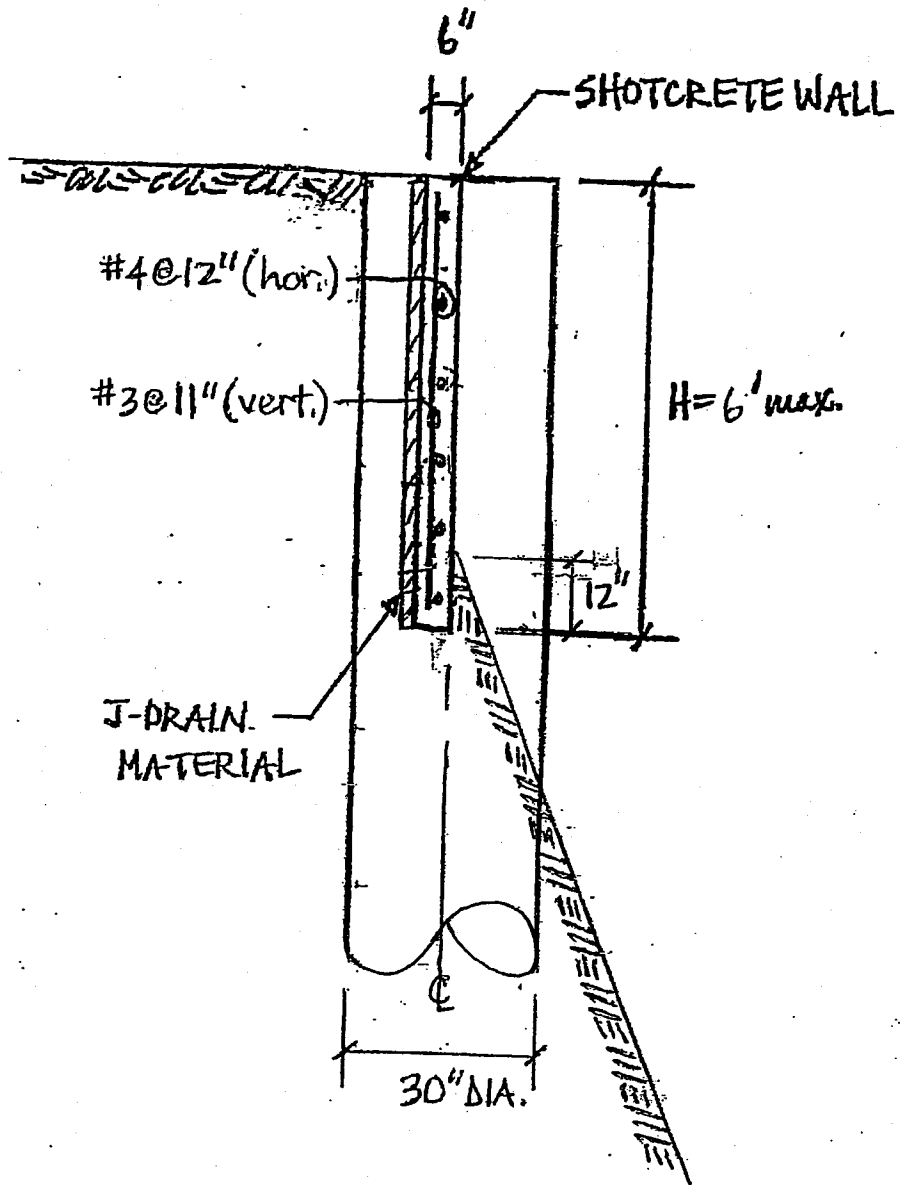
CLASS II PROTECTION - GROUT PROTECTED ANCHOR



PROFILE VIEW OF SHOTCRETE WALL

COASTAL COMMISSION

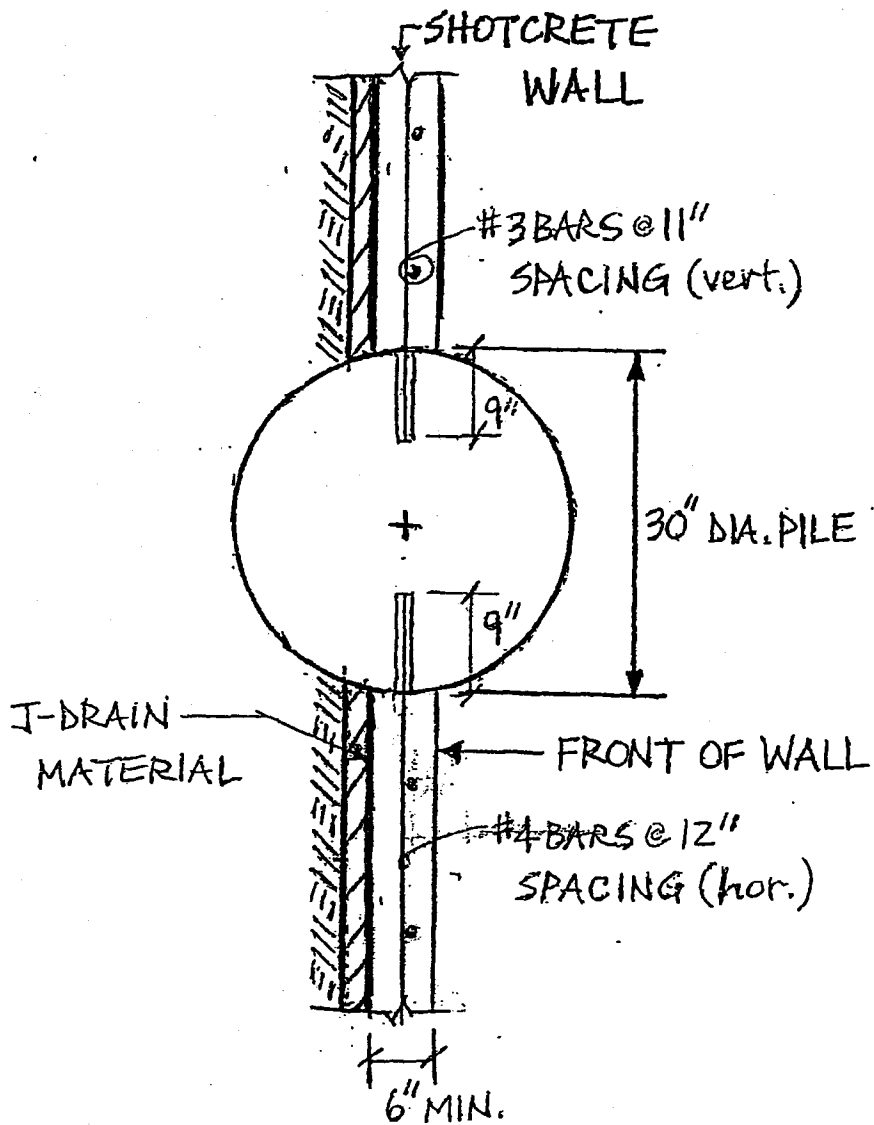
EXHIBIT # 4  
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**SHOTCRETE WALL SECTION**

COASTAL COMMISSION

EXHIBIT # 4  
 PAGE 10 OF 11



**PILE/WALL CONNECTION**

**COASTAL COMMISSION**

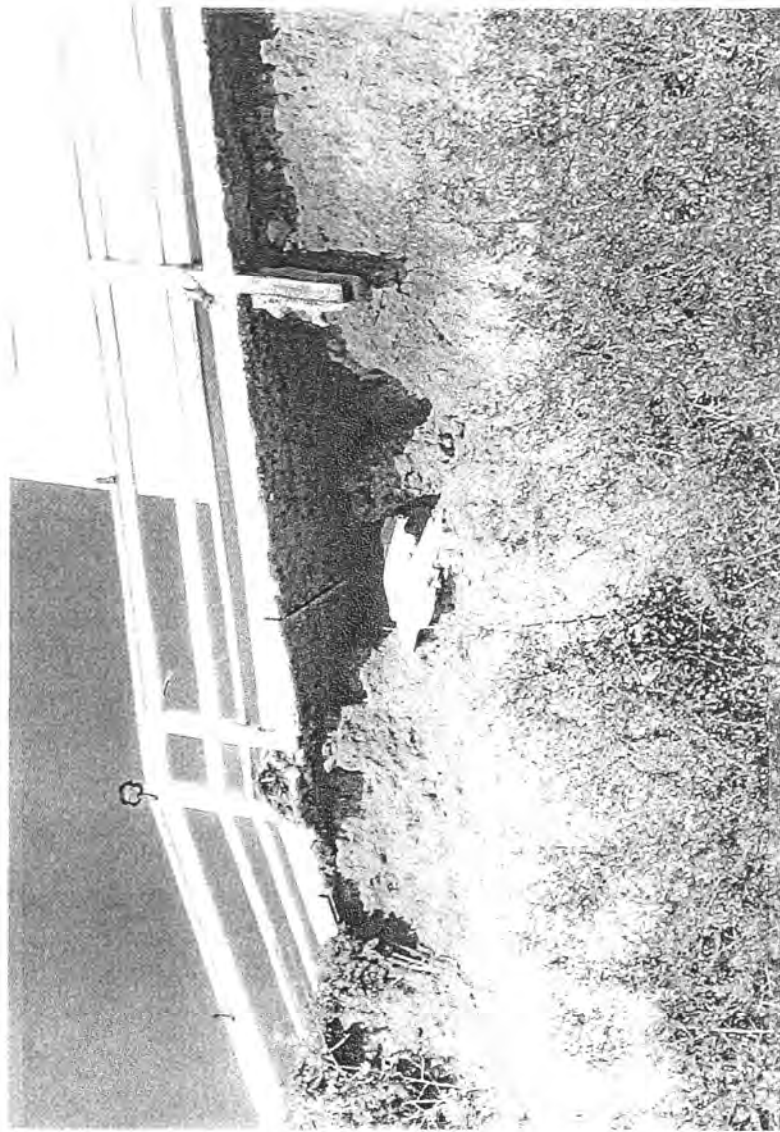
EXHIBIT # 4  
 PAGE 11 OF 11

813 Buena Vis, San Clemente, CA 92672-5038



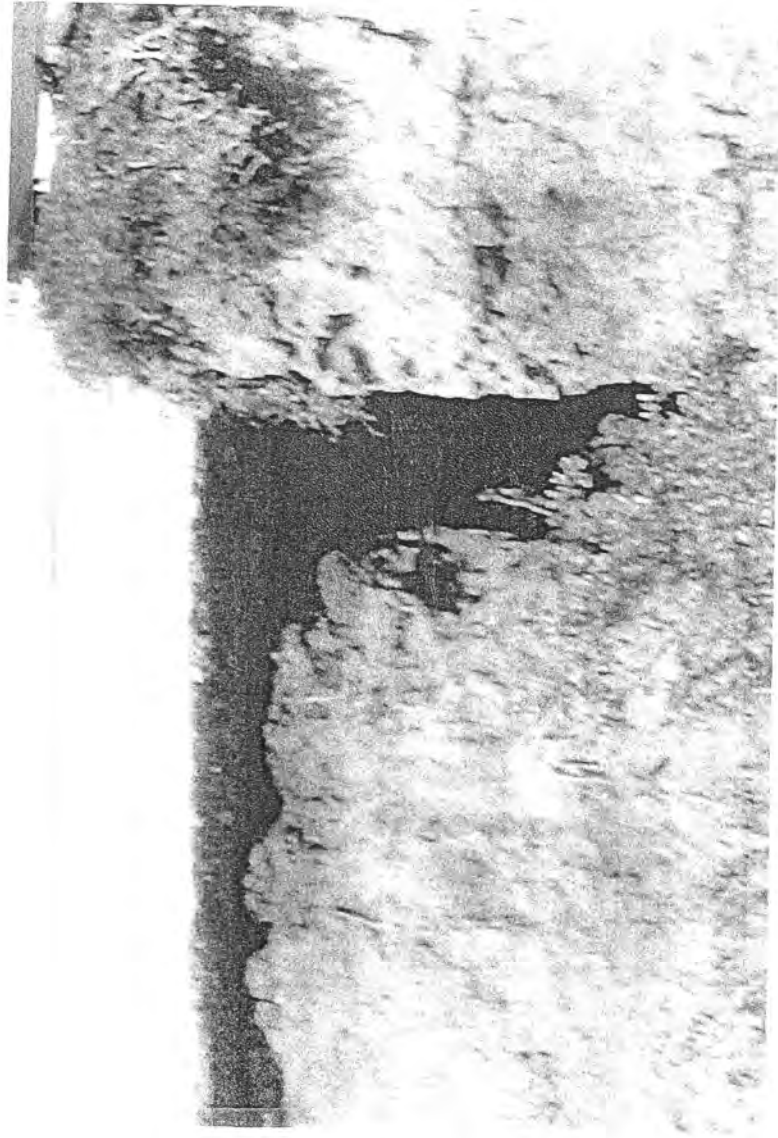
COASTAL COMMISSION

EXHIBIT # 5  
PAGE 1 OF 4



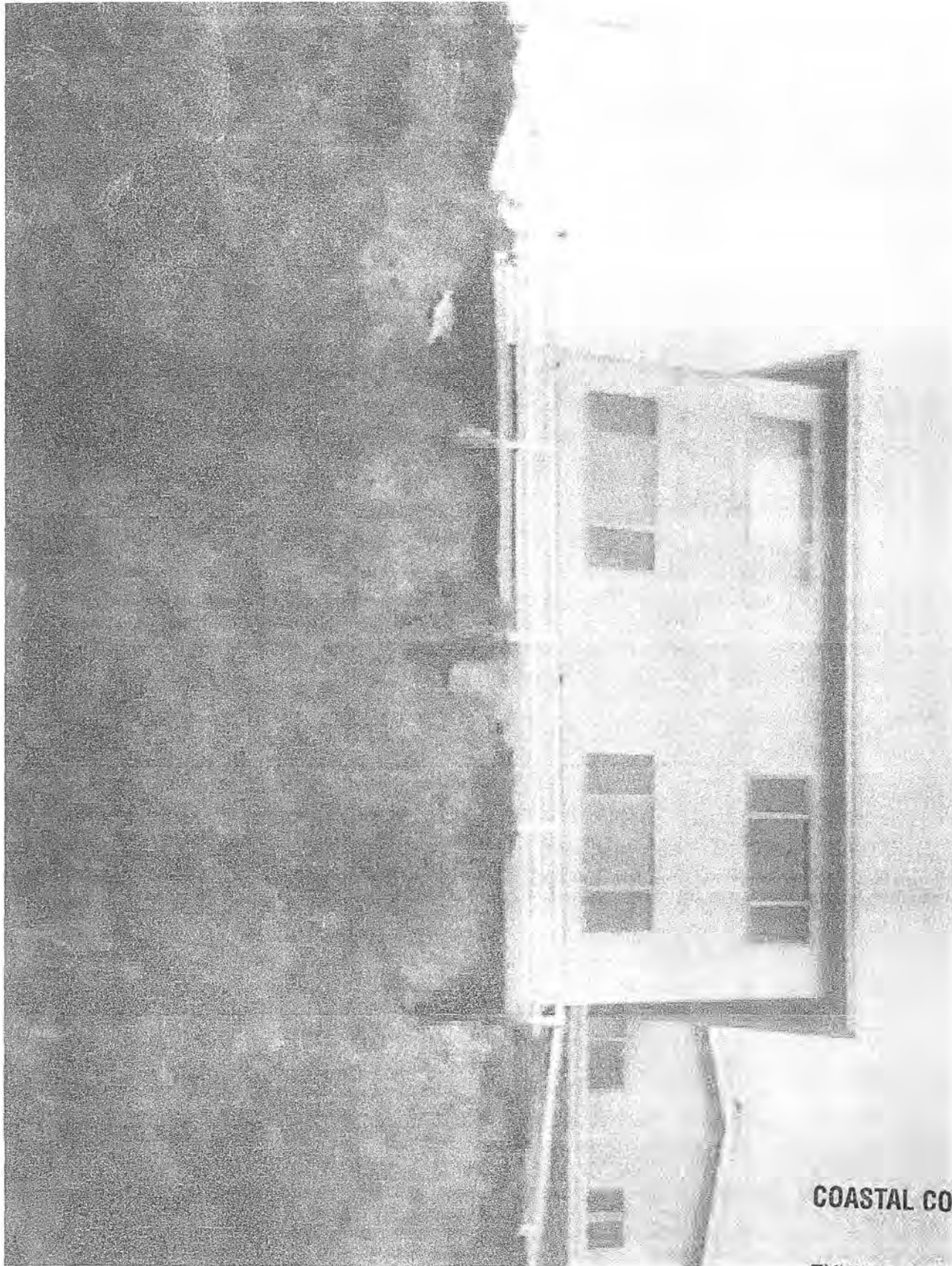
COASTAL COMMISSION

EXHIBIT # 5  
PAGE 2 OF 4



COASTAL COMMISSION

EXHIBIT # 5  
PAGE 3 OF 4



**COASTAL COMMISSION**

EXHIBIT # 5  
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