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Hearing Date: February 11, 2011
Commission Action: **Approved with Conditions February 11, 2011**

EXHIBIT NO. **12**
APPLICATION NO.
1-10-035-A1
CRESCENT CITY HARBOR DISTRICT
ORIGINAL PERMIT ADOPTED FINDINGS (1 of 42)

ADOPTED FINDINGS

APPLICATION NO.: **1-10-035**

APPLICANT: **Crescent City Harbor District**

AGENT OF PROCESS: Stover Engineering

PROJECT DESCRIPTION: Phased rehabilitation of the Crescent City Harbor Inner Boat Basin to pre-disaster capacities and functions by: (1) dredging 7,424 cubic yards of tsunami-deposited sediment from the basin for disposal within the District's adjacent upland spoils disposal ponds; (2) repairing tsunami damaged shoreline revetments at approximately ten discrete locations; (3) replacing approximately 161 damaged docking structural piles and installing approximately 80 additional piles; (4) installing a new storm surge/tsunami wave attenuator; (5) removing and replacing damage dock platforms; (6) installing ADA-compliant gangways; (7) replacing dock utilities; and (8) installing a fire protection system.

PROJECT LOCATION: At various locations within the approximately 17.5-acre land and water areas comprising the Crescent City Harbor District's Inner Boat Basin and Upland Dredge Spoils Disposal Ponds, 101 Citizens Dock Road, Crescent City (Del Norte County). APN 117-020-16 and 117-170-11.

LOCAL APPROVALS RECEIVED: None required.

OTHER APPROVALS REQUIRED: (1) U.S. Army Corps of Engineers Federal Clean Water Act (FCWA) *Section 404 Individual Permit* or *Nationwide Permit(s)*; (2) NOAA Fisheries Endangered Species Act and Essential Fish Habitat Consultation

Letter of Concurrence or *Biological Opinion*; and (3) Regional Water Quality Control Board FCWA §401 *Water Quality Certification.*

SUBSTANTIVE FILE DOCUMENTS: (1) *Final Biological Assessment for NMFS Inner Basin Sea Wall Repair Project Crescent City Harbor District* (URS Group, Inc., and Dewberry & Davis LLC, April 2007); and (2) County of Del Norte LCP.

STAFF NOTE:

1. **Adopted Findings.**

The Commission held a public hearing and approved the permit at the meeting of February 11, 2011. The adopted conditions for approval of the development differ from those contained in the written staff recommendation dated January 21, 2011. At the hearing, staff presented an addendum, dated February 10, 2011, that amended recommended Special Condition No. 2, clarifying the intent of the condition was to: (a) limit only in-water all construction activities to the period of July 1 to October 15; and (b) that only the removal and replacement of rock slope protection (RSP) is subject to restrictions that work be conducted only at low tides. The Commission adopted the changes to the staff recommendation in their entirety.

Copies of the original January 21, 2011 staff recommendation report and its exhibits, and the February 10, 2011 addendum can be downloaded from the Commission's website at the following URL:

http://documents.coastal.ca.gov/reports/2011/2/F17a-2-2011.pdf

The following resolution, conditions, and findings were adopted by the Commission on February 11, 2011 upon conclusion of the public hearing.

I. RESOLUTION

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. Approval of the permit complies with the California Environmental Quality Act because either (1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the

environment, or (2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS: See attached.

III. SPECIAL CONDITIONS:

[Note: As discussed in Staff Note 1, Special Condition No. 2 at sub-section (a) and (b) was modified at the February 11, 2011 hearing on the permit application. Deleted text in the special condition is shown in ~~**bold double-strikethrough**~~ font style, new text is shown in **bold double-underlined** text.]

1. Final Design and Construction Plans

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-10-035**, the applicant shall submit to the Executive Director for review and written approval final design and construction plans for the project which are consistent with: (1) the approved project narrative and preliminary site plans titled "CCHD [Crescent City Harbor District] Marina Replacement," dated April 16, 2010, as prepared by Stover Engineering Civil Engineers and Consultants and Ben C. Gerwick, Inc., attached as Exhibit No. 5, including site plans, foundation plans, structural plans, and material specifications; (2) all impact minimizing mitigation measures as may be required by NOAA Fisheries in any letter of concurrence, biological opinion, or other review documentation issued after completion of consultation with the U.S. Army Corps of Engineers on effects of the project on marine species and essential fish habitat; and (3) all special conditions of Coastal Development Permit No. 1-10-035.

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

2. Timing of Construction

a. ~~**Construction**~~ **In-water construction** activities authorized by this permit, shall be conducted during the period of July 1 through October 15, or for such additional time that the Executive Director may permit for good cause and in consultation with all relevant resource protection agencies, to

minimize conflicts with commercial and recreational fisheries and to protect sensitive fish species; and

b. All construction activities **involving the removal and/or placement of rip rap** within coastal waters authorized under this coastal development permit shall be conducted during periods of low-tides only and from above the water surface to the maximum extent feasible to minimize the generation of suspended sediment and potential water quality impacts.

3. Construction Responsibilities

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

a. The inner boat basin rehabilitation construction shall proceed as proposed to be phased over two construction seasons, from west to east;

b. No construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to wave, wind, or rain erosion and dispersion. Construction materials shall be stored only in approved designated staging and stockpiling areas;

c. Public roadway surfaces adjacent to the construction site entrances shall be swept at the end of each day to remove sediment and/or other construction materials deposited due to construction activities and prevent such sediment and/or materials from contaminating coastal waters or other environmentally sensitive habitat areas;

d. Any and all debris resulting from construction activities shall be removed from the inner boat basin and adjacent beach areas on a daily basis and disposed of at an appropriate location(s);

e. Any fueling and maintenance of construction equipment shall occur within upland areas outside of environmentally sensitive habitat areas or within designated staging areas. Mobile fueling of construction equipment and vehicles on and around the inner boat basin construction site shall be prohibited. Mechanized heavy equipment and other vehicles used during the construction process shall not be stored or re-fueled within 50 feet of drainage courses and other coastal waters;

f. Temporary staging and storage of construction machinery, equipment, debris, and other materials during the construction period shall occur at property owned by the Crescent City Harbor District adjacent to the inner boat basin, and may not occur within the inner boat basin or adjacent beaches;

g. Machinery and construction materials not essential for project improvements are prohibited at all times in the subtidal or intertidal zones;

h. Construction vehicles shall be maintained and washed in confined areas specifically designed to control runoff and located more than 100 feet away from the mean high tide line;

i. 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 the each day;

j. During construction, all trash shall be properly contained, removed from the work site, and disposed of on a regular basis to avoid contamination of habitat during inner boat basin rehabilitation activities. Following construction, all trash and construction debris shall be removed from work areas and disposed of properly;

k. Fuels, lubricants, and solvents shall not be allowed to enter the coastal waters. Hazardous materials management equipment including oil containment booms and absorbent pads shall be available immediately on-hand at the project site, and a registered first-response, professional hazardous materials clean-up/remediation service shall be locally available on call; and

l. At the end of the construction period, the permittee shall inspect the project area and ensure that no debris, trash, or construction materials remain on the beach, inner boat basin, or in the water, and that the project has not created any hazard to navigation.

4. <u>Final Sedimentation & Stormwater Runoff Control Plan</u>

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-10-035**, the applicant shall submit, for the review and written approval of the Executive Director, a final detailed Sedimentation & Stormwater Runoff Control Plan that addresses all phases of development and construction activities authorized under this coastal development permit.

(1) The Sedimentation and Run-off Control Plan shall be consistent with the requirements of Special Condition No. 3 and the other conditions of this permit, and demonstrate that:

(a) Run-off from the project site shall not increase sedimentation in coastal waters;

(b) Run-off from the project site shall not result in pollutants entering coastal waters;

(c) Best Management Practices (BMPs) shall be used to prevent the entry of polluted stormwater runoff into coastal waters during the construction of the authorized structures, including, but not limited to, the use of relevant best management practices (BMPs) as detailed in the "California Storm Water Best Management Practice Handbooks (Construction and Industrial/ Commercial), developed by Camp, Dresser, & McKee et al. for the Storm Water Quality Task Force (e.g., BMP Nos. EC-1–Scheduling, SE-1–Silt Fence &/or SE-9–Straw Bale Barrier, NS-9–Vehicle & Equipment Fueling, NS-10–Vehicle & Equipment Maintenance & Repair; NS-14–Material Over Water, NS-15–Demolition Adjacent to Water, WM-1–Material Delivery & Storage, WM-3–Stockpile Management, WM–Spill Prevention & Control, WM-6–Hazardous Waste Management, WM-9–Concrete Waste Management, SC-11–Spill Prevention, Control, & Cleanup, and others, as appropriate; see **Error! Hyperlink reference not valid.**).

(2) The Sedimentation and Run-off Control Plan shall include, at a minimum, the following components:

(a) A schedule for the installation and maintenance of appropriate construction source control best management practices (BMPs) to prevent entry of stormwater run-off into the construction site and the entrainment of excavated materials into run-off leaving the construction site; and

(b) A schedule for installation, use and maintenance of appropriate BMPs to prevent the entry of polluted stormwater run-off from the completed development into coastal waters.

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

5. <u>Hazardous Materials Management Plan</u>

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-10-035**, the applicant shall submit, for the review and written approval of the Executive Director, a plan to reduce impacts to water quality from the use and management of hazardous materials on the site. The plan shall be prepared by a licensed engineer with experience in hazardous materials management. The plan

shall address all phases of development and construction activities authorized under this coastal development permit and shall be consistent with the requirements of Special Condition No. 3 and the other conditions of this permit. The plan, at a minimum, shall provide for the following:

(1) Equipment fueling shall occur only during daylight hours in designated fueling areas;

(2) Oil absorbent booms and/or pads shall be on site at all times during project construction. All equipment used during construction shall be free of oil and fuel leaks at all times;

(3) Provisions for the handling, cleanup, and disposal of any hazardous or non-hazardous materials used during the construction project including, but not limited to, paint, asphalt, cement, equipment fuel and oil, and contaminated sediments;

(4) A schedule for maintenance of containment measures on a regular basis throughout the duration of the project;

(5) Provisions for the containment of rinsate from the cleaning of equipment and methods and locations for disposal off-site. Containment and handling shall be in upland areas and otherwise outside of any environmentally sensitive habitat areas;

(6) A site map detailing the location(s) for hazardous materials storage, equipment fueling and maintenance, and any concrete wash-out facilities; and

(7) Reporting protocols to the appropriate public and emergency services agencies in the event of a spill.

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

6. Demolition Materials and Drilling Spoils Disposal Plan

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-10-035, the applicant shall submit, for the review and approval of the Executive Director, a plan detailing the methods by which, and locations at which, demolition materials and

excavation spoils will be legally disposed. The plan shall demonstrate at a minimum that:

(a) No construction materials, debris, or waste shall be placed or stored where it may be subject to entering waters of Crescent City Harbor; and

(b) All construction debris, including general wastes from the demolition of the damaged dock piling and decking, and excavated harbor sediments and bedrock material, shall be removed and disposed of in an upland location outside of the coastal zone or at an approved disposal facility.

7. Sewage Pump-out Facilities

The existing sewage pump-out facility on the administrative dock shall be maintained and made available for use by boaters using the inner harbor boat basin on a daily basis.

8. Public Access

A. Deposition of dredge spoils materials at the District's uplands deposition disposal area shall not result in closure (either fully or partially), or a reduction in hours of operation of Crescent City Harbor Beach during the period of May 1 through December 31.

B. Permittee shall ensure that dredge spoils disposal operations are conducted as to minimize, to the greatest extent possible, any interference with public access to and along the Crescent City Harbor Beach. In particular, the permittee shall work with the dredge operator to implement the following measures for those pipeline segments occupying the beach, including but not limited to:

1) Scheduling and coordinating disposal operation times and locations so as not to interfere with commercial fishing related traffic and significant coastal access and recreation events (e.g., fishing "derbies," surfing contests, Christmas/New Years bird counts, ornithological festivals, beach clean-up days, sailing flotillas, etc.);
2) Uncoupling segments of the suction pump slurry pipeline when not in use to allow unimpaired pedestrian movement; and
3) When not in use, storing dredge disposal pipeline in a location where interference with public access would not result.

9. Assumption of Risk

By acceptance of this permit, the applicant acknowledges and agrees: (i) that the site may be subject to hazards from waves, tidal inundation, and other hazards; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and

damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

10. **U.S. Army Corps of Engineers Approval**

PRIOR TO COMMENCEMENT OF ANY DEVELOPMENT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT NO. 1-10-035, the permittee shall provide to the Executive Director a copy of a individual permit, nationwide permit, letter of modification or other approval issued by the Army Corps of Engineers reflecting final design modifications, or evidence that no letter of modification or other approval is required. The applicant shall inform the Executive Director of any changes to the project required by the Corps, including but not limited to, required changes that may conflict with modifications or conditions imposed by the Commission in approving Coastal Development Permit No. 1-10-035. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

11. **State Lands Commission Review**

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT NO. 1-10-035, the applicant shall submit to the Executive Director, 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 an agreement has been made with the State Lands Commission for the project to proceed without prejudice to that determination.

12. **National Marine Fisheries Service Consultation Results**

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-10-035, the permittee shall provide to the Executive Director a copy of the informal consultation, letter of concurrence, biological opinion or other documentation issued by the National Marine Fisheries Service (NOAA Fisheries) regarding their assessment of the potential

effects of the development on fish and wildlife species subject to protections of the Endangered Species Act, the Marine Mammals Protection Act, the Magnuson-Stevens Fishery Conservation and Management Act, the Marine Mammals Protection Act, and all other applicable natural resources law. The applicant shall inform the Executive Director of any changes to the project required by NOAA Fisheries, including but not limited to, required changes that may conflict with modifications or conditions imposed by the Commission in approving Coastal Development Permit No. 1-10-035. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

13. Regional Water Quality Control Board Approval

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-10-035, the applicant shall provide to the Executive Director a copy of a Water Quality Certification or other approval issued by the North Coast Regional Water Quality Control Board, or evidence that no approval is required. The applicant shall inform the Executive Director of any changes to the project required by the Regional Board, including but not limited to, required changes that may conflict with modifications or conditions imposed by the Commission in approving Coastal Development Permit No. 1-10-035. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Background.

On July 13, 1963, by Senate Bill No. 1383, the State of California transferred all rights, title, and interest to portions of the submerged and tidelands within Crescent City Harbor and surrounding ocean waters to the Crescent City Harbor District. In granting these ownership rights, the State Lands Commission (SLC) has retained authority over these former sovereign lands through both exempted and reserved rights to all deposits of minerals, and its public trust responsibilities under the state Constitution (see Exhibit No. 6).

The Crescent City Harbor District is a political subdivision of the State of California, organized and empowered by its authorizing statutes in the California Harbors and Navigation Code, section 6000 et seq. The District has a county-wide elected five member Board of Commissioners elected by the residents within the boundaries of the district. The Harbor District has broad powers to own, operate, control or develop harbor

works and to provide ownership, operation, maintenance, and management of public use areas (marinas, piers, restrooms, boat launch facilities, parking, moorings, etc) as well as commercial, recreational, and industrial activities within the harbor.

The applicant harbor district has been involved in the management of the Crescent City Inner Boat Basin facility since the early 1970s when it was originally constructed. The facility comprises approximately 500 30- to 70-foot-long rental boat slips, transient and working boat landings, perimeter access roadways, working and parking areas, utility hook-up stanchions, and the inner boat basin proper. Prior to the construction of the inner boat basin, harbor facilities for local commercial and sport fishermen and recreational boaters was limited to the adjoining Citizen's Dock and several other smaller dock and pier structures along the northern side of the harbor. Many of these structures were either completely destroyed or seriously damaged in the 1964 "Good Friday" tsunami generated by the Anchorage Alaska Great Earthquake. Of these preceding facilities, only the "B" Street Pier and Citizen's Dock were replaced.

With respect to the facilities on-going management, the District has been dredging the inner harbor, berths and slips for the last 30 years. The District's last twenty-one years of dredge spoils disposal activities were conducted under Coastal Development Permit Nos. 1-88-115, 1-00-006, and 1-05-058, issued for five- to ten-year periods on August 8, 1988, March 14, 2001, and August 11, 2006, respectively.

The District's uplands deposition area disposal facility consists of an approximately 70,000-cubic-yard-capacity levee-walled sedimentation pond located adjacent to the harbor's small boat marina. Annually up to its closing in 2004, the Del Norte Solid Waste Management Authority accepted and removed approximately 10,000 to 12,000 cubic yards of decanted spoils materials from the upland disposal facility for dry-season use as "day cover" at the Authority's sanitary landfill. The District continues to periodically utilize materials from the facility as part of the final reclamation of the closed landfill.

The purpose of the existing inner boat basin is to provide a still water harbor area for commercial and sports fishermen, and recreational boaters to moor, launch and retrieve their watercraft. The inner boat basin is oriented to protect the harbor from both northwest and south swells. The existing inner boat basin shoreline and breakwater are lined with local quarry stone and concrete construction debris. Over the roughly thirty-five-year life of the inner boat basin, most of the larger class revetment materials have remained in place, although some minor settling has occurred. Smaller class materials used in the original inner boat basin construction have incrementally become displaced as a result of wave action.

On November 15, 2006, an 8.3 magnitude earthquake occurred in the Kuril Islands of Japan that generated a tsunami that hit the Japanese coast and reached California shores. A tsunami with a series of waves that measured up to six feet in height every 20 minutes

for a period of 8 hours engulfed the harbor at Crescent City causing extensive damage to the docks and berthing system of the inner boat basin. The tsunami event created excessive side forces on all of the docks within the inner boat basin causing the concrete docks to flex beyond their structural limits resulting in cracking of the concrete and breaking of the whaler boards that hold the sections of the docks together. The resultant damage totals approximately $20 million to the inner boat basin dock, pilings, floats, and utility infrastructure (electrical, potable water, and fire protection) serving the moored boats in the harbor. Approximately 37,000 square feet of the 57,100 sq. ft. floating docks were damaged beyond repair with the remaining 20,000 square feet severely damaged and still being used. All 161 pilings were damaged, resulting in the loss of structural integrity of the overall berthing system of the inner boat basin. The tsunami event energy waves also deposited approximately 7,800 cubic yards of additional silt within the inner boat basin and displaced an estimated 8,056 cubic yards of rock slope protection at various locations within the inner boat basin.

B. Project Setting and Description.

1. Project Setting

Crescent City Harbor is located approximately 20 miles south of the California-Oregon border in west-central Del Norte County (see Exhibit Nos. 1-4). The harbor lies on the seaward edge of the broad coastal plain that extends from South Beach to the south to the lower Smith River floodplain to the north. The harbor lies within a crescent-shaped bay, with Battery Point as the upcoast (western) limit and the rocky causeway connecting the former offshore Whaler Island, approximately one mile to the southeast, as the downcoast (eastern) limit. A significant anadromous fish-bearing watercourse, Elk Creek, enters the harbor on its northeastern shoreline.

The relative location of this south-facing cove, situated between the Ports of Humboldt Bay and Brookings (Oregon), makes it an important "harbor of refuge" from the predominantly northwesterly winds and seas in the area. In addition, the constructed outer breakwaters provide supplemental protection against westerly and southerly storms. Facilities within the bounds of the harbor include a boat basin, launch areas, a repair and fabrication boatyard, associated marina fueling, lift hoist, drayage, stevedore, waste disposal services, a recreational vehicle park, and other ancillary visitor accommodations and harbor-related services.

The inner boat basin project site comprises an approximately 17.5-acre area of water area partially enclosed by a 1,150-foot-long L-shaped rubble-mounded shoreline and in-water breakwater, comprised of ½- to two-ton quarried stone and concrete construction debris "riprap." This trapezoidal breakwater structure sits at an elevation of mean sea level (msl) with a base width of about sixty feet, and tapering at a 1.5 (vertical) to 1 (horizontal) slope to a top width of roughly 16 feet at a height of +12 feet msl.

The surfaces of the inner boat basin revetment, breakwater, and dock pilings supports habitat for a diversity of marine algal, invertebrate, and fish species. Species diversity tends to be higher along the outer, harbor side of the inner boat basin compared to the inward side. According to a 2007 biological assessment completed by the funding agency, the seaward-side community is similar to assemblages found at nearby natural outer-coast, moderately exposed sites. Biodiversity on the inward side is believed to be decreased due to sand accumulation and scour. Organisms on the inward side of the inner boat basin are characteristic of protected high intertidal areas. No species of concern were located during the inventory. However, the harbor, in general, provides habitat to a variety of sensitive fish and wildlife species, including coho salmon and Steller sea lion.

The District's uplands deposition area disposal facility, where sediment materials deposited by the 2006 tsunami event would be disposed, consists of an approximately 70,000-cubic-yard-capacity levee-walled sedimentation pond located adjacent to the harbor's small boat marina. This facility was previously authorized for expansion to its current configuration under Coastal Development Permit No. 1-88-115. The facility is also concurrently used for disposal of dredged materials not suitable for beach replenishment applications under Coastal Development Permit No. 1-05-058, the Harbor's current 10-year maintenance dredging program authorization. Dredge slurry is discharged into the basin at its southeasterly side and flows through a series of four inter-connected settling ponds. Solids within the dredged materials slowly drop out of suspension and are deposited in the basin while the decanted water continues to flow through successive settling ponds, becoming decreasingly less turbid. Once the slurry water has reached the point where its suspended solids and settleable solids fall within acceptable standards set by the Regional Water Quality Control Board, they may be discharged back to the harbor. The sedimentation pond outfall is located at the southwest corner of the facility. Periodically, the Del Norte Solid Waste Management Authority removes and utilizes decanted spoils materials from the upland disposal facility for reclamation soil cover for use in the final reclamation of the Authority's sanitary landfill facility.

2. Project Description

The 2006 tsunami damaged many of the inner harbor dock structures. The proposed project is to rehabilitate, in-place, the existing inner boat basin to restore its effectiveness as a harborage. As described within the environmental assessment and tsunami study prepared for the project, the various dock structural enhancements have been designed to withstand a modeled 50-year tsunami event (see Exhibit Nos. 6 and 7). The project would reconstruct the inner boat basin in essentially the same structural configuration that existed prior to the 2006 tsunami. However, the in-water array of dock pilings would be increased in number and size to provide greater protection to the boat basin during high swell periods. Detailed project plans are included as Exhibit No. 5.

The restoration project entails eight components as follows:

a. Dredging and Disposal of Tsunami Deposited Sediment Material

Approximately 7,424 cubic yards of silt and other sediment materials deposited in the 2006 tsunami event would be removed from the inner boat basin. The dredged materials would are pumped from the floor of the inner boat basin by the District's barge-mounted, hydraulic suction dredge. The suction dredge spoils slurry would then be conveyed via a 12-inch-diameter flexible pipeline to the District's 15-acre uplands deposition area disposal facility located to the north of the small boat basin.

b. Repairing and Replacing Rock Slope Protection

An estimated 8,506 cubic yards of rock slope protection (RSP) within the interior perimeter of the inner boat basin was displaced by the tsunami. Two revetment areas located in the southeast corner of the inner boat basin require extensive repair. These two areas are approximately 45 feet in length and 150 feet in length. At these two locations, most of the RSP is missing and the underlying geo-textile fabric is crumpled and exposed. There are also approximately eight other locations along the inner boat basin's perimeter where spot repairs are necessary as the fabric was exposed by scouring although most of the RSP remained in place. The damaged RSP areas require the replacement of the geo-fabric and placement of one- and two-ton revetment materials (rock). The various spot repairs may only require resetting of the revetment materials, depending upon the condition of the fabric. Any removed and/or remaining RSP would be replaced on the revetment area to match the existing 1.5 to 1 slope within the excavated areas in a manner that requires no further encroachment into the marina waters.

c. Removing and Replacing Pilings

Due to the intensity of the tsunami waves and the relatively shallow depth of their footings, all of the approximately 161 12- to 14-inch diameter piles within the inner boat basin were damaged beyond repair by the repeated pounding of the marina docks against the piles and need to be replaced. The loosened, damaged piles would be extricated from the marina waters by either a barge-mounted vibratory hammer pile driver or winched out by crane. Each new piles will be installed first by vibratory driving a steel casing through the silt on the bottom of the inner boat basin and then impact driving the steel casing approximately six inches into the rock under the slit. The casing would be oversized for the pile to be installed. For example, a 30-inch-diameter casing would be used to for a 24-inch-diameter concrete pile. After removal of the overburden within the steel casing, an augering rig would be used to bore into the underlying bedrock to the required depth, ranging from 20 to 40 feet depending upon location, to ensure adequate lateral and vertical support for the estimated pile static and live loads.

The drilling spoils within the steel casing would be removed for proper disposal. Following the boring, a new pile, pre-fabricated steel-reinforced concrete in most cases, steel in some limited locations, would be lowered into socket bored beneath the casing. After the piling has been set at its appropriate depth, the space between the casing and the pre-fabricated piling would then be grouted. Pile installation would require the use of two barges: a derrick barge to install the casing, place the pile and grout the socket, and a drill barge to auger the socket. In addition to replacing and upgrading the 161 damaged piles, 80 additional new piles would be installed to further strengthen the resiliency of the dock structures to wave attack, of which 44 of the new piles will be used to install the tsunami wave attenuator on Dock H (see below).

d. Installing a Tsunami Wave Attenuator

The area of the inner boat basin that experienced the most significant damage from the 2006 tsunami event is the area lying in the southwest area of the marina. Dock "H" is gone in total, one-third of dock "G" is gone, and approximately one-half of dock "F" is no longer present. A tsunami study for the Inner boat basin rehabilitation project was prepared by the consulting engineering firm of Ben C. Gerwick, Inc. The study determined that "(r)egions of high velocity magnitude develop peak velocities of up to 29 fps (feet per second) in the access channel and at the entrance to the inner boat basin." The report also stated that "(a) pronounced clockwise circulation develops in the marina as a result of the tsunami surges." This water movement was physically observed during the February 27, 2010 tsunami generated by the 8.8M earthquake in Chile when the tsunami reached the inner boat basin with repeated surges of water. As part of the assignment to Gerwick Inc., they also looked at ways to mitigate the impacts of a tsunami within the inner boat basin. Gerwick looked at two methods of wave attenuation for the "H" dock area. They concluded that "(t)he addition of a solid wall in place of a floating structure at Dock H, with the intent to reduce the peak velocity magnitude in its vicinity, is not effective. The wall would do little more but refract the wave energy to another region of the marina, exposing other initially sheltered floating structures to strong currents. A more open layout with shallower floats, capable of vertical motion to ride out the tsunami waves would allow the wave energy to vent underneath. This open design offers a more tsunami-resistant solution while allowing the movement of water and animals through the wave attenuator. The attenuator consists of 11 36-feet-long by 16-feet-wide by 7-feet-deep semi-buoyant rectangular concrete-polymer structures, each perforated with a series of two- to three-foot-tall by 6-foot-wide openings, to allow passage of fish, marine mammals and other aquatic wildlife, to be installed in tandem on the row of the 44 30-inch-diameter, reinforced concrete-filled steel pilings that would comprise replacement Dock H.

e. Removing and Replacing the Floating Docks

All of the floating dock components would be replaced in total with new floating dock components of approximately the same square footage as the previously existing docks. A total of 1,035 individual docks that total 57,100 square-feet would be removed and replaced. All removed docks will be disposed at a properly permitted disposal site. Due to extensive damage, 133 of the previous docks, have already been removed immediately after the tsunami event. The remaining docks would be removed on an individual, as needed basis in preparation for piling removal. These docks would be lifted from the water surface and placed in a storage yard of the harbor. Ultimate disposal of the damaged docks would be through the Del Norte Solid Waste Authority or other approved disposal method. The new prefabricated docks would be trucked in from the manufacturer to the staging site located adjacent to the inner boat basin within the existing paved parking lot and harbor storage yard. Once the pilings are set, the new docks will be lowered onto the water and connected together to the new pilings.

f. Installing Accessible Gangways

The Americans with Disabilities Act and the Architectural Barriers Act requires that at least one gangway per pier comply with these acts; none of the existing gangways are in compliance. The level of repair to the inner boat basin triggers compliance with these two acts. Accordingly, four ADA/ABA compliant gangways would be install as a part of this project. Due to the slopes involved, the compliant gangways would require installation of a concrete headwall support for each gangway ramp. Each of the four headwalls would measure 65 ft. by 3 ft. (max.) and would require excavation for a footing within the existing parking lot where the rock slope protection and the parking lot adjoin. Water quality best management practices (BMP) would be utilized within each headwall site during construction in order to prevent any sediment generation into the waters of the inner boat basin. The gangway abutment for each access would be supported by four piles installed in a similar manner as the float piles.

g. Replacing Dock Utilities

The removal of the existing docks and their existing utilities will necessitate replacement of these utilities. The new dock utilities include electrical switching, distribution units, service pedestals, conduit, wire and a potable water system. The reinstalled new service are required meet current codes and therefore will constitute an upgrade over the prior service connections.

h. Installing a Fire Protection System

Currently, there is no fire protection system on the floating docks. Fire hydrants do exist in the vicinity, but no fire suppression system is available for the dock

structures proper. The Department of Boating and Waterways and local fire codes now require fire protection on new or replacement facilities, including installation of new docks. The proposed fire protection system would consist of approximately 5,000 lineal feet of four-inch-diameter pipe providing water to 15 hose reel stations.

Construction Equipment

Equipment needed for the project includes two barges, including a derrick barge with crane for removing the damaged piles and installing the new casings, piles, and grouting materials, and a drilling barge for excavating bores for the placement of the piles into bedrock, together with various land-based material delivery vehicles, excavators, and back-hoes.

Staging

The applicant proposes to use a portion of the adjoining parking lot area on the north side of the boat basin as a staging area for construction equipment and materials (see Exhibit No. 5). The proposed staging area, owned by the Crescent City Harbor District, consists of an unpaved graded gravel surfaced area.

Phasing

The restored inner boat basin would be built out over two consecutive July to mid-October building seasons to allow for continuity in harbor small boat services. The first phase would involve reconstruction of the western half of the marina, namely Docks F, G, and H, and the western half of Dock D/E. The eastern half of the inner boat basin (Dock A through D, and eastern half of Dock D/E) would be reconstructed the following year.

Seasonal Constraints

To minimize risks to environmentally sensitive fish species, the construction season would be limited to the period between July 1 and October 15. Work on the inner boat basin would be conducted during low tides for accessibility purposes.

C. Protection of Coastal Waters & Water Quality.

1. Applicable Coastal Act Policies and Standards

Section 30230 of the Coastal Act states the following:

> *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. [Emphasis added.]

Section 30231of the Coastal Act states the following (emphasis added):

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. . [Emphasis added.]

Section 30232 of the Coastal Act states the following:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containments and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Section 30233 of the Coastal Act states, in applicable part:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
(6) Restoration purposes.
(7) Nature study, aquaculture, or similar resource dependent activities...
(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary... [Emphasis added.]

2. Consistency Analysis

Coastal Act Sections 30230 and 30231 require, in part, that marine resources and coastal waters and wetlands be maintained and enhanced. These policies also call for restoration of marine resources, coastal waters, streams, wetlands, and estuaries where feasible. Additionally, Section 30230 calls for special protection to be given to areas and species of special biological significance. Coastal Act Section 30232 requires protection against the spillage of crude oil, gas, petroleum products and hazardous substances and requires that effective containments and cleanup procedures be provided for accidental spills that do occur.

As mentioned above in Findings Section IV.B.1 *Project Setting* above, the waters of Crescent City Harbor together with those of the interconnecting Elk Creek drainage are biologically significant as they provide spawning and feeding habitat to a variety of salmonid species, including coho salmon, steelhead, and coastal cutthroat trout. Moreover, the proposed inner boat basin repairs and upgrades will involve the use of mechanized equipment and sediment containing building materials in close proximity to open coastal waters. As discussed in the preceding findings section, the proposed project involves eight primary components the majority of which involve in- or over-water construction activities. The Commission must evaluate the project components as a "new" development rather than as a repair and maintenance project. Therefore, for analysis purposes, the Commission must find that the proposed fill within the intertidal zone is allowable under the limitations imposed by Coastal Act Sections 30230, 30231, and 30233.

The project proposes to supplement the resiliency and protective capabilities of the existing inner boat basin by installing additional and larger piles and a tsunami wave attenuator. These improvements would necessitate the placement of solid materials at and below the elevation of the mean high tide. Therefore, the Commission finds that the proposed project entails new development involving the filling within coastal waters.

When read together as a suite of policy directives, Sections 30230, 30231, and 30233 of the Coastal Act set forth a number of different limitations on what types of projects may be allowed in coastal wetlands and waters. For analysis purposes, the limitations applicable to the subject project can be grouped into four general categories or tests.

These tests require that projects that entail the dredging, diking, or filling of wetlands and waters demonstrate that:

- The purpose of the filling, diking, or dredging is for one of the seven uses allowed under Section 30233;
- The project has no feasible less environmentally damaging alternative;
- Feasible mitigation measures have been provided to minimize adverse environmental effects; and
- The biological productivity and functional capacity of the habitat shall be maintained and enhanced, where feasible.

Each category is discussed separately below.

Permissible Use for Dredging and Filling in Coastal Waters

The first test set forth above is that any proposed filling, diking, or dredging in coastal waters and wetlands must be for an allowable purpose as specified under Section 30233 of the Coastal Act. The relevant categories of uses listed under Section 30233(a) that relates to the proposed revetment improvements are subsection (1) involving new or expanded port facilities, including commercial fishing facilities, and subsection (3) in open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities that provide public access and recreational opportunities.

As discussed previously, the inner boat basin was constructed to create a harbor for boaters to moor, launch, and retrieve their boats. Due to the inner boat basin's current structurally weakened conditions, storm surges and tsunami generated waves within the boat basin are likely to further damage the harbor facilities, eventually resulting in the closure of the marina. Once the inner boat basin is rehabilitated back to its original configuration and structurally augmented, exposure of persons and property to potentially injury and damage from wave attack will be lessened.

As the applicant proposes to undertake these improvements to the inner boat basin to provide essential protection for the safety and longevity of commercial fishing and recreational boat mooring, loading and launching operations, the Commission concludes that the proposed fill is permissible under Section 30233(a) subsection (1) for new or expanded port facilities, including commercial fishing facilities, and subsection (3) for new or expanded boating facilities in open coastal waters, other than wetlands, including streams, estuaries, and lakes, that provide public access and recreational opportunities.

Least Environmentally Damaging Feasible Alternative

The second test set forth by the Commission's dredging and fill policies is that the proposed fill project must have no feasible less environmentally damaging alternative. Coastal Act Section 30108 defines "feasible" as follows:

"Feasible" means capable of being accomplished in a successful manner within a reasonable time, taking into account economic, environmental, social, and technological factors.

Alternatives to the proposed project that were examined include (1) the "no-project" alternative; and (2) alternative designs to provide greater protection from storm surge impacts and strengthening the structural integrity of the inner boat basin's inner faces. As explained below, the alternatives analyzed are infeasible and/or do not result in a project that is less environmentally damaging than the proposed project as conditioned:

"No-Project" Alternative

The "no project" alternative would mean that no upgrade to the inner boat basin would be undertaken. With no such improvements, the relatively minor impacts to visual resources associated with the larger pilings and the less than significant impacts to intertidal wetlands habitat from the proposed new wave attenuator structure, replacement piles, and docks, and revetment repairs would be avoided. However, without the proposed upgrades, the boat basin would remain vulnerable to damage from wave strike and eventually damaged to the point that it no longer could be used for commercial fishing vessels or recreational boating. The boat basin would likely be forced to close, and the mariners who currently use the site would be displaced. As discussed above, Crescent City Harbor has been used for commercial and recreational fishing for decades, and it provides the only harbor of refuge from the common northwesterly winds and seas between Brookings in southern Oregon and Trinidad Bay in Humboldt County. Moreover, commercial fishing and recreational boating are given high priority under the Coastal Act, and the Coastal Act policies call for the protection of these uses and the facilities needed to continue these uses. Therefore, the Commission finds that the no project alternative is not a feasible less environmentally damaging alternative to the proposed project, as conditioned.

Alternative Inner Boat Basin Enhancement Designs

Another alternative to fortifying the inner boat dock pilings would involve designing the inner boat basin structural elements to withstand only a 25-year tsunami event rather than a 50-year recurrence event as proposed. This option would significantly reduce the number of piles from 243 to 216, thereby reducing the amount of replacement wetland fill. However, designing the inner boat basin docks to a less rigorous resiliency would, over time, result in greater impacts to the sensitive environmental resources within the harbor. Specifically, the reduced design life would require a second round of intensive over-water construction activities, with its associated construction impacts once the replacement marina facilities reach the end of their 25-year design life. Accordingly, in addition to requiring multiple closure of portions of the boat basin, the additional installation of the piles, and associated demolition of piles from the first 25-year designed

construction, would have greater overall potential impacts to sensitive biological resources such as coho salmon, from underwater noise and sedimentation. Therefore, the Commission finds that the alternative of designing the dock structural enhancements to a lesser wave assault standard is not a feasible less environmentally damaging alternative to the proposed project, as conditioned.

Conclusion

For all of the reasons discussed above the Commission finds that there is no less environmentally damaging feasible alternative to the development as conditioned, as required by Section 30233(a).

Feasible Mitigation Measures

The third test set forth by Section 30233 is whether feasible mitigation measures have been provided to minimize adverse environmental impacts. The proposed development would be located within and around coastal waters and wetlands. Depending on the manner in which the proposed filling is conducted, the significant adverse impacts of the project may include: (1) effects on sensitive fish and wildlife species; (2) water quality impacts from the placement of sediment containing materials in and/or undertaking construction involving the use of hazardous materials in close proximity to coastal waters; (3) water quality impacts from the discharge of boat sewage within the inner harbor boat basin waters; and (4) displacement of harbor bottom habitat by the installation of new piles. The potential impacts and their mitigation are discussed below.

Effects on Sensitive Fish and Wildlife Species

To avoid impacts to various sensitive fish and wildlife species, the applicant proposes that the inner boat basin in-water repairs and upgrade construction be undertaken between July 1 and October 15. The actual work on the inner boat basin is estimated to take eight months. Mechanized equipment needed for the project includes two barges, including a derrick barge for removing the damaged piles and installing the new casings, piles, and grouting materials, and a drilling barge for excavating bores for the placement of the pilings into bedrock, together with various land-based material delivery vehicles, excavators, back-hoes, and possibly a crane.

At the time of the writing of this staff recommendation, the National Marine Fisheries Service ("NMFS" or "NOAA Fisheries") has not completed its consultation for the associated Corps FCWA Section 404 permit. NOAA Fisheries did complete an informal consultation for the preceding breakwater repair project (CDP File No.), which outlined that project's potential effects on marine species listed under the federal Endangered Species Act and "Essential Fish Habitat" (EFH) under the Magnuson-Stevens Fishery and Conservation Act. The consultation addressed potential impacts to various threatened and endangered species evaluated in the biological assessment provided by the

funding agency, including coho salmon (*Oncorhynchus kisutch*), Steller Sea lions (*Eumetopias jubatus*), Western Snowy Plover (Charadrius alexandrinus nivosus), Marbled Murrelet (*Brachyramphus marmoratus*), and California Brown Pelican (*Pelecanus occidentalis*), and EFH for salmon species (see Exhibit No. 8).

The NOAA Fisheries consultation for the preceding inner boat basin breakwater repairs and enhancements concluded in a concurrence letter responding to the funding agency's biological assessment that the project may affect, but is not likely to adversely affect, listed salmonids, Steller sea lions, western snowy plovers, marbled murrelets, and California brown pelicans (see CDP No. 1-08-047, Exhibit No. 6). The consultation and concurrence letter for that project included numerous conservation measures which, if incorporated into the project design alongside the self-imposed construction season limitations, water quality protective measures, and other performance standards, would render these potential effects to insignificant levels. Imposition of these conservation measures were incorporated into the Nationwide Permits issued for that project by the U.S. Army Corps of Engineers.

The applicant has structured the proposed inner boat basin marina repairs to employ the same impact avoidance and mitigation measures as was used in the breakwater repair and has similarly asserted that the project would have no effect on sensitive species. As noted above, NOAA Fisheries staff has not completed its review of the current project. However, NOAA Fisheries staff has told Commission staff that, based on the review of the proposal to date, the agency will likely find that given the characteristics of the development site being enclosed behind breakwater jetties and the construction season limitation mitigation measures included in the project design, the development would not likely result in significant direct or cumulative impacts take to federally-listed endangered or threatened species or other protected fish and wildlife. In such a case, NOAA could issue a letter of concurrence, concluding the proposed mitigation measures to be adequate as was done for a recent breakwater repair project at the harbor.

Based on: (1) the conclusion of the biological assessment prepared by the Harbor District that the development will not result in significant adverse impacts on marine biological resources; (2) the preliminary statement provided by NOAA Fisheries staff that based upon the impact avoidance and mitigation measures cooperatively developed by the applicant and the agency, the proposed project will not likely result in significant direct or cumulative impacts to endangered or threatened species or other protected fish and wildlife (see Exhibit No. 8); (3) the proposed mitigation measures incorporated into the project to schedule construction when sensitive species are unlikely to be within the harbor, and (4) the results of other biological consultations conducted by NOAA Fisheries for other development activities in the harbor, including navigational channel maintenance dredging and breakwater repair work, the Commission finds that

with the attachment of certain special conditions, the proposed project is consistent with the Coastal Act Chapter 3 policies.

To ensure that the proposed inner boat basin repairs and enhancements are carried out in a manner that will not cause significant adverse impacts to sensitive fish species or habitat, as to be determined by NOAA Fisheries staff, the Commission attaches **Special Condition Nos. 1, 2, and 3**. These conditions require that final revised plans for the development incorporate all impact minimizing mitigation measures identified in the final letter of concurrence or biological opinion, and that ~~the~~ **in-water** construction activities be conducted only during the period of July 1 through October 15, to protect sensitive fish and marine mammal species by avoiding times of the year when these species are normally present. Furthermore, the conditions require that all project work be conducted during periods of low-tides only, above the water surface to minimize suspended sediment and potential water quality impacts that could affect sensitive fish and wildlife species. Special Condition Nos. 9 through 12 require that the applicant inform the Executive Director of any changes to the project required by the Corps, NOAA Fisheries and other reviewing agencies, including any changes that may conflict with the modifications or conditions imposed by the Commission in approving CDP 1-10-035, and obtain a permit amendment for such changes. Final review and coordination with NOAA Fisheries and all other reviewing agencies except for the Army Corps of Engineers must occur prior to issuance of the CDP, with Army Corps of Engineers coordination occurring prior to commencement of development. With these conditions, the Commission will be able to reconsider through a permit amendment if necessary, the consistency of the proposed project as modified with the Coastal Act if NOAA Fisheries or the other reviewing agencies require changes to the project to further mitigate impacts on biological resources that are not currently anticipated.

Construction and Runoff Impacts on Water Quality

The proposed inner boat basin rehabilitation project could adversely affect water quality. The inner boat basin rehabilitation work involves placing rock within and adjacent to coastal waters and the over-water driving of piles with the use of heavy equipment. The use of construction equipment and materials within sensitive marine and beach habitats could lead to habitat contamination and impacts through the discharge of debris, trash, and contaminants such as leaky gas and other fluids and sediment- and other pollutant-laden runoff. Allowing such debris or pollutants to enter the ocean could adversely affect water quality and marine organisms inconsistent with Coastal Act Sections 30230, 30231, and 30232. Similarly, the proposed installation of the concrete grout annulus will involve the use of hazardous materials in close proximity to coastal waters, namely the pouring of caustic wet concrete slurry.

As summarized above, Coastal Act Section 30231 protects the quality of coastal waters, streams, and wetlands through, among other means, controlling runoff.

Sediment-laden runoff from a project work site, upon entering coastal waters, increases turbidity and adversely affects fish and other sensitive aquatic species. Sediment is considered a pollutant that affects visibility through the water and affects plant productivity, animal behavior (such as foraging) and reproduction, and the ability of animals to obtain adequate oxygen from the water. In addition, sediment is the medium by which many other pollutants are delivered to aquatic environments, as many pollutants are chemically or physically associated with the sediment particles.

In addition, as discussed above, Coastal Act Section 30232 requires protection against the spillage of crude oil, gas, petroleum products and hazardous substances and requires that effective containments and cleanup procedures be provided for accidental spills that do occur. The applicant has proposed to prepare a hazardous materials management plan to address the transport, handling, and storage of fuels and other equipment fluids, with emphasis on preventing releases to the ocean or beach, and to address spill prevention, cleanup, and disposal. To date, however, no such plan has been prepared.

Given that the proposed construction methods and activities: (1) will be located within and adjacent to coastal waters and beaches and thus could cause an increase in sediment and other pollutants entering coastal waters and other sensitive habitats through either the release of polluted runoff from the project site and/or leaky equipment contaminating coastal waters and beaches; and (2) are located within an area of special biological significance, which warrants "special protection" under Coastal Act Section 30230, the Commission finds it necessary to attach Special Condition Nos. 2 through 5, as described below.

- **Special Condition No. 2** in part requires that ~~**all**~~ **certain** construction activities**, namely the removal and placement of rock slope protection** within coastal waters authorized under the permit**,** ~~**shall**~~ be conducted during periods of low-tides only to minimize suspended sediment and potential water quality impacts.

- **Special Condition No. 3** requires adherence to various construction responsibilities including, but not limited to, the following: (a) construction methods shall conform to those described in Findings Section IV.B.2 *Project Description*, specifically, the inner boat basin rehabilitation shall be conducted from land and shall be built out incrementally, with construction equipment working from the crest of the newly restored inner boat basin (which will allow marine organisms inhabiting the existing inner boat basin to continue to have habitat available in areas of the inner boat basin not being worked on); (b) no construction materials, equipment, debris, or waste shall be placed or stored where it may be subject to wave, wind, or rain erosion and dispersion; (c) public roadway surfaces adjacent to the construction entrances shall be swept at the end of each day to remove sediment and/or other construction materials deposited due to construction activities, to prevent such sediment and/or materials from

contaminating coastal waters or other environmentally sensitive habitat areas; (d) any and all debris resulting from construction activities shall be removed from the inner boat basin and adjacent beach areas on a daily basis and disposed of at an appropriate location(s); (e) any fueling and maintenance of construction equipment shall occur within upland areas outside of environmentally sensitive habitat areas or within designated staging areas, mobile fueling of construction equipment and vehicles on and around the inner boat basin construction site shall be prohibited, and mechanized heavy equipment and other vehicles used during the construction process shall not be stored or re-fueled within 50 feet of drainage courses and other coastal waters; (f) construction vehicles shall be maintained and washed in confined areas specifically designed to control runoff and located more than 100 feet away from the mean high tide line; (g) 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 the each day; (h) during construction, all trash shall be properly contained, removed from the work site, and disposed of on a regular basis to avoid contamination of habitat during restoration activities; (i) hazardous materials management equipment including oil containment booms and absorbent pads shall be available immediately on-hand at the project site, and a registered first-response, professional hazardous materials clean-up/remediation service shall be locally available on call; and (j) at the end of the construction period, the permittee shall inspect the project area and ensure that no debris, trash, or construction material remain on the beach, inner boat basin, or in the water.

- **Special Condition No. 4** requires submittal of a final Sedimentation and Runoff Control Plan, which shall demonstrate that: (a) run-off from the project site shall not increase sedimentation in coastal waters; (b) run-off from the project site shall not result in pollutants entering coastal waters; and (c) Best Management Practices (BMPs) shall be used to prevent the entry of polluted stormwater runoff into coastal waters during the construction of the authorized structures.

- **Special Condition No. 5** requires submittal of a final Hazardous Materials Management Plan, which, at a minimum, shall provide for the following (a) equipment fueling shall occur only during daylight hours in designated fueling areas; (b) oil absorbent booms and/or pads shall be on site at all times during project construction, and all equipment used during construction shall be free of oil and fuel leaks at all times; (c) provisions for the handling, cleanup, and disposal of any hazardous or non-hazardous materials used during the construction project including, but not limited to, paint, asphalt, cement, equipment fuel and oil, and contaminated sediments; (d) a schedule for maintenance of containment measures on a

regular basis throughout the duration of the project; (e) provisions for the containment of rinsate from the cleaning of equipment and methods and locations for disposal off-site; (f) a site map detailing the location(s) for hazardous materials storage, equipment fueling and maintenance, and any concrete wash-out facilities; and (g) reporting protocols to the appropriate public and emergency services agencies in the event of a spill.

Boat Sewage Impacts on Water Quality

The rehabilitated marina will accommodate approximately 200-300 boats. The discharge of sewage from these boats could have significant adverse impacts on the water quality of the inner basin and adjoining coastal waters inconsistent with Sections 30230 and 30231of the Coastal Act if boat sewage is discharged directly into the marina waters.

In other harbor facility repair, restoration, and renovation projects, the Commission has required the applicant to provide sewerage and bilge water pump-out facilities throughout the reconstructed marina policies. These projects have generally involved situations where upgrades to the subject marina's restroom facilities and/or pump-out facilities are included in the scope of the proposed work and the marina has significant demand for and/or use of these facilities. This is not the case for the Crescent City Harbor Inner Boat Basin project.

The restoration project is limited to grant-funded related repairs to the rock slope protection, dock piling and decking, and electrical, water supply, and fire-fighting utility infrastructure of the marina damaged in the November 2006 tsunami, to bring the harbor back to its pre-disaster capacities. With the exception of a centralized sewerage pump-out facility at the marina entrance, no pump-out facilities exist on the docks themselves. Consequently, pump-out facilities are not included in the Inner Boat Basin rebuilding plans as the funding agency will only pay to replace what was in the marina prior to the tsunami. The Harbor District does have an existing centralized sewage pump-out located at the administrative dock at the entrance to the inner boat basin visible from the Harbor's office. Although this location is convenient for boats entering and exiting the harbor, the pump-out does not get much use. Typically, the harbor hosts only one or two live-aboard vessels having bathroom facilities, and very few large recreational vessels, as most of the fleet is a working commercial fleet that usually operates more than three miles offshore where it is legal to discharge their sewage. The harbor commission has discussed adding a bilge pump-out to this facility, and is investigating applying for separate funding for such facilities, but currently does not have reserve revenue to both purchase and construct such facilities outright and provide the 25% matching funds needed to undertake the subject disaster repairs.

Accordingly, given: (1) the continuing presence of the existing centralized sewage pump-out facility at the harbor docks; (2) the relatively low demand for pump-out

facilities given the minimal number of live-aboard vessels using the harbor; and (3) the likely insignificant improvements to the marine resources and water quality of the harbor that would result from installation of additional pump-out facilities; the Commission finds that mandating the construction of additional new sewerage / bilge water pump-out facilities is not necessary to maintain and/or enhance the biological productivity and functional capacity of the habitat in terms of biological productivity, functional capacity, and the quality of coastal waters.

However, the continued availability of the existing centralized sewage pump-out facility near the entrance to the inner boat basin is essential to provide an alternative to boaters to simply discharging sewage into the waters of the boat basin. Therefore, the Commission attaches Special Condition No. 7 which requires that the existing sewage pump-out facility at the harbor be maintained and made available on a daily basis to boaters using the inner boat basin.

Loss of Harbor Bottom Habitat

The applicant is proposing to remove and replace 161 damaged piles and to install 80 new piles. The pile work would be performed on the silty-sandy substrate that underlies the inner boat basin portion of Crescent City Harbor. Such harbor bottom materials typically support a variety of worms, mollusks, and other benthic organisms. The replacement piles would be generally placed within the same array as that of the original piles and thus would not further increase the overall perimeter area of habitat currently displaced by the boat basin as a whole. However, the larger replacement and additional new piles to be driven would displace a total of approximately 700-square-feet of new silty-sandy habitat within the enclosed inner boat basin marina. However, this displacement is not a significant adverse impact to the habitat.

The construction of dock piling in intertidal coastal waters is known to have both adverse and beneficial effects on aquatic habitat values that tend to offset each other. The primary adverse effect is the displacement of the soft bottom substrate, resulting in a loss of habitat area for invertebrates that dwell in or on the substrate within the intertidal area. On the other hand, new piles provide hard intertidal substrate habitat that is beneficial for other kinds of sessile marine invertebrates such as barnacles and mussels. In past studies of the Crescent City Harbor conducted by Applied Environmental Technologies, Inc. in 2006 and URS Corporation in 2007 for the preceding maintenance dredging and breakwater repair projects, respectively, the harbor's consultants characterized the harbor waters, including in the sandy areas within the inner boat basin project area, to be very harsh intertidal environments subject to intensive wave action, wide temperature range fluctuations, and periodic tidal exposure at their periphery. As a result, larger areas within the inner harbor are effectively denuded of vegetative cover, and exhibit a pattern of decreasing density and diversity of marine epifauna corresponding to locations furthest into the harbor's dock and wharf recesses. In addition, the bottom materials within the boat basin were found to have a

relatively high wood fragment content compared to similar areas further out into the harbor. These studies also reported that while the area of soft bottom habitat in the harbor is extensive, areas of hard intertidal substrate are relatively limited to the perimeter shoreline revetments and remnants of the former sea stack known as Whaler's Island.

In previous permit actions, the Commission has determined that the installation of piles, notwithstanding their differing substrate composition, often enhance overall habitat values, and has not often required mitigation for the loss of mudflat or sandy intertidal habitat due to the installation of piles. Similarly, in this instance, although approximately 700 square feet of silty-sandy harbor bottom substrate would be covered by the new, larger piles, the surface area of hard, rocky intertidal-like substrate associated with the new piling surfaces would increase three-fold from approximately 10,000 square-feet to over 30,000 square-feet. Therefore, the Commission finds that no additional mitigation is necessary for the loss of mudflat habitat associated with the new piles.

Conclusion

The Commission finds that as conditioned, all feasible mitigation measures have been provided to minimize adverse environmental effects consistent with Section 30233(a) of the Coastal Act. In addition, The Commission finds that as conditioned to require: (1) adherence to various construction responsibilities to protect coastal resources; (2) submittal of a final sedimentation and runoff control plan, hazardous materials management plan, and debris disposal plan; and (3) the continued provision of a centralized sewage pump-out facility for use by boats using the inner boat basin, the proposed development is consistent with Coastal Act Sections 30230, 30231, and 30232.

Maintenance & Enhancement of Biological Productivity & Functional Capacity

The fourth general limitation set by Sections 30230, 30231, and 30233 is that any proposed dredging or filling in coastal wetlands must maintain and enhance the biological productivity and functional capacity of the habitat in terms of biological productivity, functional capacity, and the quality of coastal waters, where feasible.

As discussed above, the conditions of the permit will ensure that the project will not have significant adverse impacts on the water quality of any of the coastal waters in the project area and will ensure that the project construction will not adversely affect the biological productivity and functional capacity coastal waters or wetlands. Therefore, the Commission finds that the project, as conditioned, will maintain the biological productivity and functional capacity of the habitat consistent with the requirements of Sections 30230, 30231, and 30233 of the Coastal Act.

D. Protection of Commercial Fishing & Recreational Boating Facilities.

1. Applicable Coastal Act Policies and Standards

Section 30224 of the Coastal Act states:

> *Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.* [Emphases added.]

Section 30234 of the Coastal Act states, in applicable part:

> *Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded*... [Emphasis added.]

2. Consistency Analysis

Crescent City Harbor has long been used as a launch site for commercial and recreational fishermen, and provides the only harbor of refuge from the common northwesterly winds and seas between Brookings Oregon and Trinidad Bay in Humboldt County, as discussed above. As discussed above in Findings Section IV.A, the Crescent City Harbor Boat Basin, which has been managed by the applicant since the early 1970s, includes a marina access road, boat slips, parking and work areas, utilities, and the inner boat basin itself. Prior to the Harbor District's involvement, the boat mooring and launch area had been used by local commercial and sport fishermen and maintained on an ad hoc informal basis by a consortium of commercial fishing interests and other community members. In addition to Citizen's Dock, several other wooden piers were originally in place along the northern side of the harbor.

The inner boat basin's capability to moor and shelter watercraft from wave attack has been reduced due to 2006 tsunami event. In addition, the inner boat basin in its damaged condition is vulnerable to further damage that would likely lead to its eventual closure if the marina is not rehabilitated.

To minimize conflicts with biological resources, the proposed construction activities would occur between July 1 and October 15. Commercial and sports fishing is most common during late spring through mid-fall, and again in late fall through winter during the crab season. Although the project work would overlap to a certain degree with the boating season, little if any interference with access to the boat basin would occur during the construction season, as most of the work activities would be limited to the inner boat

basin itself and a portion of the northern parking area slated for use as a staging area. Given the reduced level of commercial and sports fishing activity within the harbor as compared to the past, there are numerous alterative parking and work areas in proximity to the boat basin that can be used during the inner boat basin construction period without interfering with commercial and sports fishing activities. Thus, the Commission finds that this impact is short-term and temporary, and the rehabilitation of the inner boat basin will restore boat mooring capacity and improve boating access and safety over the long-term. The Commission attaches **Special Condition No. 3** requires that at the end of the construction period, the permittee shall inspect the project area and ensure, in part, that the project has not created any hazard to navigation.

Therefore, the Commission finds that the project as conditioned will protect and improve the existing boat launching facility that serves commercial fisheries and recreational boating, consistent with Coastal Act Sections 30224 and 30234.

E. Protection of Visual Resources.

1. Applicable Coastal Act Policies and Standards:

Section 30251 of the Coastal Act states, in applicable part, the following:

> *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. New development in highly scenic areas...shall be subordinate to the character of its setting.*

2. Consistency Analysis:

> *Section 30251 of the Coastal Act requires that the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance, and requires in applicable part that permitted development be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas. Furthermore, Section 30240(b) of the Coastal Act states that development in areas adjacent to 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 recreation areas.*

The project area is not located within a designated highly scenic area. The proposed installation of replacement piles and docks will not result in significant blockage of views

to and along the ocean as the existing and replacement marina facilities are located within a boat basin that is mostly enclosed by a breakwater and the existing shoreline. The new piles and docks will not extend upward beyond the height of the breakwater and shoreline revetment and thus the piles and docks themselves will not block views through the site to the open ocean from public vantage points that are not already obstructed by the breakwater and existing shoreline enclosing the basin. The masts and other portions of many of the boats that moor in the marina will rise above the breakwater and existing shoreline and could affect views towards the open ocean. However, this view blockage effect is relatively minor and will have no greater impact than what exists currently as the rehabilitation project will not increase the number of boats that can moor in the marina. Therefore, the Commission finds that with this relatively minor increase in inner boat basin height, the adverse impact on views would not be significant and numerous opportunities to view the ocean and scenic areas would remain open to the public at locations situated laterally the inner boat basin from the top of the inner boat basin revetments themselves once the restoration is completed. Additionally, the project will not result in the alteration of natural landforms and will require only a minimal amount of grading. Similarly, the proposed rehabilitation and modifications to the inner boat basin marina would be compatible with the character of the surroundings in that they would approximate the size, bulk, and outward appearance of the existing marina and the appearance of other marina facilities

Therefore, the Commission finds that as conditioned, the proposed project is consistent with the visual resource policies of Section 30251 of the Coastal Act, as the project is compatible with the visual character of the surrounding area, will not result in the alteration of natural landforms, and will not result in significant additional blockage of views to and along the coast.

F. Geologic Hazards & Shoreline Structures.

1. Applicable Coastal Act Policies and Standards:

Section 30253 of the Coastal Act states, in applicable part:

> *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...* [Emphases added.]

2. Consistency Analysis

As discussed in the tsunami study prepared for the project Crescent City Harbor has a long history of having repeatedly sustained significant damage due to tsunami inundation (see Exhibit No. 7, pages 12-17). An intrinsic objective of the proposed development is to restore the functions of the inner boat basin to their pre-damaged capacities by incorporating design features to ensure that the significant levels of damage experienced in the 2006 Kuril Island tsunami event are not incurred again under the coastal flooding hazards to which these harbor facilities are typically exposed during a 50- to 100-year economic lifespan.

Proposed Structural Enhancements

The proposed restored marina has been designed in accordance with an established engineering standards for shoreline revetment and dock components, based upon outputs from the "BOUSS-2D" model of the Surface Modeling System, an established tsunami wave propagation modeling program developed by the U.S. Army Corps of Engineers (see Exhibit No. 7), to ensure their structural integrity.

Based on a scenario involving a 50-year recurrence interval tsunami event, derived from regression analysis of past observed and recorded tsunami wave heights both locally in the Crescent City Harbor and regionally throughout the northeastern Pacific Ocean basin, a 15-foot wave height with an average period of 24 minutes striking the inner boat basin with an approximate six-degree angle of incidence was assumed for the design model inputs. The model inputs were further adjusted to take into account specific bathymetric conditions within the harbor, with and without being dredged to its design depths, and the refractory effects from regional plate tectonic rises, such as the Mendocino Escarpment. The model found that the scenario wave event generated current velocities of up to 20 feet-per-second within the boat basin channel and its entrance, generating a clock-wise gyre within the basin. This output data is consistent with the pattern of intensity of damage which occurred within the boat basin from the 2006 Kuril Island tsunami event.

From the BOUSS-2D model outputs, the following conclusions were drawn:

- The presence of the Mendocino Escarpment, essentially functioning as a submerged wall of partial height, tends to direct wave energy for tsunamis of non-local North Pacific Basin origin toward Crescent City and the region around the California/Oregon state line north of Cape Mendocino;
- Dredging the marina access and its access channel, or a combination thereof, does not cause significant variations in the velocity field near the floating structures within the marina nor appreciably affect the design loads, compared to those flow velocities experienced in an undredged condition;
- The inner boat basin's access channel and entrance experience strong wave-generated currents with peak velocities of up to 20 feet-per-second;
- A pronounced clockwise circulation develops in the marina as a result of the tsunami surges;

- The addition of a solid wall in place of a floating structure at Dock H, with the intent of reducing peak current velocity magnitudes in its vicinity would not be effective. The wall would do little but displace the high velocities to another region of the marina, exposing other presently sheltered floating structures to strong currents;
- Alternately, a more open floating dock layout with shallower floats, capable of vertical motion to ride out the tsunami waves and deflect currents downward to vent underneath Dock H would offer a more tsunami-resistant solution.

From these modeled outputs and other analyses of the hydro-static and hydro-dynamic wind and wave loads on vessels that would be typically moored within the marina, and taking into consideration the recommendations of the Federal Emergency Management Agency (FEMA) for harbor resiliency to hurricane storm surge forces similar to those experienced on California's North Coast, the project engineers prepared the proposed design for the restored boat basin. As set forth in the table below, the replacement boat basin facilities would include increases in the size and number of structural piles set at greater depths for the floating dock assemblies and the inclusion of the wave attenuator within the most outboard Dock H, to minimize the risks to life and property from future tsunami wave inundation from the scenario 50-year recurrence tsunami event:

Table One: Comparison of Current and Proposed Restored Marina Structural Components

Element / Characteristics	Existing (Damaged) Marina	Proposed (Restored) Marina
Pilings		
Number / Composition	161 12-/14-inch-diameter steel pipe	20 16-, 69 20- and 65 24-inch-square pre-stressed concrete; 45 24-inch-diameter steel pipe; and 44 30-inch-diameter steel pipe with reinforced concrete
Footing Depth	±8 feet below basin floor	20 to 40 feet below basin floor
Surrounding Materials	Loose to medium dense, fine- to medium-grain sand	Very dense sands (Battery Formation, marine component); Mudstone (St. George Formation)
Floating Docks		
Number / Composition	1,035 concrete panel	1,035 pre-fabricated concrete panels with solid polystyrene cores
Dimensions	1,035 $6'_w$ x $\pm 9'_l$	1 - $6'_w$ x $10'_l$ 4 - $6'_w$ x $12'_l$ 1 - $6'_w$ x $13'_l$ 8 - $8'_w$ x $8'_l$ 1 - $8'_w$ x $10'_l$

Element / Characteristics	Existing (Damaged) Marina	Proposed (Restored) Marina
		1 - $8'_w$ x $11'_l$ 211 - $8'_w$ x $12'_l$ 24 - $8'_w$ x $34'_l$
Wave Attenuator		
Composition	n/a	Pre-fabricated concrete panels with solid polystyrene cores
Dimensions		
Decking Cap	n/a	9 - $16'_w$ x $36'_l$ 2 - $16'_w$ x $38'_l$
Deflection Diaphragm	n/a	11 - $6'_w$ x 36-$38'_l$ x $7'_d$

Relative Degree of Risk Minimization

Coastal Act Section 30253 requires new development to *minimize* — as contrasted with *eliminating* — risks to life and property in areas of high geologic and flooding hazards. As with ameliorating other types of adverse effects, either as required under other provisions of the Coastal Act, or other statutes, such as the California Environmental Quality Act (CEQA), the degree to which any such risks are to be minimized is influenced by the threshold at which mitigating a given impact becomes an "insignificant" adverse effect, and whether any substantive further reduction in an impact toward full elimination can be feasibly achieved with additional mitigation.

Concerns have been raised by one of the project's funding agencies as to the appropriate level of risk minimization that should be strived for in the marina restoration project. In particular, the California Office of Emergency Management (CalEMA) has suggested to the applicant agency that, perhaps designing the replacement marina facilities to withstand a 25-year recurrence tsunami event, or possibly even a 10-year return interval event may be more prudent from an overall cost basis than would the proposed 50-year design.

As set forth in the Environmental Assessment prepared for the project, the applicant has included as a project alternative consideration of a 25-year recurrence tsunami event design and has some discussion on utilizing a 10-year return period as well (see Exhibit No. 6, pp. and 66-68). Table Two below summarizes the differences between these options:

Table Two: Comparison of Varying Tsunami Recurrence Period Design Options for Marina Facilities

Design Feature	10-year Return Period	25-year Return Period	50-year Return Period
Cost	$18 million	$19 million	$21 million
Annual Replacement Cost	$1.8 million	$760,000	$420,000

Design Feature	10-year Return Period	25-year Return Period	50-year Return Period
Structural Componentry	16-inch and 24-inch conventional square concrete piles only	16-inch and 24-inch conventional square concrete piles and 24-inch-diameter pipe piles on Dock H	16-inch and 24-inch conventional square concrete piles and 24-inch-diameter pipe piles on Docks F and G; 30-inch-diameter steel pipe piles filled with reinforced concrete and perforated attenuator flange on Dock H
Probability of Destruction	93%	64%	40%

While there may be substantial cost savings by designing for a more frequent, less-intense tsunami event, such a strategy ignores the obvious reoccurrence of significant tsunami runup at Crescent City. Use of a shorter recurrence interval would virtually assure that the marina would be substantially damaged during its intended service life, thus compressing the expected costs of replacing the structures into a shorter period for which the applicant district must establish reserve capital for in its budgetary planning.

With regard to past practice, the Commission notes that it typically conditions its permits for blufftop and floodplain development on 100-year periods of hazard exposure even for homes with a 50- to 75-year economic life. Use of a 10-year event for design purposes is usually reserved for very temporary structures. Ideally, a marina project should use a 100-year design standard for tsunami and coastal flooding risks, similar to that for residential development with coastal erosion, geologic instability and/or terrestrial fluvial hazards exposure. However, since in this case the inner boast basin's breakwater would be overtopped by anything exceeding the 50-year event, likely resulting in significant damage to the rehabilitated marina and necessitating a whole new design for the breakwater and the marina, a 50-year recurrence interval tsunami or storm event is appropriate for the marina reconstruction project.

Therefore, given the use of any less than a 50-year recurrence period tsunami event as a design criterion would: (1) leave unmitigated exposure of lives and property to significant coastal flooding hazards; (2) result is near certain destruction of the facility during its intended service life; (3) require serial, repeated in-water construction activities which could cumulatively adversely impact environmentally sensitive marine resources and disrupt priority coastal dependent uses; and (4) have significant public agency fiscal repercussions, the Commission finds that risks to life and property in areas of high

geologic and flooding hazards have been appropriately minimized by the proposed development design as required by Coastal Act Section 30253.

Inherent Risks

Due to the uncertain nature and inherent risk associated with the construction of improvements in high energy coastal environments, the Commission attaches Special Condition No. 8. **Special Condition No. 8** requires the applicant to assume the risks of extraordinary erosion and flood hazards of the inner boat basin area and waive any claim of liability on the part of the Commission. Given that the applicant has chosen to implement the project despite these risks, the applicant must assume the risks. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit for the development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand hazards.

Conclusion

Therefore, the Commission finds that as conditioned, the project will minimize risks to life and property from geologic and flood hazards, will assure stability and structural integrity, and will neither create nor contribute significantly to erosion, geologic instability, or erosion of the site or surrounding area consistent with the requirements of Section 30253 of the Coastal Act.

G. Public Trust Lands.

The project site is located in an area that was formerly State-owned waters, but remains otherwise subject to the public trust. On July 13, 1963, by Senate Bill No. 1383, the State of California transferred all rights, title, and interest to portions of the submerged and tidelands within Crescent City Harbor and surrounding ocean waters to the District. In granting these ownership rights, the State Lands Commission (SLC) has retained authority over these former sovereign lands through both exempted and reserved rights to all deposits of minerals, and its public trust responsibilities under the state Constitution. Granted lands are monitored by the SLC to ensure compliance with the terms of the issued statutory grant. These grants encourage development of tidelands consistent with the public trust, while requiring grantees to re-invest revenues produced from the lands back into the lands where they are generated. In a letter dated March 28, 2008, States Land Commission staff indicate that no further perfection of use rights is necessary unless dredging is needed as part of the project. As the project does involve dredging, no additional approval from SLC may be necessary for the proposed development. To assure that the applicant has a sufficient legal property interest in the site to carry out the project consistent with the terms and conditions of this permit, the Commission attaches Special Condition No. 11. **Special Condition No. 11** which requires that the applicant submit evidence that any necessary authorization from the State Lands Commission has been obtained prior to issuance of the permit.

H. North Coast Regional Water Quality Control Board Approval.

The project falls under the regulatory authority of the North Coast Regional Water Quality Control Board pursuant to Section 401 of the Clean Water Act (33 USC 1341) and/or the Porter-Cologne Water Quality Control Act. To ensure that the project ultimately certified by the Regional Board is the same as the project authorized herein, the Commission attaches **Special Condition No. 13**, which requires the applicant to submit to the Executive Director evidence of the Regional Board's certification of water quality for the project prior to permit issuance. The condition requires that any project changes resulting from this other agency approval not be incorporated into the project until the applicant obtains any necessary amendments to this coastal development permit.

I. U.S. Army Corps of Engineers Approval.

The project requires review and authorization by the U.S. Army Corps of Engineers ("USACE" or "Corps"). Pursuant to the Federal Coastal Zone Management Act, any permit issued by a federal agency for activities that affect the coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the U.S. Army Corps of Engineers, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit.

Pursuant to the Section 404 of the federal Clean Water Act, the Corps has issued Nationwide Permits for the repairs and upgrades to the inner boat basin based upon an initially submitted design (see Exhibit No. 7). A determination on the final design of the inner boat basin improvements is pending before the California Emergency Management Agency ("CalEMA"). Once the determination is issued, any revisions to the project would be subject to review by the Corps, wherein a "letter of modification" would likely be issued to reflect the final design modifications, if any. To ensure that the project ultimately approved by the Corps is the same as the project authorized herein, the Commission attaches **Special Condition No. 10**, which requires the applicant to submit to the Executive Director evidence of the Corps' approval of any design changes to the project prior to commencement of any development. The condition requires that any project changes resulting from this other agency approval not be incorporated into the project until the applicant obtains any necessary amendments to this coastal development permit.

J. Public Recreation and Access.

Coastal Act Section 30604(c) requires that every coastal development permit issued for new 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 recreation policies of [Coastal Act] Chapter 3." The proposed project is located seaward of the first through public road.

Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:

> *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.* [PRC §30210]
>
> *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.* [PRC §30211]
>
> *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects...* [PRC §30212(a)]
>
> *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.* [PRC §30213]
>
> *The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case...* [PRC §30214 (a)]
>
> *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.* [PRC § 30221]
>
> *Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, [...] providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.* [PRC §30224]

Likewise, Coastal Act Section 30240 (b) also requires that development not interfere with recreational areas and states:

> *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.*

Crescent City Harbor provides public access and recreational opportunities of regional and statewide significance. These opportunities include boat launching, berthing for commercial vessels and recreational boats, boat repair areas, marine-related retail/commercial businesses, sailing programs, yacht club and boat sales, and passive recreational pursuits, such as shoreline walking, beachcombing, and bird-watching. The District's inner boat basin repair and upgrade project would strongly benefit public access and recreation, in two ways: (1) by restoring boat berthing capacity and providing enhanced protection from coastal flooding and erosion storm surge to the harbor's berthing areas; and (2) by including alter-abled access facilities (ADA/ABA-compliant gangways) to the inner boat basin that will expand opportunities for public use.

Adverse impacts to public access are possible, but would be of limited duration. The flexible above-ground pipeline used to transport dredge spoils to the designated upland disposal pond creates, from time to time as the pipeline is moved about, a modest impediment to pedestrian travel along or to Crescent City Harbor Beach. The pipeline is 12 inches in diameter, and may need to be traversed by persons walking across the inner harbor beach. Placement of the pipeline would be managed so that it would not form an unintentional continuous barrier, particularly with respect to the less-nimble beach visitors. In addition, the pipeline would be in any given location for only a short duration.

The proposed dredging is necessary to maintain Coastal Act priority commercial fishing and recreational boating uses. Although the transport of dredge materials to the disposal sites may potentially impact public access on portions of the Crescent City Harbor beach area, the impact would not be significant and the dredging is essential to allow for commercial and recreational boating access. To ensure that impacts to public access and recreation are minimized, the Commission attaches Special Condition No 8. This condition sets specific restrictions on dredge disposal operations to prevent disruption of significant coastal recreational use events, ensure that the availability of the beach for public access is not diminished, and minimizes any possible continuous barrier effects due to the presence of the slurry pipeline.

Thus, the Commission concludes that the project as conditioned would protect boating and beach recreational opportunities consistent with Coastal Act Sections 30210, 30213, 30220, 30224, 30234 and 30234.5. Therefore, the Commission finds that, as conditioned by Special Condition No. 8 which mitigates for potential beach access impacts, the proposed project would preserve public access and recreational opportunities and, is consistent with the above-cited public access and recreational policies of the Coastal Act.

K. California Environmental Quality Act (CEQA).

The Crescent City Harbor District served as the lead agency for the project for CEQA purposes. The District found the subject inner boat basin repairs and upgrades qualified for "Class 1" and "2" categorical exemptions to environmental review, pursuant to Sections 15301 and 15302 of the CEQA Guidelines (14 CCR §§15000) as repair, maintenance, replacement, and/or reconstruction of existing structures.

Section 13906 of the California Code of Regulation requires Coastal Commission approval of a coastal development permit application to be supported by findings showing that the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Public Resources Code 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 significantly lessen any significant effect that the activity may have on the environment.

The Commission incorporates its findings on conformity with Coastal Act policies at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed herein in the findings addressing the consistency of the proposed project with the Coastal Act, the proposed project has been conditioned in order to be found consistent with the policies of the Coastal Act. As specifically discussed in these above findings which are hereby incorporated by reference, mitigation measures which will minimize all adverse environmental impact have been required. These required mitigation measures include requirements that limit construction activities to avoid environmentally sensitive habitat areas and/or periods of time when migratory fish and waterfowl, and marine mammals could lead be significantly impacted. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity would have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

V. EXHIBITS

1. Regional Location Map
2. Vicinity Topographic Map
3. Site Plan Aerial Photo
4. Oblique Aerial Photo
5. Project Site Plans
6. Environmental Assessment

7. Tsunami Study
8. Agency Review Correspondence

APPENDIX A

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.