CALIFORNIA COASTAL COMMISSION

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Hearing Date: 8/10-12/11
Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-11-106

APPLICANT: **Christopher M. Hernandez**

AGENT: **Gregory S. Reid, PE**

PROJECT LOCATION: **16812 Baruna Lane, Huntington Beach, Orange County**

PROJECT DESCRIPTION: Repairs to existing seawall/bulkhead consisting of installation of 7/16 inch thick carbon fiber reinforced vinyl ester resin sheetpile panels (sheet pile) along the toe of the existing seawall footing to address the current and prevent future development of voids beneath the seawall footing across the 50 foot width of the property. A total of 13, two inch square interlocks are proposed to connect the panels. The panels are proposed to extend 5 feet into the harbor bottom. After panel installation, grout is proposed to be injected into the voids beneath the footing and around the wood piles supporting the seawall. Prior to installation of the sheetpile panels, the existing concrete over-pour along the toe of the footing is proposed to be removed to allow the installation of the panels to be flush with the vertical face of the existing seawall footing. The proposed removal of concrete overpour will restore 10.83 square feet of soft bottom that is intended to mitigate the 2.71 square feet of soft bottom that will be impacted by the installation of the panels.

LOCAL APPROVALS RECEIVED: City of Huntington Beach Approval in Concept, 3/11/11.

SUBSTANTIVE FILE DOCUMENTS: Coastal Development Permits 5-03-078 & 5-03-078-A1 (Buchanan), 5-06-436, 5-06-437, 5-06-438, & 5-06-439 (Tetra Tech, et al); Coastal Development Permit No. 5-01-020 (Tetra Tech); The Effective Use of Permeation Barriers in Marine Composites to Prevent Blistering, and, A 15-Year Study of the Effective Use of Permeation Barriers in Marine Composites to Prevent Corrosion and Blistering; Part 2, Evaluation of Physical Properties, both by David J. Herzong and Paul P. Burrell of Interplastic Corporation; Email communication from California Department of Fish & Game, dated 3/22/11 re proposed project; City of Huntington Beach certified LCP (used as guidance only in this area of original jurisdiction).

SUMMARY OF STAFF RECOMMENDATION:

The issues raised by the proposed project and addressed in this staff report relate to impacts upon the marine environment due to soft bottom habitat impacts and the use of plastic. The project will impact 2.71 square feet of soft bottom habitat that will be mitigated through the restoration of 10.83 square feet of soft bottom habitat on-site. As conditioned, the project will not result in significant adverse impacts on water quality or marine habitat. In addition, due to the absence of eelgrass in the project area, as conditioned, adverse impacts upon eelgrass are not anticipated either.

Staff recommends **APPROVAL** of the proposed development with special conditions which require: 1) preparation of a Bulkhead Maintenance Plan providing for inspection monitoring assessing the continued integrity of the bulkhead reinforcement; 2) applicant to consider the use of alternatives to plastic should such alternative become available in the future; 3) conformance with specific construction responsibilities to avoid impacts upon water quality and marine resources; 4) preparation of a survey to confirm the absence of Caulerpa taxifolia in the project area; 5) preparation of a pre-construction eelgrass survey to confirm the absence of eelgrass; 6) the applicant to carry out project as proposed including restoration of soft bottom habitat; 7) acknowledgement that permit approval is not a waiver of any public rights at the site.

I. STAFF RECOMMENDATION:

MOTION: ***I move that the Commission approve Coastal Development Permit No. 5-11-106 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

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

RESOLUTION TO APPROVE THE PERMIT:

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

II. STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. Bulkhead Monitoring Plan

A. The permittee shall maintain the bulkhead reinforcement in good condition throughout the life of the development. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit a Bulkhead Monitoring Plan, for the review and approval of the Executive Director. The permittee, and his successors in interest shall be responsible for carrying out all provisions of the approved Bulkhead Monitoring Plan for as long as the bulkhead reinforcement remains in place. The monitoring plan, at a minimum, shall provide for:

1. Regular inspections by a qualified person familiar with bulkhead structures who is able to document via photos and provide written descriptions based on personal observation of whether any portion of the sheetpile has become exposed, and if so, whether any cracks, breaks or deterioration have occurred. These inspections shall be performed at least every 2 years.

    a. The inspections shall examine the exposed portions of the bulkhead reinforcement (to the mud line) for signs of weakness or possible failure, including, but not limited to cracking, bending, splitting, splintering, or flaking. All weak or potential failure areas

should be marked on an as-built plan of the bulkhead reinforcement, and there should be photographs and text to explain the nature and extent of each weakness.

b. If deterioration is observed as described above, then the sheetpile/bulkhead shall be inspected by a qualified, licensed engineer. Based on a thorough inspection, the engineer shall draw conclusions and make recommendations regarding the continued stability of the bulkhead and any measures necessary to arrest and/or repair deterioration of the plastic or other construction materials. The engineer's conclusions and recommendations shall be forwarded to the Executive Director of the Coastal Commission.

B. Inspection reports shall be prepared and conveyed to the Executive Director within 30 days of the inspection work. These reports shall provide information on and photographs from the date of the inspection, the name and qualifications of the person performing the inspection, and an overall assessment of the continued integrity of the bulkhead reinforcement. If the inspection identifies any areas where the bulkhead reinforcement has been damaged, the report shall identify alternatives to remedy the damage.

C. In the event that any sections of the bulkhead reinforcement are damaged or flaking, the permittees shall notify the Commission within 10 days; and in such event, within 30 days of such notification, submit to the Commission a complete application for any coastal development permit amendment, or new permit, necessary for the repair or replacement of the bulkhead reinforcement.

2. Alternatives to Plastic

By acceptance of this permit, the applicant agrees to submit an application for an amendment to this permit or a new coastal development permit if the Executive Director determines there is new information available that indicates that plastic has harmful effects on the marine environment, and that environmentally superior, feasible alternative(s) are available. The amendment or new coastal development permit shall include measures to eliminate or significantly reduce the adverse impacts of the plastic including, if necessary, the replacement of the bulkhead.

3. CONSTRUCTION RESPONSIBILITIES AND DEBRIS REMOVAL

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

(a) No construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to inundation or dispersion in the waters of the harbor;
(b) All debris and trash will be disposed in suitable trash containers on land at the end of each construction day;

(c) Any and all debris resulting from construction activities shall be removed from the site within 10 days of completion of construction;
(d) No machinery or construction materials not essential for project improvements shall be allowed at any time in the waters of Huntington Harbour;
(e) If turbid conditions are generated during construction, a silt curtain shall be utilized to control turbidity;
(f) Floating booms shall be used to contain debris discharged into coastal waters and any debris discharged shall be removed as soon as possible but no later than the end of each day;
(g) Non-buoyant debris discharged into coastal waters shall be recovered by divers as soon as possible after loss;
(h) Discharge of any hazardous materials into Huntington Harbour is prohibited;
(i) Reasonable and prudent measures shall be taken to prevent all discharge of fuel or oily waste from heavy machinery, pile drivers or construction equipment or power tools into the waters of the Huntington Harbour. The applicant and the applicant's contractors shall have adequate equipment available to contain any such spill immediately.

4. <u>Eelgrass Survey</u>

A. Pre Construction Eelgrass Survey. A valid pre-construction eelgrass (Zoestera marina) survey shall be completed during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth. The survey shall be prepared in full compliance with the "Southern California Eelgrass Mitigation Policy" Revision 8 (except as modified by this special condition) adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Game. The applicant shall submit the eelgrass survey for the review and approval of the Executive Director within five (5) business days of completion of each eelgrass survey and in any event no later than fifteen (15) business days prior to commencement of any development. If the eelgrass survey identifies any eelgrass within the project area which would be impacted by the proposed project, the development shall require an amendment to this permit from the Coastal Commission or a new coastal development permit.

B. Post Construction Eelgrass Survey. If any eelgrass is identified in the project area by the survey required in subsection A of this condition above, within one month after the conclusion of construction, the applicant shall survey the project site to determine if any eelgrass was adversely impacted. The survey shall be prepared in full compliance with the "Southern California Eelgrass Mitigation Policy" Revision 8 (except as modified by this special condition) adopted by the National Marine Fisheries Service and shall be prepared in consultation with the California Department of Fish and Game.

The applicant shall submit the post-construction eelgrass survey for the review and approval of the Executive Director within thirty (30) days after completion of the survey. If any eelgrass has been impacted, the applicant shall replace the impacted eelgrass at a minimum 1.2:1 ratio on-site, or at another location, in accordance with the Southern California Eelgrass Mitigation Policy. All impacts to eelgrass habitat shall be mitigated at a minimum ratio of 1.2:1 (mitigation:impact). The exceptions to the required 1.2:1 mitigation ratio found within SCEMP shall not apply. Implementation of mitigation shall require an amendment to this permit or a new coastal development permit unless the Executive Director determines that no amendment or new permit is required.

5. Conform with Proposed Plan

The applicant shall conform to the plans dated 2/20/11, received in the Commission's office on 3/28/11, including the restoration of 10.83 square feet of soft bottom habitat on-site as shown on the 2/20/11 project plans and as described in the *Pre-Construction Marine Biological Assessment for a Seawall Replacement Project at 16812 Baruna Lane, Huntington Beach, CA 92649*, prepared by Coastal Resources Management, Inc., dated 7/9/10. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

6. 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. The permittee shall not use this permit as evidence of a waiver of any public rights that may exist on the property.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description and Location

The applicant is proposing to repair/reinforce an existing bulkhead/seawall on a residential lot that fronts on Huntington Harbour. The proposed reinforcement includes installation of 7/16th inch thick carbon fiber reinforced vinyl ester resin sheetpile panels immediately adjacent to the existing footing of the existing bulkhead. The top of each panel of sheet pile is proposed to be anchored with bolts into the bulkhead footing to provide support. The proposed project also includes thirteen 2 inch by 2 inch carbon fiber reinforced vinyl ester resin interlocks to connect each of the sheetpile panels together. The proposed sheet pile will extend approximately 5 feet in depth beneath the existing footing into the harbor bottom and will extend across the entire 50 foot width of the lot. The proposed

sheetpile panels are intended to serve as a barrier to protect the existing wood piles at the base of the existing bulkhead. After the sheetpile panels are installed, grout will be injected into the voids beneath the footing and around the existing wood piles that support the existing bulkhead/seawall. (See exhibit B project plans).

The proposed sheetpile panels will be installed adjacent to the toe of the existing bulkhead footing using a modified driving hammer. The hammer size and impact is less than that needed to drive steel or PVC sheetpiles due to the material properties of the carbon fiber reinforced vinyl ester resin sheetpiles. Each sheet pile has an interlocking mechanism that acts as a guide to keep the pile aligned while driving and provides for a mechanical attachment at each joint. The sheet piles will attach to the wall footing and extend the entire 50 foot length of the property. The piles will terminate at each end of the property. Due to the thickness of the piles (7/16th inch thick), no special termination or transition is required. Any future protection, repair, or replacement of the bulkheads at the adjacent properties can progress unimpeded by the protective measure as proposed at the subject site.

The proposed placement of the sheetpile panels and interlocks would result in displacement of 2.71 square feet of soft bottom habitat. To mitigate the loss of soft bottom habitat, the applicant proposes to remove the concrete overpour adjacent to the bulkhead which dates from the time of the bulkhead's original construction. The amount of concrete to be removed totals 8.12 square feet. Thus, the proposed mitigation would restore 8.12 square feet of soft bottom habitat at the subject site.

The subject site is located on Davenport Island within Huntington Harbour in the City of Huntington Beach, Orange County (Exhibit A vicinity map). Davenport Island is one of the artificial islands created at the time Huntington Harbour was developed in the 1960s. These islands, including Davenport Island, are developed primarily with single family residences and are surrounded by cast in place, concrete seawall/bulkheads constructed during the original development of Huntington Harbour. The majority of development in Huntington Harbour is dependant upon these types of bulkheads. The existing bulkhead systems in Huntington Harbour were all constructed at approximately the same time, primarily using similar bulkhead designs. Many of these bulkheads are now approaching ages of 40 to 50 years, and thus are in need of repair.

The site was surveyed for eelgrass and for caluerpa taxifolia and neither was found. The City has a certified Local Coastal Program. However, because the proposed development is located seaward of the mean high tide line (seaward of the existing bulkhead), the project falls within the Commission's retained permit jurisdiction. No public access currently exists at the project site. The nearest public access in the area is at a small pocket beach located across the channel at the Davenport Drive bridge (approximately one and a half blocks to the southeast) and also at Sunset County Beach located approximately ¾ mile to the west.

B. Shoreline Protective Devices

Section 30235 of the Coastal Act states:

> *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.*

The proposed development involves structural reinforcement to protect an existing bulkhead which is necessary to protect the existing home at the subject site. The bulkhead wall is supported by timber piles (see exhibit B project plan sheets 2, 3, 5). Soil has eroded from beneath the existing bulkhead's footing, behind the cutoff wall. As yet, the timber piles have not been exposed, but if the situation is left untreated, the timber piles will be exposed. The applicant's engineering consultant has indicated that undermining of the bulkhead footings does not affect the structural integrity of the wall. The exposure does, however, affect the wood piles supporting the bulkhead wall by allowing access by woodborers. The woodboring organisms feed on the wood piles, which decreases the cross section of the pile, and decreases the pile's ability to support the wall. Damage to the supporting timber piles could lead to bulkhead collapse. If protective measures are not implemented, damage to the bulkhead could result, leading to failure of the bulkhead and damage to the residence landward of the bulkhead. The proposed bulkhead repair is designed to prevent erosion below the footing, protect the timber piles, protect the existing bulkhead, and ultimately, protect the existing residence.

The proposed project involves the fill of coastal waters in the form of the 7/16th inch thick sheet piles and thirteen 2 inch by 2 inch interlocks. The purpose of the proposed fill is to protect the existing residence, which is not one of the seven allowable uses enumerated under section 30233 of the Coastal Act. However, as stated in the policy above, Section 30235 of the Coastal Act requires the Commission to approve seawalls and other similar structures when such structures are necessary to protect existing structures and provided that the structures are designed to eliminate or mitigate adverse impacts on local shoreline sand supply. The proposed reinforcement of the existing bulkhead is the type of structure described in Section 30235 because it is a protective device that minimizes shoreline erosion (a natural shoreline process) and serves the purpose of protecting an existing structure (the single family residence located landward of the bulkhead). In addition, the proposed project is occurring within an urban harbor at a location isolated from the nearest open coastal shoreline and longshore littoral sand transport mechanisms (see exhibit A vicinity map). The proposed sheet pile has been designed to minimize the amount of fill of coastal waters and to minimize the amount of soft bay bottom covered which may contribute to shoreline sand supply. Therefore, in this case, by minimizing the area of soft bay bottom coverage, the proposed project mitigates adverse impacts on local shoreline

sand supply. Accordingly, the proposed project is approvable under section 30235 of the Coastal Act rather than section 30233 of the Coastal Act.

The applicant's coastal engineer indicates that the proposed project is the least environmentally damaging feasible alternative. Section 30108 of the Coastal Act states that "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. Alternatives considered were: 1) installation of driven sheet piles with rip rap rock at the base; 2) concrete encasement of the existing wood piles in place; 3) the use of steel sheet piles rather than plastic (ester vinyl resin); 4) placement of filter fabric across the void to be held in place by new rock; and 5) repair of individual piles as they become damaged (do nothing alternative).

The use of driven sheet piles with rip rap rock at the base (alternative 1), as well as encasement of the piles with concrete (alternative 2) were not pursued because both options require an extensive amount of work below the waterline which would result in significantly greater impacts to the marine environment than the proposed project

The use of steel rather than plastic (vinyl ester resin) sheet piles was also considered (alternative 3), but dismissed for the following reasons. The susceptibility of the steel to corrosion when submerged would require cathodic protection that would not be required for plastic sheet piling. The cathodic protection would require the placement of a sacrificial piece of metal adjacent to the proposed sheet pile and a constant stream of electricity to draw corrosive forces away from the steel sheet pile. If the cathodic protection were to fail, the failure may not be immediately discovered. If the failure continued, the protective sheet pile itself would begin to corrode, which would then require additional work. The proposed plastic would be inert, whereas the steel is not. Furthermore, the life of the plastic sheet pile is expected to be significantly longer than the life of the steel. The plastic sheet pile has an expected life of 50 years versus 20 years for steel. The longer life expectancy would mean longer intervals between major work on the bulkhead, thus fewer disturbances to the marine environment. Finally, installation can be accomplished with reduced hammer size and impact when plastic (rather than steel) is used, reducing impacts such as turbidity during construction.

Alternative 4, placement of filter fabric across the void to be held in place by new rock, was dismissed for the following reasons: because the harbor bottom slopes away from the bulkhead footings and voids, the rock holding the fabric in place would also need to be extended down the slope and keyed into the harbor bottom for stability. This approach would result in a large area of soft bottom impact. The placement of the rock would also result in a much greater amount of construction related turbidity than the proposed alternative. In addition, there is potential for the grout to leach through the fabric and into the harbor waters prior to the grout setting-up (hardening). In addition, the cost of this alternative was determined to be higher than the proposed alternative.

Alternative 5, repair of the piles as they become damaged, considered by the applicant to be the “do nothing” alternative was also rejected because this option would require

periodic monitoring. If the monitoring failed to provide adequate assessment of the conditions, a partial failure of the bulkhead may result. If the bulkhead were to partially fail, the impact on the marine environment would be increased over the proposed project's impacts due to post-failure replacement or repair of the bulkhead and foundations. In addition, bulkhead failure would not protect the existing residence. The "do-nothing" alternative would ultimately lead to damage of the timber piles, thus, it would not achieve avoidance of the impact, but rather delay. Furthermore, if no action is taken until damage to the piles has actually occurred, the repair necessary at that time would be much more extensive than that proposed, and would create a substantial increase in the disturbance to the marine environment, including a multi-fold increase in the quantity of fill necessary to stabilize the site and protect the existing residence.

In addition, if the bulkhead were allowed to fail, it would collapse into the harbor. Debris from the collapsed bulkhead would likely fall upon sensitive marine habitat resulting in impacts upon that habitat. In addition, sediment released from behind the collapsed bulkhead would enter the water column causing turbidity. Furthermore, debris from the collapsed bulkhead would result in the fill of coastal waters, covering soft bottom habitat. The proposed project would have less impact than the no project alternative because any permanent impacts upon soft bottom habitat will be controlled and mitigated under the proposed project while such impacts from the no project alternative would be uncontrolled and much more extensive. Consequently the "do nothing" alternative was not pursued.

The proposed bulkhead reinforcement is necessary to protect the existing bulkhead and the adjacent single family residence. In addition, the proposed development mitigates adverse impacts upon shoreline sand supply and is the least environmentally damaging feasible alternative. Therefore, the Commission finds that the proposed project is consistent with Section 30235 of the Coastal Act.

C. Marine Habitat

Section 30230 of the Coastal Act requires that marine resources shall be maintained, enhanced, and where feasible, restored. Section 30230 of the Coastal Act states:

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

Section 30231 of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water*

discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

In addition, Section 30233 regulates fill of coastal waters. In order to be consistent with Section 30233, a project that involves fill in open coastal waters and/or wetlands must meet the three-prong test: 1) the use must be one of the uses allowed; 2) it must be the least environmentally damaging alternative; and, 3) it must provide adequate mitigation to offset any impacts created by the project.

1. Soft Bottom Habitat

The proposed development is occurring in the waters of Huntington Harbour. The development area is entirely submerged. The proposed placement of sheet piles and interlocks will result in the permanent coverage of approximately 2.71 square feet of soft bottom habitat and associated benthic (bottom-dwelling) organisms. To mitigate for the loss of soft bottom habitat, the applicant proposes to remove concrete overpour adjacent to the bulkhead. The concrete overpour is excess concrete that overflowed the forms during the original construction of the bulkhead and provides no structural function. The amount of concrete to be removed totals 8.12 square feet. Thus, the proposed mitigation would restore 8.12 square feet of soft bottom habitat at the subject site. The habitat to be impacted at the subject site consists of soft bottom, containing amphipods and hydroids. These species are common to soft bottom habitat throughout the harbor. No sensitive plant or wildlife species are known to occur within this habitat at the subject site.

Previously the Commission has approved bulkhead repair projects in Huntington Harbour with soft bottom impacts, including Coastal Development Permits 5-03-078 & 5-03-078-A1 (Buchanan), 5-06-436, 5-06-437, 5-06-438, & 5-06-439 (Tetra Tech, et al) which provided replacement soft bottom habitat at a 2:1 ratio (mitigation to impact). In each of the projects cited above the habitat restoration approved to offset soft bottom impacts was provided at an off-site location because on-site mitigation was not found to be feasible. The off-site location approved for the projects cited above was at a restored tidal wetlands area in the Bolsa Chica Ecological Reserve, near the intersection of Warner Avenue and Pacific Coast Highway in Huntington Beach. The restoration site was specifically created to address impacts due to the bulkhead repair projects cited above. The previously approved mitigation site is approximately ½ mile southwest of the proposed impact area. The off-site mitigation was implemented pursuant to Coastal Development Permit No. 5-01-020 (Tetra Tech). However, in the case of the proposed project, there is an opportunity to restore soft bottom habitat at the subject site. Typically, the Commission prefers that impacts be mitigated as near as possible to the area of impact.

The California Department of Fish and Game (CDFG) has reviewed the proposed project, including the proposed mitigation, and in an email communication dated March 22, 2011 (see exhibit C, CDFG email) states: "*The Department [CDFG] believes that the proposed protective measures would avoid and minimize temporary and permanent impacts to*

marine life and their habitats within the vicinity of the construction areas. The Department has no objections to this proposed project and agrees that there would be no significant impacts to marine habitats or species as long as the construction of the seawall [bulkhead] is implemented with the best management practices and soft bottom mitigation that is proposed in the assessment document." It should also be noted that the subject site is not designated in the certified local coastal program as an environmentally sensitive habitat area.

A Pre-Construction Marine Biological Assessment (Assessment) was prepared for the proposed project by Coastal Resources Management, Inc., dated 7/9/10. Regarding the proposed project, the Assessment states:

> *"A new 7/16th inch thick, by 50 foot long composite carbon fiberglass panel seawall (along with thirteen 2 inch square interlocks) will result in the loss of 2.71 [square feet] soft bottom habitat directly in front of the existing seawall and associated benthic (bottom-dwelling) organisms. However, the removal of the existing concrete over-pour along the toe of the footing will restore 10.83 square feet of soft bottom. This will mitigate the 2.71 square feet loss of soft bottom impacted by the installation of the panels, a net increase of 7.59 square feet of soft bottom will be restored to the project area. Therefore, the proposed project will have a long-term beneficial impact on soft bottom benthic habitat.*
>
> *Losses of fouling-community species (i.e. algae, mussels, and barnacles) living on the existing seawall will be temporary. Upon completion of the new seawall, marine plants and invertebrates will begin the recolonizing process.*
>
> *No fish mortality is expected to occur as a result of the project. Fish will move away temporarily during the construction period. No impacts to state-or-federal listed endangered, threatened, rare, or otherwise sensitive species will occur."*

The proposed soft bottom mitigation is necessary to offset permanent losses of 2.71 square feet of soft bottom habitat resulting from the proposed bulkhead repair. In past similar projects, the Commission has approved a mitigation ratio of 2:1. In this case, habitat creation to habitat loss would be 3:1. The applicant has indicated a desire to create a mitigation bank to be used as more of the area's aging bulkheads request repairs. Because the area of impact for these bulkhead repair projects can be relatively small, and the projects may be pursued by individual homeowners, rather than groups, it is sometimes difficult to develop meaningful mitigation for separate, individual projects. Thus, it may be appropriate, in the case of these types of bulkhead repair projects in Huntington Harbour, to create such a mitigation bank. However, this is not part of the current action. In the future, in conjunction with a proposal by an applicant to do so, the Commission may consider whether to establish a mitigation bank for such a purpose. In this case, the proposed project would provide more than the typically required mitigation ratio of 2:1 and that mitigation would be located at the subject site. Thus, the Commission finds that the proposed project provides adequate mitigation to offset the loss of soft bottom habitat resulting from the proposed project. To assure that the mitigation is carried

out as proposed, the Commission imposes a special condition which requires the applicant to carry out the project as proposed. Therefore, as conditioned, the Commission finds that the proposed project is consistent with Section 30230 of the Coastal Act which requires that marine resources be maintained, enhanced, and where feasible, restored and with Section 30231of the Coastal Act which requires that the biological productivity and the quality of coastal waters be maintained and, where feasible, restored.

2. Section 30233 – Fill of Coastal Waters

In addition, Section 30233 regulates fill of coastal waters. In order to be consistent with Section 30233, a project that involves fill in open coastal waters must meet the three-prong test: 1) the use must be one of the uses allowed; 2) it must be the least environmentally damaging alternative; and, 3) it must provide adequate mitigation to offset any impacts created by the project. As described above, Section 30235 of the Coastal Act requires the Commission to approve seawalls and other similar structures (such as the proposed project) when they are necessary to protect existing structures and otherwise are consistent with 30235. This requirement trumps the allowable use standard of 30233. Thus, the proposed project is an allowable use under the Coastal Act. A number of alternatives to the proposed project were considered and the proposed alternative was found to be the least environmentally damaging, feasible alternative, as described previously. Finally, as also described previously, the proposed project would provide adequate mitigation in that 8.12 square feet of soft bottom habitat would be created compared to impacts of 2.71 square feet of soft bottom habitat impact. Thus, the proposed project is consistent with the requirements of Section 30233 that the project be an allowable use, that it be the least environmentally damaging feasible alternative, and that adequate mitigation be provided.

3. Water Quality and Construction Impacts

The proposed project involves the reinforcement of an existing bulkhead using 7/16th inch thick plastic sheet pile immediately adjacent to the existing bulkhead to a depth of approximately 5 feet below the existing footing. Due to the proposed project's location in the water, the proposed work may have adverse impacts upon water quality and the marine environment.

The applicant has submitted a Pre-Construction Marine Biological Survey Assessment, prepared by Coastal Resources Management, dated 7/9/10. The Assessment identifies potential impacts to water quality arising from the proposed project. The potential adverse impact to water quality identified in the Assessment is an increase in water turbidity when panels are installed. The resuspended sediments will have a potential to reduce water clarity and decrease ambient dissolved oxygen concentrations in the water column during the periods of panel construction if the sediments are anoxic. To protect water quality during construction, the Assessment recommends and the applicant proposes implementation of the following Best Management Practices: monitoring for adherence to the Regional Water Quality Control Board specifications for discharges to limit the dispersion of any turbidity plume for the duration of construction; if regulatory levels are exceeded work shall stop until turbidity decreases and corrective actions (including reducing the rate of construction

activities) are implemented; disposal of all debris and trash in suitable containers on land at the end of each construction day; and prohibition of the discharge of hazardous materials into the waters of Huntington Harbour.

In addition, the improper storage of construction equipment and materials during construction can contribute to adverse water quality impacts; therefore, the Commission finds it necessary to identify the following other construction related restrictions: all construction materials and equipment shall be stored landward of the bulkhead, on impervious surfaces only; all construction materials or waste shall be stored in a manner which prevents their movement via runoff, or any other means, into coastal waters; and that any and all construction equipment, materials and debris are removed from project site and discarded or stored in an appropriate manner at the conclusion of construction; and that silt curtains shall be employed as necessary to limit turbidity during construction. The Commission finds it necessary to identify the permittee's responsibilities regarding construction and the utilization of best management practices and has conditioned the project accordingly. Thus, to assure that adverse impacts to water quality are minimized, the Commission imposes a special condition which requires the applicant to utilize best management practices including those described above. The special condition will help supplement the applicant's water quality program and ensure that the applicant's program is consistent with the Commission's water quality requirements for development in the water.

4. Plastic

The Commission has expressed concern about the use of plastic in the marine environment due to the potential for leaching toxins into the marine environment caused by the possible deterioration of the plastic. In a leach test of recycled plastic composite containing polyethylene, polypropylene, polystyrene, polyvinyl chloride, and other plastics, only minor amounts of copper, iron, and zinc leached from the plastic. None of the contaminants had a concentration significant enough to have any adverse effects on the marine environment.

The Commission's concern with plastics, however, also includes the potential to increase plastic debris in the marine environment due to cracking, peeling, and sloughing of plastic used in marine related projects. Since plastic is an inorganic material, it does not biodegrade, but rather continually breaks down into ever-smaller pieces which can adversely effect the marine environment.

The presence of plastics in the coastal and ocean environment is both widespread and harmful to human and marine life. An article, written by Jose G.B. Derraik, entitled "The Pollution of the Marine Environment by Plastic Debris: A Review," reviews much of the literature published on the topic of deleterious effects of plastic debris on the marine environment. The article states:

> *The literature on marine debris leaves no doubt that plastics make-up most of the marine litter worldwide.*[1]

In support of this statement, the article includes a table that presents figures on the proportion of plastics among marine debris around the world. In most of the locations listed on the table, plastics represented more than 50 percent of the total marine debris found.[2] In other studies, the percentage is even higher.

Existing studies clearly demonstrate that plastic debris creates problems for marine life. Plastic marine debris affects at least 267 species worldwide, including 86% of all sea turtle species, 44% of all sea bird species, and 43% of marine mammal species.[3] For example, plastics cause significant adverse impacts in seabirds, when birds mistakenly ingest the plastic debris. A study performed in 1988, concluded that seabirds consuming large amounts of plastics reduced their food consumption, which limited their ability to lay down fat deposits and in turn reduced fitness. In addition, ingesting plastics can block gastric enzyme secretion, diminish feeding stimulus, lower steroid hormone levels, delay ovulation, and cause reproductive failures.[4]

Plastic debris that has settled on the seabed floor also harms the biological productivity of coastal waters. In Derriak's article, he states:

> *The accumulations of such [plastic] debris can inhibit gas exchange between the overlying waters and the pore waters of the sediments, and the resulting hypoxia or anoxia in the benthos can interfere with the normal ecosystem functioning, and alter the make-up of life on the sea floor. Moreover, as for pelagic organisms, benthic biota is likewise subjected to entanglement and ingestion hazards.*[5]

There are no examples that staff can identify that document the deterioration rate of plastic used in the marine environment. The standard manufacturer's warranty for plastic floats, often used in marina construction, ranges from 10 to 12 years. The warranties are against cracking, peeling, sloughing and deterioration from ultraviolet rays. Marina operators have indicated that plastic floats will last as long as 20 years before they need to be replaced. To extend the life of the plastics used in the marine environment, stabilizers are added to increase protection from degradation that may result from UV exposure. Thus it is significant to note that the plastic sheet piles proposed in subject project will be entirely submerged and 70% will be below grade, which further reduces exposure to ultraviolet (UV) radiation. In addition, unlike some other uses of marine plastics, the bulkhead sheet

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[1] Derraik, Jose. "The Pollution of the Marine Environment by Plastic Debris; A Review", Marine Pollution Bulletin, 44: 842-852, 2002.
[2] Ibid.
[3] Laist, D. W. "Impacts of Marine Debris: Entanglement of Marine Life in Marine Debris Including a Comprehensive List of Species with Entanglement and Ingestion Records", Coe, J.M., Rogers, D.B. (Eds.)
[4] Derraik, Jose. "The Pollution of the Marine Environment by Plastic Debris; A Review", Marine Pollution Bulletin, 44: 842-852, 2002.
[5] Ibid.

pile will not be adjacent to abrasive forces (such as docking boats, etc.) which may result in breakage.

Notwithstanding the protection provided by the stabilizers and location of the proposed plastic sheet piles, the potential does exist that the plastic may degrade over time. If the plastic were to become brittle, it may splinter or chip and would introduce plastic debris into the coastal waters, and thus would adversely affect water quality and marine resources. However, unlike pilings and fenders that may use plastic for protection, and are constantly subject to abrasive forces from boats, the potential for impact and damage to the bulkhead sheet pile is nominal. Due to the location of the bulkhead sheet piles, they are protected from boater impact. Furthermore, the sheet piles will be submerged and not exposed to extensive ultraviolet radiation.

Among the alternatives to the proposed project that were considered was installation of driven sheet piles with rip rap rock at the base, and the use of steel sheet piles rather than plastic. The first alternative would substantially increase the area of disturbance due to the placement of the rip rap rock. For this reason, it has been dismissed as environmentally inferior. The use of steel sheet piles was considered, but dismissed for the following reasons. The susceptibility of the steel to corrosion when submerged would require cathodic protection that would not be required for plastic sheet piling. The cathodic protection would require the placement of a sacrificial piece of metal adjacent to the proposed sheet pile and a constant stream of electricity to draw corrosive forces away from the steel sheet pile. If the cathodic protection were to fail, it may not be immediately obvious. If the failure continues, the protective sheet pile itself would begin to corrode. The proposed plastic would be inert, whereas the steel is not. Furthermore, the life of the plastic sheet pile is expected to be significantly longer than the life of the steel. The plastic sheet pile has an expected life of 50 years versus 20 years for steel. The longer life expectancy would mean longer intervals between major work on the bulkhead, thus fewer disturbances to the marine environment. Finally, installation can be accomplished with reduced hammer size and impact when plastic (rather than steel) is used. Therefore, the use of plastic sheet piles is proposed as the least environmentally damaging.

The use of treated wood was not considered, but it should be noted that in a study comparing the toxic effects of plastics to treated wood, the researchers concluded that, “in all these experiments with four different species of estuarine organisms, the recycled plastic proved to be far less toxic material than the treated wood.”[6] Commission staff has also reviewed a 1999 Navy Region Southwest document, *“Plastic Pier Piling Evaluation Report,”* which reported on an evaluation of 1,200 fiberglass- and steel- reinforced plastic pier pilings installed since 1995. The report acknowledges that because use of plastic pier pilings is a relatively recent occurrence, the pilings’ long-term durability and maintenance requirements are not known. However, the report concluded that plastic pilings appear to be more durable than timber pilings, maintenance requirements appear to be limited, and none of the pilings has required replacement because of degradation from exposure to the

[6] Toxicity of Construction Materials in the Marine Environment; Weis, Peddrick; Weis, Judith; Greenberg, Arthur; and Nosker, Thomas; **Archives of Environmental Contamination and Toxicology**; 1992.

marine environment. In addition, toxicity leaching tests and metal analyses of a plastic piling sample indicated that the use of these pilings does not appear to present any environmental concerns to fish and wildlife.

Nevertheless, the potential for plastic to break apart and enter the marine environment is not entirely eliminated. Consequently the plastic sheet piles must be monitored to ensure that they are maintained in an environmentally safe operating condition and replaced when damage or degradation has occurred. To minimize the potential of the plastic sheet piles breaking apart and entering the water due to damage or deterioration, Special Condition No. 1 requires that the project be carefully monitored at least once every two years for the for the life of the project. If monitoring confirms that the use of the plastic sheet piles is damaging marine resources, the applicant is required to submit an application for an amendment to this permit or a new coastal development permit. At that time the proposed repair and/or replacement will be evaluated, including consideration of whether use of such materials should be stopped, and whether more environmentally friendly products have been developed. Further, if new information becomes available indicating that the use of plastic does have harmful effects on the marine environment, and that environmentally superior products are available, consideration must be given to substitution of the environmentally superior alternative to plastic. As a condition of approval, the applicant shall agree to submit an application for an amendment to this permit or a new coastal development permit if new information becomes available that indicates that plastic has harmful effects on the marine environment, and that environmentally superior, feasible alternative(s) are available. The amendment or new coastal development shall include measures to eliminate or significantly reduce the adverse impacts of the plastic. Only as conditioned can the proposed project be found consistent with Sections 30230 and 30231 of the Coastal regarding protection of the marine environment.

5. Caulerpa taxifolia

A non-native and invasive aquatic plant species, *Caulerpa taxifolia* (herein C. taxifolia), has been identified in the recent past in parts of Huntington Harbour (Emergency Coastal Development Permits 5-00-403-G and 5-00-463-G). C. taxifolia is a tropical green marine alga that is popular in the aquarium trade because of its attractive appearance and hardy nature. In 1984, this seaweed was introduced into the northern Mediterranean. From an initial infestation of about 1 square yard it grew to cover about 2 acres by 1989, and by 1997, blanketed about 10,000 acres along the coasts of France and Italy. Genetic studies demonstrated that those populations were from the same clone, possibly originating from a single introduction. This seaweed spreads asexually from fragments and creates a dense monoculture displacing native plant and animal species. In the Mediterranean, it grows on sand, mud and rock surfaces from the very shallow subtidal to about 250 ft depth. Because of toxins in its tissues, C. taxifolia is not eaten by herbivores in areas where it has invaded. The infestation in the Mediterranean has had serious negative economic and social consequences because of impacts to tourism, recreational diving, and commercial fishing.

Because of the grave risk to native habitats, in 1999, C. taxifolia was designated a prohibited species in the United States under the Federal Noxious Weed Act. In addition, in September 2001 the Governor signed into law AB 1334 which made it illegal in California for any person to sell, possess, import, transport, transfer, release alive in the state, or give away without consideration various Caulerpa species including C. taxifolia.

In June 2000, C. taxifolia was discovered in Aqua Hedionda Lagoon in San Diego County, and in August of that year an infestation was discovered in Huntington Harbour in Orange County. Genetic studies show that this is the same clone as that released in the Mediterranean. Other infestations are likely. Although a tropical species, C. taxifolia has been shown to tolerate water temperatures down to at least 50ºF. Although warmer southern California habitats are most vulnerable, until better information if available, it must be assumed that the whole California coast is at risk. All shallow marine habitats could be impacted.

In response to the threat that C. taxifolia poses to California's marine environment, the Southern California Caulerpa Action Team, SCCAT, was established to respond quickly and effectively to the discovery of C. taxifolia infestations in Southern California. The group consists of representatives from several state, federal, local and private entities. The goal of SCCAT is to completely eradicate all C. taxifolia infestations.

A C. taxifolia survey was included in the Pre-Construction Marine Biological Survey Assessment prepared by Coastal Resources Management, dated 7/9/10, and submitted with the application. The survey found that no C. taxifolia exists within the project area. However, more than a year has elapsed since the C. taxifolia survey was conducted. Therefore, in order to ensure that C. taxifolia has not established within the project area in the interim, a special condition is imposed, which requires a survey be conducted no earlier than 90 days nor later than 30 days prior to commencement or re-commencement of any development authorized under this coastal development permit.

6. Eelgrass

Eelgrass (Zostera marina) is an aquatic plant consisting of tough cellulose leaves which grows in dense beds in shallow, subtidal or intertidal unconsolidated sediments. Eelgrass is considered worthy of protection because it functions as important habitat and foraging area for a variety of fish and other wildlife, according to the Southern California Eelgrass Mitigation Policy (SCEMP) adopted by the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). For instance, eelgrass beds provide areas for fish egg laying, juvenile fish rearing, and waterfowl foraging. Sensitive species, such as the California least tern, a federally listed endangered species, utilize eelgrass beds as foraging grounds.

An eelgrass survey was prepared by Coastal Resources Management as part of the Pre-Construction Biological Survey Assessment on 7/9/10 and submitted with the application. The survey found no eelgrass within the project vicinity. Due to the ephemeral nature of eelgrass, however, an eelgrass certification is only valid until the next period of active

growth. More than a year has elapsed since the project site was surveyed. Even though the eelgrass inspection indicates that no eelgrass is present, and therefore eelgrass will not be impacted by the proposed project, eelgrass may have established within the project area between the time the survey was conducted and commencement of construction. If eelgrass is present in the project area, adverse impacts from the proposed project could result. Therefore, measures to avoid or minimize such potential impacts must be in place in order for the project to be found consistent with Section 30230 of the Coastal Act. Therefore, the Commission imposes a special condition which requires that a current pre-construction eelgrass survey be conducted within the boundaries of the proposed project during the period of active growth of eelgrass (typically March through October). The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth. The pre-construction survey will identify any eelgrass beds which could be impacted and which must be avoided. If the eelgrass survey identifies any eelgrass within the project area which would be impacted by the proposed project, the development shall require an amendment to this permit from the Coastal Commission or a new coastal development permit. An amendment or new permit is required in order to address any eelgrass impacts. In addition, if there are any impacts upon eelgrass, the applicant will be required to prepare appropriate surveys and mitigation plans in consultation with the California Department of Fish & Game and in conformance with the *Southern California Eelgrass Mitigation Policy.*.

The Commission previously imposed similar conditions for pre-construction eelgrass surveys on Coastal Development Permits: 5-97-230 and 5-97-230-A1 (City of Newport Beach), 5-97-231 (County of Orange), 5-97-071 (County of Orange), 5-99-244 (County of Orange-Goldrich-Kest-Grau), 5-98-179 (Kompaniez), 5-98-201 (Anderson), 5-98-443 (Whyte), 5-98-444 (Barrad), 5-99-005 (Dea), 5-99-006 (Fernbach & Holland), 5-99-007 (Aranda et al.), 5-99-008 (Yacoel et. al.), 5-99-030 (Johnson), 5-99-031 (Lady Jr., et. al.), 5-99-032 (Appel et. al.), 5-99-108 (Pineda), 5-98-471 (Maginot), 5-99-472 (Bjork), 5-99-473 (Gelbard), 5-00-389 (Ashby et. al.), 5-00-390 (Burggraf et. al.), 5-00-401 (Baghdassarian et. al.), 5-00-402 (Buettner et. al.) and 5-01-358 (Rayhanabad).

7. Conclusion

The proposed bulkhead repair project is necessary to protect the existing, adjacent residence. Section 30235 of the Coastal Act requires the Commission to approve such projects when necessary to protect existing structures and when designed to eliminate or mitigate adverse impacts. A number of alternatives were considered, and the proposed alternative has been found to be the least environmentally damaging alternative. The proposed project includes mitigation that would result in more than the typically required 2:1 ratio. As proposed and conditioned, measures will be in place to protect water quality during and after construction. Also, as conditioned, surveys will be conducted pre- and post-construction to assure that any un-anticipated impacts to eelgrass that may occur are addressed and to assure that the project will not result in the spread of the invasive algae caluerpa taxifolia. Therefore, as proposed and conditioned, the Commission finds that the proposed project is consistent with Sections 30230, 30231 and 30233 regarding protection of the marine environment.

D. Public Access

The subject site is located in Huntington Harbour. Much of Huntington Harbour consists of private communities. The nearest public access in the area is at a small pocket beach located across the channel at the Davenport Drive bridge (approximately one and a half blocks to the southeast) and also at Sunset County Beach located approximately ¾ mile to the west. The proposed development involves structural reinforcements to an existing bulkhead which would result in seaward encroachment of the structure. Therefore, the proposed project is considered new development for the purposes of Coastal Act section 30212. However, the proposed project would be underwater. There is no beach area which provides lateral public access on-site upon which the proposed project would encroach. Further, there is no beach area off-site which provides public access that could be eroded as a result of changes in shoreline processes due to the proposed project. The proposed development will not affect the public's ability to gain access to, and/or to use the coast and nearby recreational facilities.

Nevertheless, the project is occurring on publicly owned land that is subject to the public trust easement. In order to assure that the subject Coastal Development Permit is not utilized to assert that any public rights to the land upon which the development is occurring have been waived, the Commission imposes a special condition which states that the Coastal Commission's approval is not a waiver of any public rights which exist or may exist on the property. Therefore, the development, as conditioned, is consistent with Sections 30210 through 30214, Sections 30220 through 30224, and 30252 of the Coastal Act. Therefore, the Commission finds that no public access is necessary with the proposed development and that the proposed project is consistent with the public access requirements of the Coastal Act.

E. LOCAL COASTAL PROGRAM

Coastal Act section 30604(a) states that, prior to certification of a local coastal program ("LCP"), a coastal development permit can only be issued upon a finding that the proposed development is in conformity with Chapter 3 of the Act and that the permitted development will not prejudice the ability of the local government to prepare an LCP that is in conformity with Chapter 3. An LCP for the City of Huntington Beach was effectively certified in March 1985. However, the proposed development is occurring within an area of the Commission's original permit jurisdiction, due to the project location seaward of the mean high tide line. Consequently, the standard of review is the Coastal Act and the City's LCP is used only as guidance. As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act and with the certified LCP for the area.

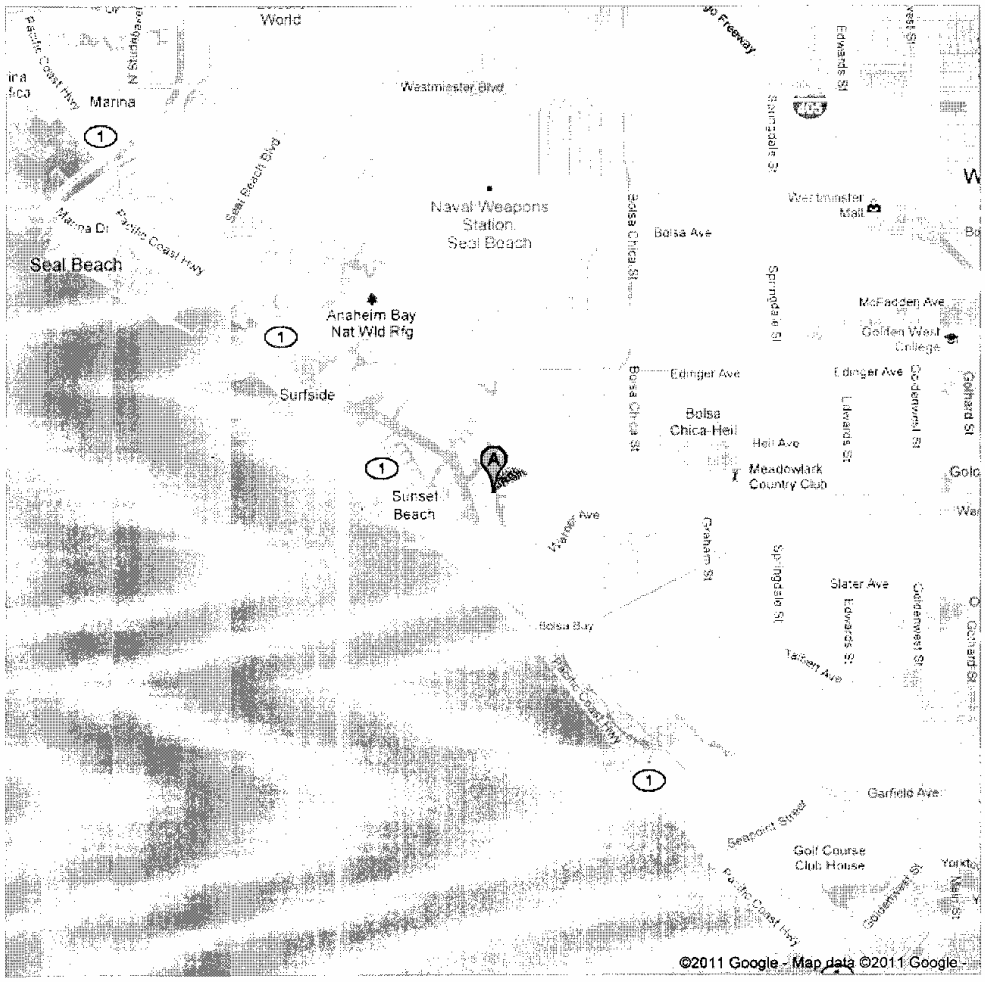
F. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section

21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

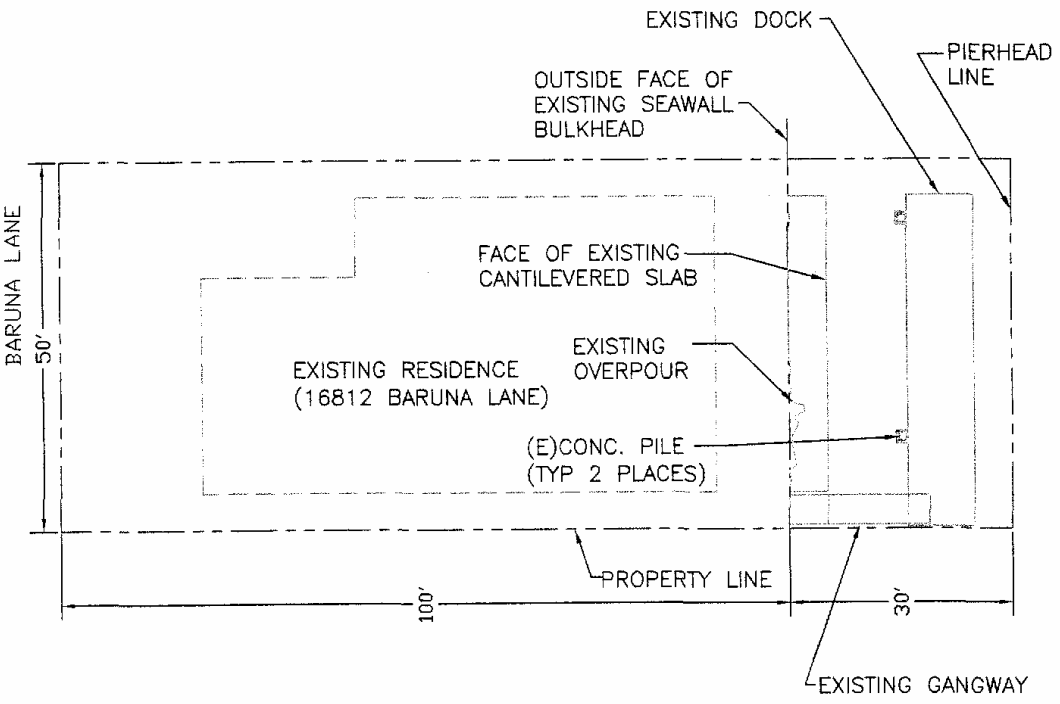
In this case, the City of Huntington Beach is the lead agency and the Commission is a responsible agency for the purposes of CEQA. The City determined that the proposed development is ministerial or categorically exempt on January 28, 2011. As a responsible agency under CEQA, the Commission has determined that the proposed project, as conditioned, is consistent with the marine resources, habitat protection, and water quality policies of the Coastal Act. 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 can be found consistent with the requirements of the Coastal Act to conform to CEQA.

Google maps Address **16812 Baruna Ln**
Huntington Beach, CA 92649



VICINITY MAP

COASTAL COMMISSION
5-11-106
EXHIBIT # A
PAGE 1 OF 1

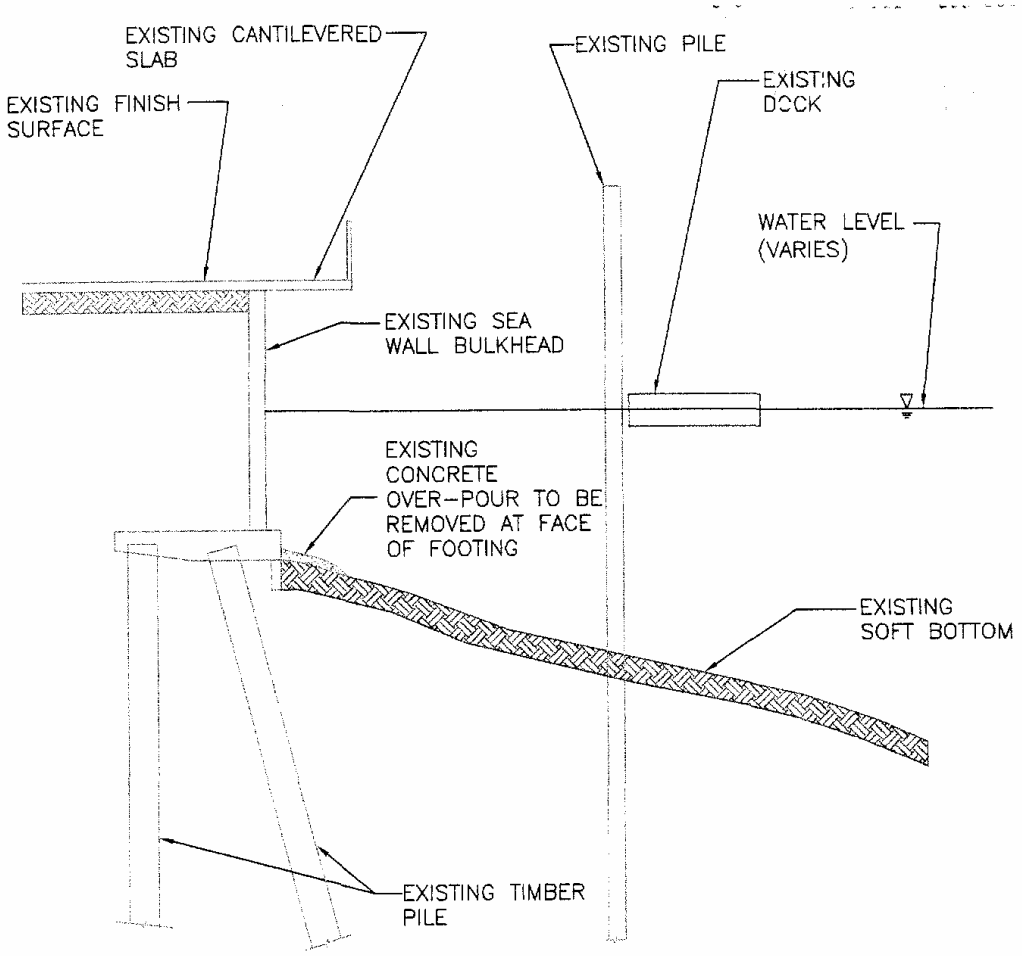


APPROVED IN CONCEPT
3-11-11
PLANNING DIVISION — DATE
CITY OF HUNTINGTON BEACH

- seawall repair; installation of 7/16-inch carbon fiber panels (50 l.f.) + removal of concrete over-pour

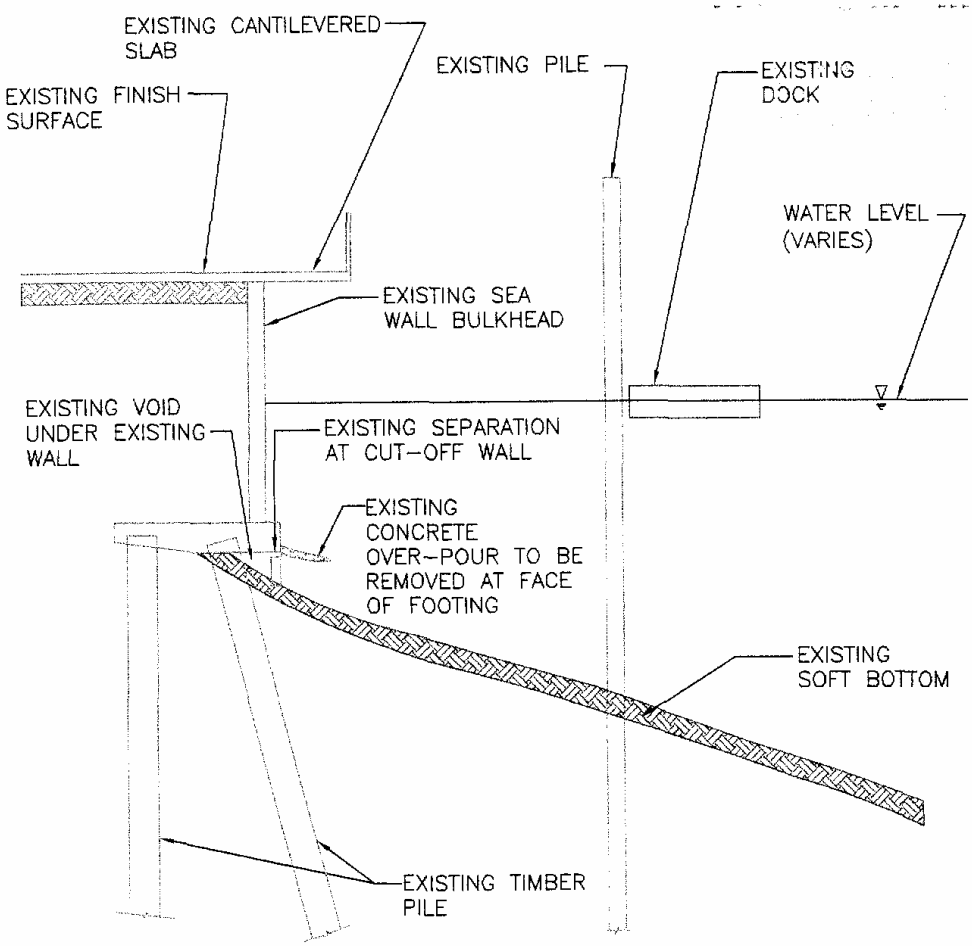
COASTAL COMMISSION
5-11-106
EXHIBIT # B
PAGE 1 OF 5
Project Plans

PHASE I ENVIRONMENTAL ENGINEERING 111 DELL AVENUE OREGON CITY, OREGON 97045 (503) 577-0493	HERNANDEZ SEAWALL HUNTINGTON BEACH, CA. EXISTING SITE PLAN	Designed by: GSR Drawn by: GSR	Date: 2/20/2011 Scale: 1"=20' Rev. 1	Job No. 09-01 PAGE 1 of 5



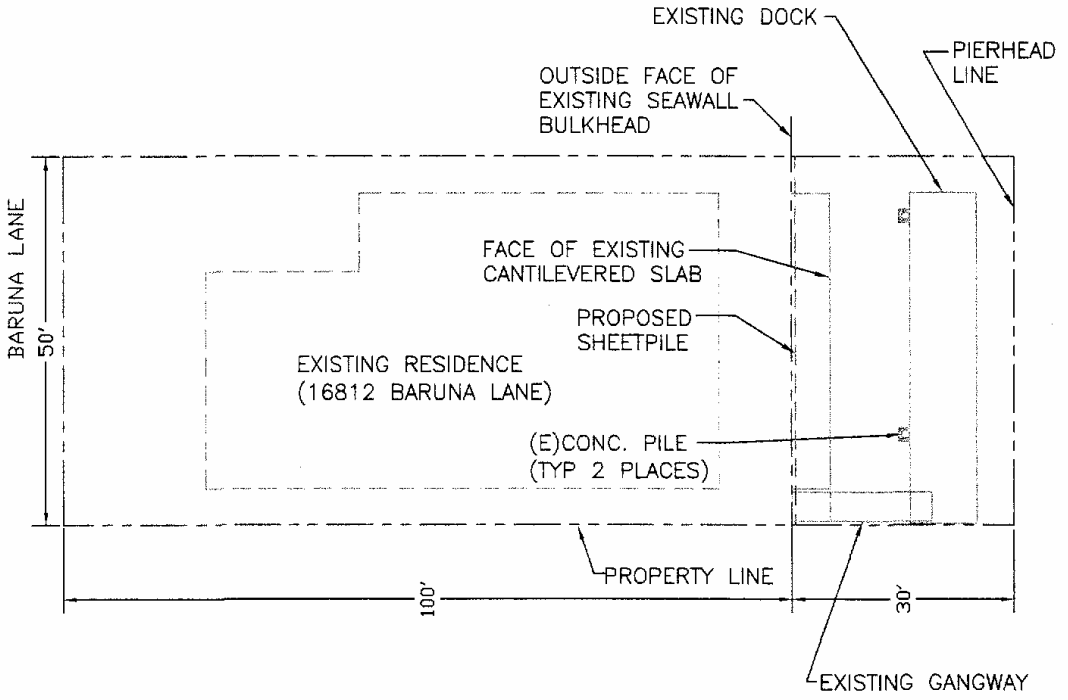
5-11-106
Exhibit B2

PHASE I ENVIRONMENTAL ENGINEERING 111 DELL AVENUE OREGON CITY, OREGON 97045 (503) 577-0493	HERNANDEZ SEAWALL HUNTINGTON BEACH, CA.	Designed by: GSR	Date: 2/20/2011	Job No. 09-01
	EXISTING ELEVATION 1	Drawn by: GSR	Scale: 1"=10' Rev. 1	PAGE 2 of 5



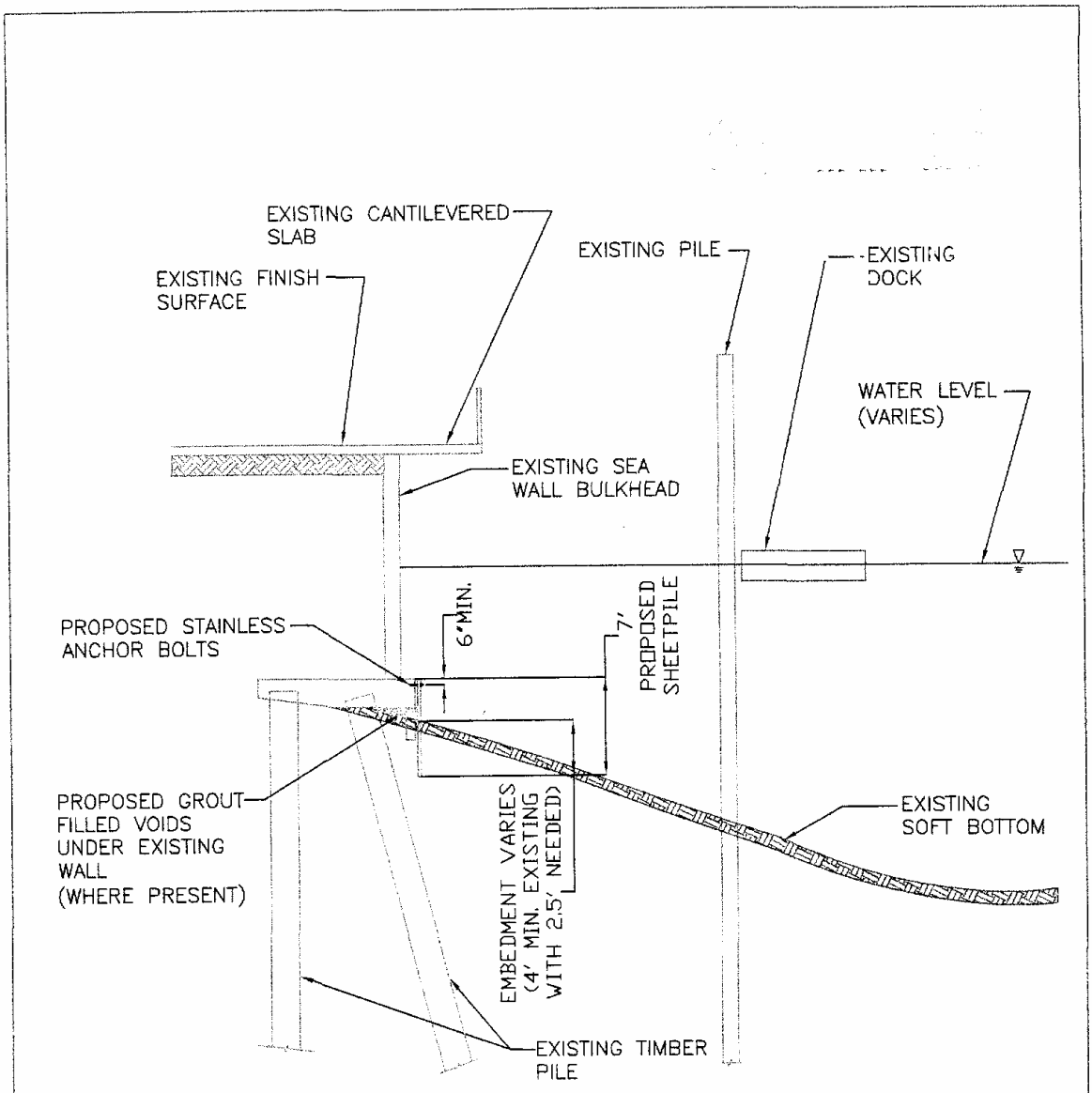
5-11-106
Exhibit B3

PHASE I ENVIRONMENTAL ENGINEERING 111 DELL AVENUE OREGON CITY, OREGON 97045 (503) 577-0493	HERNANDEZ SEAWALL HUNTINGTON BEACH, CA.	Designed by: GSR	Date: 2/20/2011	Job No. 09-01
	EXISTING ELEVATION 2	Drawn by: GSR	Scale: 1"=10' Rev. 1	PAGE 3 of 5



5-11-106
Exhibit B4

PHASE I ENVIRONMENTAL ENGINEERING 111 DELL AVENUE OREGON CITY, OREGON 97045 (503) 577-0493	HERNANDEZ SEAWALL HUNTINGTON BEACH, CA.	Designed by: GSR	Date: 2/20/2011	Job No. 09-01
	SITE PLAN	Drawn by: GSR	Scale: 1"=20' Rev. 1	PAGE 4 OF 5



5-11-106
Exhibit B 5

PHASE I ENVIRONMENTAL ENGINEERING 111 DELL AVENUE OREGON CITY, OREGON 97045 (503) 577-0493	HERNANDEZ SEAWALL HUNTINGTON BEACH, CA. PROPOSED ELEVATION	Designed by: GSR Drawn by: GSR	Date: 2/20/2011 Scale: 1"=10' Rev. 1	Job No. 09-01 PAGE 5 OF 5

Meg Vaughn

From: Loni Adams [LAdams@dfg.ca.gov]
Sent: Friday, April 08, 2011 5:28 PM
To: Meg Vaughn; rware.crm@earthlink.net
Cc: Vicki Frey; greg.s.reid@gmail.com
Subject: Pre-Construction Huntington Beach Eelgrass Survey/Marine Biological Assessment Dated March 22, 2011

Dear Mr. Reid and Mr. Ware:

The Department of Fish and Game (Department) has reviewed your eelgrass/caulerpa survey and marine biological assessment document dated March 22, 2011 as revised. The assessment is for the proposed seawall replacement located at 16812 Baruna Lane, Huntington Beach. The document indicates that there will be a net increase of 7.59 square feet of soft bottom marine habitat and several best management practices (e.g. silt curtains and turbidity monitoring) used during the 2 to 4 week construction implementation to reduce water quality impacts. The Department believes that the proposed protective measures would avoid and minimize temporary and permanent impacts to marine life and their habitats within the vicinity of the construction area. The Department has no objections to this proposed project and agrees that there would be no significant impacts to marine habitats or species as long as the construction of the seawall is implemented with the best management practices and soft bottom mitigation that is proposed in the assessment document.

Please forward a copy of all post-construction survey or monitoring reports related to this construction project to the Department for our review.

Thank you for the opportunity to review and comment on this document.

Sincerely,

Loni Adams
Environmental Scientist
Department of Fish and Game
Marine Region
4949 Viewridge Ave.
San Diego, CA 92123

Office: 858-627-3985
Fax: 858-467-4299

CDFG Comments