CALIFORNIA COASTAL COMMISSION
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Hearing Date:	October 15-17, 2008

REGULAR CALENDAR
STAFF REPORT AND PRELIMINARY RECOMMENDATION

Application No.: 6-07-132

Applicant: Sharon Hawkins Agent: Bob Trettin

Description: Construct nine drilled pier concrete caissons (approximately 30 inch. diameter, 45 ft. in depth and placed 8-ft. on center) with grade beam on top supported with 6 tiebacks to be located approximately 5 ft. seaward of the existing residence.

Site: 241 Pacific Avenue, Solana Beach, San Diego County
APN 263-312-12

STAFF NOTES:

The standard of review is Chapter 3 policies of the Coastal Act.

Summary of Staff's Preliminary Recommendation: Staff is recommending approval of the subject development as the applicant has demonstrated the existing blufftop residential structure is in danger from erosion. Due to a recent bluff collapse and exposure of the clean sand layer below the residence, the applicant's geotechnical representative has performed a slope stability analysis of the overall site and concluded that the blufftop structure is in danger from erosion. Based on the applicant's geotechnical reports, the below-grade caisson system is necessary to protect the structure at the top of the bluff. The Commission's staff engineer and geologist have reviewed the applicant's geotechnical assessment and concur with its conclusions. The proposed project is currently under construction pursuant to Emergency Permit #6-08-76-G.

The proposed development has been conditioned to mitigate its impact on geologic and scenic coastal resources. Special conditions have been attached which require, among other things, the removal or capping of any existing permanent irrigation systems on the blufftop, the submission of final plans, monitoring and maintenance of the caisson system to assure it performs as designed and to assure that if the caissons are visually exposed in the future the applicant will apply for an amendment in order to color and texture the exposed sections of the structure. In addition, the applicant is required to acknowledge

that if additional stabilization is proposed in the future, the applicant will be required to identify and address the feasibility of all alternative measures which would avoid additional alteration of the natural landform of the public beach or coastal bluffs, reduce the risk to the blufftop structure and provide reasonable use of the property. The conditions also require the applicant to assume all risks associated with the project and to record a deed restriction against the property to notify all future property owners that the property is subject to these conditions.

Substantive File Documents: City of Solana Beach General Plan and Zoning Ordinance; City Resolution No. 2007-097; "Preliminary Geotechnical Evaluation" by SEC dated April 16, 2007; Project Plans by SEC dated April 16, 2007 as revised to July 10, 2008; Emergency Permit Nos. 6-07-110-G/Hawkins and 6-08-76-G/Hawkins

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I. PRELIMINARY STAFF RECOMMENDATION:

The staff recommends the Commission adopt the following resolution:

MOTION: ***I move that the Commission approve Coastal Development Permit No. 6-07-132 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.

See attached page.

III. Special Conditions.

The permit is subject to the following conditions:

1. Final Revised Plans. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicants shall submit for review and written approval of the Executive Director, final plans for the caisson system that are in substantial conformance with the plans submitted to the Commission on August 15, 2008, by Soil Engineering Construction, Inc. Said plans shall first be approved by the City of Solana Beach and be revised to include the following:

a. Any existing permanent irrigation system located on the bluff top lot shall be removed or capped.

b. All runoff from impervious surfaces on the top of the bluff shall be collected and directed away from the bluff edge towards the street.

c. Proposed removal, relocation or replacement of existing accessory improvements (i.e., decks, patios, walls, etc.) located in the geologic setback area to allow for installation of the below-grade retention system shall be detailed and drawn to scale on the final approved site plan and shall include measurements of the distance between the accessory improvements and the bluff edge (as defined by Section 13577 of the California Code of Regulations) taken at 6 or more locations. The locations for these measurements shall be identified through permanent markers, benchmarks, survey position, written description, etc. All existing and proposed accessory improvements shall be located no closer than 5 feet landward of the natural bluff edge or approved reconstructed bluff edge. Any replaced windscreen or other wall shall not exceed 42 inches in height and shall be installed no less than 5 ft. landward of the bluff edge. Any Plexiglas or other glass wall shall be non-clear, tinted, frosted or incorporate other elements to inhibit bird strikes.

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

2. Monitoring Program. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicants shall submit to the Executive Director for review and written approval, a monitoring program prepared by a licensed civil engineer or geotechnical engineer to monitor the performance of the below-grade caisson system which requires the following:

a. An annual evaluation of the condition and performance of the caisson pier structures addressing whether any significant weathering or damage has occurred

that would adversely impact the future performance of the structures and whether any portions of the caisson pier system have become visually exposed.

b. Annual measurements of any differential retreat between the natural bluff face and the caisson pier structures. The program shall describe the method by which such measurements shall be taken.

c. Provisions for submittal of a report to the Executive Director of the Coastal Commission on May 1 of each year (beginning the first year after construction of the project is completed) for a period of three years and then, each third year following the last annual report, for the life of the approved caisson pier structure. However, reports shall be submitted in the Spring immediately following either:

1. An "El Niño" storm event – comparable to or greater than a 20-year storm.

2. An earthquake of magnitude 5.5 or greater with an epicenter in San Diego County.

Thus reports may be submitted more frequently depending on the occurrence of the above events in any given year.

d. Each report shall be prepared by a licensed geologist or geotechnical engineer. The report shall contain the measurements and evaluation required in sections a, and b above. The report shall also summarize all measurements and provide some analysis of trends and the stability of the overall bluff face below and adjacent to the development site and the impact of the caisson pier structures on the bluffs. In addition, each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the project including the coloring and texturing of exposed sections of the caisson pier structure.

e. An agreement that the permittees shall apply for a coastal development permit or amendment to the subject permit within three months of submission of the report required in subsection c. above (i.e., by August 1st) for any necessary maintenance, repair, changes or modifications, including the coloring and texturing of exposed sections of the caisson piers, recommended by the report that require a coastal development permit or permit amendment.

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

3. Future Response to Erosion. If in the future the permittee, or any of her successors in interest, seeks a coastal development permit to construct additional bluff or shoreline protective devices, the permittee will be required to include in the permit application information concerning alternatives to the proposed bluff or shoreline protection that will eliminate impacts to scenic visual resources, recreation and shoreline processes. Alternatives shall include but not be limited to: relocation of all or portions of the principle structure that are threatened, structural underpinning, and other remedial measures capable of protecting the principal structure and providing reasonable use of the property, without constructing bluff or shoreline stabilization devices. The information concerning these alternatives must be sufficiently detailed to enable the Coastal Commission or the applicable certified local government to evaluate the feasibility of each alternative, and whether each alternative is capable of protecting existing structures that are in danger from erosion. No additional bluff or shoreline protective devices shall be constructed on the adjacent public bluff face or on the beach seaward of the proposed caisson system unless the alternatives required above are demonstrated to be infeasible. No shoreline protective devices shall be constructed in order to protect ancillary improvements (patios, decks, fences, landscaping, etc.) located between the principal residential structure and the ocean.

4. Storm Design/Certified Plans. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit certification by a registered civil engineer that the proposed shoreline protective devices are designed to withstand storms comparable to the winter storms of 1982-83.

In addition, **within 60 days following completion of the project**, the permittee shall submit as-built plans of the approved upper bluff retention device which include measurements of the distance between the residence (and remaining accessory improvements) and the bluff edge (as defined by Section 13577 of the California Code of Regulations) taken at 6 or more locations. The locations for these measurements shall be identified through permanent markers, benchmarks, survey position, written description, etc. to allow annual measurements to be taken at the same bluff location and comparisons between years to provide information on bluff retreat.

In addition, **within 60 days following completion of the project**, the permittee shall submit certification by a registered civil engineer, acceptable to the Executive Director, verifying the below-grade caisson system has been constructed in conformance with the approved plans for the project.

5. Future Maintenance. The permittee shall maintain the permitted caisson pier system in its approved state. Maintenance of the caisson system shall include assuring that if any portions of the caisson system become exposed in the future, that the permittee will apply for an amendment to the subject permit for the color and texturing of the exposed sections of the caisson system. Any change in the design of the project or future additions/reinforcement of the caisson pier system beyond exempt maintenance as defined in Section 13252 of the California Code of Regulations to restore the structure to its original condition as approved herein, will require a coastal development permit.

However, in all cases, if after inspection, it is apparent that repair and maintenance is necessary, including visual treatment of any exposed section of the structures, the permittee shall contact the Executive Director to determine whether a coastal development permit or an amendment to this permit is legally required, and, if required, shall subsequently apply for a coastal development permit or permit amendment for the required maintenance within three (3) months.

6. Assumption of Risk, Waiver of Liability and Indemnity Agreement. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from erosion and coastal bluff collapse; (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.

7. 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 landowners have executed and recorded 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 (hereinafter referred to as the "Standard and Special Conditions"); and (2) imposing all Standard and 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 applicant's entire parcel or parcels. 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 finds and declares as follows:

1. Detailed Project Description. The proposed project involves the construction of a below-grade upper bluff retention system to protect an existing coastal blufftop home that is threatened by erosion. The below-grade system consists of 9 concrete piers, approximately 30 inch in diameter, placed eight-foot on center in the rear and side yards of the residential structure extending for approximately 50 feet in length along the west side of the residence. The concrete piers will be installed in the ground to a depth of 45 feet and will be capped and connected by a grade beam. The grade beam will be

restrained by 6 tiebacks that will extend 58 ft. into the ground landward of the grade beam. The applicant also proposes to remove a portion of the existing patio in order to construct the caisson system and proposes to reinstall the patio no closer than 5 ft. from the edge of the bluff.

The project will be located at the top of an approximately 85 ft.-high coastal bluff west of an approximately 3,860 sq. ft., two-story, single-family residence. The blufftop residence was constructed prior to the Coastal Act, however, in 1989 the Commission approved a 2,040 sq. ft. second story addition to the residence (Ref. CDP #6-89-29/Haggerty). The Commission approved the residential addition with conditions requiring the applicant to acknowledge that the removal of accessory structures such as the patio was a preferred solution over any future construction of a shoreline protective device. Another condition required that the bluff face be deed restricted to prohibit future development unless authorized in the future by the Coastal Commission or its successor in interest. In this case, however, the primary structure itself is at risk from erosion such that removal of any accessory structures, such as the patio, would not adequately address the threat. In addition, the proposed development will occur outside of the deed restricted area.

In November 2007, the Executive Director authorized an Emergency Permit for the construction of the proposed below-grade system. Because of difficulties in commencing construction, the emergency permit expired in February 2008 (Ref. Emergency Permit #6-07-110-G/Hawkins). In August 2008, the Executive Director authorized a new emergency permit for the proposed below-grade caisson system and, according to the applicant's engineer, construction has commenced (Ref. Emergency Permit #6-08-76-G/Hawkins). The subject permit application represents the required follow-up permit to Emergency Permit No. 6-08-76-G.

The project site is located between the sea and the first coastal roadway (Pacific Avenue) The site is also located approximately 700 feet north of Fletcher Cove, the City's primary beach access park. The City of Solana Beach does not yet have a certified LCP. Therefore, Chapter 3 policies of the Coastal Act is the standard of review.

2. Geologic Conditions and Hazards. 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.

In addition, Section 30253 of the Coastal Act states, in part:

> New development shall:

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

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

The proposed project involves the construction of an approximately 50 ft.-long below-grade concrete caisson system consisting of 9 concrete piers approximately 30-inch in diameter which will be buried to a depth of 45 ft. A grade beam will cap and connect the 9 concrete piers and the grade beam will be restrained by 6 tiebacks that will extend 58 ft. into the blufftop in a downward easterly direction. The caisson system will be installed 5 ft. west of the residence.

The applicants' geotechnical report indicates that the project is required to protect a single-family residence that is threatened by ongoing erosion due largely to the mid and upper bluff failures that have occurred in the last year resulting in the exposure of a "clean sands" lense below the residence in the mid bluff area and the creation of a near vertical 12 +/- foot high escarpment at the top of the bluff approximately 15 ft. from the residence.

The applicant's geotechnical reports describe the clean sands lens as being located between the Torrey Sandstone and Marine Terrace deposits at approximately elevation 25-38 ft. Mean Sea Level (MSL). According to the Commission's staff geologist, the clean sands lens consists of a layer of sand with a limited amount of capillary tension and a very minor amount of cohesion, which causes the material to erode easily, making this clean sands layer, once exposed, susceptible to wind blown erosion and continued sloughing as the sand dries out and loses the capillary tension that initially held the materials together. Geotechnical reports associated with developments near this site have stated that gentle sea breezes and any other perturbations, such as landing birds or vibrations from low-flying helicopters, can be sufficient triggers of small- or large-volume bluff collapses, since the loss of the clean sands eliminates the support for the overlying, slightly more cemented, terrace deposits.

The presence of this clean sands layer within the bluffs along the Solana Beach shoreline has previously been identified in geotechnical reports submitted in conjunction with seawall, seacave and notch infill projects in Solana Beach (ref. CDP 6-00-9/Del Mar Beach Club, CDP #6-99-100/Presnell, et. al, #6-99-103/ Coastal Preservation Association, #6-00-66/Pierce, Monroe, #6-02-02/Gregg, Santina, #6-02-84/Scism and #6-03-33/Surfsong; #6-04-83, Cumming, Johnson and #6-05-72/Las Brisas). According to the Commission's staff geologist, the typical mechanism of sea cliff retreat along the Solana Beach shoreline involves the slow abrasion and undercutting of the Torrey Sandstone bedrock, which forms the sea cliff at the base of the bluffs, from wave action which becomes more pronounced in periods of storms, high surf and high tides. Other contributing factors to sea cliff retreat include fracturing, jointing, sea cave and overhang

collapse and the lack of sand along the shoreline. When the lower sea cliff is undercut sufficiently, it commonly fails in blocks. The weaker terrace deposits are then unsupported, resulting in the collapse of the terrace deposits through circular failures. Such paired, episodic failures eventually result in a reduction in the steepness of the upper bluff, and the landward retreat of the bluff edge. Such retreat may threaten structures at the top of the slope. When failures of the upper bluff have sufficiently reduced the overall gradient of the upper bluff, a period of relative stability ensues, which persists until the lower bluff becomes sufficiently undercut to initiate a block failure once more, triggering a repetition of the entire process.

The mechanism of bluff retreat that occurs in conjunction with the exposure of the clean sands layer is somewhat different than the paired, episodic failure model described above. Because of the cohesionless character of the clean sands, once they are exposed, they continue to slump on an ongoing basis as a result of very small triggers such as traffic vibrations or wind erosion. Continued sloughage results in the further exposure of more clean sand, and ongoing upper bluff collapse. This cycle occurs so quickly (over months or days, rather than years) that the upper bluff may never achieve a stable angle of repose. Unless the base of the bluff is afforded shoreline protection and the clean sands lens is contained, additional bluff failures can further expose the layer of clean sands and result in a potential upper bluff failure.

The proposed below-grade caisson system will provide immediate, albeit temporary, protection to the existing residence by delaying further erosion of the upper bluff. As the applicant's geotechnical report acknowledges, erosion of the lower and mid bluff will continue unabated until, at a minimum, a lower seawall is constructed at the base of the bluff.

> It should be recognized that a lower bluff seawall will be necessary sometime in the future. Significant erosion of the lower bluff can adversely affect the proposed upper bluff retention system. At such time it becomes necessary and when adjacent property owners participate, SEC will provide recommendations for the design and construction of a lower bluff seawall and bluff reconstruction. The immediate need now is to protect the structure from imminent failure by constructing the proposed upper bluff retention system. ("Preliminary Geotechnical Evaluation of Coastal Bluff" by SEC dated 4/16/07.)

The applicant is not proposing a lower seawall at this time. In addition, even after a seawall is constructed at the base of the bluff, the mid bluff will likely continue to erode leading to upper bluff failures that eventually will expose the below-grade concrete piers. Once the exposure of the caissons occurs, the applicant is required by the City of Solana Beach to cover the exposed sections of the caisson with colored and textured shotcrete forming a wall over the exposed areas. In addition to the covering of the exposed sections, the applicant's engineer has identified that once up to approximately 20 ft. in height of the caissons become exposed, it might be necessary to install additional tiebacks to the caisson system (Ref. "Response to 3rd Party Review" by Soil Engineering Construction, Inc. dated April 16, 2008). Therefore, while the proposed caisson system

will provide immediate protection to the existing residence, long-term protection of the home will require ongoing monitoring, maintenance and additional shoreline device(s).

As cited above, Section 30235 of the Coastal Act requires that any required shoreline protection device only be approved if it is designed to eliminate or mitigate adverse impacts on local shoreline sand supply. In this case, the proposed concrete pier structure will not itself affect the beach's supply of sand contribution that comes from the eroding bluffs. The concrete piers will be located at the top of the approximately 85 ft. high coastal bluff. All bluff material seaward of the proposed piers will continue to contribute sand to the beach as ongoing erosion occurs. In addition, if ongoing erosion results in the eventual exposure of the concrete piers, the area of bluff between and behind the piers could still fall to the beach below unabated. It is only when the face of the exposed piers is covered as a result of a future request for visual treatment (such as a colored and textured shotcrete application) and/or a lower seawall is constructed, that the sand contribution to the beach will be adversely affected and, thereby, will need to be mitigated.

Thus, given the significant bluff collapses that have occurred over last few years, the presence of the clean sands layer, the extreme erodibility of these sands once exposed, and the ongoing erosion below the subject site, substantial evidence has been provided to document that the existing primary blufftop structure is in danger from erosion.

Alternatives.

The applicant has identified that no other feasible less-environmentally-damaging alternative exists to address the threats to the structure at the top of the bluff (Ref. "Upper Coastal Bluff Emergency Project" letter from Soil Engineering Construction, Inc, dated September 17, 2007). The applicant's engineer has identified that removal or relocation of the residential structures is not feasible or practical because of the expense and/or the lack of available area on the lots to setback the structures so as to not be threatened by the ongoing erosion. Control of groundwater and irrigation restrictions while recommended by the applicants' representative as a way of reducing bluff sloughage, will not prevent the bluff collapses that occur at the subject site. Underpinning of the existing residences has also been examined by the applicant, however without controlling the ongoing failures at the top of the bluff, the underpinnings would soon be exposed. In the case of the proposed caisson system, the applicant's engineer has identified that the proposed concrete pier system is the minimum size necessary to protect the existing residence from marine erosion until a more comprehensive solution can be constructed.

In summary, the ongoing mid and upper bluff failures along with the exposure of the clean sands layer presents a threat of rapid erosion and bluff collapses that must be addressed in order to protect the residence at the top of the bluff. Given the substantial amount of documented erosion on the site in recent years, the presence of the clean sands, the extreme erodibility of these sands, and the low factor of safety on the subject bluffs, substantial evidence has been provided to document that the existing primary blufftop structure is in danger from erosion and that the proposed below-grade caisson system is

necessary to protect the structure at the top of the bluff from the danger of erosion. In addition, the above-described alternatives presented by the applicant do not suggest there is a less-environmentally-damaging feasible alternative at this time. The Commission's staff geologist and coastal engineer have reviewed the applicant's geotechnical assessment of the site along with their alternatives analysis and concur with its conclusions and recommendations. Therefore, the Commission finds that the proposed below-grade concrete caisson system is the least environmentally damaging feasible alternative.

If the proposed caisson system were damaged in the future (e.g. as a result of ongoing bluff erosion) it could threaten the stability of the site, which could lead to the need for more bluff alteration. In addition, ongoing lower bluff erosion could result in the exposure of the concrete caissons. Therefore, in order to find the proposed protective device consistent with the Coastal Act, the Commission finds that the condition of the caisson system in its approved state must be maintained for the life of the structure. Further, in order to ensure that the permittee and the Commission know when repairs or maintenance are required, the permittee must monitor the condition of the caisson system annually, for three years and at three-year intervals after that, unless a major storm event or earthquake occurs. The monitoring will ensure that the permittee and the Commission are aware of any damage to or weathering of the caisson system and can determine whether repairs or other actions are necessary to maintain the seawall in its approved state. In addition, the monitoring will ensure that if the concrete caissons become exposed in the future that recommendations for its visual treatment will be prepared and coastal permit applications or permit amendments will be applied for.

Therefore, Special Condition #2 requires the applicant to submit a monitoring report which evaluates the condition and performance of the concrete caisson system and overall site stability, and submit an annual report with recommendations, if any, for necessary maintenance, repair, changes or modifications to the project. In addition, the condition requires the applicant to perform the necessary repairs through the coastal development permit or permit amendment process.

Special Condition #3 requires that feasible alternative measures must be implemented on the applicant's blufftop property in the future, should additional stabilization be required, which would avoid additional alteration of the natural landform of the public beach or coastal bluffs, but would reduce risk to the principle residential structures and provide reasonable use of the property. The condition will ensure that future property owners will be aware that any future proposals for additional shoreline protection, such as a seawall, will require an alternative analysis similar to one required for the subject project. If there are feasible alternatives to shoreline protection that would have less impact on visual quality, sand supply, or public access, the Commission (or, where applicable, the City of Solana Beach after the effective certification of its Local Coastal Program) will require implementation of those alternatives. The condition also states that no shore or bluff protection shall be permitted for ancillary improvements located within the blufftop setback area. Through this condition, the property owner is required to acknowledge the risks inherent in the subject property and that there are limits to the structural protective measures that may be permitted on the adjacent public property in order to protect the existing development in its current location.

Special Condition #1 requires the applicant to submit final plans for the project indicating that the caisson system will be installed approximately 5 feet west of the residence, details the design of the structures and that demonstrate that any existing irrigation systems on the blufftop have been removed, as these would impact the ability of the caisson structure to adequately stabilize the site. The final plans will also identify the location of proposed accessory structures, such as patios, to assure they are not located within 5 ft. of the bluff edge. Submission of final plans will ensure that overall site conditions which could adversely impact the stability of the bluff have been addressed.

To assure the proposed shore/bluff protection has been constructed properly, Special Condition #4 has been proposed. This condition requires that, within 60 days of completion of the project, as built-plans and certification by a registered civil engineer be submitted that verifies the proposed caisson system has been constructed in accordance with the approved plans.

Special Condition #5 notifies the applicant that she is responsible for maintenance of the herein approved bluff protection. The condition also indicates that, should it be determined that maintenance of the proposed structures are required in the future, including the need to naturalize the appearance of any of the caisson piers, the applicant shall contact the Commission to determine if permits are required.

Also, due to the inherent risk of shoreline development, Special Condition #6 requires the applicant to waive liability and indemnify the Commission against damages that might result from the proposed shoreline devices or their construction. The risks of the proposed development include that the proposed shoreline devices will not protect against damage to the residence from bluff failure and erosion. In addition, the structures themselves may cause damage either to the applicant's residence or to neighboring properties by increasing erosion of the bluffs. Although the Commission has sought to minimize these risks, the risks cannot be eliminated entirely. Given that the applicant has chosen to construct the proposed caisson system despite these risks, the applicant must assume the risks. Special Condition #7 requires the applicant to record a deed restriction imposing the conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the property. Only as conditioned can the proposed project be found consistent with Sections 30235 and 30253 of the Coastal Act.

In summary, the applicant has documented that the existing blufftop primary residential structure is in danger from erosion and subsequent bluff collapse. As conditioned, there are no other less damaging alternatives available to reduce the risk from bluff erosion. Thus, the Commission is required to approve the proposed protection for the residential structure. Therefore, as conditioned, the Commission finds that the proposed seawall is consistent with Sections 30235 and 30253 of the Coastal Act.

3. Public Access/Recreation. Section 30604(c) of the Act requires that a specific access finding be made for any development located between the sea and the first public roadway. In this particular location, Pacific Avenue serves as the first public roadway

such that the proposed development would be located at the top of the bluff between Pacific Avenue and the Pacific Ocean. The following public access and recreation policies of the Coastal Act are applicable:

> **Section 30210:** 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.
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> **Section 30211:** Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.
>
> **Section 30212(a):** Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects…
>
> **Section 30213:** Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. …
>
> **Section 30220:** Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.
>
> **Section 30221:** Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

The project site is located on the top of an approximately 85 ft. high coastal bluff adjacent to a public beach utilized by local residents and visitors for a variety of recreational activities such as swimming, surfing, jogging, walking, surf fishing, beachcombing and sunbathing. According to the applicant's engineer, all work will occur from the top of the bluff and not on the public beach. As a result, no impacts to public access are proposed or anticipated. In addition, beach access across the subject site to the beach would be unsafe and impractical because of the unstable nature of the bluffs. Public access to the beach is available approximately 700 feet south of the development site at Fletcher Cove, the City' primary beach access location. Thus, the Commission finds the project consistent with the public access and recreation policies of the Coastal Act.

4. Visual Resources/Alteration of Natural Landforms. Section 30240 (b) of the Coastal Act is applicable and states:

> (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.

In addition, 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 the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas . . .

As stated previously, the proposed development will occur on the top of a coastal bluff that fronts the Solana Beach shoreline. The bluff face at the subject site and on either side of the proposed development site remains in its natural state without shoreline protective devices. Following installation of the 9 underground concrete piers, the visual appearance of the bluff will be unchanged. However, as erosion at the base of the bluff and on the face of the bluff continues, the buried caissons will eventually become exposed. This process may take more than a year or may occur sooner following a sudden unexpected event.

Since the applicant is not proposing to abate the erosion by constructing a stabilization device at the base of the bluff, it is very likely the caisson piers will become exposed in the very near future. If that happens, the natural appearance of the bluff will be significantly altered. To assure that the appearance of these concrete columns is masked or treated to appear more natural, Special Condition #2 has been attached. Special Condition #2 requires the applicant to monitor and maintain the caisson structure in its design state and to identify any necessary repair including the visual treatment of any exposed sections. In some cases along the Solana Beach shoreline, the applicants have been able to color and texture the face of exposed concrete pier structures at the top of the bluff using shotcrete to create a rock wall type appearance (Ref. CDP Nos. 6-00-9/Del Mar Beach Club and 6-00-138-A1/Greenberg). In another case, the applicants constructed a seawall at the base of the bluff and reconstructed the bluff face using a geogrid structure in order to cover any future exposure of the caissons (Ref. 6-02-2/Gregg/Santina). By requiring the applicant to address this adverse impact as soon as possible through the permit process, the impacts can be mitigated as soon as practical. In addition, through the permit process, any future repair or visual mitigation project can be reviewed for consistency with the coastal resource protection policies of the Coastal Act.

Therefore, as conditioned, the Commission finds that potential visual impacts associated with the proposed development have been reduced to the maximum extent feasible and the proposed development will include measures to prevent impacts that would significantly degrade the adjacent park and recreation area (beach area). Thus, the project can be found consistent with Sections 30240 and 30251 of the Coastal Act.

5. Local Coastal Planning. Section 30604(a) also requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

The subject site was previously in the County of San Diego jurisdiction, but is now within the boundaries of the City of Solana Beach. Because of the incorporation of the City, the County of San Diego's LCP never became effectively certified. The City of Solana Beach has prepared a draft LCP. In preparation of its LCP, the City of Solana Beach is faced with many of the same issues as the City of Encinitas, located immediately north of Solana Beach, whose LCP was certified by the Commission in March 1995. The City of Encinitas' LCP includes the intent to prepare a comprehensive plan to address the coastal bluff recession and shoreline erosion problems in the City. The plan will include at a minimum, bluff top setback requirements for new development and redevelopment; alternatives to shore/bluff protection such as beach sand replenishment, removal of threatened portions of a residence or the entire residence or underpinning existing structures; addressing bluff stability and the need for protective measures over the entire bluff (lower, mid and upper); impacts of shoreline structures on beach and sand area as well as mitigation for such impacts; impacts for groundwater and irrigation on bluff stability and visual impacts of necessary/required protective structures.

The City of Solana Beach LCP should also address these items in the context of a comprehensive approach to management of shoreline resources. As shoreline erosion along the coast rarely affects just one individual property, it is imperative that a regional solution to the shoreline erosion problem be addressed and solutions developed to protect the beaches. Combined with the decrease of sand supply from coastal rivers and creeks, armoring of the coast will continue to erode beaches without their being replenished. This will, in turn, decrease the public's ability to access and recreate on the shoreline.

In the case of the proposed project, site-specific geotechnical evidence has been submitted indicating that the existing structure at the top of the bluff is in danger. The Commission feels strongly that approval of the proposed project should not send a signal that there is no need to address a range of alternatives to armoring for existing development. Planning for comprehensive protective measures should include a combination of approaches including limits on future bluff development, ground and surface water controls, and beach replenishment. Although the erosion potential on the subject site is such that action must be taken promptly, decisions regarding future shoreline protection should be done through a comprehensive planning effort that analyzes the impact of such a decision on the entire City shoreline.

The location of the proposed below-grade caisson system is designated for residential use in the City of Solana Beach Zoning Ordinance and General Plan, and was also designated for residential use under the County LCP. As conditioned, the subject development is consistent with these requirements. Based on the above findings, the proposed development is consistent with the Chapter 3 policies of the Coastal Act in that the need

for the shoreline protective devices has been documented and its potential visual adverse impacts will be mitigated.

Therefore, the Commission finds the proposed development, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act, and will not prejudice the ability of the City of Solana Beach to complete a certifiable local coastal program. However, these issues of shoreline planning will need to be addressed in a comprehensive manner in the future through the City's LCP certification process

6. Consistency with the California Environmental Quality Act (CEQA).

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

The proposed project has been conditioned in order to be found consistent with the geologic stability and visual quality policies of the Coastal Act. Mitigation measures, including conditions requiring monitoring and maintenance of the structure over its lifetime, removal or capping all permanent irrigation and visual treatment of any exposed sections of the caissons in the future through a permit amendment will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and is consistent with the requirements of the Coastal Act to conform to CEQA.

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.

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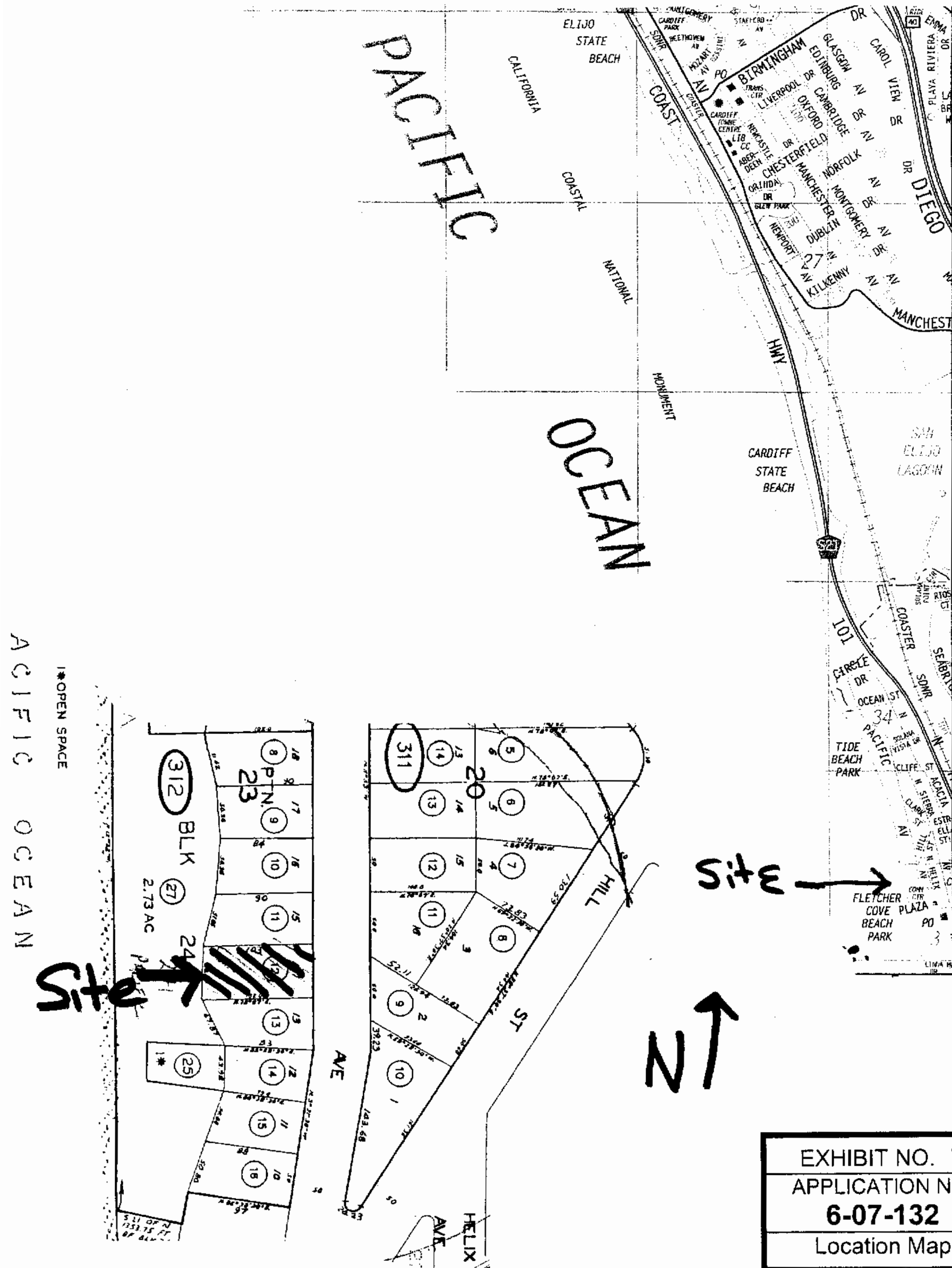


EXHIBIT NO. 1
APPLICATION NO.
6-07-132
Location Map
California Coastal Commission

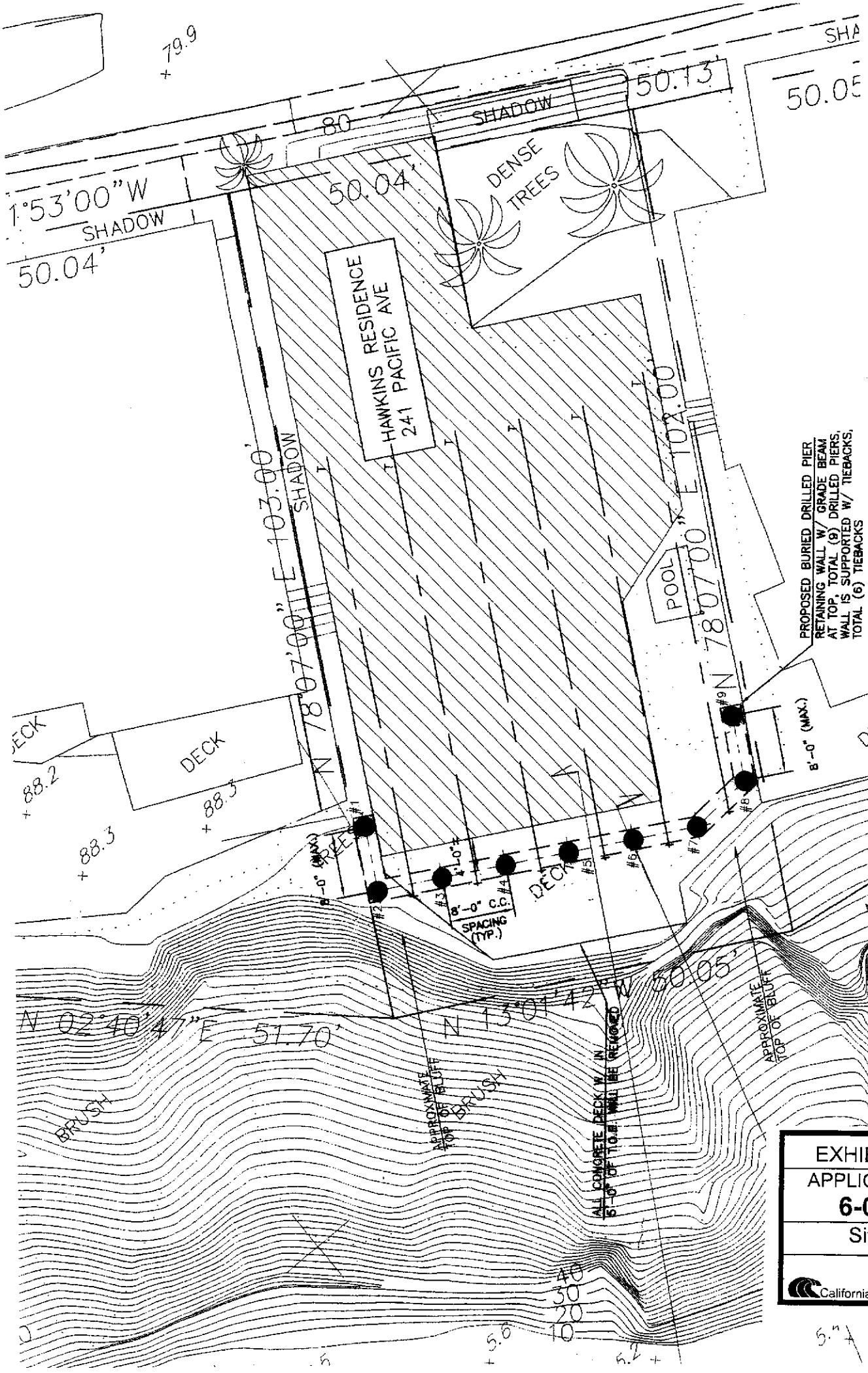
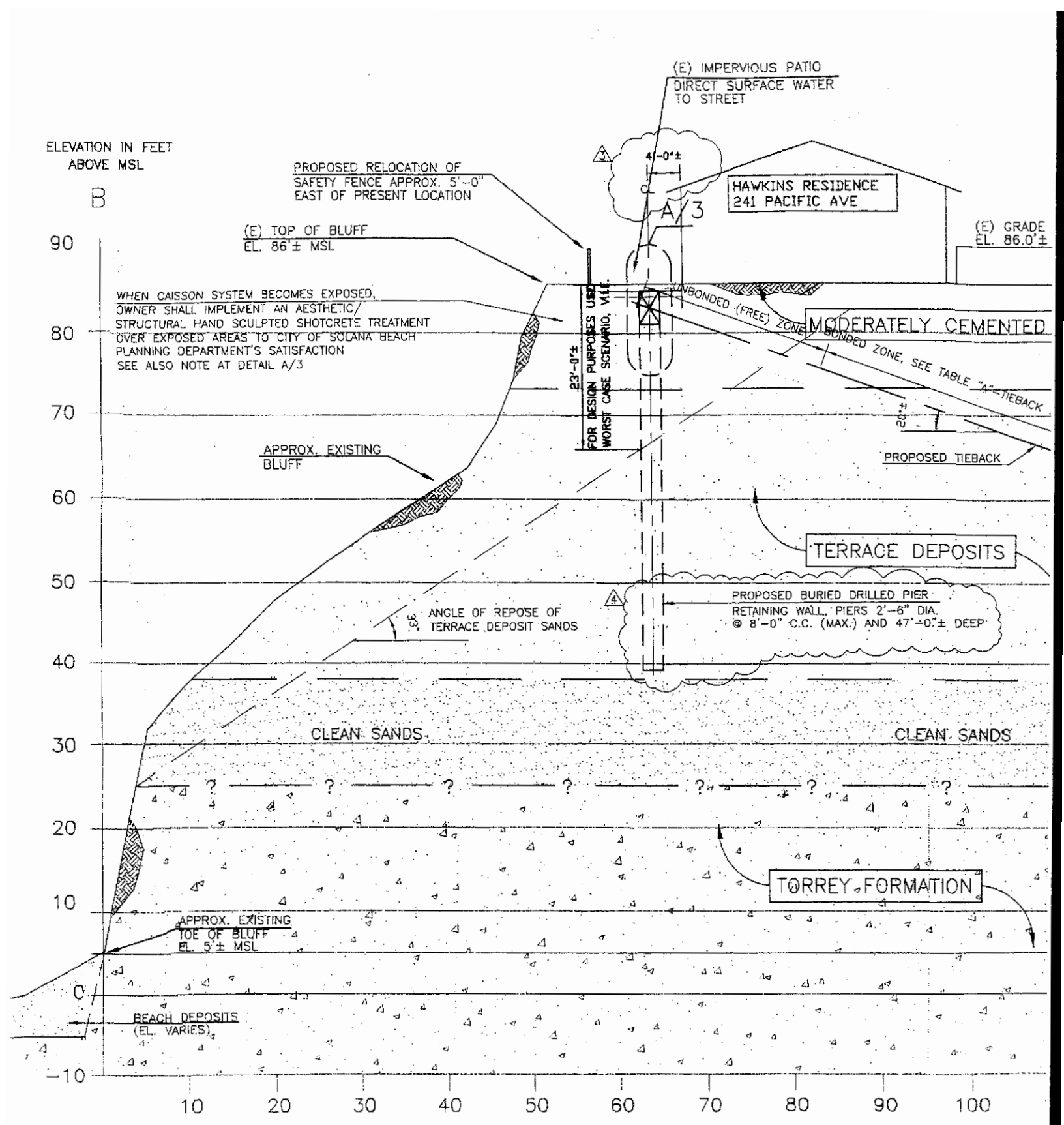


EXHIBIT NO. 2
APPLICATION NO.
6-07-132
Site Plan
California Coastal Commission



PROFILE SECTION B-B'

SCALE: 1"=10'

EXHIBIT NO. 3
APPLICATION NO.
6-07-132
Cross-Section

California Coastal Commission