CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4402
(619) 767-2370

Th23b

Addendum

March 4, 2013

Go to original staff report

To: **Commissioners and Interested Persons**

From: **California Coastal Commission**
San Diego Staff

Subject: Addendum to **Item Th23b**, Coastal Commission Permit Application **#6-12-041 (Lampl and Baskin)**, for the Commission Meeting of March 7, 2013

Staff recommends the following changes be made to the above-referenced staff report. Language to be added is underlined; language to be deleted is shown in ~~strikeout~~:

1. On Page 4 of the staff report, the following shall be added to the list of exhibits:

   EXHIBIT 10 – BLUFF TOP REAR YARD FENCE

2. On Page 6 of the staff report, Special Condition 1.c shall be revised as follows:

   c. Existing and any proposed accessory improvements (i.e., decks, patios, walls, windscreens, etc.) located in the geologic setback area at 676/678 Neptune Avenue and 660 Neptune Avenue 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 ~~natural bluff edge~~ upper bluff wall ~~(as defined by Section 13577 of the California Code of Regulations)~~ taken at 3 or more locations. The locations for these measurements shall be identified through permanent markers, benchmarks, survey position, written description, or other method that enables accurate determination of the location of all structures on the site. 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~~ upper bluff wall. The existing patio and rear yard fence on the northern portion of the property may be retained (Exhibit 10). Any new Plexiglas or other glass wall shall be non-clear, tinted, frosted or incorporate other elements to inhibit bird strikes. ~~Any existing improvements located within 5 feet landward of the reconstructed or natural bluff edge~~ **~~shall be removed within 60 days of issuance of the coastal development permit~~**.

3. The first incomplete paragraph on Page 33 shall be revised as follows:

> …Furthermore, **Special Conditions 1 and 14** of this approval requires the submittal of revised final and as-built plans that include the ~~removal of all accessory structures within 5 feet landward of the bluff edge and that the~~ proposed geogrid structure be contoured to mimic the nearby natural bluffs. **Special Condition 1** allows the existing patio area and rear yard fence located directly above the existing upper bluff wall to be retained. However, the portion of the rear yard fence that is being removed to facilitate the lowering of the southern section of the existing upper bluff wall shall be located no closer than 5 feet landward of the upper bluff wall if it is reconstructed (Exhibit 10).

4. The attached Exhibit shall be added to the staff report.

(G:\San Diego\Reports\2012\6-12-041 Lampl Baskin Addendum.doc)

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SAN DIEGO AREA
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Th23b

Addendum

March 4, 2013

To: **Commissioners and Interested Persons**

From: **California Coastal Commission**
San Diego Staff

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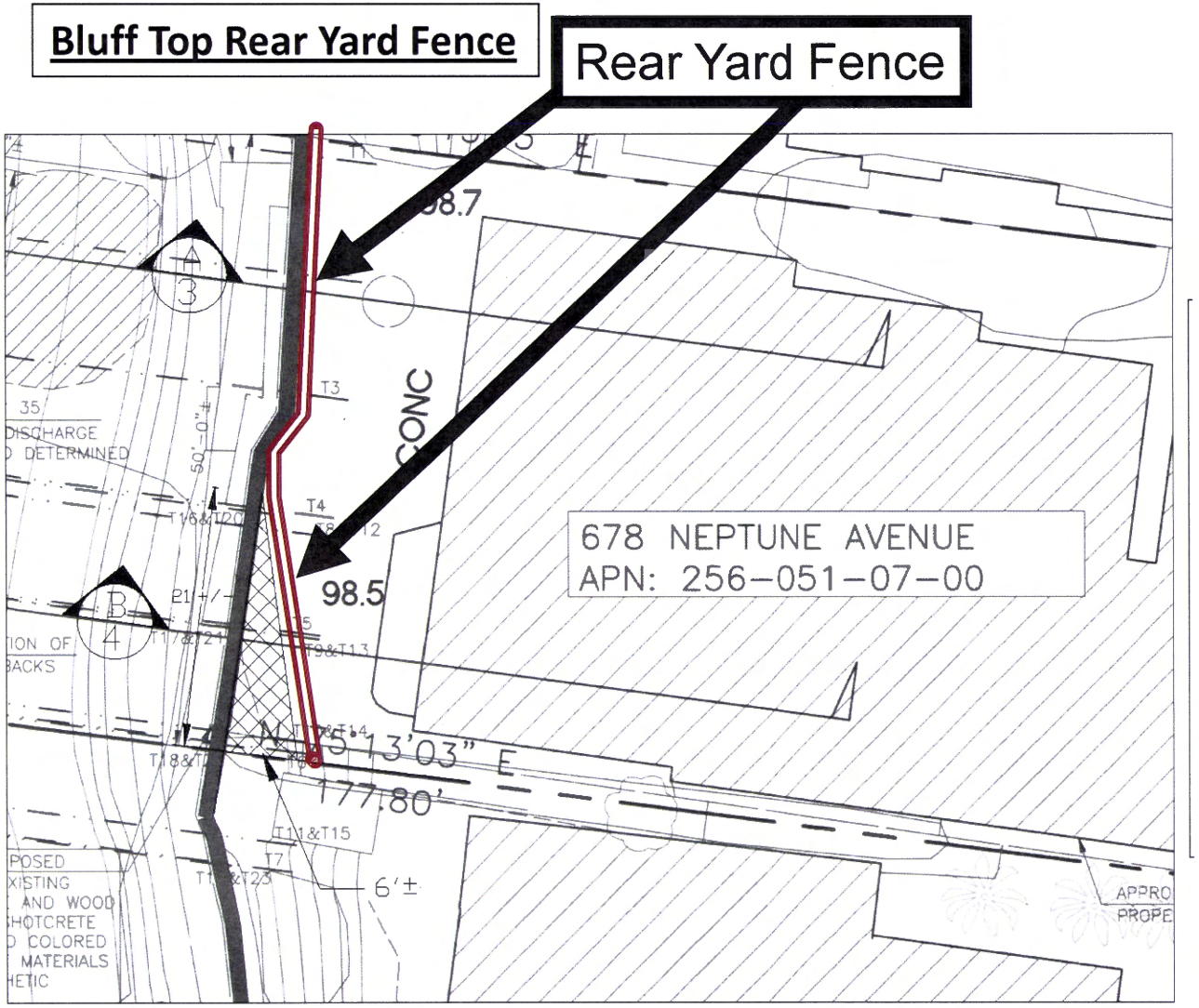
(G:\San Diego\Reports\2012\6-12-041 Lampl Baskin Addendum.doc)

Bluff Top Rear Yard Fence



SITE PLAN
SCALE:

GRADE CREATED BY LOWERIN

EXHIBIT NO. 10
APPLICATION NO.
6-12-041
Rear Yard Fence
California Coastal Commission

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CALIFORNIA COASTAL COMMISSION
SAN DIEGO AREA
7575 METROPOLITAN DRIVE, SUITE 103
SAN DIEGO, CA 92108-4421
(619) 767-2370

Th 23b

Filed:	6/15/2012
270th Day:	3/12/2013
Staff:	E. Stevens-SD
Staff Report:	2/21/2013
Hearing Date:	3/7/2013

STAFF REPORT: REGULAR CALENDAR

Application No.:	**6-12-041**
Applicants:	**Jack Lampl & Scott Baskin**
Agent:	Bob Trettin
Location:	On the bluff and public beach below two blufftop lots containing a duplex and a single family residence at 660 (Baskin) and 676/678 (Lampl) Neptune Avenue, Encinitas, San Diego County (APN #s: 256-051-19 (Baskin) & 256-051-07 (Lampl))
Project Description:	Repairs and new structural/aesthetic improvements to an existing unpermitted seawall; repairs and new structural/aesthetic improvement to an existing unpermitted mid-bluff retaining wall and to an existing unpermitted upper bluff retaining wall; and, reconstruction/landscaping of two portions of the mid-bluff.
Staff Recommendation:	Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

Staff is recommending approval of the proposed repairs to the existing seawall and mid and upper bluff retaining walls and construction of a geogrid bluff stabilization structure on the mid bluff, with several special conditions. The existing shore and bluff protective structures were all constructed without review by the Commission pursuant to a CDP, in violation of the Coastal Act. Subsequent to their construction, the applicant sought approval of the structures after-the-fact along with necessary repairs. However, the Commission found that the structures were inconsistent with the Coastal Act because they did not represent the feasible alternative that lessened adverse impacts on coastal resources and therefore, denied the structures. Through a settlement agreement between the applicant, Lampl, and the Commission, the Commission agreed to allow the applicant to repair the walls even though the Commission never formally authorized the development. While the existing seawall and the existing mid and upper bluff retaining walls are still unpermitted, the applicant has submitted documentation that suggests that they cannot be removed without threatening the stability of the existing blufftop residential structure. In addition, it has been documented that additional repairs are necessary to maintain the structural integrity of the seawall and the mid and upper bluff walls. With this action, the applicant is only requesting repairs, and is not requesting authorization for the existing unpermitted structures. With the proposed conditions, staff has found that the proposed repairs are consistent with the Chapter 3 policies of the Coastal Act.

The Commission's staff geologist and engineer have reviewed the project, the various technical reports and visited the project site and have determined that the proposed repairs are necessary to allow continued protection to the existing blufftop residential structures and that they are the minimum necessary to achieve that purpose. Major Coastal Act issues associated with this project include adverse impacts to visual resources on a natural bluff face, impacts to public access and recreation and shoreline sand supply, and unpermitted development. To address these potential adverse impacts, Commission staff is recommending **Special Conditions 1 and 2** that would require the existing walls be colored and textured, that the proposed geogrid structure undulate and that extensive landscaping be installed to closely match the appearance of adjacent natural bluffs. In addition, the proposal to remove the final portion of the existing private access stairs attached to the upper bluff wall will reduce the adverse visual impacts caused by the bluff face development. Because the proposed repairs will result in the existing seawall remaining in place on the public beach for a longer period of time (estimated at an additional 20 years), thereby continuing the privatization of public beach and associated armoring effects, **Special Condition 3** requires that a mitigation fee be paid to mitigate the adverse impacts that the proposed project will have on public access, public recreation and shoreline sand supply caused by proposed repairs' effect of extending the life of the existing seawall. The proposal to remove the large concrete toe that extends out from base of the seawall will further enhance lateral public access in front of the seawall along the public beach. **Special Conditions 18 and 19** have been included to ensure that the unpermitted development proposed to be removed is done so in a timely manner.

The repairs to the existing seawall are within the Commission's coastal development permit jurisdiction, while the repairs to the mid and upper bluff walls and the proposed mid bluff geogrid structure are in the City's coastal development permit jurisdiction. However, the City and the applicant have requested a consolidated review of the entire project, and therefore the Chapter 3 policies of the Coastal Act is the standard of review and the City's certified LCP is used as guidance.

Commission staff recommends **approval** of coastal development permit application 6-12-041 as conditioned.

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APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 6-12-041 subject to the conditions set forth in the staff recommendation.*

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

Resolution:

The Commission hereby approves coastal development permit 6-12-041 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. 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

This permit is granted subject to the following 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 of 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

This permit is granted subject to the following special conditions:

1. **Final Plans.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit for review and written approval of the Executive Director, final repair and maintenance plans for the seawall, mid bluff wall, upper bluff wall, and the geogrid structure that are in substantial conformance with the submitted plans received September 27, 2012 by Soil Engineering Construction, Inc. The revised plans shall first be approved by the City of Encinitas before submittal for the Executive Director's review and approval and include the following:

    a. Any existing permanent irrigation system located on the subject properties 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 and into the City's stormwater collection system.

    c. Existing and any proposed accessory improvements (i.e., decks, patios, walls, windscreens, etc.) located in the geologic setback area at 676/678 Neptune Avenue and 660 Neptune Avenue 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 natural bluff edge (as defined by Section 13577 of the California Code of Regulations) taken at 3 or more locations. The locations for these measurements shall be identified through permanent markers, benchmarks, survey position, written description, or other method that enables accurate determination of the location of all structures on the site. 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 new Plexiglas or other glass wall shall be non-clear, tinted, frosted or incorporate other elements to inhibit bird strikes. Any existing improvements located within 5 feet landward of the reconstructed or natural bluff edge **shall be removed within 60 days of issuance of the coastal development permit**.

    d. The geogrid structure on the bluff face of 676/678 Neptune Avenue shall be textured and undulating to closely match the appearance of a natural bluff face.

    e. The geogrid structure proposed in front of the existing midbluff wall shall be deleted.

e. The southern portion of the existing upper bluff wall at 676/678 Neptune Avenue shall be lowered approximately three feet to match the height of the upper bluff wall directly to the south at 660 Neptune Avenue, consistent with **Exhibit 6**.

f. Technical details regarding the construction method and technology utilized for texturing and coloring the seawall and upper bluff wall. Said plans shall be of sufficient detail to ensure that the Executive Director can verify that the seawall and upper bluff wall closely match the color and texture of the natural bluffs nearby to the seawall, including provision of a color board indicating the color of the material.

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. **Final Landscape Plans.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit for review and written approval of the Executive Director, final landscape plans for the landscaping on the coastal bluff that are in substantial conformance with the submitted plans received November 6, 2012 by Soil Engineering Construction, Inc. The revised plans shall first be approved by the City of Encinitas before submittal for the Executive Director's review and approval and include the following:

a. Only drought tolerant native or non-invasive plant materials may be planted on the subject property. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, 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 'noxious weed' by the State of California or the U.S. Federal Government shall be planted within the property.

b. Landscaping and only temporary drip irrigation for the areas surrounding the existing mid bluff wall that will be disturbed as a result of the proposed repairs.

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.

3. **Mitigation for Impacts to Public Access and Recreation and Sand Supply**.

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall provide evidence, in a form and content acceptable to the

Executive Director, that a payment of $122,715.99 has been deposited in the Public Access and Recreation Fund, an interest bearing account established at San Diego Association of Governments (SANDAG), or other account designated by the Executive Director, in-lieu of replacing the beach area lost due to the significant adverse impacts that the proposed repairs to the protective structure that extend the life of the structure will have on public access and recreation. The in-lieu fee will mitigate for those impacts over the 20-year authorization period. All interest earned by the account shall be payable to the account for the purposes stated below.

The purpose of the mitigation payment is for provision, restoration or enhancement of public access and recreation opportunities within the City of Encinitas, including but not limited to, public access improvements, recreational amenities and/or acquisition of privately-owned beach or beach-fronting property for such uses. The funds shall be used solely for the construction/creation of permanent long-term public access and recreation improvements which provide public access or recreational opportunities along the shoreline, not to fund operations, maintenance or planning studies. Any portion of the fund that remains after ten years may be used for other public beach access and recreation projects within the coastal zone of San Diego County.

B. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall provide evidence, in a form and content acceptable to the Executive Director, that a fee of $9,088.66 has been deposited in an interest bearing account designated by the Executive Director, in-lieu of providing the total amount of sand to replace the sand that will be lost due to the significant adverse impacts of the proposed protective structure. All interest earned by the account shall be payable to the account for the purposes stated below.

The purpose of the account shall be to establish a beach sand replenishment fund to aid SANDAG, or a Commission-approved alternate entity, in the restoration of the beaches within San Diego County. The funds shall be used solely to implement projects which provide sand to the region's beaches, not to fund operations, maintenance or planning studies.

The funds in either account shall be released only upon approval of an appropriate project by the Executive Director of the Coastal Commission. The funds shall be released as provided for in a Memoranda of Understanding (MOA) between SANDAG, or a Commission-approved alternate entity, and the Commission; setting forth terms and conditions to assure that the in-lieu fee will be expended in the manner intended by the Commission. If the MOA is terminated, the Commission may appoint an alternate entity to administer the fund.

The required mitigation payments cover impacts for only 20-years. No later than 19 years after the issuance of this permit, the permittees or their successors in interest shall apply for and obtain an amendment to this permit that either requires

the removal of the existing seawall within the initial 20-years or requires mitigation for the effects of the seawall on shoreline sand supply and public recreational use, for the expected life of the unpermitted seawall beyond the initial 20 years. If within the initial 20 years, the permittees or their successors in interest obtain a coastal development permit or an amendment to this permit to enlarge or reconstruct the seawall or perform repair work that extends the expected life of the seawall, the permittees shall provide mitigation for the effects of the additional size of the seawall or the extended effects of the existing seawall on shoreline sand supply and public recreational use for the expected life of the seawall beyond the initial 20-yeartime frame.

4. **Future Redevelopment**. By acceptance of this permit, the applicants agree, on behalf of themselves and all their successors and assigns, to the following limitations on use of the residential parcels (APN #s: 256-051-19 & 256-051-07):

   a. This coastal development permit authorizes the proposed repairs to the unpermitted seawall, unpermitted mid bluff wall, unpermitted upper bluff wall, and the construction of a geogrid bluff retention structure for twenty years from the date of Commission approval of the coastal development permit. The applicants shall not modify or expand the seawall, mid bluff wall, upper bluff wall or the geogrid structure, nor shall the applicants construct additional bluff or shoreline protective structures without approval of a new coastal development permit or an amendment to this coastal development permit by the Coastal Commission.

   b. Any future redevelopment of the blufftop residential structures shall constitute new development and shall not rely on the shoreline armoring to establish geologic stability or protection from hazards. Any future 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) one or more additions to the structure that, individually or cumulatively, exceeds 50% or more of the square footage of the existing structure; (2) demolition and/or replacement that would result in replacement of 50 percent or more of an existing structure, including but not limited to, alteration of 50 percent or more of structural exterior wall area, structural flooring or structural roofing area or any combination of these areas; or (3) any demolition or replacement of less than 50 percent of the existing residential structure where multiple proposed demolitions or additions would result in a combined replacement of 50 percent or more of the structure (including previous alterations) from its condition at the date of approval of the this application by the Commission.

5. **Extension of Seawall, Mid Bluff Wall, and Upper Bluff Wall Repair Authorization or Removal.** Prior to the expiration of the twenty year authorization period for the repairs to the unpermitted seawall, unpermitted mid bluff wall, and unpermitted upper bluff wall, the property owners shall submit to the Commission an application for a coastal development permit amendment to either

propose to extend the length of time that the repairs are authorized by submitting documentation that the repairs are required to protect the existing single-family structure in danger from erosion or to propose to remove the unpermitted seawall, unpermitted midbluff wall, and unpermitted upper bluff wall in their entirety, change or reduce their size or configuration if no showing can be made that the repairs are required to protect an existing single-family structure in danger from erosion. A redeveloped residential structure, as defined in Special Condition 3, above, does not constitute an "existing structure" for purposes of satisfying the threshold justification that the reauthorization of the repairs, authorized under this permit, is required to protect an existing structure on the subject properties.. Provided a complete application is filed before the 20-year permit expiration, the expiration date shall be automatically extended until the time the Commission acts on the application. Any amendment application shall conform to the Commission's permit filing regulations at the time and shall also conform to the following requirements:

a. An analysis, based on the best available science and updated standards, of beach erosion, wave run-up, sea level rise, inundation and flood hazards prepared by a licensed civil engineer with expertise in coastal engineering and a slope stability analysis, prepared by a licensed Certified Engineering Geologist and/or Geotechnical Engineer or Registered Civil Engineer with expertise in soils;

b. An evaluation of alternatives that will increase stability of the existing principal structure(s) for its remaining life, or re-site new development to an inland location, such that further alteration of natural landforms and/or impact to adjacent tidelands or public trust lands is avoided.

c. An analysis of the condition of the existing seawall, mid bluff wall, and upper bluff wall and any impacts they may be having on public access and recreation, scenic views, sand supply, and other coastal resources.

d. An evaluation of the opportunities to remove or modify the existing seawall, mid bluff wall, and upper bluff wall in a manner that would eliminate or reduce the identified impacts, taking into consideration the requirements of the LCP and any applicable Chapter 3 policies of the Coastal Act.

e. For amendment applications to extend the authorization period, a proposed mitigation program to address unavoidable impacts identified in subsection (C) above.

f. A legal description and graphic depiction of all subject property lines and the mean high tide line surveyed by a licensed surveyor as of a recent date along with written evidence of full consent/approval of any underlying land owner, including, but not limited to the City or State Lands Commission, or any other entity of the proposed amendment application. If application materials indicate that development may impact or encroach on tidelands or public trust lands, written authorization from the underlying public trust lands trustee (City of

Encinitas or the State Lands Commission, if applicable) of the proposed amendment shall be required prior to issuance of the permit amendment to extend the authorization period.

6. **Future Response to Erosion**. In addition to the 20 year authorization period discussed in Special Condition 4, if in the future the permittees seek a coastal development permit to construct additional bluff or shoreline protective devices, the permittees agree, by acceptance of this permit, to include in the permit application information concerning alternatives to the proposed bluff or shoreline protection that will eliminate impacts to scenic visual resources, public access and recreation and shoreline processes. Alternatives shall include, but not be limited to: relocation of all or portions of the principal structures that are threatened, structural underpinning, and other remedial measures capable of protecting the principal residential structure and allowing reasonable use of the property, without constructing additional 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 the relevant existing principal structures for the remainder of their economic lives. No additional bluff or shoreline protective devices shall be constructed 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 structures and the ocean. Any future redevelopment on the lots shall not rely on the subject shoreline protective devices to establish geological stability or protection from hazards.

7. **Monitoring and Reporting 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 seawall, midbluff wall, upper bluff wall, and geogrid structure which requires the following:

   a. An annual evaluation of the condition and performance of the shoreline armoring structures addressing whether any significant weathering or damage has occurred that would adversely impact the future performance of the structures. This evaluation shall include an assessment of the color and texture of the structures compared to the surrounding native bluffs.

   b. Annual measurements of any differential retreat between the natural bluff face and the seawall face, at the north and south ends of the seawall and at 20-foot intervals (maximum) along the top of the seawall face/bluff face intersection. The program shall describe the method by which such measurements shall be taken.

Provisions for submittal of a report to the Executive Director of the Coastal Commission by 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 20 years for which this seawall is approved. In addition, 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.

c. Each report shall be prepared by a licensed civil engineer, geotechnical engineer or geologist. The report shall contain the measurements and evaluation required in sections a and b above. The report shall also summarize all measurements and analyze trends such as erosion of the bluffs, changes in sea level, the stability of the overall bluff face, including the upper bluff area, and the impact of the structures on the bluffs to either side of the wall. In addition, each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the seawall.

d. An agreement that, if after inspection or in the event the report required in subsection c above recommends any necessary maintenance, repair, changes or modifications to the project including maintenance of the color of the structures to ensure a continued match with the surrounding native bluffs, 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 90 days of the report or discovery of the problem.

The applicants shall undertake monitoring and reporting in accordance with the approved final monitoring and reporting program. Any proposed changes to the approved final monitoring and reporting program shall be reported to the Executive Director. No changes to the approved final monitoring and reporting 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.

8. **Storage and Staging Areas/Access Corridors**. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, final plans indicating the location of access corridors to the construction site and staging areas. The final plans shall indicate that:

a. No overnight storage of equipment or materials shall occur on sandy beach or public parking spaces. During the construction stages of the project, the permittee shall not store any construction materials or waste where it will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery shall be placed, stored or otherwise located in the intertidal zone at any time, except for the minimum necessary to construct the structures. Construction equipment shall not be washed on the beach or public parking lots or access roads.

b. Construction access corridors shall be located in a manner that has the least impact on public access to and along the shoreline.

c. No work shall occur on the beach on weekends, holidays or between Memorial Day weekend and Labor Day of any year.

d. The applicants shall submit evidence that the approved plans and plan notes have been incorporated into construction bid documents. The applicants shall remove all construction materials/equipment from the staging site and restore the staging site to its prior-to-construction condition immediately following completion of the development.

The permittees shall undertake the 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 final 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.

9. **Water Quality--Best Management Practices**. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit for review and written approval of the Executive Director, a Best Management Plan that effectively assures no shotcrete or other construction byproduct will be allowed onto the sandy beach and/or allowed to enter into coastal waters. The plan shall apply to both concrete pouring/pumping activities as well as shotcrete/concrete application activities. During shotcrete/concrete application specifically, the Plan shall at a minimum provide for all shotcrete/concrete to be contained through the use of tarps or similar barriers that completely enclose the construction area and that prevent shotcrete/concrete contact with beach sands and/or coastal waters. All shotcrete and other construction byproduct shall be properly collected and disposed of off-site.

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

10. **Storm Design**. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director, for review and approval, certification by a registered civil engineer that the proposed shoreline protective devices have been designed to withstand storms comparable to the winter storms of 1982-83 that took place in San Diego County.

11. **Other Permits**. PRIOR TO COMMENCMENT OF CONSTRUCTION, the permittees shall provide to the Executive Director copies of all other required local, state or federal discretionary permits, other than any approval required by the State Lands Commission (see Special Condition 12), for the development authorized by CDP 6-12-041. The applicants shall inform the Executive Director of any changes to the project required by other local, state or federal agencies. Such changes shall not be incorporated into the project until the applicants obtains a Commission amendment to this permit, unless the Executive Director determines that no amendment is legally required.

12. **State Lands Commission Approval**. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and written approval, a written determination from the State Lands Commission that:

    a. No state lands are involved in the development; or

    b. State lands are involved in the development, and all permits required by the State Lands Commission have been obtained; or

    c. State lands may be involved in the development, but pending a final determination of state lands involvement, an agreement has been made by the applicants with the State Lands Commission for the project to proceed without prejudice to the determination.

13. **Construction Site Documents & Construction Coordinator**. DURING ALL CONSTRUCTION:

    a. Copies of the signed coastal development permit and the approved Construction Plan shall be maintained in a conspicuous location at the construction job site at all times, and such copies shall be available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the coastal development permit and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

    b. A construction coordinator shall be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and the coordinator's contact information (i.e., address, phone numbers, etc.) including, at a minimum, a telephone number that will be made available 24 hours a day for the duration of

construction, shall be conspicuously posted at the job site where such contact information is readily visible from public viewing areas, along with an indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the name, phone number, and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry.

14. **As-Built Plans.** WITHIN 90 DAYS OF COMPLETION OF CONSTRUCTION, the Permittees shall submit two copies of As-Built Plans, approved by the City of Encinitas, showing all development completed pursuant to this coastal development permit; all property lines; and all residential development inland of the structures. The As-Built Plans shall be substantially consistent with the approved project plans described in Special Condition 1 above, including providing for all of the same requirements specified in those plans, and shall account for all of the parameters of Special Condition 7 (Monitoring and Reporting) and Special Condition 4 (Future Maintenance). The As-Built Plans shall include a graphic scale and all elevation(s) shall be described in relation to National Geodetic Vertical Datum (NGVD). The As-Built Plans shall include color photographs (in hard copy and jpg format) that clearly show all components of the as-built project, and that are accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph. At a minimum, the photographs shall be from representative viewpoints from the beaches located directly upcoast, downcoast, and seaward of the project site. The As-Built Plans shall be submitted with certification by a licensed civil engineer with experience in coastal structures and processes, acceptable to the Executive Director, verifying that the seawall has been constructed in conformance with the approved final plans.

15. **Public Rights**. The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights that exist or may exist on the property. By acceptance of this permit, the applicants acknowledge, on behalf of himself/herself and his/her successors in interest, that issuance of the permit and construction of the permitted development shall not constitute a waiver of any public rights which may exist on the property.

16. **Assumption of Risk, Waiver of Liability and Indemnity**. By acceptance of this permit, the applicants acknowledge and agree (i) that the site may be subject to hazards from erosion and coastal bluff collapse (ii) to assume the risks to the applicants 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.

17. **Other Special Conditions of the City of Encinitas Permit #07-215 MUPMOD**. Except as provided by this coastal development permit, this permit has no effect on conditions imposed by the City of Encinitas pursuant to an authority other than the Coastal Act.

18. **Prior to Issuance Condition Compliance.** WITHIN 120 DAYS OF APPROVAL OF THIS CDP, or within such additional time as the Executive Director may grant for good cause, the applicants shall satisfy all requirements specified in the conditions hereto that the applicant is required to satisfy prior to issuance of this permit. Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

19. **Condition Compliance**. WITHIN 180 DAYS OF APPROVAL OF THIS CDP, or within such additional time as the Executive Director may grant for good cause, the applicant shall have completed removal of the unpermitted private stairway attached to the upper bluff wall as detailed in the revised final plans for the subject site. Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

20. **Deed Restriction**. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicants shall submit to the Executive Director for review and approval documentation demonstrating that the applicants 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

A. PROJECT DESCRIPTION

Project Description

The proposed development includes repairs to an existing unpermitted seawall, an existing unpermitted mid-bluff retaining wall, an existing unpermitted upper bluff retaining wall, and construction of a geogrid soil structure on the bluff face.

On the existing unpermitted seawall, the applicants proposes to install 15 new tiebacks (8 located on the southern vertical seawall extension and 7 along the base of the seawall foundation) and to install epoxy coated reinforcing steel and structural concrete over the 67 ft.-long (50 ft. on 676/678 Neptune property and 17 ft. on 660 Neptune property) face of the existing approximately 37 ft.-high, approximately 11 ft. 6 in.-thick wall. Additionally, the 5 ft.-thick seaward portion of the seawall foundation will be removed from the entire wall. Moreover, the finished surface of the seawall will be sculpted and colored to closely match the natural bluff face. Work on the seawall will occur below the entirety of the 676/678 Neptune Avenue property and below a portion of the 660 Neptune Avenue property (Exhibit 2)[1]. The remainder of the proposed development, as detailed below, will occur only on the bluff face fronting 676/678 Neptune Avenue.

On the existing unpermitted timber mid bluff retaining wall, the applicants propose to install up to 8 tiebacks and to add structural shotcrete to the front (approximately 15 ft.-long by 9 ft-high by 18 in.-thick). Additionally, approximately 15 in. of the entire top of the wall, which is not retaining bluff material and is not necessary for protection of the bluff, will be removed. (Exhibit 3).

On the existing unpermitted wood and concrete upper bluff retaining wall, the applicants propose to install structural shotcrete (supported by existing tiebacks) over the existing 20 ft.-high, 50 ft. long, and 1 ft. 6 in.-thick retaining wall. No additional tiebacks are proposed and any replacement of tiebacks may require a CDP amendment and trigger the potential redesign of the upper bluff wall (Exhibit 4). In addition, the applicant proposes to install structural shotcrete on the entirety of the north upper bluff return wall (Exhibit 5). In accordance with previous Commission actions, the applicant proposes to remove the last remaining section of a private bluff face stairway. To address visual concerns raised by Commission staff, the applicants have also proposed to lower the height of the southern portion of the upper bluff wall by approximately three ft. in order to match the height of the existing seawall to the south. The upper bluff retaining wall and the lateral return wall on the north side will then be sculpted and colored to closely match the

[1] Both of the subject properties have a 50 ft. beach frontage and there is currently a seawall fronting both properties. The 67 ft. long seawall fronting the entirety of 676/678 Neptune and the northern 17 ft. of 660 Neptune was constructed in the mid-late 1980's. At that time, the 676/678 Neptune property owner provided documentation that it was necessary to extend the seawall approximately 20 ft. in front the 660 Neptune property (CDP 6-85-396). In the early 1990's, a seawall was constructed to protect the remaining approximately 30 ft. of the southern portion of the 660 Neptune beach frontage (CDP 6-99-009 & CDP 6-92-86-G).

natural bluff face. In order to accommodate the lowering of the upper bluff wall, the applicant's rear patio, which is currently level, will need to slope or step down towards the bluff edge. In order to prevent bluff erosion due to surface water runoff, the applicants propose to install a trench and pipe at the western edge of the patio to an area located 40 ft. landward of the top of the bluff edge, where a sump pump will be installed to pump surface drainage water to the street.

Lastly, the applicants propose to repair an existing slope failure on the bluff face by importing soil fill materials and constructing an approximately 25 ft. wide by 40 ft.-high geogrid structure on the section of failed slope. The applicants have also proposed a landscaping plans consisting of plantings, hydroseed, and a temporary irrigation system for the geogrid structure.

The subject development is located at the base of and on the slope of an approximately 95 ft. high coastal bluff on the west side of Neptune Avenue in Encinitas fronting a single lot containing a 3,996 sq. ft. duplex with an attached 768 sq. ft. garage that is located approximately 19 ft. from the edge of the bluff (676/678 Neptune Avenue) and a lot containing a 1,905 sq. ft. single family residence that is located approximately 20 ft. from the bluff edge (660 Neptune Avenue).

The seawall is unpermitted and lies within an area of the Commission's original jurisdiction. The mid bluff wall and upper bluff wall are also unpermitted and lie within an area of the City of Encinitas' coastal permitting authority and within the Commission's appeals jurisdiction. The applicants and the City have requested that the Commission process a consolidated permit for development within the City jurisdiction and the development within the Commission jurisdiction, therefore the standard of review are the Chapter 3 policies of the Coastal Act and the City's certified LCP is used as guidance.

B. PERMIT HISTORY

676/678 Neptune Avenue
The existing duplex was permitted in 1972, prior to the enactment of the Coastal Act and included a private access stairway to the beach and a tram. According to the applicants' representative, the duplex may have been constructed on a pile foundation. The pre-existing Coastal Act stairway and tram were subsequently removed and were replaced by an unpermitted stairway, constructed in approximately 1995, that led down the face of the bluff to the beach. While the majority of the new staircase has been removed; the upper most portion of the staircase still remains on the face of the upper bluff wall.

In 1985, the Commission approved a permit for a 12 foot-high, two foot-wide, 70 foot-long concrete seawall at the subject site (ref. CDP 6-85-396/Swift). That permitted seawall included a proposed concrete base for support that was approximately 2 feet high, 70 feet-long and 7 feet-wide. The 1985 CDP also required the applicant to execute and record an irrevocable offer to dedicate an easement (OTD) for public access and passive recreational use along the shoreline. The OTD was subsequently recorded and on February 24, 2007 the OTD was accepted by the California Coastal Conservancy (Exhibit

9). The seawall that was built, however, does not conform to the seawall approved in that permit. Based on the information provided by the current property owner along with information from Commission and City files, the general history of the existing unpermitted seawall is as follows: The seawall was constructed and added to at four different periods of time. The lower approximately 9 feet-high, 11 ½ feet-wide concrete base was most likely constructed in 1985. The addition of approximately 16 feet of concrete columns with wood lagging occurred soon thereafter in approximately 1985-86. The upper 12 foot vertical extension of the seawall appears to have been constructed in 1992 with major improvements/repairs occurring in 1995 consisting of replacement of a damaged portion and the addition of a stairway and deck (the stairway and deck have since been removed). None of the aforementioned development was approved by a coastal development permit.

An approximately 20 foot-high unpermitted upper bluff retaining wall was previously constructed at the subject site. The applicants assert that the southern portion of the upper wall was probably constructed in 1989 and the northern portion of the upper wall was constructed in 1995 following an upper bluff failure. Based on geotechnical information submitted by the applicant, it is apparent that fill material was also placed between the existing duplex and the upper bluff wall in order to create a larger rear yard area for the property owner. In addition, an unpermitted wooden retaining wall exists on the south half of the bluff between the upper bluff retaining wall and the lower seawall.

In 1998, the current property owner applied for an emergency permit to repair the upper bluff retention system on the property, which was denied by the Executive Director (CDP 6-98-160-G).

On August 19, 1999, the Commission denied the applicant's request for an after-the-fact permit for an approximately 36 foot-high, 67 foot-long seawall, repairs to the seawall and after-the-fact private access stairway located at the base of the subject bluff. The Commission denied the request primarily because the applicants had failed to demonstrate that the structures were necessary to protect the existing residences or that the design was adequate or that there were no other feasible alternatives that would protect the residential structures with fewer adverse impacts to coastal resources as required by Sections 30235 and 30253 of the Coastal Act (CDP 6-99-008). Because the seawall was found to be inconsistent with the Coastal Act, the Commission also denied the requested repairs and left disposition of the unpermitted structures and repair of the structure to future Commission enforcement action. On January 12, 2000, the Commission also denied the applicant's request for reconsideration of its earlier denial of CDP 6-99-008 (CDP 6-99-008-R).

On July 22, 1999, the City of Encinitas approved a CDP for the after-the-fact construction of the mid and upper bluff retaining walls, repairs and improvements to those walls and an addition and remodel to the existing duplex residence at the top of the bluff (City of Encinitas Planning Commission Resolution No. PC-99-34; MUP/CDP/DR 95-106). That CDP was subsequently appealed to the Commission (A-6-ENC-99-115). On February 15, 2000, the Commission denied the portion of the CDP that permitted after-the-fact construction of the mid and upper bluff walls, the private stairway on the

bluff face, and construction of a 338 sq. ft. addition to the existing 3,658 sq. ft. duplex. However, the Commission approved repairs and improvements to the existing unpermitted mid and upper bluff retaining walls. The Commission approved the repairs to the existing retaining walls because the applicant demonstrated to the satisfaction of the Commission's engineer and the Commission's geologist that the repairs were necessary and that neither of the walls could be removed without putting the blufftop structure in imminent danger.

On May 10, 2000, the Commission again denied the reconsideration application (CDP A-6-ENC-99-115-R) for after-the-fact approval for construction of mid and upper bluff retaining walls, and private stairway on the bluff face, repairs and improvement to the retaining walls, and construction of a 338 sq. ft. addition to the existing 3,658 sq. ft. duplex.

The applicant subsequently sued the Commission over its denial of CDP A-6-ENC-99-115-R, with both parties reaching a settlement in September 2000. Under the terms of the settlement agreement, Mr. Lampl agreed to file complete coastal development applications with the Commission and the City for development in their respective jurisdictions within 30 days of execution of the settlement agreement for: "(1) the repairs to the seawall and removal of the constructed stairway located on the bluff face and mid and upper walls (the belowground elements of the stairway may remain in place) and the metal stairway attached to the seawall including the removal of any excess concrete associated with the access steps and landing adjacent to the beach which is not part of the seawall footing (such excess concrete is shown in exhibit B [of the settlement exhibits]; (2) the painting or coloring of the existing large concrete extension of the seawall consistent with the rendering that Mr. Lampl submitted to the Coastal Commission at the reconsideration hearing; and (3) a one time installation of landscaping in a good faith attempt to screen the mid and upper bluff walls and the seawall, provided that such landscaping is draught tolerant, does not require installation of an irrigation system, and does not require maintenance." Mr. Lampl also agreed to pay a "beach and sand mitigation" fee for the encroachment of the seawall on the public beach and for the beach area that would have been created through passive erosion between 1985 and 2000 had the seawall not been in place Furthermore, the settlement recognized specific interior and exterior remodeling and renovations to the duplex that did not require CDP and mandated that any expansion to the duplex would require a separate CDP from the City and could only occur after necessary repairs to the mid and upper bluff retaining walls and the lower seawall has been completed and a geologist has concluded that the addition will not be threatened by bluff erosion during its useful life.

On September 10, 2001 the City of Encinitas issued a building permit (01-1093) for a 338 sq. ft. addition to Lampl residence. The City then issued the certificate of final occupancy for the addition on August 31, 2004. The applicant has not been able to produce any documentation of a CDP being issued for the second story addition and no Notice of Final Action was received at the Commission's San Diego District Office. In addition, no geological determination as to the feasibility of the addition was ever provided, for the expansion. This addition appears to be inconsistent with the settlement agreement which stated:

> *"Should Lampl decide to go forward with any plans to expand the duplex, Lampl shall reapply and process a separate coastal development permit through the City for such expansion. However, Lampl agrees not apply for such permit until after Lampl has completed necessary repairs to the mid and upper bluff retaining walls and the lower seawall and if a geologist has concluded that the addition will not threaten the stability of the bluff and will not be threatened by bluff erosion during its useful life. Thereafter the Coastal Commission agrees to cooperate with and assist the City in the timely processing of a coastal permit for such expansion."*

Finally, a portion of the private bluff stairway has yet to be removed and the portion of the seawall called out in the settlement to be painted has not been painted.

On October 10, 2000, the Commission approved repairs to the existing 36 ft.-high, 67 ft.-long tie backed seawall involving installation of ten additional 40 ft-long tiebacks, placement of concrete grade beams at new tieback locations, removal of the unpermitted stairway, concrete landing and steps from the face of the seawall and coloring of a portion of the seawall (CDP 6-00-102). This CDP also required the applicant to pay a sand supply mitigation fee of $5,520.86 for the beach area that would have been created through passive erosion between 2000 and 2020 had the seawall not been in place. The permit acknowledged again that the seawall itself could not be found consistent with the Coastal Act and as such, was not permitted. However, the Commission approved the repairs to the existing seawall because the applicant demonstrated to the satisfaction of the Commission that the repairs were necessary and that the wall could not be removed without putting the blufftop structure in imminent danger. The permit was subsequently issued and the repairs undertaken.

Adjacent Properties

A similar seawall to the existing unpermitted seawall on the subject site is located directly to the north at 680 Neptune Avenue. In 2010, the Commission approved the colored and textured 35 ft.-high, 57 ft.-long Seawall (6-07-133/Li). The seawall was approved following an emergency permit (6-05-016-G) after a large bluff failure on the site. The approved seawall replaced an existing unpermitted 25 ft.-high, 57-ft.-long seawall on the site. The Commission determined that the seawall was a replacement due to the extensive work that was needed, which included the installation of 35 ft.-high tied-back concrete columns between the existing columns, a ten foot increase in the height of the wall, and the removal of an approximately 6 ft. concrete footing seaward of the existing seawall. The Commission found that removing the existing wall would be too dangerous for construction workers and would threaten the primary structure. In addition, the Commission found that the proposed replacement seawall was the minimal amount of development necessary to protect the existing residence at the top of the bluff. Also on the site directly north of the subject site is a colored and textured 6 to 14 ft.-high, 57 ft.-long upper bluff wall. The upper bluff wall, which replaced an existing comparably sized unpermitted upper bluff wall, was constructed pursuant to a CDP issued by the City of Encinitas (CDP 6-ENC-07-127). Even though the emergency

permit (6-05-016-G) approved by the Commission did not include the construction of a replacement upper bluff wall for the site, the City had the authority to issue the permit because the emergency permit issued by the Commission made findings that structural armoring on the site was necessary to protect the primary residence. No appeal was filed to the Commission following the City issued CDP. A midbluff wall had existed on this site, but was destroyed by the bluff failure. The midbluff wall was not replaced and instead the bluff was reconstructed with a geogrid slope.

Directly to the south of the subject site is an approximately 37 ft.-high, 83 ft.-long, wood and concrete seawall with an approximately 9 ft.-high, 8 ft.-wide concrete base (656 & 660 Neptune Avenue). The seawall was permitted pursuant to CDP 6-99-009, which was a follow up permit to emergency permit #6-92-86-G. No lateral access OTD was required because it was determined that the MHTL is at or west of the toe of the bluff. The emergency permit also permitted construction of upper bluff protection, which received a follow-up CDP from the City of Encinitas (CDP 6-ENC-99-148). The upper bluff protection consists of a 19 ft.-high, 100 ft.-long upper bluff wall on the top face of the bluff.

Jurisdiction

The western boundary of the subject lots is a surveyed line, although any portion of the lots that is seaward of the mean high tide line is excluded from the lot. That surveyed line is at or west of the toe of the bluff, such that the bluff face is in private ownership. The subject seawall development lies seaward of the mean high tide line (MHTL). In September 1994, State Lands Commission surveyed the MHTL in Encinitas and concluded that the MHTL follows the toe of the bluff in the City of Encinitas ("Encinitas Beach Survey by Centennial Engineering, Inc. dated September 1994). In addition, the applicant has provided plans showing that the point at which the base of the seawall intersects with the torrey formation sandstone is below the elevation of the MHTL. As stated previously, a lateral access easement also exists seaward of the seawall at 676/678 Neptune Avenue.

The City of Encinitas has a certified LCP and has been issuing coastal development permits since May of 1995. The proposed development will occur on the public beach seaward of the mean high tide line within the Commission's original jurisdiction and on the bluff face within the City of Encinitas' jurisdiction through the certified LCP. However, the City and the applicant have requested the Commission issue a consolidated CDP for the entire project. As such, the standard of review is the Chapter 3 policies of the Coastal Act with the certified LCP used as guidance.

C. GEOLOGIC CONDITIONS AND HAZARDS

Coastal Act Section 30235 addresses the use of shoreline protective devices:

Section 30235 Construction altering natural shoreline

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. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

Coastal Act Section 30253 addresses the need to ensure long-term structural integrity, minimize future risk, and to avoid landform altering protective measures. Section 30253 provides, in applicable part:

Section 30253 Minimization of adverse impacts

New development shall do all of the following:

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

(b) 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…

(e) Where appropriate, protect special communities and neighborhoods that because of their unique characteristics, are popular visitor destination points for recreational uses.

In addition, the following sections of the City's certified Local Coastal Plan also relate to the proposed development:

Resource Management Policy 8.5 of the LUP states, in part, that:

The City will encourage the retention of the coastal bluffs in their natural state to minimize geologic hazards and as a scenic resource. Construction of structures for bluff protection shall only be permitted when an existing principal structure is endangered and no other means of protection of that structure is possible…

Public Safety Policy 1.7 of the City of Encinitas' certified LUP states, in part, that:

The City shall develop and adopt a comprehensive plan, based on the Beach Bluff Erosion Technical Report (prepared by Zeiser Kling Consultants Inc., dated January 24, 1994), to address the coastal bluff recession and shoreline erosion problems in the City. . . .In addition, until such a comprehensive plan is approved by the City of Encinitas and the Coastal Commission as an

> *amendment to the LCP, the City will not permit the construction of seawalls, revetments, breakwaters, cribbing, or similar structures for coastal erosion except under circumstances where an existing principal structure is imminently threatened and, based on a thorough alternatives analysis, an emergency coastal development permit is issued, and all emergency measures authorized by the emergency coastal development permit are designed to eliminate or mitigate adverse impacts on local shoreline sand supply.*

Section 30.34.020(B)(2)(9) of the certified Implementation Plan (IP) includes similar language:

> *…In addition, until such a comprehensive plan is approved by the City of Encinitas and the Coastal Commission as an amendment to the LCP, the City shall not permit the construction of seawalls, revetments, breakwaters, cribbing, or similar structures for coastal erosion except under circumstances where an existing principle structure is imminently threatened and, based on a thorough alternative analysis, an emergency permit is issued and emergency measures authorized by the emergency coastal development permit are designed to eliminate or mitigate adverse impacts on local shoreline sand supply.*

In addition, Section 30.34.020(C)(2)(b) states the following:

> *When a preemptive measure is proposed, the following findings shall be made if the authorized agency determines to grant approval:*
>
> *(1) The proposed measure must be demonstrated in the soils and geotechnical report to be substantially effective for the intended purpose of bluff erosion/failure protection, within the specific setting of the development site's coastal bluffs. The report must analyze specific site proposed for development.*
>
> *(2) The proposed measure must be necessary for the protection of a principal structure on the blufftop to which there is a demonstrated threat as substantiated by the site specific geotechnical report.*
>
> *(3) The proposed measure will not directly or indirectly cause, promote or encourage bluff erosion failure, either on site or for an adjacent property, within the site-specific setting as demonstrated in the soils and geotechnical report. Protection devices at the bluff base shall be designed so that additional bluff erosion will not occur at the ends because of the device.*
>
> *(4) The proposed measure must be demonstrated in the soils and geotechnical report to be substantially effective for the intended purpose of bluff erosion/failure protection, within the specific setting of the development site's coastal bluffs. The report must analyze specific site proposed for development.*

[. . .]

In addition, Section 30.34.020 (D)(8) of the City's certified IP requires the submission of a geotechnical report for the project site that includes, among other things:

> *8. Alternatives to the project design. Project alternatives shall include, but not be limited to, no project, relocation/removal of threatened portions of or the entire home and beach nourishment.*

The certified IP also requires that shoreline protective structures be designed to be protective of natural scenic qualities of the bluffs and not cause a significant alteration of the bluff face. In particular, Section 30.34.020B.8 states:

> *The design and exterior appearance of buildings and other structures visible from public vantage points shall be compatible with the scale and character of the surrounding development and protective of the natural scenic qualities of the bluffs.*

Section 30.34.020.C.2.b.(4) of the certified IP states:

> *The proposed measure in design and appearance must be found to be visually compatible with the character of the surrounding area; where feasible, to restore and enhance visual quality in visually degraded areas; and not cause a significant alteration of the natural character of the bluff face.*

Coastal Act Sections 30235 and 30253 acknowledge that seawalls, revetments, cliff retaining walls, groins and other such structural or "hard" methods designed to forestall erosion can alter natural landforms along bluffs and cliffs and can impact natural shoreline processes. Accordingly, with the exception of coastal dependent uses, Section 30235 limits the construction of shoreline protective works to those required to protect existing structures or public beaches in danger from erosion. The Coastal Act provides these limitations because shoreline structures can have a variety of negative impacts on coastal resources including adverse affects on sand supply, public access, coastal views, natural landforms, and overall shoreline beach dynamics on and off site, including ultimately resulting in the loss of beach.

In addition, the Commission has interpreted Section 30235 to apply only to existing principal structures. The Commission must always consider the specifics of each individual project, but has found section 30235 of the Coastal Act is not applicable to accessory structures (such as patios, decks, gazebos, stairways, etc.) because they can be protected from erosion by relocation or other means that do not involve shoreline armoring, thereby being the preferred alternative that lessens adverse impacts on coastal resources. The Commission has, at times, historically permitted at-grade accessory structures within geologic setback areas, recognizing that they are expendable and capable of being removed rather than requiring a protective device that would alter natural landforms and processes along bluffs, cliffs, and beaches.

In this case, repairs to the unpermitted shoreline protective structure may be approved if: (1) there is an existing principal structure; (2) the existing principal structure is in danger from erosion; (3) shoreline altering construction is required to protect the existing threatened structure; and (4) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply. The first three questions relate to whether the proposed armoring is necessary. The fourth question applies to mitigation for the impacts of armoring.

Existing Structures to be Protected

For the purposes of protective structures, the Coastal Act provides that property owners in the coastal zone may apply for protective structures for certain types of development. Under Section 30253, new development shall not in any way require the construction of protective devices that would substantially alter landforms along bluffs and cliffs. Coastal Act 30235 allows for shoreline protection in certain circumstances (if warranted and otherwise consistent with Coastal Act policies) for "existing" structures, such as structures that were in place prior to the effective date of the The California Coastal Zone Conservation Act of 1972 ("Prop 20"), if the development was within 1000 yards landward of the mean high tide line, or its successor statute, the California Coastal Act of 1976. Coastal zone development approved and constructed prior to the Coastal Act going into effect typically did not include design provisions that were consistent with the requirements in Section 30253 of the Coastal Act. In this case, the duplex and single family residence on the two subject sites are existing structures for purposes of Section 30235 of the Coastal Act because they were both originally permitted and/or constructed prior to February 1, 1973, the effective date of the California Coastal Zone Conservation Act.

Danger from Erosion

The Coastal Act allows shoreline armoring to protect existing structures in danger from erosion, but it does not define the term "in danger." There is a certain amount of risk involved in maintaining development along a California coastline that is actively eroding and can be directly subject to violent storms, wave attack, flooding, earthquakes, and other geologic hazards. These risks can be exacerbated by such factors as sea level rise and localized geography that can focus storm energy at particular stretches of coastline. As a result, some would say that all development along the immediate California coastline is in a certain amount of "danger." The Commission evaluates the immediacy of any threat in order to make a determination as to whether an existing structure is "in danger." While each case is evaluated based upon its own particular set of facts, the Commission has previously interpreted "in danger" to mean that an existing structure would be unsafe to occupy within the next two or three storm season cycles (generally, the next few years) if nothing were to be done (i.e., in the "no project" alternative).

The proposed development is located at the base of a coastal bluff and on the bluff face in the City of Encinitas. According to the geotechnical reports submitted with the

application, the site consists of Pleistocene marine terrace deposits that are underlain with Eocene Torrey Sandstone. The Torrey Sandstone covers the lower portion of the bluff. Continual bluff retreat and the formation and collapse of seacaves have been documented in northern San Diego County, including the Cities of Solana Beach and Encinitas. Bluffs in this area are subject to a variety of erosive forces and conditions (e.g., wave action, reduction in beach sand, seacave development). As a result of these erosive forces, the bluffs and blufftop lots in the Encinitas area are considered a hazard area.

Furthermore, in 1986 the Division of Mines and Geology mapped the entire Encinitas shoreline as an area susceptible to landslides, i.e., mapped as either "Generally Susceptible" or "Most Susceptible Areas" for landslide susceptibility (ref. Open File Report, "Landslide Hazards in the Encinitas Quadrangle, San Diego County, California", dated 1986). Documentation has been presented in past Commission actions concerning the unstable nature of the bluffs in these communities and nearby communities. In addition, a number of significant bluff failures have occurred along the northern Solana Beach/Encinitas coastline which have led to emergency permit requests for shoreline protection.

The Applicants' geotechnical reports indicate that the existing structure at 676/678 Neptune Avenue is in immediate danger from bluff collapse. A report dated November 28, 2007 and updated February 22, 2011, by the applicant's engineer states the following:

> *"…The most significant geotechnical issues affecting the site are: the continued corrosion of the tieback heads on the upper southernmost portion of the seawall; and, the existing relatively shallow (5 feet or so deep) mid to upper bluff failure which threatens to undercut the existing upper bluff retaining structure; and the continued accelerated deterioration of the existing mid bluff wood retaining wall located on the southern end of the study area. These areas that are subject to imminent failures that will likely result in failure of existing onsite retaining structures as well as the bluff areas above them which serve to protect the residential structures on the subject site as well as on the neighboring properties.*
>
> *As noted in the report, it is our recommendation that the residential structure be immediately protected via the installation of additional tiebacks in the existing seawall, replacing the existing timber mid bluff retaining wall with a new tied back shotcrete wall and the bluff slope reconstruction of the failed area located on the north side of the bluff with imported fill and geogrid…*
>
> *In summary, it is our opinion that in order to protect the residential structure at the subject site from potential damage/failure, the immediate construction of the recommended coastal bluff stabilization measures is required."*

A letter dated May 15, 2012, from the applicant's engineer states the following:

> *"2. It is our profession opinion that if the existing, permitted mid-bluff wall (at 678 Neptune) fail or be caused to be removed, the resultant failure will*

> *migrate upslope toward 676/678 Neptune (and potentially towards 660 Neptune) and place the existing, permitted upper bluff retention structure [at 660 Neptune Ave.] under imminent threat of damage/failure. Such impact would, therefore, place portions of the residential structure at 676/678 Neptune under threat of damage/failure. It is also our opinion that if both the lower seawall and upper retention structure fail or be removed the resultant failures would impact the residential structures at the subject sits (sic) as well as the two adjacent properties."*

A letter dated February 5, 2013, from the applicant's engineer states the following:

> *"Soil Engineering Construction, Inc. (SEC) has prepared this letter report documenting our observations of the existing structural grade beam element for the southern half of the upper retaining wall structure…The lower reinforced concrete grade beam, constructed during past repairs of this portion of the wall, has been slowly rotating downward…*
>
> *During our recent site visit with Coastal staff (1/29/13), our observations indicated that the grade beam has significantly rotated, and the contact surface area between the restraining concrete grade beam ad wood timbers has been reduced to a point that repairs are more urgent…*
>
> *It is our professional opinion that, without the proposed repairs, portions of the existing upper wood retaining wall will fail in the near future, resulting in damage to the residential structure at 678 Neptune as well as to the neighboring property to the south…"*

To summarize, the applicant's engineer has concluded that the existing seawall, mid bluff wall, and upper bluff wall are in need of repair in order to prevent failure, which would result in imminent danger to the bluff top homes. In addition, the applicant's engineer has concluded that the complete removal of any of the existing shoreline protection structures on the subject bluff cannot be done without putting the blufftop structures in imminent danger. Furthermore, the existing on-going mid and upper bluff failure threatens to undercut the existing upper bluff wall, which would put the bluff top structures in imminent danger. The Commission's Engineer and Geologist have reviewed the geotechnical studies, visited the site and concur with the applicant's engineer that the existing structures can not be removed without threat to the blufftop residential structures and that proposed repairs to the existing walls and the bluff face are necessary in order to protect the bluff top homes. Therefore, the existing structures are "in danger from erosion", and thus the project meets the second test of Section 30235 of the Coastal Act.

Feasible Protection Alternatives

The third test under section 30235 of the Coastal Act that must be met is that the proposed armoring must be "required" to protect the existing threatened structures. In other words, shoreline armoring shall only be permitted if it is the only feasible

alternative capable of protecting the existing endangered structures.[2] Other alternatives typically considered include: the "no project" alternative; planned retreat which includes the abandonment and demolition of threatened structures; relocation of threatened structures; beach and sand replenishment programs; foundation underpinning; drainage and vegetation measures on the blufftop; and combinations of each.

Because this application is for the repair of an unpermitted seawall and mid and upper bluff retaining walls and the construction of a geogrid structure, the "no project" alternative in this case would be to remove the seawall and mid and upper bluff retaining walls and not to construct the geogrid structure. As noted previously, the applicant has submitted documentation demonstrating that removing any one component of the existing protection (existing seawall, mid bluff wall, and/or upper bluff wall) would likely result in a bluff collapse that would immediately subject the blufftop residential structures to threat. In addition, the applicants' representative previously submitted documentation asserting that if the existing armoring is removed, the following would occur:

> *"…the bluff would recede approximately 49 feet into the existing residence. Though the house is constructed on piles, these would be inadequate to protect the structure as previously explained. An incursion of 49 feet into the existing residence would eliminate approximately 80% of the residence…"*

As indicated above, there are existing structures in danger from erosion (per Coastal Act Section 30235) at this location. As stated above, both the Commission's engineer and the Commission's geologist have reviewed the technical information related to the subject property and concur that if any of the existing bluff protection devices are removed, the blufftop homes would be threatened. Therefore, the "no-project, remove the armoring" alternative would not provide any protection to the endangered structures and is therefore not feasible.

Relocation of the residential structures is another alternative that is typically considered a reasonable and feasible alternative to consider in some cases; particularly where the relocation envisioned is relatively minor in relation to the structure and the site. In this case, the sites are fully developed with existing residential structures, as well as infrastructure such as drainage, sewer and water lines. In some cases, it might be possible to relocate a portion of the development, such as the most seaward portions of the buildings. However, due to the extremely unstable nature of the bluffs at this location, it is possible that several feet of bluff area could continue to erode during single storm seasons, so that even moving significant portions of the structures could mean that the remainder of the structures would still be shortly affected by erosion. Thus, there is no feasible location on the sites to relocate seaward portions of the endangered structures that are closest to the bluff edge because relocation would only serve to abate the danger for a short period of time and would not eliminate the danger to remaining portions of the structures over the longer term. Similar to the alternatives presented above, the Commission engineer and the Commission's geologist concur that relocation of the

[2] Coastal Act Section 30108 defines feasibility as follows: "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

residential structures on the subject sites is not a feasible alternative. Therefore, in this case, based on the site constraints, the existing development present on site and the infeasibility of abating the danger for an extended period of time through relocation, the relocation alternative is not a feasible alternative for protecting the existing endangered structures.

Improved drainage and landscaping atop the bluff is another option that is typically considered. In this case, the applicants' representative states that "*…The runoff of surface water on the property appears to drain towards the east as sheet flow and toward Neptune Avenue, but should be checked by the civil engineer during planning of the long term stabilization devices."* Appropriate drainage measures coupled with planting long-rooted native bluff species can help to stabilize some bluffs and extend the useful life of setbacks. This option can be applied as a stand alone alternative, but it is most often applied in tandem with other measures. On the subject property, aside from the portion of the bluff face where the applicant proposes the upper bluff geogrid structure, the bluff is fairly well vegetated and the nature of the bluff materials indicate that drainage and landscaping alone are unlikely to protect existing structures in danger at this site. These kinds of measures are appropriate adjuncts to other alternatives because they will help increase stability in all cases, and have and will continue to be applied here.

Another alternative often considered is planned or managed retreat. This option has been long debated and discussed more generally as well as in terms of specific individual sites like this. Planned retreat means the abandonment and demolition of the threatened structures. This concept posits that instead of allowing continued armoring, once the existing structures have been removed then the shoreline is allowed to retreat. Beach formation in this respect is partly assisted by the sand-generating material in the bluffs as they erode, but more importantly there is space for the natural equilibrium between the shoreline and the ocean to establish itself and for beaches to form naturally. Over the longer run, a more comprehensive strategy to address shoreline erosion and the impacts of armoring may be developed (e.g. planned or managed retreat, relocation of structures inland, abandonment of structures, etc.). However, including as discussed above, such options appear not to be feasible at this location at this time.[3] Thus, there do not appear to be feasible non-armoring alternatives that could be applied in this case to protect the existing structures in danger.

The applicant has provided additional armoring alternatives to the existing shoreline protection devices for Commission review. The applicant's engineer has stated that the alternative presented below may immediately threaten the bluff top homes and thus further analysis would be required to determine if they are even feasible. However, as detailed below, these alternatives would not lessen the adverse effects of the existing shoreline armoring devices.

In terms of armoring alternatives, there are a variety of measures to be analyzed. One

[3] The removal of a hard armoring structure at the project location would be a small part of a planned retreat program inasmuch as many miles of hard armoring would need to be removed and other shore-fronting development retired to allow for the strategy to work comprehensively.

common option often considered is a riprap revetment. These structures can be relatively quickly installed and can provide base of bluff protection. However, they also require significant maintenance to ensure they continue to function in the approved state, leading to resource impacts each time. Migrating boulders can also lead to isolated impacts over time, and cumulatively can lead to larger impacts. In addition, revetments occupy significant areas of beach. Thus, while potentially a feasible option in place of the seawall, a revetment would lead to greater and more immediate impacts than other hard armoring options and would not negate the need for the mid and upper bluff walls. Therefore, a riprap revetment is not the preferred alternative in this case.

The applicants' also explored the possibility of installing below-grade caissons approximately five ft. from the existing principle structure. However, the applicant's geotechnical analysis found that the caissons would immediately become exposed and necessitate the construction of a new upper bluff wall. In addition, the buried caissons and predicted upper bluff wall would also be located approximately 15 ft. east of the upper bluff seawalls on the two adjacent properties. Thus, lateral return walls would need to be constructed in order to not adversely impact the adjacent upper bluff walls. In addition, the applicant states that before an upper bluff wall and lateral return walls could be installed, the work would likely put the neighboring properties at risk.

The applicant also presented an alternative consisting of a series of multiple short walls in place of the existing mid bluff and upper bluff walls. Due to the presence of the permitted upper bluff walls on each side of the subject property, lateral return walls would need to be constructed in order to not adversely impact the adjacent upper bluff walls. In addition, as stated above, removal of the existing mid bluff and upper bluff walls would immediately put the adjacent properties at risk.

The Commission's engineer and staff geologist have reviewed the applicant's information and concur that such alternative structures are not feasible. Therefore, installing below-grade caissons, an upper bluff wall closer to the existing principle structure, or a series of shorter walls is not a feasible alternative.

Another alternative presented by the applicant would be the installation of a 50 to 57 ft.-high seawall. This larger seawall would increase the adverse visual impacts of the armoring and would require lateral return walls and a geogrid slope on the entire bluff face. Thus, a much higher seawall would not be preferred.

Based on the information presented above, there does not appear to be a feasible superior armoring alternatives that could be applied at the current time to protect the existing structure in danger. Due to the fact that the three existing walls cannot be removed without putting the existing structure in danger, the applicants propose to construct new structural/aesthetic improvements to the existing unpermitted seawall, to construct new structural/aesthetic improvements to the existing unpermitted mid-bluff retaining wall and to the existing unpermitted upper bluff retaining wall and to construct a geogrid structure on a portion of the undeveloped mid-bluff.

Inconsistency with the Coastal Act and certified LCP

The Commission previously denied the existing structures and the applicant is not requesting that they be permitted, just repaired. However, for the same reasons the Commission denied the structures previously, the structures continue to be inconsistent with the Coastal Act. These reasons that the existing armoring cannot be permitted consistent with the Coastal Act or the Cities certified LCP are as follows:

- The seawall, midbluff wall, and upperbluff wall were constructed without Commission review, it is difficult, if not impossible to determine the exact nature of the hazard to the existing structure on top the bluff and to evaluate the structural or non-structural alternatives to the constructed development. In other words, the bluff structures have previously been constructed without any prior review to determine whether it is required to protect the existing residences, the adequacy of its design, and whether there are feasible alternative measures that would protect the existing structures with fewer adverse impacts to coastal resources. In addition, the unauthorized construction activities on the bluff face in the past may have contributed to subsequent bluff failures, thus requiring more extensive remedial measures than might otherwise have been necessary.
- The lower seawall is proposed to have an encroachment (thickness) of 6.5 feet onto the public beach. Contemporary seawall designs have a thickness of approximately 2.5 feet, 4 feet thinner than the unpermitted seawall. Thus, the 67 foot long wall is encroaching on approximately 268 sq. ft. more beach area than a contemporary wall would (4 ft. x 67 ft.). Therefore, although it would be reasonable to assume that alternatives to the constructed seawall that would involve less beach encroachment and thus, less impact on public access and shoreline processes may have previously existed, site specific information detailing those alternatives is not available for review.
- The upperbluff wall is located approximately 19 feet seaward of the blufftop home. Typically, upperbluff walls permitted by the Commission are located approximately 5 feet from a blufftop home. Based on borings undertaken by the applicant, it is apparent that fill material was placed between the blufftop home in order to create a larger and more level private rear patio. Had the rear yard been allowed to slope downward, similar to the rear yards on both the north and south side of the subject site, the upperbluff wall could likely have been shorter and would have a smaller adverse visual impact. Had the upperbluff wall been located closer to the blufftop home, the angle of the bluff face would not have been as steep and the midbluff wall may not have been required.

Proposed Repairs

As demonstrated above, the proposed repairs are an appropriate course of action at this time. The applicant's proposal to perform structural repairs to the existing seawall, mid bluff wall, and upper bluff wall, and to construct a geogrid structure at the location of the upper bluff failure is required to protect the existing bluff top principal structures from erosion. In addition, the applicant's proposal to remove the seaward toe of the seawall, to

lower the height of the mid bluff wall, to lower the height of a portion of the upper bluff wall in order to match the height of the upper bluff wall at 660 Neptune Avenue, and to install landscaping and temporary irrigation over the proposed geogrid structure will help to reduce the adverse impacts of the existing unpermitted bluff retention devices. Furthermore, **Special Conditions 1 and 14** of this approval requires the submittal of revised final and as-built plans that include the removal of all accessory structures within 5 feet landward of the bluff edge and that the proposed geogrid structure be contoured to mimic the nearby natural bluffs.

Beach and Sand Supply Impacts

The fourth test of Section 30235 (previously cited) that must be met in order to allow Commission approval is that shoreline structures must be designed to eliminate or mitigate adverse impacts to local shoreline sand supply. In this case, while the Commission is only reviewing repairs to existing shore and bluff protection, said repairs will allow for the existing protective structures to remain for a longer period of time. As such, mitigation for impacts of the structures on shoreline sand supply is appropriate.

Shoreline Processes

Beach sand material comes to the shoreline from inland areas, carried by rivers and streams; from offshore deposits, carried by waves; and from coastal dunes and bluffs, becoming beach material when the bluffs or dunes lose material due to wave attack, landslides, surface erosion, gullying, etc. Many coastal bluffs are marine terraces – ancient beaches that formed when land and sea levels differed from current conditions. Since the marine terraces were once beaches, much of the material in the terraces is often beach-quality sand or cobble, and is a valuable contribution to the littoral system when it is added to the beach. While beaches can become marine terraces over geologic time, the normal exchange of material between beaches and bluffs is for bluff erosion to provide beach material. Bluff retreat and erosion is a natural process resulting from many different factors such as erosion by wave action causing cave formation, enlargement and eventual collapse of caves, saturation of the bluff soil from groundwater causing the bluff to slough off, and natural bluff deterioration. When the back-beach or bluff is protected by a shoreline protective device, the natural exchange of material either between the beach and dune or from the bluff to the beach will be interrupted and, if the shoreline is eroding, there will be a measurable loss of material to the beach. Since sand and larger grain material are the most important components of most beaches, only the sand portion of the bluff or dune material is quantified as sandy beach material.

These natural shoreline processes affecting the formation and retention of sandy beaches can be significantly altered by the construction of shoreline armoring structures because bluff retreat is one of several ways that beach quality sand is added to the shoreline, and is also one of the critical factors associated with beach creation/retention. Bluff retreat and erosion are natural processes that result from the many different factors described above. Shoreline armoring directly impedes these natural processes.

The project site is located in Encinitas where average annualized bluff erosion rates are

generally estimated at 0.27 feet per year. However, as previously indicated, this is an average annualized rate; actual erosion is more episodic, and can increase dramatically as a result of winter storm events and sections of bluff material can slough several feet at a time. This erosion rate may be re-evaluated at a future date. This sandy beach material is carried off and redistributed through wave action along the shoreline and serves to nourish the beaches.

Some of the effects of engineered armoring structures on the beach (such as scour, end effects and modification to the beach profile) are temporary or are difficult to distinguish from all the other actions that modify the shoreline. Others are more qualitative (e.g., impacts to the character of the shoreline and visual quality). Some of the effects that a shoreline structure may have on natural shoreline processes can be quantified, however, including: (1) the loss of the beach area on which the structure is located; (2) the long-term loss of beach that will result when the back-beach location is fixed on an eroding shoreline; and (3) the amount of bluff material that would have been supplied to the littoral system if the back-beach or bluff were to erode naturally to renourish beach areas nearby with eroded bluff material.[4]

Encroachment on the Beach

Shoreline protective devices are all physical structures that occupy space. When a shoreline protective device is placed on a beach area, the underlying beach area cannot be used as beach. This generally results in the privatization of the public beach and a loss of space in the public domain such that the public can no longer access that public space. The encroachment also results in a loss of sand and/or areas from which sand generating materials can be derived. The area where the structure is placed will be altered from the time the protective device is constructed, and the extent or area occupied by the device will remain the same over time, until the structure is removed or moved from its initial location. The beach area located beneath a shoreline protective device, referred to as the encroachment area, is the area of the structure's footprint. In this case, the repaired seawall will cover approximately 435.5 sq. ft. (67 ft.-long * 6.5 ft.-wide) of sandy beach area.

Fixing the back beach

Coastal shoreline experts generally agree that where the shoreline is eroding and armoring is installed, the armoring will eventually define the boundary between the sea and the upland. On an eroding shoreline, a beach will exist between the shoreline/waterline and the bluff as long as sand is available to form a beach. As bluff erosion proceeds, the profile of the beach also retreats and the beach area migrates inland with the bluff. This process stops, however, when the backshore is fronted by a hard protective structure such as a revetment or a seawall. While the shoreline on either side of the armor continues to retreat, shoreline in front of the armor eventually stops at the

[4] The sand supply impact refers to the way in which the project impacts creation and maintenance of beach sand. Although this ultimately translates into beach impacts, the discussion here is focused on the first part of the equation and the way in which the proposed project would impact sand supply processes.

armoring. This effect is also known as passive erosion. The beach area will narrow, being squeezed between the moving shoreline and the fixed backshore. Eventually, there will be no available dry beach area and the shoreline will be fixed at the base of the structure. In the case of an eroding shoreline, this represents the loss of a beach as a direct result of the armor.

In addition, sea level has been rising for many years. Also, there is a growing body of evidence that there has been an increase in global temperature and that acceleration in the rate of sea level rise can be expected to accompany this increase in temperature (some shoreline experts have indicated that sea level could rise 4.5 to 6 feet by the year 2100[5]). Mean sea level affects shoreline erosion in several ways, and an increase in the average sea level will exacerbate all these conditions. On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore, leading to a faster loss of the beach as the beach is squeezed between the landward migrating ocean and the fixed backshore.

Such passive erosion impacts can be calculated over the time the proposed armoring is expected to be in place. In this case, the applicant indicates that the repaired seawall will protect the inland development for another 20 years. It has been the Commission's experience that a lifespan of shoreline armoring projects more than a few decades often needs major maintenance or modifications, or entire redevelopment of an armoring structure. In this case, the repaired seawall can be expected to be subject to heavy wave action on a fairly regular basis. This wave action can only be expect to be exacerbated by sea level rise over time, with resultant impacts to the strength and integrity of the seawall. Also, climatologists predict an increased intensity of storms from climate change, leading to more powerful storm surges along the coast which could have greatly intensify the wave uprush energy and affect the structural integrity of the seawall.

Consistent with the applicants' estimate, shoreline armoring, particularly in such a significantly high-hazard area as this project, will most likely need to be augmented, replaced, and/or substantially changed within about twenty years. In 2000, the Commission approved seawall repairs and 12 years later, more are needed (CDP 6-00-102). In addition, rising sea levels and its attendant consequences will likely decrease the intervals between applications for seawall repairs in the future, potentially dramatically, depending on how far sea level actually rises. A twenty-year period better responds to such potential changes and uncertainties, including to allow for an appropriate reassessment of continued armoring and its effects at that time, including with respect to its physical condition after twenty years of hard service. In addition, with respect to

[5] The California Climate Action Team has evaluated possible sea level rise for the California coast and, based on several of the Intergovernmental Panel on Climate Change (IPCC) scenarios, projected sea level rise up to 1.4 meters (4.5 feet) by 2100. In 2011, the Ocean Protection Council adopted interim guidance on sea level rise that recommends state agencies consider similar amounts of sea level rise for deliberations on coastal projects (http://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20110311/12.SLR_Resolution/SLR-Guidance-Document.pdf, last consulted April 15, 2012). These projections are in line with 2007 projections by Stefan Rahmstorf ("A Semi-Empirical Approach to Projecting Future Sea-Level Rise", *Science*; Vol 315, 368 – 370) and by Vermeer and Rahmstorf ("Global sea level linked to global temperature", PNAS; 106 no. 51, 21527-21532). Research by Pfeffer et al. ("Kinematic Constraints on Glacier Contributions to 21st-Century Sea-Level Rise", *Science*, Vol, 321, 1340 – 1343) projects up to 2 meters of sea level rise by 2100.

climatic change and sea level rise specifically, the understanding of these issues should improve in the future, given better understanding of the atmospheric and oceanic linkages and more time to observe the oceanic and glacial responses to increased temperatures, including trends in sea level rise. Such an improved understanding will almost certainly affect CDP armoring decisions, including at this location, much as the Commission's direction on armoring has changed over the past twenty years as more information and better understanding has been gained regarding such projects, including their effect on the California coastline.

The passive erosion impacts of the seawall, or the long-term loss of beach due to fixing the back beach, is equivalent to the footprint of the bluff area that would have become beach due to erosion and is equal to the long-term average annual erosion rate multiplied by the width of property that has been fixed by a resistant shoreline protective device.[6] In this case, the seawall, that is proposed to be repaired, runs along the entire 50 ft. length of the property at 676/678 Neptune Avenue and continues 17 ft. along the property at 660 Neptune Avenue. For purposes of determining the impacts from fixing the back beach; it is assumed that new beach area would result from landward retreat of the bluff.

The area affected by passive erosion can be approximated by multiplying the 67 linear feet of bluff, which is currently armored and will continue to be armored as a result of the proposed repairs, by the annual expected erosion rate. The applicant's geotechnical consultant estimated the average bluff recession for this site at 0.27 feet per year. Therefore the average impacts from fixing the back beach will be the annual loss of 18.09 square feet of beach. Over a 20-year period, this would result in a loss of 361.8 sq. ft. of beach that would have been created if the back beach had not been fixed by the seawall.

Retention of Potential Beach Material

If natural erosion were allowed to continue (absent the existing shoreline armoring structures), some amount of beach material would be added to the beach at this location, as well as to the larger littoral cell sand supply system fronting the bluffs. The volume of total material that would have gone into the sand supply system over the lifetime of the shoreline structure would be the volume of material between (a) the likely future bluff-face location with shoreline protection; and (b) the likely future bluff-face location without shoreline protection. Since the main concern is with the sand component of this bluff material, the total material lost must be multiplied by the percentage of bluff material which is beach sand, giving the total amount of sand that would have been supplied to the littoral system for beach deposition if the proposed device were not installed. The applicant has previously paid a mitigation fee for sand retention impacts between the years of 1985 and 2020 (Settlement Agreement and CDP 6-00-102). In order to account for the sand retention impacts of the current proposal from 2020 through 2033, 13 additional years of sand retention in the bluff must be mitigated for. The applicant indicates (and the Commission's Senior Coastal Engineer concurs) that this

[6] The area of beach lost due to long-term erosion (Aw) is equal to the long-term average annual erosion rate (R) times the number of years that the back-beach or bluff will be fixed (L) times the width of the property that will be protected (W). This can be expressed by the following equation: Aw = R x L x W. The annual loss of beach area can be expressed as Aw' = R x W.

impact is roughly equal to 47 cubic yards of sand per year for the seawall. Over the course of the identified 13-year horizon, this equates to a retention impact of about 616 cubic yards of beach quality sand.

The applicant has proposed to make a contribution to the mitigation program that would address the sand volume impacts from denial of sand to the littoral cell as a result of passive erosion, as discussed above. The applicant applied the calculations that the Commission has used for the past decade to estimate mitigation for this impact. Since the impacts from encroachment and fixing the back beach are being covered through estimates for recreational beach losses, the In-Lieu Beach Sand Mitigation calculations applied in this analysis only address the value of the sand that will not be contributed by the bluffs to the littoral cell due to the construction of the seawall. The amount of beach material that would have been added to the beach if natural erosion had been allowed to continue at the site has been calculated to be approximately 616 cubic yards. At estimated sand cost of $14.75 per cubic yard (provided by the applicant, and based on three estimates from local contractors); this sand would have a value of $9,088.66 (Appendix B).

With regards to beach nourishment, a formal sand replenishment strategy can introduce an equivalent amount of sandy material back into the system over time to mitigate the loss of sand that would be caused by a protective device over its lifetime. Such an introduction of sand, if properly planned, can feed into the offshore system to mitigate the impact of the project. In the past, the Commission has required payment to fund beach sand replenishment as mitigation for the identified direct impacts of the proposed shoreline protective device on beach sand supply and shoreline processes over a 20-year period. The San Diego Association of Governments (SANDAG) has an established regional sand program that has successfully completed multiple large scale beach nourishment programs within the County of San Diego. However, in this case, there is a relatively low quantity of sand retained by the unpermitted seawall and the beach fronting the subject site was not included in SANDAG's 2012 Regional Beach Sand Project, thus, it appears that contributing to a regional sand fund would not likely yield a noticeable sand increase on qualifying beach sand projects. Thus, this fee may be put to greater use when combined with a public access and recreation mitigation fee or project.

In recent years, the Commission has sought additional ways to quantify the adverse impacts to public access and recreation that result from shoreline protective devices and, thereby, develop more appropriate mitigation for those impacts. As a filing requirement for proposed application, the applicant was asked to address the adverse impacts of shoreline devices on public access and recreation opportunities and to consider ways those impacts could be mitigated. Mitigation might be in the form of a particular public access or recreational improvement to be located in close proximity to the project or might involve a payment to be used sometime in the future for a public access/recreation improvement.

The applicant proposes to use the same method as applied for the neighboring property at 680 Neptune Avenue to calculate the mitigation fee. In the June 2010 approval of the Li seawall (CDP 6-07-133/Li), the Commission used a valuation method based on an

appraisal of the blufftop lot fronting the unpermitted seawall. The appraised value of the lot was then divided by the lot area to determine the sq. ft. value of the lot. The Commission found that the sq. ft. value of public beach area lost had a value of at least as much as the sq. ft. value of the private blufftop lot.

Beach and Sand Supply Impacts Conclusion

The project impacts over a 20-yeartime period from 2013 through 2033 are 435.5 square feet of beach lost due to encroachment, 361.8 square feet of beach area that will be "lost" through passive erosion of fixing the back beach, and 661 cubic yards of sand that would be retained behind the seawall. It has proven difficult over the years to identify appropriate mitigation for such impacts. Partly, this is because creating an offsetting beach area is not an easy task, and finding appropriate properties that could be set aside to become beach area over time (through natural processes, including erosion) is difficult both due to a lack of such readily available properties and the cost of such coastal real estate more broadly. As a proxy, other types of mitigation for such direct sand supply impacts include in-lieu fees and/or beach nourishment, and in some cases compensatory beach access improvements.

In this case, and as described below in the Public Access section of this report, it is appropriate to mitigate for the project's beach and sand supply adverse impacts in two ways: firstly by addressing the beach area itself that would be lost due to encroachment (435.5 sq. ft.) and passive erosion (361.8 sq. ft.) through an in-lieu fee that is based on the cost of nearby land values; and secondly, by addressing the sand retention loss through the provision of an in lieu fee based on the cost replace the retained sand.

In terms of the beach area lost, the idea behind using the land value methodology is that such land, if purchased, could provide public access and recreation to mitigate for the loss of recreational use of the beach equivalent to the beach area that is lost due to the armoring in question (i.e., due to encroachment and passive erosion). As described in detail below in the Public Access section of this report, the total encroachment and passive erosion impacts combined would equate to a total area of 797.3 sq. ft. with a land value of $129,561.25.

In conclusion, the project's direct encroachment and passive erosion sand retention impacts translate directly into a loss of beach area and degradation of public access to and along the beach, and to the surf area offshore. The required sand mitigation fee required in **Special Condition 3** in this case serves as mitigation of the proposed project's adverse impacts on shoreline sand supply. As discussed below in the Public Access section of the report, the beach area itself that would be lost due to encroachment (435.5 sq. ft.) and passive erosion (361.8 sq. ft.) are mitigated through an in-lieu fee that is based on the cost of nearby land values. Thus, as conditioned, the project meets all Section 30235 tests for allowing such armoring.

Long-Term Stability, Maintenance, and Risk

Coastal Act Section 30253 requires the project to assure long-term stability and structural

integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. For the proposed project, the main Section 30253 concern is assuring long-term stability. This is particularly critical given the dynamic shoreline environment within which the proposed project would be placed. Also critical to the task of ensuring long-term stability, as required by Section 30253, is a formal long-term monitoring and maintenance program. If the proposed repairs to the existing coastal armoring structures were damaged in the future (e.g. as a result of flooding, landsliding, wave action, storms, etc.) it could adversely affect nearby beaches by resulting in debris on the beaches and/or creating a hazard to the public using the beaches or the offshore surfing area. Therefore, in order to find the proposed project consistent with Coastal Act Section 30253, the proposed project must be maintained in its approved state. Further, in order to ensure that the applicant and the Commission know when repairs or maintenance are required, the applicant must regularly monitor the condition of the approved project, particularly after major storm events. Such monitoring will ensure that the applicant and the Commission are aware of any damage to or weathering of the armoring, public access features, and other project elements and can determine whether repairs or other actions are necessary to maintain the project in its approved state before such repairs or actions are undertaken. To assist in such an effort, monitoring plans should provide vertical and horizontal reference distances from armoring structures to surveyed benchmarks for use in future monitoring efforts. To ensure that the proposed project is properly maintained to ensure its long-term structural stability, **Special Condition 7**, requires monitoring and reporting plans. Such plans shall provide for evaluation of the condition and performance of the proposed project and overall bluff stability, and shall provide for necessary maintenance, repair, changes or modifications.

In terms of recognizing and assuming the hazard risks for shoreline development, the Commission's experience in evaluating proposed developments in areas subject to hazards has been that development has continued to occur despite periodic episodes of heavy storm damage and other such occurrences. Development in such dynamic environments is susceptible to damage due to such long-term and episodic processes. Past occurrences statewide have resulted in public costs (through low interest loans, grants, subsidies, direct assistance, etc.) in the millions of dollars. As a means of allowing continued development in areas subject to these hazards while avoiding placing the economic burden for damages onto the people of the State of California, Applicants are regularly required to acknowledge site hazards and agree to waive any claims of liability on the part of the Commission for allowing the development to proceed. Accordingly, **Special Condition 16** requires the applicant to assume all risks for developing at this location.

Special Condition 4 provides the applicant with a 20-year authorization period which allows the Commission to revisit the applicant's continued need for the seawall/bluff protection to protect the existing structures. **Special Condition 5** establishes a process that requires submittal of an amendment to this permit with the Commission prior to the expiration of the 20 year authorization of the permit. As the blufftop lot redevelops and the structure is potentially moved inland or reduced in size, this could reduce or eliminate the need for the seawall/bluff protection. **Special Conditions 5 and 6** therefore requires the amendment application to include the submittal of sufficient information for the

Commission to consider the need and alternatives to continued authorization of the seawall/bluff protection repairs at this location.

A twenty-year period better responds to such potential changes and uncertainties, including to allow for an appropriate reassessment of continued armoring and its effects at that time in light of what may be differing circumstances than are present today, including with respect to its physical condition after twenty years of existence. In addition, with respect to climatic change and sea level rise specifically, the understanding of these issues should improve in the future, given better understanding of the atmospheric and oceanic linkages and more time to observe the oceanic and glacial responses to increased temperatures, including trends in sea level rise. Such an improved understanding will almost certainly affect CDP armoring decisions, including at this location. Of course it is possible that physical circumstances as well as local and/or statewide policies and priorities regarding shoreline armoring are significantly unchanged from today, but it is perhaps more likely that the baseline context for considering armoring will be different – much as the Commission's direction on armoring has changed over the past twenty years as more information and better understanding has been gained regarding such projects, including their effect on the California coastline. For these reasons, the Commission is authorizing the proposed seawall/bluff stabilization repairs for 20 years from the date of this approval. This limitation is implemented through **Special Conditions 4, 5 and 6**.

The intent of these conditions is to limit further encroachment on the public resources (adjacent bluff and beach) with additional bluff protective devices, and to allow for potential removal of the unpermitted seawall/bluff protective structures when they are no longer necessary to protect the development that required them. The conditions are also to put the property owners on notice that redevelopment of the parcels should not rely on bluff or shoreline protective works for stability and such alternatives as removing the seaward portion(s) of the structure, relocation inland, and/or reduction in size should be considered to avoid the need for bluff or shoreline protective devices in this hazardous area. Such options are all feasible for new development and would stop the perpetuation of development in non-conforming locations that would eventually lead to complete armoring of the bluffs and long-term, adverse impacts to the adjacent public beach and State tidelands. **Special Condition 4** recognizes that the repairs to the existing unpermitted seawall and bluff protective structures are being approved under Section 30235 to protect the *existing* residential blufftop structures in danger from erosion. Any future redevelopment of the affected property will re-evaluate current conditions and new development should be sited safely, independent of any shoreline protection.

Special Condition 4 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 residential 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. In addition, the condition acknowledges future development on the

site beyond repair and maintenance to the existing structure must meet the requirements of Section 30253 of the Coastal Act and not require bluff or shoreline protective devices that alter the natural landform of the bluffs.

To ensure that future property owners are properly informed regarding the terms and conditions of this approval, **Special Condition 20** requires a deed restriction to be recorded against the properties involved in the application. Only as conditioned can the proposed project be found consistent with Sections 30235 and 30253 of the Coastal Act.

D. Public Access and Recreation

Applicable Policies

Coastal Act Section 30604(c) requires that every coastal development permit issued for any development between the nearest public road and the sea "shall include a specific finding that the development is in conformity with the public access and public recreation policies of [Coastal Act] Chapter 3." The proposed project is located seaward of the first through public road (Neptune Avenue). Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:

> ***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.*
>
> ***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.*
>
> ***30212.*** *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects*
>
> ***30213.*** *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. …*
>
> ***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.*
>
> ***30223.*** *Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

Coastal Act Section 30240(b) also protects parks and recreation areas, such as the adjacent beach area. Section 30240(b) states:

> ***30240(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.*

These overlapping policies protect maximum public access and recreation to and along coastal waters, including lower cost recreational facilities, like public beaches.

Analysis

As discussed in the finding above, shoreline structures can have a variety of adverse impacts on coastal resources including adverse effects on beaches and sand supply, which ultimately result in the loss of public beach area with associated adverse impacts to public recreational access. The proposed project's adverse impact on public beach area and sand supply, and ultimately to public access and recreation, were identified in the preceding finding. The proposed repairs to the unpermitted seawall would prolong the adverse impacts on sand supply, public access and recreation because the repairs will extend the life of the seawall beyond its life if no repairs took place, as discussed above.

The beaches in the vicinity of the project area are generally accessible during most tides, serving the dense residential development in the adjacent neighborhood, as well as visitors. The beach in the area is hampered in many areas by shoreline armoring, and the bluffs are high, steep, and extremely fragile. The site is located approximately ¼ mile south of "Beacon's" public access path and approximately ½ mile north of "Stone Steps," one of the City's public access stairways to the beach.

Project's Impacts on Existing Sandy Beach Easement Area and Public Beach Access

The existing seawall's impact to beach area and shoreline sand supply results in the degradation of public access to and along the beach, and ultimately the loss of public beach area. Therefore, these impacts to public access and recreational value must also be mitigated.

The most appropriate mitigation for the subject development would be the replacement of the 797.3 sq. ft. of beach that would be lost (due to the effects of physical encroachment and passive erosion) with an identical area of beach in close proximity to the eliminated beach area. However, most, if not all, of the beach areas in Encinitas are already in public ownership: private beach area is not available for purchase. There is no doubt that the loss of sandy beach in an urban area such as Encinitas represents a significant impact to public access and recreation, including a loss of the social-economic value of this recreational opportunity. The sandy beach area fronting the subject site that is impacted as a result of the existing seawall is especially significant given its proximity to the

existing public vertical access just north of the site at Beacon's Beach. Therefore, an in-lieu fee to purchase replacement public access and recreational property and/or improvements to existing sandy beach areas is the most appropriate way to mitigate the project's impacts on sandy beach area.

Previously, the Commission has looked at several ways to value beach areas in order to determine appropriate in-lieu mitigation fees, including evaluating the beach recreational value of the land in terms of the larger economy, as well as the real estate value of the land that will be taken from public use.

In terms of the beach recreational value, the Commission has recognized that in addition to the more qualitative social benefits of beaches (recreational, aesthetic, habitat values, etc.), beaches provide significant direct and indirect revenues to local economies, the state, and the nation. Most people recognize that the ocean and the coastline of California contribute greatly to the California economy through activities such as tourism, fishing, recreation, and other commercial activities. There is also value in just spending a day at the beach and having wildlife and clean water at that beach, the aesthetics of an ocean view, and being able to walk along a stretch of beach. Over the past few decades, economists have developed tools and methods to value many of these market commercial and "non-market" environmental resources, to quantify their values, and to include these values in cost-benefit equations. The results of a number of studies to quantify the economic value of beaches to the state have been published in recent years.[7]

There is no doubt that recreational beach resources in Encinitas generally have a significant market and non-market social value. In this case, though, a real estate evaluation model is being used because it is most closely tied to specific land values in the vicinity of the project. Further still, application of economic valuation methods for the long-term recreational value of the beach to the public suggests that the recommended fee is conservative (and therefore is an underestimate). Still, with the required mitigation fee, the Commission can find that the project is consistent with the Coastal Act.

Since physical impediments are adversely impacting public access and creating a private

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[7] Pendleton, L. 2001. Managing Beach Amenities to Reduce Exposure to Coastal Hazards: Storm Water Pollution. Coastal
Management 29:239-252; Lipton, D. January/February 2001. How Much is This Beach Worth? Calculating the Value of the
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Institute; Chapman, D. & W. M. Hanemann. 2001. Environmental Damages in Court: The American Trader Case. The Law and
Economics of the Environment 319-367; Leeworthy, Vernon R. & Peter C. Wiley. March 1993. Recreational use value for three
southern California beaches. NOAA Strategic Environmental Assessments Division, Rockville, MD. Office of Ocean Resources
& Conservation; Lew, Daniel. 2002. Valuing Recreation, Time, and Water Quality Improvements Using Non-Market Valuation:
An Application to San Diego Beaches. Doctoral Dissertation, University of California, Davis.

benefit for the property owners, mitigation conditions are necessary in order for the development to be found consistent with the public access policies of the Coastal Act. As mentioned previously, the most appropriate mitigation for the subject development would be the creation of additional public beach area in close proximity to the impacted beach area. However, there is no private beach area available for purchase, so that direct form of mitigation is unavailable. If a private beach area of comparable size were available for purchase, the Commission might have a better way of approximating the appropriate mitigation fee based on the purchase value of the beach area. As a proxy, private beachfront property that would become beach land from constant erosive impacts from wave and weather forces and therefore utilized for public access and recreation in the vicinity can be used to approximate an appropriate mitigation.

As described above, because most of the sandy beach in Encinitas is in public ownership, there is no private sandy beach available that could be purchased and opened to the public to mitigate the impacts of this project. Therefore, the most proportional mitigation is the cost of creating the same square footage of new sandy beach area impacted by the seawall and making that beach available for public use. One potential way to accomplish that would be to purchase an unimproved, unprotected blufftop lot and allow it to erode for the 20-year authorization period, directly converting the bluff top land to new sandy beach area. Given the rate of erosion (average of .27 feet per year) along this stretch of coastline, providing an unprotected blufftop lot of a similar size for public use, and allowing it to erode, could potentially result in providing a 67-foot wide sandy beach area over a 20-year time period. However, a blufftop lot that could be used for this purpose has not been identified, and therefore, an in-lieu fee that could be used to purchase such a lot, or that could be combined with additional funding sources to purchase such a lot, is appropriate. Since are so few vacant lots available for purchase, an in-lieu fee could also be used for other public access improvements.

If the current County assessor's land value of the property ($1,048,787) being protected by the seawall and which is precluded from eroding by the seawall were used to determine the value of the bluff top lot without the residential improvement ($1,048,787/5243sq.ft. lot= $200 per sq. ft.), then the loss of 797.3 sq. ft. of the public beach resulting from the placement of the seawall over 20 years would equate to a fee of $159,460 ($200 x 797.3 sq. ft.). However, although the San Diego County Tax Assessor provides a general estimate of the property value, a current appraised value of the subject blufftop lot (unimproved) would be more accurate, but is not available at this time. Instead, Commission staff reviewed relatively recent sales of coastal properties throughout the Encinitas area to get a more accurate estimate of the actual value of oceanfront bluff top parcels to determine the required mitigation for the loss of shoreline area from the proposed development. This method of analysis seeks to arrive at the subject market value[8] using a sales comparison approach method. Given that a majority of the Encinitas coastal parcels have been developed for some time, there is a relative

[8] Market value is defined as the most probable price which a property should bring in the competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus as defined by the economic definition agreed upon by the Federal financial institutions in the United States of America, as set forth in the Uniform Standards of Professional Appraisal Practice 2002 (page 219).

dearth of sample parcels that have been sold in the past decade or so that could be used as comparable properties to use to calculate the appropriate mitigation value for the project's impacts. Staff's review was conducted by looking at the sales of unimproved property in this area between 2002 and present.

The calculated value serves as a way to gauge the cost of providing an equivalent amount of recreational beach area to that which will be lost over the life of the project. In order to be comparable with the shoreline and steep coastal bluffs characteristic of the subject site, this evaluation focused on two properties within the City of Encinitas for which sales information was available in the period between 2002 and present. The properties used in this analysis are bluff top oceanfront parcels.

Commission staff evaluated the land value and acreage for the two unimproved properties that had been sold between 2002 and present in order to find a more accurate and average amount. The range of values per square foot starts at the top end for the property at 132 Neptune Ave, Encinitas which is a 6,970 square foot lot and that sold in September 2012 for $1,700,000.[9] Based on this sales price, the estimated value would be $244 square foot, with a total potential mitigation fee of $194,541 ($244 x 797.3 sq. ft.). An 8,220 square foot undeveloped parcel[10] at 566 Neptune Ave, Encinitas sold in 2002 for $655,000.[11] Based on this sales price, the estimated value would be $81 square foot and a total potential mitigation fee of $64,581.30 ($81 X 797.3). Taking the area impacted by the proposed project (797.3 square feet) and multiplying it by the average price of $162.50 per square foot using the two comparable properties (($244+$81)/2= $162.50 sq. ft.), the required mitigation fee would be $129,561.25 ($162.50 x 797.3 sq. ft.). These properties, taken together, serve to represent an approximate estimate of how much value the market places on these properties that could also potentially become shorefront recreational land. Furthermore, staff has researched the oceanfront properties in Encinitas from aerial images and found that only four of the hundred or so oceanfront parcels in Encinitas are vacant unimproved lots, which likely means those lots are in high demand when they are listed for sale, making the purchase of such a lot for mitigation a very expensive venture. Thus, the value of $162.50 per square foot for an oceanfront lot in Encinitas is likely an accurate, if not conservative, estimate of the market value of a vacant unimproved oceanfront lot in Encinitas.

The table in Appendix C represents information in regard to the existing seawall on the site for the subject CDP (6-12-041), a previous CDP approved in 2000 (CDP 6-00-102),

[9] San Diego County Recorder's Office- Document #2012-0535656, recorded on September 6, 2012;

http://www.zillow.com/homedetails/132-Neptune-Ave-Encinitas-CA-92024/99495288_zpid/.

[10] The undeveloped parcel was later developed with a 2,028 sq.ft. home sometime in 2006-2007 and sold for $3.7 million in 2007.

[11] San Diego County Recorder's Office- Document #2002-0521298, recorded on June 20, 2002.

and a settlement agreement between one of the applicants and the Commission that was reached in 2000.

The applicant previously paid a mitigation fee of $12,357.75 pursuant to the settlement agreement. The fee mitigated for the seawall impacts on sand and public access for a period of 15 years (1985 through 2000). The portion of the $12,357.75 sand mitigation fee accounting for the seawall's physical encroachment on the public beach was $6,102.36 ($Ve$[12] = 693.45 cu. Yds. x $8.80).

The applicant also previously paid a mitigation fee of $5,520.86 pursuant to CDP 6-00-102. The fee mitigated for the seawall impacts on sand and public access for a period of 20 years (2000 through 2020). The portion of the $5,520.86 mitigation fee accounting for the quantity of sand beneath the area landward of the seawall that would otherwise have been provided if the seawall did not block the natural bluff retreat was $1,591.92 ($Vw$[13] = 180.9 cu. Yds. * $8.80). The portion of the $1,591.92 passive erosion fee accounting for years 2013 through 2020 is $742.90 (($1,591.92 / 20 years) * 7 years). The portion of the $5,520.86 mitigation fee accounting for the seawall's physical encroachment on the public beach was $0. The addendum to the staff report for CDP 6-00-102 states:

> *"…It should be noted that the component of the in-lieu mitigation fee that addresses the actual encroachment of the seawall on the beach (Ve) is a one-time only application and thus, is not applicable to the calculation of the fee for the extended life of the application and thus, is not applicable to the calculation of the fee for the extended life of the seawall…"*

At the time that CDP 6-00-102 was approved and the settlement was reached (2000), the methodology used by the Commission to calculate public access and recreation mitigation fees was based on the estimated cost of the quantity of sand beneath a seawall and the quantity of sand beneath the area landward of the seawall that would otherwise have been provided if the seawall did not block the natural bluff retreat. Thus, it would not have been fair to the applicant to mitigate twice for the cost of sand beneath the seawall.

However, the Commission now calculates the public access and recreation mitigation fee based on the recreational value of the area of beach that is no longer accessible to the public due to direct physical encroachment by a seawall; or area that would otherwise have been available for public access in the future had a seawall not blocked natural bluff retreat. The Commission no longer bases the mitigation fee only on the cost of the volume of sand beneath a seawall or beneath the area of beach that would have been created. Therefore, the public access and mitigation fees accounting for a 20-year period

[12] $\mathbf{V_e}$ = Volume of sand necessary to replace the area of beach lost due to encroachment by the seawall; based on the seawall design and beach and nearshore profiles (cubic yards)

[13] $\mathbf{V_w}$ = Volume of sand necessary to replace the beach area that would have been created by the natural landward migration of the beach profile without the seawall, based on the long-term regional bluff retreat rate, and beach and nearshore profiles (cubic yards)

(2013 through 2033) must be determined using the current methodology and the applicant must be credited for the fees paid based on the previous methodology for any payments made in the past that cover future years.

The physical encroachment of the seawall is 435.5 sq. ft. At the sq. ft. value of $162.50, the value of the beach area subject to encroachment is $70,768.50. However, the applicant has previously paid $6,102.36 to mitigate the encroachment of the seawall and no additional mitigation for encroachment is required with this application for repairs at this time. Thus, the current amount of mitigation required to mitigate the encroachment of the seawall is $64,666.39 ($70,768.50 - $6,102.36).

The area of beach that would have otherwise been created between 2013 and 2033, if the existing seawall did not block natural erosion is 361.8 sq. ft. At the sq. ft. value of $162.50, the value of the beach area that would have been created is $58,792.50. However, the applicant has previously paid $742.90 to mitigate for the area that would have been created between 2013 and 2020. Thus, the amount of mitigation required to mitigate the lost future beach area is $58,049.60 ($58,792.50 - $742.90).

Special Condition 3 requires the applicant to pay a total in-lieu mitigation fee of $131,804.65 ($9,088.66 + $64,668.39 + $58,049.60) to mitigate for impacts to public access and recreational opportunities and sand supply resulting from the shoreline protection that will remain after the proposed repairs are completed. Of the total fee, $122,715.99 is mitigation for adverse impacts to public access and recreation ; and $9,088.66 is mitigation for impacts to local sand supply. The applicant is required to deposit the in-lieu mitigation fee into an interest-bearing accounts to be established and managed by SANDAG, or another appropriate entity. The funds in the public access and recreation account may only be used for public beach recreational access acquisitions and/or improvements at beaches within Encinitas' city limits (including potentially acquiring beachfront property, providing blufftop access trails both up and downcoast of the site, public access improvements, etc.) or, at a minimum, within the San Diego County coastal zone. The funds in the sand supply account may only be used for implementation of projects which provide sand to the region's beaches. The project and mitigation is based on a 20-year time period.

Thus, the Commission relies on a real estate value estimate, based on the value of land in the vicinity of the project; for the amount of beach area that would have been available for public use but that will instead be occupied over the next 20 years. The Commission's analysis is based on evidence that the public will lose approximately 797.3 square feet of public recreational beach as a result of the shoreline protective device. The in lieu fee will be used to fund other shoreline recreational property and/or improvements in the vicinity thereby addressing the impact on public access and recreation of the proposed development based on a site-specific determination of the impact of that development. This methodology ensures that the fee is roughly proportional to the square footage of impacts to sandy beach attributable to the seawall repairs for a 20-year timeframe. The methodology provides a means to quantify the sandy beach area that would have been available for public use but for the presence of the seawall. Thus, requiring the described in-lieu fee as mitigation is both reasonably related and roughly

proportional to the anticipated impact of the seawall on the sandy beach easement area because the amount of the fee is related to the square footage of beach lost by the project over twenty years of impacts.

In conclusion, the proposed project would have significant impacts on public access and recreation. However, as proposed and conditioned, the project would mitigate those impacts consistent with Coastal Act requirements, by paying in-lieu fees to mitigate sand retention impacts and loss of beach area. Finally, as described in the preceding finding, these mitigation fees only cover a 20-year time period, and this time frame ensures that the public access context, including any potential changes and uncertainties associated with it over time, can be appropriately reassessed at that time.

This stretch of beach has historically been used by the public for access and recreation purposes. **Special Condition 15** acknowledges that the issuance of this permit does not waive the public rights that may exist on the property. The seawall and infill structures may be located on State Lands property, and as such, **Special Condition 12** requires the applicant to obtain any necessary permits or permission from the State Lands Commission to perform the work.

In addition, the use of the beach or public parking areas for staging of construction materials and equipment can also impact the public's ability to gain access to the beach. As noted, while the seawall currently exists, maintenance is proposed. As such, **Special Condition 10** has been proposed to require that a staging area plan be submitted that indicates the beach will not be used for storage of materials and equipment and that construction be prohibited on the sandy beach on weekends and holidays during the summer months of Memorial Day to Labor Day of any year.

In summary, the existing unpermitted seawall, which has been in place for approximately 28 years, currently occupies public beach area resulting in impacts to public access. With completion of the proposed repairs, the expected life of the seawall will be extended. Adverse impacts of the seawall on public access and recreation will be mitigated by **Special Condition 3**, which requires the applicant to pay an in-lieu mitigation fee for public access and recreation impacts. In addition, with removal of the a portion of the existing foundation that extends out from the face of the seawall, access along the beach in front of the existing seawall will be enhanced. With Special Conditions that require mitigation for the adverse impacts to public access and recreation and authorization from the State Lands Commission, impacts to the public will be minimized to the greatest extent feasible. Thus, as conditioned, the Commission finds the proposed repairs to the unpermitted shoreline armoring structures consistent with the public access and recreation policies of the Coastal Act.

E. 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.

The following Local Coastal Program policies relate to the proposed development:

Resource Management (RM) Policy 8.5 of the certified Encinitas LUP states, in part:

The City will encourage the retention of the coastal bluffs in their natural state to minimize the geologic hazard and as a scenic resource…

In addition RM Policy 8.7 states that:

The City will establish, as primary objectives, the preservation of natural beaches and visual quality as guides to the establishment of shoreline structures. All fishing piers, new boat launch ramps, and shoreline structures along the seaward shoreline of Encinitas will be discouraged.

The certified IP also requires that shoreline protective structures be designed to be protective of natural scenic qualities of the bluffs and not cause a significant alteration of the bluff face. In particular, Section 30.34.020(B)(8) states:

The design and exterior appearance of buildings and other structures visible from public vantage points shall be compatible with the scale and character of the surrounding development and protective of the natural scenic qualities of the bluffs.

Finally, Section 30.34.020.C.2.b.(4) states:

The proposed measure in design and appearance must be found to be visually compatible with the character of the surrounding area; where feasible, to restore and enhance visual quality in visually degraded areas; and not cause a significant alteration of the natural character of the bluff face.

The proposed aesthetic and structural repairs to the existing seawall will occur on a public beach at the base of an approximately 95 foot-high coastal bluff fronting a duplex and a single family residence. To the south of the subject seawall is an existing permitted 87 ft. long, 37 ft. high, and 9 ft. 8 in. wide seawall constructed of timber and concrete. To the north of the subject site is an existing permitted 57 ft. long, 35 ft. high, and 9 ft.

wide seawall (5 ft. of wall and 4 ft. of infill behind the wall), colored and textured to match the nearby native bluffs.

In recent permit approvals, the Commission has required that any shoreline protective device be designed to reduce the potential adverse visual impacts through minimizing of height or coloring/texturing to be compatible with the surrounding natural bluffs. The existing unpermitted seawall has not been designed in a manner that minimizes its visual impact to the beach going public.

The applicant has documented that removal of the unpermitted seawall or any portion of it will result in an immediate threat to the residences located at the top of the bluff. Although the existing wall cannot be removed and is similar in design to surrounding seawalls, this does not mean that measures are unavailable to improve the visual appearance of the seawall. The applicant indicates that the proposed repairs will result in adding an additional 20 years to the lifetime of the seawall. This will result in an additional 20 years of adverse visual impacts. With the proposed removal of the concrete landing, a significant adverse visual impact will be removed. To further mitigate the visual impacts of the existing seawall, the applicant proposes to color and texture the seawall after the proposed repairs are completed. The visual treatment proposed is similar to the visual treatment approved by the Commission in recent years for shoreline devices along the Encinitas shoreline. (ref. CDP 6-07-133/Li). The technology in design of seawalls has improved dramatically over the last two decades. Today, seawalls typically involve sculpted and colored concrete that upon completion closely mimic the natural surface of the lower bluff face. **Special Condition 1** has been attached which requires the applicant to submit final plans that include information on how the seawall will be colored and treated to help reduce its contrast with the natural bluff. **Special Condition 1** requires that all runoff from impervious surfaces on the blufftop be collected and directed way from the bluff edge. In addition, the applicant is proposing to install hydroseeding and container plant landscaping on the bluff face. **Special Condition 2** requires that the landscaping plans only include native, non-invasive, drought tolerant plant species and that the landscaping plans be modified to include landscaping in the area that will be affected through the proposed repairs to the mid bluff wall.

The proposed aesthetic and structural repairs to the existing mid bluff wall will occur on private property on the face of the coastal bluff. To the south of the mid bluff wall is a continuation of the wall onto the adjacent property. No aesthetic or structural repairs are proposed to the mid bluff wall on the adjacent property. No mid bluff wall exists to the north of the subject site, although the bluff face has been previously reconstructed with a geogrid soil structure. The applicant has documented that removal of the unpermitted mid bluff wall or any portion of it will result in an immediate threat to the residences located at the top of the bluff. The applicant proposes to mitigate the visual impacts of the mid bluff wall by removing approximately 15 in. of the entire top of the wall on the subject property, which is not retaining bluff material and is not necessary for protection of the bluff will be removed. The applicant then proposes to color and texture this wall similar to that proposed for the seawall. Finally, **Special Condition 2** requires that landscaping be installed in front of the midbluff wall. With the proposed removal of the

top of the wall, the coloring and texturing, and landscaping, significant adverse visual impacts of the midbluff wall will be minimized.

The proposed aesthetic and structural repairs to the existing upper bluff wall will occur on private property on the face of the coastal bluff. To the south of the subject upper bluff wall is an existing permitted 100 ft.-long, 20 ft.-high timber and concrete seawall, with a 2:1 backfilled slope between the upper edge of the wall and the existing single family residence. To the north of the subject upper bluff wall is an existing permitted 6-14 ft.-high colored and textured upper bluff wall.

The applicant has documented that removal of the unpermitted upper bluff wall or any portion of it will result in an immediate threat to the residences located at the top of the bluff. **Special Condition 1** requires that the applicant mitigate, in part, the visual impact of the upper bluff wall by removing approximately 3 ft. of the southern half of the top of the wall on the subject property, which will bring its height in line with the upper bluff wall to the south. In addition, similar to what the applicant is proposing for the seawall and mid bluff wall, the upper bluff wall will colored and textured to blend in with the appearance of the nearby coastal bluffs. A return wall, perpendicular to the northernmost part of the upperbluff wall also be colored textured to blend in with the appearance of the nearby coastal bluffs.

To address a section of the bluff face that has failed and is currently covered with black plastic, the applicant proposes to construct a 25 ft. wide by 40 ft.-high geogrid soil structure. While geogrid soil structures on the bluff face do not mitigate adverse impacts on their own, the applicants have also proposed a landscaping plan consisting of plantings, hydroseed, and a temporary irrigation system for the repaired area. In addition, **Special Condition 2** requires that the geogrid structure undulate to closely mimic the texture of natural bluffs in the vicinity.

To address other potential adverse visual impacts, **Special Condition 7** has been attached which require the applicant to monitor and maintain the seawall in its existing state. In this way, the Commission can be assured that the proposed structure will be maintained so as to effectively mitigate its visual prominence. In addition, the applicant is proposing to remove the existing portion of the stairway attached to the upper bluff wall, which will further help to reduce visual impacts.

Therefore, as conditioned, the Commission finds that potential visual impacts associated with the existing shoreline structures and the proposed repairs 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, with the proposed conditions, the project is consistent with Sections 30240(b) and 30251 of the Coastal Act.

F. UNPERMITTED DEVELOPMENT

Although unpermitted development including, but not limited to, the construction of a seawall and two bluff retaining walls, a 338 sq. ft. addition to the existing home, and

retention of a portion of an unpermitted stairway has occurred without the benefit of a coastal development permit, consideration of this application by the Commission has been based solely upon the policies of the Coastal Act with the certified City of Encinitas Local Coastal Program used as guidance. Approval of this permit does not constitute a waiver of any legal action with regard to any violation of the Coastal Act or the City's Local Coastal Program that may have occurred, nor does it constitute admission as to the legality of any development undertaken on the subject site without a coastal development permit. Unpermitted development will be addressed through a separate enforcement action. This permit approves repairs to the existing seawall and the existing retaining walls, but the seawall and the retaining walls remain unpermitted. **Special Conditions 18 and 19** have been included to ensure that the unpermitted portion of the staircase attached to the upper bluff wall that is proposed to be removed is done so in a timely manner.

G. LOCAL COASTAL PLANNING

The subject site is located on the public beach and on a coastal bluff within the City of Encinitas. In November of 1994, the Commission approved, with suggested modifications, the City of Encinitas Local Coastal Program (LCP). Subsequently, on May 15, 1995, coastal development permit authority was transferred to the City. Although the site is within the jurisdiction of the original jurisdiction of the Coastal Commission and the City of Encinitas, the applicant and the City requested that the Commission issue a consolidated CDP. As such, the standard of review is Chapter 3 policies of the Coastal Act, with the City's LCP used as guidance.

As shoreline erosion along the coast rarely affects just one individual property, it is imperative that a region wide solution to the shoreline erosion problem be addressed and solutions developed to protect the beaches. Combined with the decrease of sandy supply from coastal rivers and creeks and armoring of the coast, beaches will continue to erode without being replenished. This will, in turn, decrease the public's ability to access and recreate on the shoreline.

Based on specific policy and ordinance language requirements placed in the LCP by the Commission, the City of Encinitas began the process of developing a comprehensive program addressing the shoreline erosion problem in the City. The intent of the plan was to look at the shoreline issues facing the City and to establish goals, policies, standards and strategies to comprehensively address the identified issues. To date, the City has conducted several public workshops and meetings on the comprehensive plan to identify issues and present draft plans for comment. However, at this time it is uncertain when the plan will come before the Commission as an LCP amendment or when it will be scheduled for local review by the Encinitas City Council.

In the case of the proposed project, site specific geotechnical evidence has been submitted indicating that the existing structures on the project site are in danger if repairs to the existing unpermitted seawall, unpermitted mid and upper bluff walls, and the section of bluff face that have failed are not performed. Based on the above findings, the proposed repairs to the unpermitted seawall, mid and upper bluff and a new geogrid

structure has been found to be consistent with the Chapter 3 policies of the Coastal Act in that the need for the repairs and the geogrid structure have been documented and adverse impacts on public access, beach sand supply, and visual resources will each be mitigated. Therefore, the Commission finds that approval of the proposed repairs and geogrid structure, as conditioned, will not prejudice the ability of the City of Encinitas to prepare a comprehensive plan addressing the City's coastline as required in the certified LCP and consistent with Chapter 3 policies of the Coastal Act.

H. CALIFORNIA ENVIRONMENTAL QUALITY ACT

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, public access and visual resource policies of the Coastal Act. Mitigation measures 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, as conditioned, is the least environmentally-damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A

SUBSTANTIVE FILE DOCUMENTS

- Certified City of Encinitas Local Coastal Program (LCP)
- Letter from The Trettin Company received 2/24/2011
- Geotechnical Update Letter from Soil Engineering Construction – 678 Neptune Avenue dated 2/22/2011
- Geotechnical Update Letter from Soil Engineering Construction – 678 Neptune Avenue dated 2/5/2013
- Preliminary Geotechnical Evaluation of Coastal Bluff Property – 678 Neptune Avenue by Soil Engineering Construction dated 11/28/2007
- Monitoring Report – 660 Neptune Avenue by Soil Engineering Construction & The Trettin Company dated May 2010
- Resolution No. PC 2010-18 by the City of Encinitas received 12/15/2010
- Consolidated CDP letter from the City of Encinitas dated 11/13/2011 and Consolidated CDP letter from the Applicant's agent dated 12/9/2010
- Settlement Agreement received 9/19/2000
- CDP Nos. 6-85-396, 6-98-160-G, 6-99-008, 6-99-008-R, 6-99-009, A-6-ENC-99-115, A-6-ENC-99-115-R, 6-ENC-99-123, A-6-ENC-99-148, 6-00-102, 6-05-016-G, 6-ENC-07-127, and 6-07-133

APPENDIX B

SAND MITIGATION FEE CALCULATIONS AND METHODOLOGY

LAMPL / BASKIN Sand Mitigation Worksheet

Variables	Values	Description
W=	67	Width of the property to be armored
E=	0	Encroachment by seawall, measured from toe of bluff or back beach, to the seaward limit of protection
v=	0.9	Volume of material required, per unit width of beach, to replace one foot of beach seaward of the seawall
R=	0.27	Retreat rate which must be based on historic erosion, erosion trends, aerial photos, land surveys
L=	13	Length of time the back beach or bluff will be fixed; or the design life without maintenance
S=	0.74	Fraction of beach quality material in the bluff material, based on analysis of bluff material
Hs=	36.3	Height of the seawall from the base of the bluff to the top
Hu=	59.3	Height of the unprotected upper bluff, from the top of the seawall to the crest of the bluff
Rcu=	0.27	Predicted rate of retreat of the crest of the bluff, assuming no seawall installed
Rcs=	0	Predicted rate of retreat of the crest of the bluff, assuming seawall installed
C=	14.75	$ per cubic yard of sand
	Results	
Aw=R*L*W	235.17	Area beach lost due to long-term erosion
Vw=Aw*v	211.653	Volume of sand to rebuild the area of beach lost due to long-term erosion
Ae=W*E	0	Encroachment area
Ve=Ae*v	0	Volume of encroachment area
Vb=(S*W*L)*((R*Hs)+(.5*Hu)*(R+(Rcu-Rcs)))/27	616.18024	Amount of beach material that would have to be supplied to the beach if natural erosion continued, or the long-term reduction in the supply of bluff material to the beach, over the life of the structure; based on the long-term avg. retreat rate, design life of the structure, % of beach quality material in the bluff, & bluff geometry (cu yds)
Vt=Vb+Vw+Ve	616.18	Total volume of sand required to replace losses due the structure....
M=Vt*C	$9,088.66	SAND MITIGATION FEE

SEC
2/15/2013

jk

The following is a description of the methodology. The actual calculations which utilize values that are applicable to the subject sites, and were used as the basis for calculating the estimated range of the mitigation fee, are included in the table above.

Fee = (Volume of sand for mitigation) x (unit cost to buy and deliver sand)

M= V_t x C

where

M = Mitigation Fee

$\mathbf{V_t}$ = Total volume of sand required to replace losses due to the structure, through reduction in material from the bluff, reduction in nearshore area and loss of available beach area (cubic yards). Derived from calculations provided below.

C = Cost, per cubic yard of sand, of purchasing and transporting beach quality material to the project

vicinity ($ per cubic yard). Derived from the average of three written estimates from sand supply companies within the project vicinity that would be capable of transporting beach quality material to the subject beach, and placing it on the beach or in the near shore area.

$\mathbf{V_t = V_b + V_w + V_e}$

where

$\mathbf{V_b}$ = Volume of beach material that would have been supplied to the beach if natural erosion continued, based on the long-term regional bluff retreat rate, design life of the structure, percent of beach quality material in the bluff, and bluff geometry (cubic yards). This is equivalent to the long-term reduction in the supply of bluff material to the beach resulting from the structure.

$\mathbf{V_w}$ = Volume of sand necessary to replace the beach area that would have been created by the natural landward migration of the beach profile without the seawall, based on the long-term regional bluff retreat rate, and beach and nearshore profiles (cubic yards)

$\mathbf{V_e}$ = Volume of sand necessary to replace the area of beach lost due to encroachment by the seawall; based on the seawall design and beach and nearshore profiles (cubic yards)

$\mathbf{V_b} = (S \times W \times L/27) \times [(R\ h_S) + (\mathbf{h_u}/2 \times (R + (R_{CU} - \mathbf{R_{CS}})))]$

where

R = Long-term regional bluff retreat rate (ft./yr.), based on historic erosion, erosion trends, aerial photographs, land surveys, or other accepted techniques. For the Solana Beach area, this regional retreat has been estimated to be 0.2 ft./year. This value may be used without further documentation. Alternative retreat rates must be documented by the applicant and should be the same as the predicted retreat rate used to estimate the need for shoreline armoring.

L = Design life of armoring without maintenance (yr.) If maintenance is proposed and extends the life of the seawall beyond the initial

estimated design life, a revised fee shall be determined through the coastal development permit process.

W = Width of property to be armored (ft.)

h = Total height of armored bluff (ft.)

S = Fraction of beach quality material in the bluff material, based on analysis of bluff material to be provided by the applicant

h_S = Height of the seawall from the base to the top (ft)

h_u = Height of the unprotected upper bluff, from the top of the seawall to the crest of the bluff (ft)

R_{Cu} = Predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming no seawall were installed (ft/yr). This value can be assumed to be the same as R unless the applicant provides site-specific geotechnical information supporting a different value.

R_{CS} = Predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming the seawall has been installed (ft/yr). This value will be assumed to be zero unless the applicant provides site-specific geotechnical information supporting a different value.

NOTE: For conditions where the upper bluff retreat will closely follow the lower bluff, this volume will approach a volume of material equal to the height of the total bluff, the width of the property and a thickness equal to the total bluff retreat that would have occurred if the seawall had not been constructed. For conditions where the upper bluff has retreated significantly and would not be expected to retreat further during the time that the seawall is in place, this volume would approach the volume of material immediately behind the seawall, with a thickness equal to the total bluff retreat that would have occurred if the seawall had not been constructed.

$\mathbf{V_W} = \mathbf{R} \times \mathbf{L} \times \mathbf{v} \times \mathbf{W}$

where

R = Long-term regional bluff retreat rate (ft./yr.), based on historic erosion, erosion trends, aerial photographs, land surveys, or other accepted

techniques. For the Encinitas area, this regional retreat has been estimated to be 0.2 ft./year. This value may be used without further documentation. Alternative retreat rates must be documented by the applicant and should be the same as the predicted retreat rate used to estimate the need for shoreline armoring.

L = Design life of armoring without maintenance (yr.) If maintenance is proposed and extends the life of the seawall beyond the initial estimated design life, a revised fee shall be determined through the coastal development permit process.

v = Volume of material required, per unit width of beach, to replace or reestablish one foot of beach seaward of the seawall; based on the vertical distance from the top of the beach berm to the seaward limit of reversible sediment movement (cubic yards/ft of width and ft. of retreat). The value of v is often taken to be 1 cubic yard per square foot of beach. In the report, Oceanside Littoral Cell Preliminary Sediment Budget Report" (December 1987, part of the Coast of California Storm and Tide Wave Study, Document #87-4), a value for v of 0.9 cubic yards/square foot was suggested. If a vertical distance of 40 feet is used for the range of reversible sediment movement, v would have a value of 1.5 cubic yards/square foot (40 feet x 1 foot x 1 foot / 27 cubic feet per cubic yard). These different approaches yield a range of values for v from 0.9 to 1.5 cubic yards per square foot. The value for v would be valid for a region, and would not vary from one property to the adjoining one. Until further technical information is available for a more exact value of v, any value within the range of 0.9 to 1.5 cubic yards per square foot could be used by the applicant without additional documentation. Values below or above this range would require additional technical support.

W = Width of property to be armored (ft.)

$\mathbf{V_e} = \mathbf{E} \times \mathbf{W} \times \mathbf{v}$

where

E = Encroachment by seawall, measured from the toe of the bluff or back beach (ft.)

W = Width of property to be armored (ft.)

v = Volume of material required, per unit width of beach, to replace or reestablish one foot of beach seaward of the seawall, as described above;

APPENDIX C

PUBLIC ACCESS AND RECREATION MITIGATION FEE CALCULATION

Description	Metric	Quantity
6-12-041		
Width of property to be armored bluff accounting for removal of toestone and assuming no backfill	ft.	67
Encroachment (thickness) of seawall	ft.	6.5
Long-term regional bluff retreat rate	ft./year	0.27
Design life of armoring without maintenance (2013 through 2033)	year	20
Physical Encroachment by seawall	sq. ft.	435.5
Beach area that would have been created (2013 through 2033)	sq. ft.	361.8
Unimproved value of surrounding property per sq. ft.	$	162.50
Volume of beach material that would have been supplied to the beach (2020 through 2033)	cu. yds.	616.18
Unit cost to buy and deliver sand (estimates dated 2010)	$	14.75
Cost of beach material that would have been supplied to the beach (2020 through 2033)	$	9,088.66
Public access and recreation mitigation fee for physical encroachment by seawall (2013 through 2033)	$	70,768.75
Public access and recreation mitigation fee for physical encroachment by seawall (2013 through 2033) minus ammount paid pursuant to the settlement agreement	$	64,666.39
Public access and recreation mitigation fee for beach area that would have been created (2013 through 2033)	$	58,792.50
Public access and recreation mitigation fee for beach area that would have been created (2013 through 2033) minus ammount paid pursuant to 6-00-102 for the period of 2013 through 2020	$	58,049.60
Total public access and recreation mitigation fee plus sand mitigation fee (2013 through 2033)	$	131,804.65
Settlement Agreement		
Volume of sand necessary to replace the area of beach lost due to encroachment by the seawall (paid pursuant to the settlement agreement)	cu. yds.	693.45
Unit cost to buy and deliver sand (pursuant to settlement agreement)	$	8.80
Mitigation fee for physical encroachment by seawall (paid pursuant to settlement agreement)	$	6,102.36
6-00-102		
Mitigation fee for physical encroachment by seawall (pursuant to CDP 6-00-102)	$	0.00
Volume of sand necessary to replace the beach area that would have been created (2000 through 2020)	cu. yds.	180.9
Volume of beach material that would have been supplied to the beach (2005 through 2020)	cu. yds.	446.47
Unit cost to buy and deliver sand (pursuant to CDP 6-00-102)	$	8.80
Mitigation fee for beach area that would have been created (2000 through 2020) (paid pursuant to CDP 6-00-102)	$	1,591.92
Mitigation fee for beach area that would have been created (2013 through 2020) (paid pursuant to CDP 6-00-102)	$	742.90
Mitigation fee for volume of beach material that would have been supplied to the beach (2000 through 2020) (paid pursuant to CDP 6-00-102)	$	3,928.94

PROJECT LOCATION

EXHIBIT NO. 1

APPLICATION NO. **6-12-041**

Project Location

California Coastal Commission

PROJECT COMPONENTS – SEAWALL

- Remove ~5 ft. Seaward Portion of Foundation
- Structural Shotcrete facing
- New Tiebacks
- Color and Texture
- 67 ft. long x 37 ft. high x 6 ft. thick

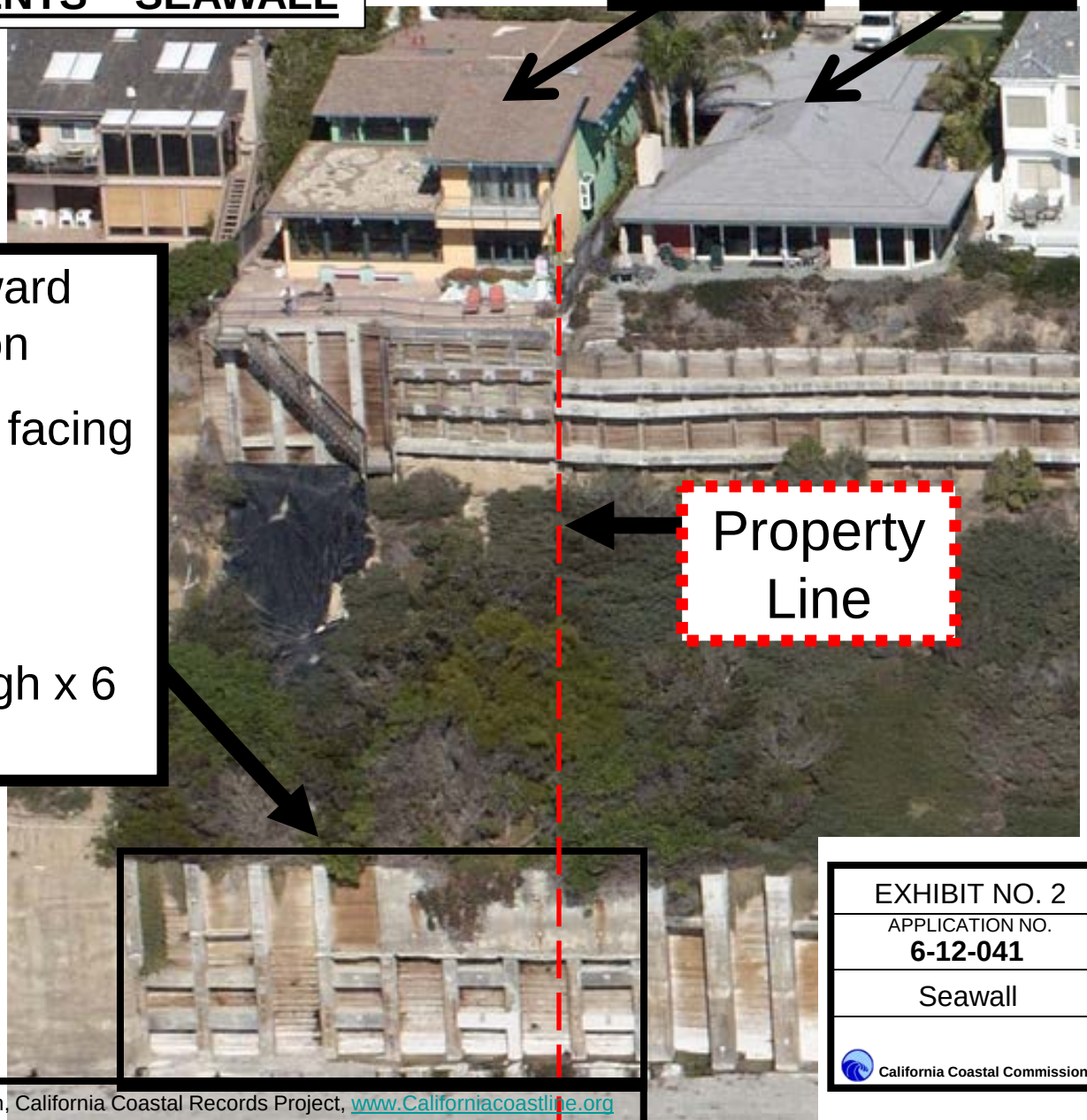
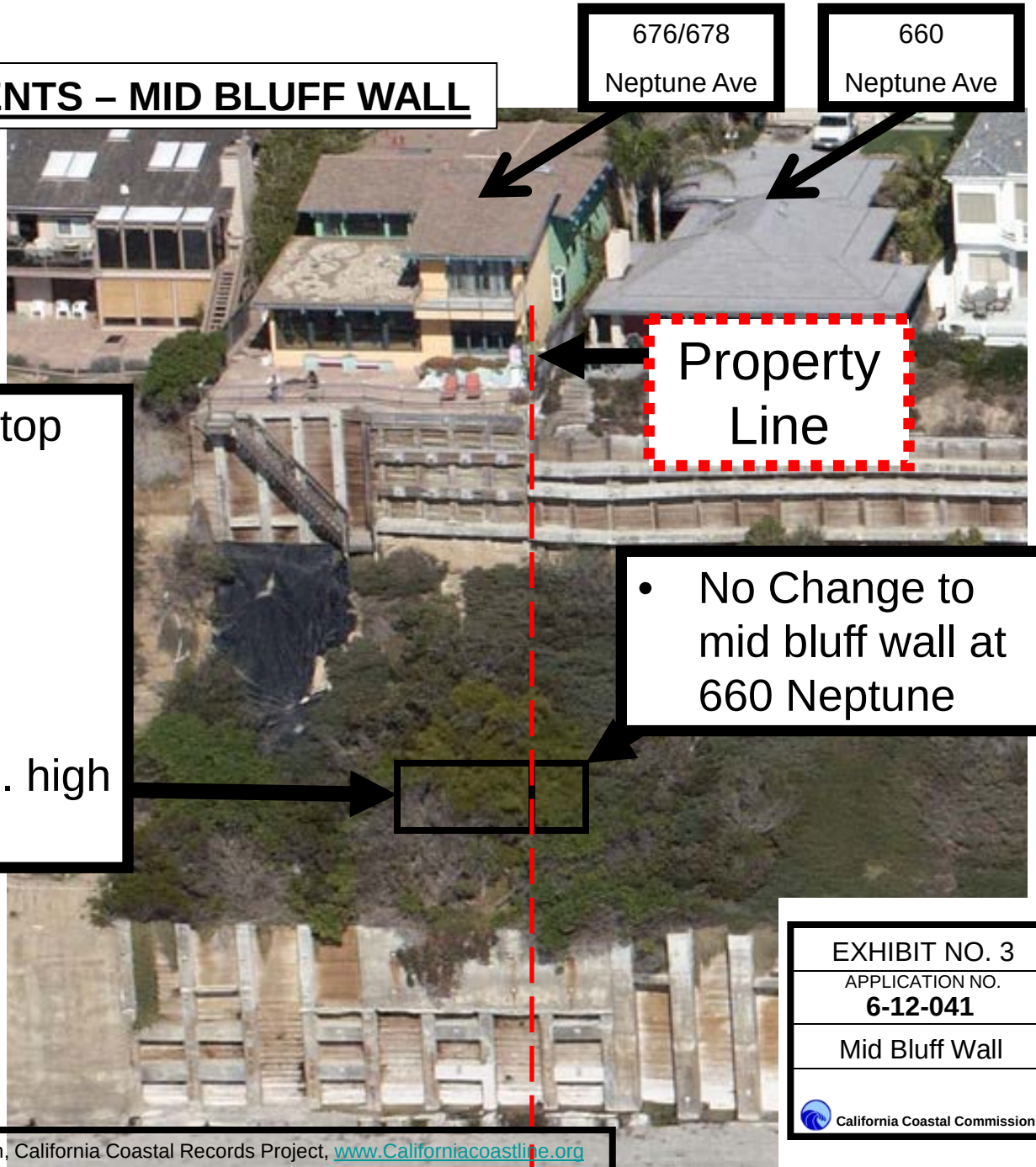


EXHIBIT NO. 2
APPLICATION NO.
6-12-041
Seawall
California Coastal Commission

PROJECT COMPONENTS – MID BLUFF WALL



- Remove ~15 in. off top of wall
- Structural Shotcrete facing
- New Tiebacks
- 15 ft. long x 7 ft. 9 in. high x ~18 in. thick

- No Change to mid bluff wall at 660 Neptune

EXHIBIT NO. 3
APPLICATION NO.
6-12-041
Mid Bluff Wall
California Coastal Commission

PROJECT COMPONENTS – UPPER BLUFF WALL

- Remove Stairs
- Structural Shotcrete facing
- Color and Texture
- 50 ft. long x ~20 ft. high x ~1.5 ft. thick and lateral return wall on north side
- Cut down wall to match neighbor to south

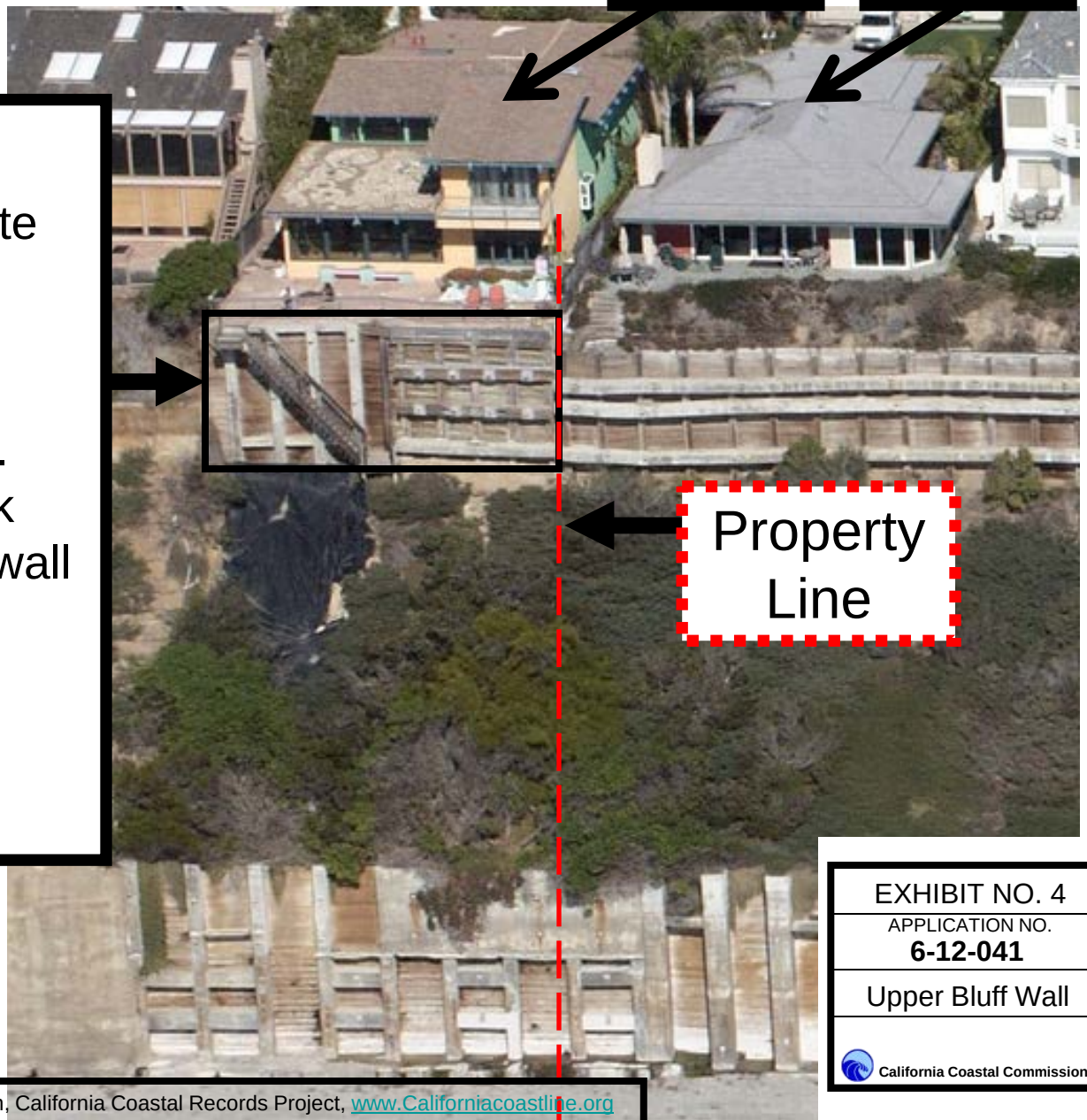
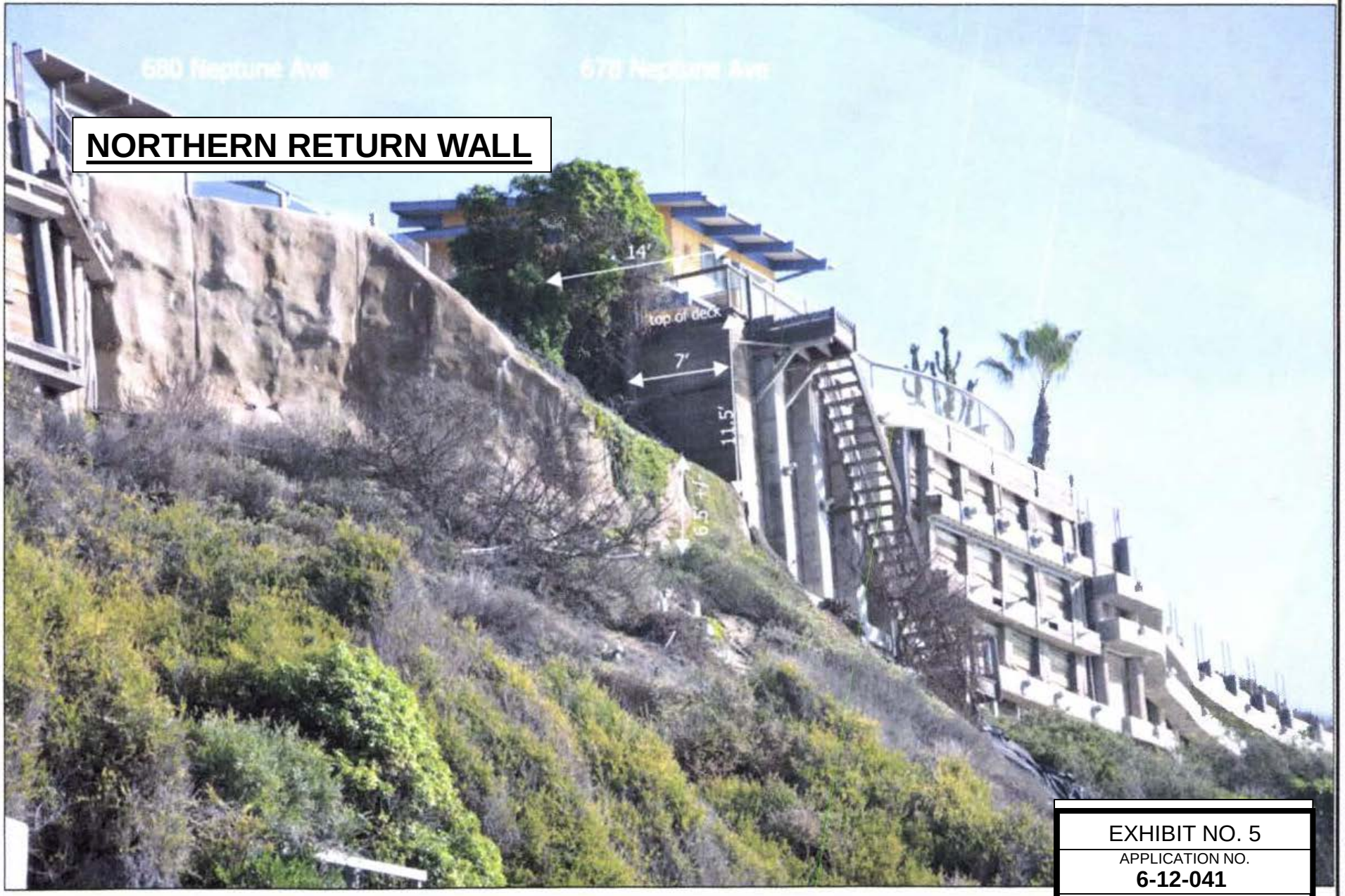


EXHIBIT NO. 4
APPLICATION NO.
6-12-041
Upper Bluff Wall
California Coastal Commission



CURRENT PHOTO

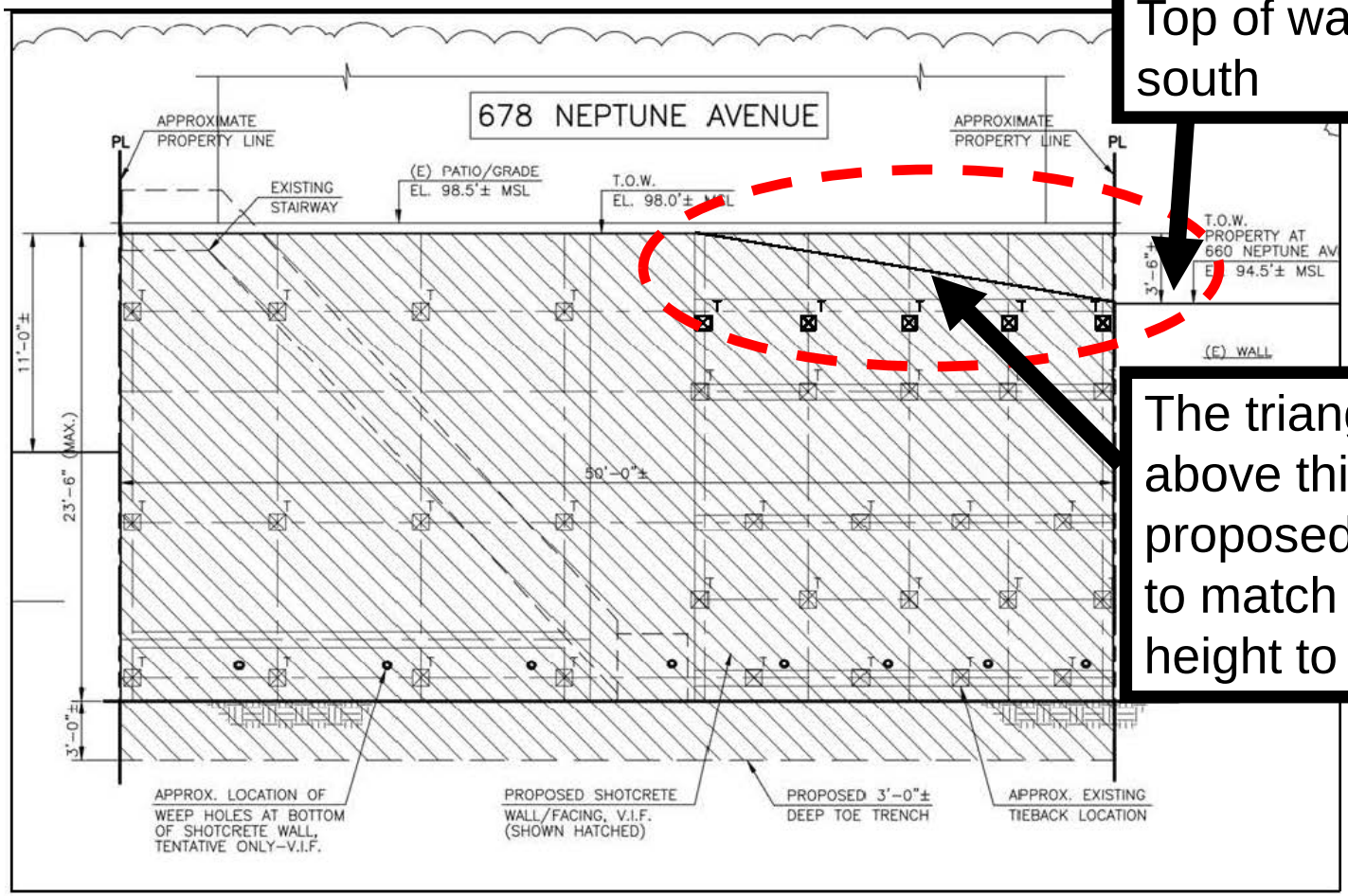
EXHIBIT NO. 5

APPLICATION NO.
6-12-041

Northern Return Wall

California Coastal Commission

UPPER BLUFF WALL LOWERED ON SOUTH SIDE



Top of wall to the south

The triangular area above this line is proposed for removal to match top of wall height to the south

UPPER WALL - ELEVATION EXHIBIT

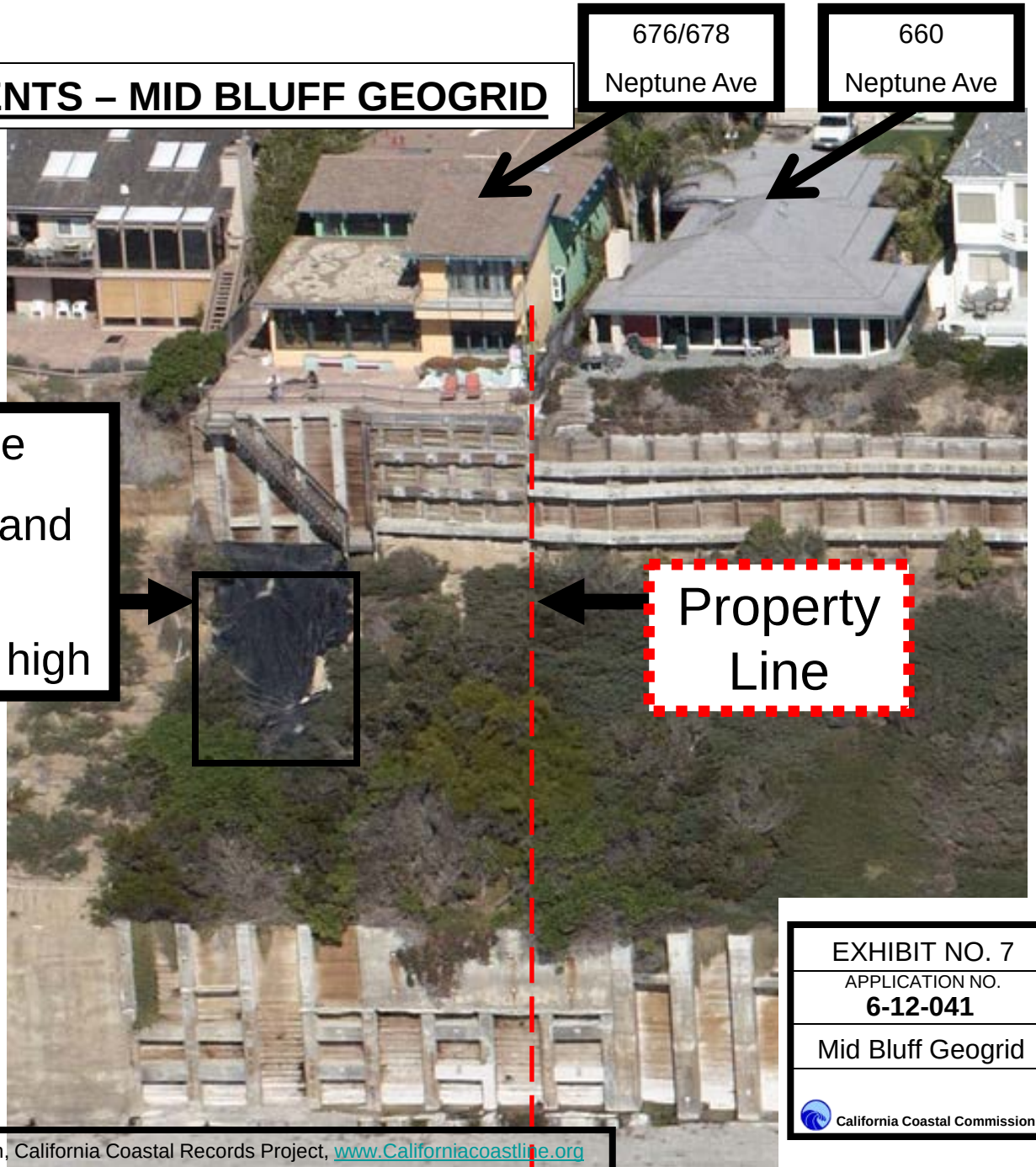
EXHIBIT NO. 6

APPLICATION NO. **6-12-041**

Cut Down Wall

California Coastal Commission

PROJECT COMPONENTS – MID BLUFF GEOGRID



- Geogrid soil structure
- Container plantings and hydro-seed
- ~25 ft. long x ~40 ft. high

EXHIBIT NO. 7
APPLICATION NO.
6-12-041
Mid Bluff Geogrid
California Coastal Commission

CDP HISTORY – 680, 676/678, 660, and 656 Neptune Avenue

EXHIBIT NO. 8
APPLICATION NO.
6-12-041
Permit History
California Coastal Commission

PREVIOUSLY RECORDED AND ACCEPTED LATERAL ACCESS AREA

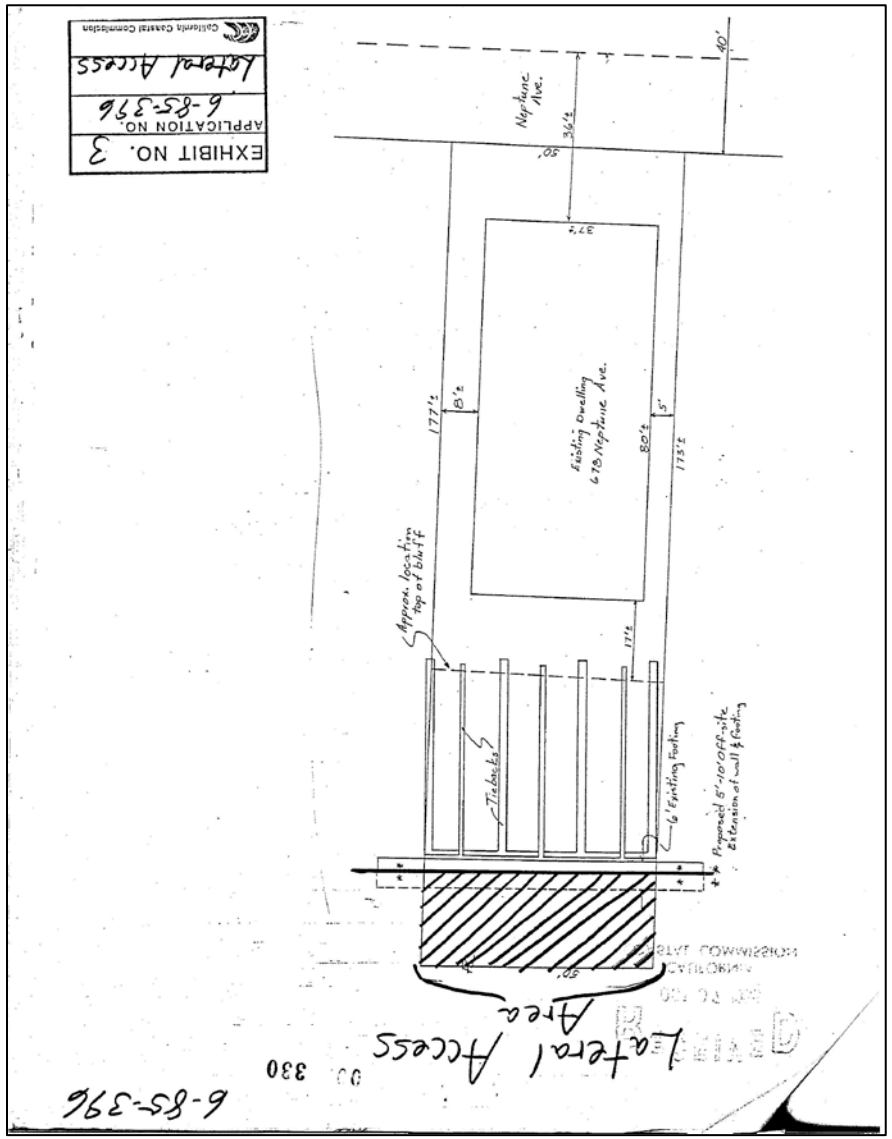


EXHIBIT NO. 9
APPLICATION NO.
6-12-041
Lateral Access
California Coastal Commission