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MEMORANDUM

Date: December 9, 2009

To: Commissioners and Interested Parties

From: Peter Douglas, Executive Director
Robert S. Merrill, District Manager – North Coast District

Subject: **Addendum to Commission Meeting for Thursday, December 10, 2009 North Coast District Item TH15a, Application No. 1-09-004 (Humboldt State University Office of Facilities Management)**

This addendum presents certain revisions and additions to the staff recommendation for approval of the project with conditions mailed on November 20, 2009, including: (I) modifications to Special Condition Nos. 3, 4, 9, and 15; and (II) revisions and additions to the findings that present findings that staff was unable to complete prior to mailing of the staff report. Staff continues to recommend approval of the permit with conditions as recommended in the November 20, 2009 staff report.

I. <u>Modifications to Special Conditions</u>.

Text to be deleted is shown in ~~**bold strikethrough**~~, text to be added appears in **<u>bold double-underline.</u>**

- *Special Condition No. 3 on pages 7-8 of the staff recommendation shall be modified as follows:*

3. <u>Eelgrass Monitoring and Mitigation Plan</u>

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-09-004**, the applicant shall submit, for review and written approval of the Executive Director, an eelgrass mitigation and monitoring plan that includes the following provisions:

…

(g) Monitoring methods shall include photographs and random sampling of the project site using a sampling size adequate to obtain representative qualitative **and quantitative** data for the entire project site to determine percent cover and shoot density as defined in subsection (d) above;

…

REASON FOR CHANGE: The representative data to be obtained through eelgrass bed monitoring is both qualitative and quantitative in that the sampling to determine the percent cover and shoot density is quantitative data, whereas the required photography constitutes quantitative data.

- *Special Condition No. 4 on pages 8-10 of the staff recommendation shall be modified as follows*:

4. Pile-Driving Limitations.

A. All pile-driving activities shall be performed in full accordance with the following pile-driving requirements:

1) Pile-driving of all piles shall be limited annually to period from August 1 through October 31;

2) The pile-driving hammer shall be set at the lowest energy level sufficient to achieve adequate driving force;

3) The heads of all pre-stressed concrete piles shall be protected by caps with a cushion next to the pile-head;

4) Jetting of piles shall be conducted to reduce the number of blow counts necessary to drive each pile to the required depth;

5) To protect fish from the acoustic impacts of pile-driving, peak sound pressure levels within Humboldt Bay shall not exceed 206 dB and accumulated SEL shall not exceed 183 dB;

6) Hydroacoustic monitoring shall be performed consistent with the approved final hydroacoustic monitoring plan prepared pursuant to the requirements of Special Condition 5 below during **the first day of pile** driving ~~**of the first pile**~~;

7) If during the **first day of pile** driving**, ~~of the first~~** pile sound pressure levels do not exceed either criterion of the dual metric exposure criteria, pile-driving operations may continue **on subsequent days** without hydroacoustic monitoring provided all subsequent pile-driving is performed using the same equipment and materials**, and the total number of piles driven on each subsequent day does not exceed the total number of piles driven during the first day of pile driving**;

8) In the event of an exceedance of either criterion of the dual metric exposure criteria, pile-driving operations shall be immediately stopped and shall not recommence unless the Executive Director, in consultation with the fisheries biologists of the California Department of Fish & Game and the National Marine Fisheries Service so authorizes based on the resumption of hydroacoustic monitoring of all pile driving operations and the deployment of additional sound attenuation or other measures deemed likely by qualified technical experts to return the pile-driving to conformance with the duel metric exposure criteria;

(9) If the return to pile-driving after the implementation of the additional measures discussed in Subparagraph (8) above results in an exceedance of either criterion of the dual metric exposure criteria, pile-driving shall be stopped immediately and shall not re-commence until or unless the Commission approves an amendment to CDP 1-09-004 that proposes substantial changes to the proposed project that are deemed by the Executive Director to offer a high likelihood of success in preventing further exceedance of the dual metric exposure criteria.

B. Pile-driving shall be conducted at all times in accordance with these provisions. Any proposed changes to these pile-driving requirements and limitations shall be reported to the Executive Director. No changes to the requirements of the special condition shall be made without a Coastal Commission approved amendment of CDP 1-09-004 unless the Executive Director determines that no amendment is legally required.

REASON FOR CHANGE: One of the limits on sound pressure levels generated by pile driving prescribed by subsection 5 to protect fish from the acoustic impacts of pile driving is a cumulative sound pressure level. The total accumulated sound pressure levels (SEL) of multiple strikes of piles during one day of pile driving must not exceed 183 dB. Thus, acoustic monitoring of an entire day's worth of pile driving rather than just monitoring of the driving of one

pile must be performed to measure whether the accumulated SEL of multiple pile strikes exceed the accumulated 183db SEL. Therefore, staff is revising the special condition to require acoustic monitoring during the entire first day of pile driving. As revised, the condition would allow the applicant to cease acoustic monitoring for subsequent days of pile driving provided the pile driving is performed under the same conditions with the total number of piles driving during each subsequent day not exceeding the number of piles driven during the day when pile driving is monitored. Staff assumes that pile driving of the same number of piles or less on subsequent days under the same conditions would produce similar sound exposure levels as those that will be generated during the first day of pile driving and thus would not be needed.

- *Special Condition No. 9 on pages 13-14 of the staff recommendation shall be modified as follows*:

9. <u>Final Debris Disposal Plan</u>

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-09-004**, the permittee shall submit, for the review and approval of the Executive Director, a final plan for the disposal of excess construction and demolition related debris, including, but not limited to, timber deck planks, **<u>and</u>** wooden pilings (both treated and untreated), **~~and the abandoned spud barge~~**.

…

REASON FOR CHANGE: Delete extraneous words; the development does not include removal of an abandoned barge.

- *Special Condition No. 15 on page 17 of the staff recommendation shall be modified as follows:*

15. <u>NOAA Nautical Chart Revision</u>

WITHIN ~~30~~ <u>60</u> DAYS OF THE COMPLETION OF THE APPROVED DEVELOPMENT, the applicant shall provide written verification to the California Coastal Commission that the applicant has submitted to the U.S. Coast Guard and the National Oceanic and Atmospheric Administration (NOAA):

1) as-built drawings, blueprints, or other engineering documents which depict the completed development;

2) geographic coordinates of the location, using a Differential Geographic Positioning System (DGPS) unit or comparable navigational equipment; and

3) the applicant's point of contact and telephone number.

REASON FOR CHANGE: The applicant has requested an additional 30 days after project completion to submit the necessary plans, geographic coordinates, and other information to the Coast Guard and NOAA that will allow nautical charts to be revised to reflect the presence of the proposed new dock. As extending the deadline for the required submittal of plans, coordinates and other information by 30 days will not appreciably lengthen the time needed by the Coast Guard and NOAA to prepare the new charts, staff has extended the deadline for submittal of written verification to the Commission that the applicant has submitted the required information to the Coast Guard and NOAA by 30 days from 30 to 60 days.

II. Revisions and Additions to Findings

- *Modify the text of the "a. Allowable Use for Fill in Wetlands" Section of Finding 3, Protection of Coastal Wetlands, Estuaries, and Water Quality" Finding No. 3 on page 22 as follows:*

Text to be deleted is shown in **~~bold strikethrough~~**, text to be added appears in **bold double-underline.**

a. Allowable Use for Fill in Wetlands

The first test for a proposed project involving filling or dredging in coastal waters, wetlands, or estuaries is whether the fill or dredging is for one of the eight allowable uses under Section 30233(a). Subsection (a)(3) lists "*…new or expanded boating facilities,*" among the allowable uses for fill and dredging in wetlands.

The wetland fill associated with the proposed project is for the construction of a new boat docking facility. Structural wetland fill associated with the project would be limited to

the installation of 11 concrete piles driven into the muddy intertidal bottom of the Eureka Inner Channel of Humboldt Bay, comprising a total of approximately 20 square feet of new structural wetland fill. The floating portion of the dock would be located above marine habitat, but would not result in direct structural fill. **The development also includes the placement of a total of 10 cubic yards of concrete and Rock Slope Protection (RSP) along the existing shoreline embankment over a total of 60 square feet of area in locations below the Mean High Water Line. This concrete and RSP fill includes 6 cubic yards for construction of a landing for the gangway of the new dock and 4 cubic yards to repair portions of the existing embankment that will be disturbed by construction.**

The development includes the removal of a total of approximately 140 square feet of previously placed fill, including old wharf and dock structures and certain existing RSP. Removal of the wharf and dock structures will eliminate 80 square feet of pile fill (approximately 70 piles that are 1.2 feet in diameter). The removal of existing RSP will eliminate 60 square feet of RSP fill.

~~**Therefore,**~~ The Commission finds that the filling and dredging associated with the proposed project are for an allowable use for filling and dredging of coastal waters and wetlands, as the fill is for the construction of a new boat docking facility intended to facilitate boating facilities consistent with subsection (a)(3) of Coastal Act Section 30233.

- *Add* the following to the end of Finding 3, *Protection of Coastal Wetlands, Estuaries, and Water Quality" on page 22 as follows:*

b. Feasible Mitigation Measures

The second test set forth by Sections 30230 and 30233 of the Coastal Act is whether feasible mitigation measures have been provided to minimize adverse environmental impacts. Depending on the manner in which the proposed improvements are conducted, the proposed project could have potential adverse effects on the estuarine environment of Humboldt Bay. The project could have potential impacts involving: (1) displacement of intertidal habitat by new piles and rock slope protection, (2) acoustic impacts from pile driving on fish; (3) disturbance of eelgrass habitat, and (4) impairment of estuarine water quality from siltation associated with grading on the shoreline embankment, sediment entrained in stormwater runoff from the construction site, and fuel and hydraulic spills. The potential impacts and their mitigations are discussed in the following sections:

1. Displacement of Tidal Habitat. As noted above, the development involves the construction of a new dock and the placement of additional RSP and concrete along

the shoreline embankment to establish a landing for the gangway for the new dock and to repair the existing RSP along the bank. A total of approximately 80 square feet of fill will be placed in tidal portion of the Bay, including approximately 20 square feet of structural pile fill to be placed within mudflat areas for the 13 piles that are needed to secure the dock and gangway, and 60 square feet of RSP to be placed over existing RSP covered shoreline embankment. This displacement of tidal area will be offset by the removal of structures and rock slope protection that currently exist in tidal areas of the site, including a total of approximately 80 square feet of pile fill associated with the removal of old wharf and dock structures, and the removal of 60 square feet of existing RSP fill. Thus, the project will result in a net gain of mudflat habitat of 60 square feet by reducing the total number of piles at the site, and will result in no net change in areas covered by RSP. Therefore, as the project will result in a net gain of tidal habitat (60 feet of mudflat area), the Commission finds that no additional mitigation is necessary for the displacement of tidal habitat associated by the fill to be placed in the Bay as part of the development.

2. Acoustic Impacts From Pile Driving on Fish. The Eureka Inner Channel and other portions of Humboldt Bay support threatened and endangered anadromous salmon species and longfin smelt, as well as a large variety of other fish species. The development will require the driving of 13 piles to secure the new dock and gangway. Pile-driving generates hydroacoustic pressure impulses and particle velocities that can cause effects on fish ranging from altered behavior, hearing loss, and tissue injuries to immediate mortality. In recent years, fish kills from pile driving have been noted on both coasts and have resulted in unforeseen impacts to sensitive fishery resources. According to a report entitled "Effects of Sound on Fish," (Hastings & Popper, Caltrans, January 28, 2005), the degree of damage to fish is not related directly to the distance of the fish from the pile, but to the received level and duration of the sound exposure.

As part of a programmatic effort to bring together top scientists in the field, review existing research on "barotrauma" and other pressure-related effects, develop noise thresholds for injury to fish, and conduct additional research to increase understanding of impacts, Caltrans is working in conjunction with Washington and Oregon State Transportation agencies, the Federal Highway Administration, the U.S. Army Corps of Engineers, NOAA Fisheries, the U.S. Fish and Wildlife Service, and CDFG. This effort has included establishment of a "Fisheries Hydroacoustic Working Group." The working group has established interim standards that have been utilized by resource agencies including the Department of Fish and Game, the National Marine Fisheries Service, and the Coastal Commission to protect fish from pile driving impacts. These standards indicate the sound exposure levels at which fish are likely to receive lethal physical injury, and pile driving activities are usually prohibited from reaching or exceeding these standards. Acoustic monitoring devices can be utilized to determine whether pile driving activities are approaching these sound exposure levels. The standards include a level at which a single hammer strike would cause lethal injury as well as a standard for

accumulated exposure to multiply hammer strikes over the course of one day. The standards are as follows:

> DUAL METRIC EXPOSURE CRITERIA
>
> 1) Criteria: SEL-accumulated:
> A fish receiving an accumulated Sound Exposure Level (SEL) at or above 183 dB re one micropascal squared-second during the driving of piles shall be deemed to have received a lethal physical injury. To estimate the sound energy to which a fish is exposed during multiple hammer strikes, the simple summation procedure is used where Total SEL = Single Strike SEL + 10log (number of strikes).
>
> 2) Criteria: Peak SPL:
> A fish receiving a peak sound pressure level (SPL) at or above 206 dB re one micropascal from a single hammer strike shall be deemed to have received a lethal physical injury.

The applicant proposes to incorporate certain pile driving measures to reduce the acoustic impacts from pile driving on fish. First, the piles to be utilized are concrete piles. Driving concrete piles tends to produce less acoustic impact than driving metal or other kinds of piles. Second, a hammer cushion will be used which would help reduce the sound pressure levels. Third, pile jetting will be utilized which usually reduces the pile driving resistance, and therefore is expected to reduce the number of blows necessary for the pile driving equipment to drive in the piles. A fourth measure considered was the use of a vibratory hammer, which minimizes acoustic impacts associated with the installation of piles by avoiding the intense blows associated with traditional pile driving equipment. However, the applicant's engineering analysis indicates that the use of a vibratory hammer alone would not be sufficient to extend the piles down to the required depth within the substrate.

The applicant does not propose to utilize acoustic monitoring to determine whether the pile driving activities will exceed the recommended maximum sound exposure levels to avoid lethal injury to fish. The applicant indicates that with the relatively small number of piles to be driven (13), the relatively shallow depth to which the piles need to be driven, and the use of the various mitigation measures outlined above, it is assumed that the sound exposure from the proposed pile driving will not reach the recommended maximum sound exposure levels. The applicant has submitted emails from the National Marine Fisheries Service and the Department of Fish and Game suggesting that staff from those agencies do not believe the acoustic impact from the pile driving is likely to reach the critical sound exposure levels. In addition, the applicant has submitted certain pile driving sound data from projects in other areas outside of Humboldt Bay ("Compendium of Pile Driving Sound Data," prepared for Caltrans by Illinwoth and

Rockin, dated September 27, 2007) which suggests that the driving of concrete piles of the size proposed by the applicant for projects in certain San Francisco Bay and other locations along the coast have not generated the critical sound exposure levels.

However, the data provided does not include any pile driving projects within Humboldt Bay. Without actual measurement of the sound levels, there is no certainty that the sound exposure levels from pile driving in this location will remain below the critical levels. The Commission's experience with certain Caltrans projects such as the Ten Mile River Highway One Bridge replacement project in Mendocino (CDP 1-06-022) where hydroacoustic monitoring was utilized, indicates that measured sound exposure levels can vary greatly, depending on local conditions including the bathymetry and substrate, and acoustic monitoring sometimes has revealed unexpectedly high sound exposure levels that have exceeded the critical levels. Thus, in the absence of pile driving sound data for the subject areas, direct measurement of sound exposure levels form the proposed driving is required to determine what sound exposure levels will actually be generated by the project. Therefore, to ensure that the proposed pile-driving activity will not exceed sound exposure levels that will cause lethal injury to salmon, longfin smelt, and other fish species, the Commission attaches Special Condition Nos. 4 and 5 which require limited hydro-acoustic monitoring and require implementation of the other acoustic impact mitigation measures proposed by the applicant.

Special Condition No. 4 sets certain limitations on the pile driving, including requirements that: 1) the pile driving be limited annually to period from August 1 through October 31 when threatened and endangered salmon and longfin smelt are not likely to be present in significant numbers, 2) the pile-driving hammer be set at the lowest energy level sufficient to achieve adequate driving force; 3) the heads of all pre-stressed concrete piles be protected by caps with a cushion next to the pile-head to reduce sound from pile driving; 4) jetting of piles be conducted to reduce the number of blow counts necessary to drive each pile to the required depth; 5) sound pressure levels from pile-driving not exceed levels that can be sustained by fish in the area as recommended by the National Marine Fisheries Service and the Department of Fish & Game; and 6) hydroacoustic monitoring be performed consistent with a final hydroacoustic monitoring plan prepared and approved pursuant to the requirements of Special Condition 5 during driving of the first pile to provide a mechanism to ensure that the recommended sound pressure levels not be exceed. The special condition provides that if during the first day of pile driving, sound pressure levels do not exceed the exposure criteria, pile-driving operations may continue without additional hydroacoustic monitoring on subsequent days provided all subsequent pile-driving is performed using the same equipment and materials and the number of piles driven in subsequent days does not exceed the number driven during the day when monitoring is performed. In the event of an exceedance of the exposure criteria, pile-driving operations must stop immediately and shall not recommence unless the Executive Director, in consultation with the fisheries biologists of the California Department of Fish & Game and the National Marine Fisheries Service so authorizes based on the resumption of hydroacoustic monitoring of all pile driving operations and

the deployment of additional sound attenuation or other measures deemed likely by qualified technical experts to return the pile-driving to conformance with the duel metric exposure criteria. In the event that after implementation of the additional measures, conformance with the dual metric exposure criteria still is not met, pile-driving shall be stopped immediately and shall not re-commence until or unless the Commission approves an amendment to the permit that proposes substantial changes to the proposed project that are deemed by the Executive Director to offer a high likelihood of success in preventing further exceedance of the dual metric exposure criteria.

The Commission finds that as conditioned, the proposed pile driving operations will minimize adverse acoustic impacts on fish species.

1. Disturbance of Eelgrass Habitat.

The mudflat of the project area supports eelgrass beds near the level of Mean Low Water (MLW). Eelgrass (Zostera marina) is considered to be an environmentally sensitive habitat area worthy of protection because it functions as important shelter and foraging habitat. For example, eelgrass provides cover for juvenile fish and in some locations, serves as a spawning ground for herring. In addition, black brant, a species of migratory geese, feed almost exclusively on eelgrass. Eelgrass is a flowering plant that extends long rhizomes (roots) an average of 1.5 – 8 inches below the substrate from which the turions (stems) sprout with long, green blades (leaves) and it thrives in protected coastal waters with sandy or muddy bottoms. Eelgrass can be adversely impacted by direct contact, or indirectly by shading from over-water structures.

The applicant proposes various measures to mitigate potential impacts to eelgrass beds. A survey of the density and distribution of eelgrass within the likely disturbance zone will be conducted prior to in-water work during the eelgrass growing season (between May and August). Eelgrass beds will be avoided to the maximum extent possible, and the new dock and gangway facilities will be constructed of materials to maximize ambient light penetration the water beneath and in the shadow of the new facilities. After construction, a second survey of the eelgrass will be conducted during the growing season to determine the extent of eelgrass damaged or otherwise adversely affected by the project. If the survey determines there are areas where densities are less than 85% of pre-removal density or where there is a decrease in extent of eelgrass cover, the applicant will prepare a mitigation and monitoring plan for these impacts that provides for at least 3:1 mitigation. The likely mitigation site is the location of the mudflat below the wharf and dock structures that are proposed to be removed as part of the project.

To ensure that the applicant obtains an accurate inventory of eelgrass present at the site prior to construction and to minimize any adverse impacts to eelgrass, the Commission

attaches Special Condition No. 3 that requires the applicant to submit an eelgrass monitoring plan for the review and approval of the Executive Director that includes the provisions described below. These provisions are similar to what the Commission has previously required for North Coast projects with potential impacts to eelgrass.

Special Condition No. 3(a) requires the applicant to conduct a pre-construction survey to be completed during the active eelgrass growing season (May-August) prior to the beginning of construction. The pre-construction survey is valid until the beginning of the next period of active eelgrass growth. Therefore, if the project does not commence before the start of the next growing season, a new survey must be completed during the active growing season. The pre-construction survey is required to be conducted during peak growing season conditions rather than during more dormant periods of the eelgrass lifecycle to ensure that project conditions, including monitoring and mitigation requirements, will be based on an accurate inventory of eelgrass present at the site in the peak eelgrass growing season immediately prior to project construction. Special Condition No. 3(b) requires that post-construction surveys be completed in the same month as the pre- construction survey during the next growing season immediately following project completion to assess any impacts to eelgrass that occur as a direct result from the proposed project. A post-construction survey conducted during a different time of year than the pre-construction survey could result in comparing peak growing season conditions with more dormant periods of the eelgrass lifecycle, thereby providing an inaccurate assessment of project impacts. Eelgrass growth tends to slow and cover is reduced during the winter as a result of increased wave action, wildlife foraging, and decreased light. Therefore, a post-construction survey conducted outside of the peak growing season may yield inaccurate results due to natural seasonal fluctuations in eelgrass density and cover. Furthermore, eelgrass may appear to be damaged immediately following project completion, but even if the blades are damaged, the rhizomes may remain viable. Evidence of permanent damage to eelgrass rhizomes would be more evident during the peak growing season immediately following project completion. To accurately measure impacts to eelgrass from the project, the post-construction survey should occur in the same month as the pre-construction survey during the peak growing season immediately following project completion to compare the density and extent of vegetated cover of the eelgrass under similar growing conditions.

The Commission finds that to ensure that eelgrass habitat values are not diminished to any extent as a result of the project, the project site must achieve density and an extent of vegetated cover equal to pre-construction levels within three years. This performance standard is required as section (c) of Special Condition No. 3. Subsection (e) of Special Condition No. 3 requires density and extent of vegetative cover to be estimated at control areas during both pre-construction surveys and annual monitoring. Changes in density and extent of vegetated cover of the control areas will be used to account for natural variability. Special Condition No. 3(i) requires that if the performance criteria have not been met at the end of three years following the completion of the project, the applicant shall submit an amendment to the coastal development permit for additional mitigation

necessary at a ratio of 4:1 to satisfy the performance criteria consistent with all terms and conditions of this permit.

Therefore, the Commission finds that as conditioned, the project would not result in significant adverse impacts to eelgrass habitat and is adequate to minimize significant adverse impacts to eelgrass consistent with Section 30233 of the Coastal Act.

4. Impairment of Water Quality. The proposed project involves constructing a new boat dock along the Inner Channel of Humboldt Bay. Potential adverse impacts to the water quality of the Bay could occur during the construction process if hazardous materials, construction debris, or other pollutants were to enter coastal waters. To ensure that adverse water quality impacts associated with project debris and construction equipment, Special Condition No. 1 imposes certain construction-related responsibilities. Most notably, these responsibilities require that (1) all construction materials and debris originating from the project shall be stored and/or contained in a manner to preclude their uncontrolled entry and dispersion to the waters of the Bay; (2) any fueling of construction equipment shall occur within upland areas outside of environmentally sensitive habitat areas; (3) 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 (4) stockpiles shall be covered and contained at all times to prevent polluted water runoff.

Additionally, the Commission attaches Special Condition No. 8, which requires submittal of a final erosion and run-off control plan prior to permit issuance. The plan must demonstrate that (a) run-off from the project site must not increase sedimentation in coastal waters, (b) run-off from the project site must not result in pollutants entering coastal waters, (c) best management practices (BMPs) must be used to prevent the entry into coastal waters of polluted stormwater runoff during construction activities as well as from the completed development.

Finally, the Commission attaches Special Condition No. 9 requiring the applicant to submit, for the review and approval of the Executive Director prior to issuance of the CDP, a final plan for the disposal of excess construction-related debris, including, but not limited to, timber deck planks and wooden piles (both treated and untreated). The final plan must demonstrate that no materials to be removed will be temporarily placed or stored during where it may be subject to entering wetlands or other coastal waters and that appropriate best management practices will be used to prevent any discharge to the Bay.

In conclusion, the special conditions discussed above minimize adverse impacts to water quality and do not conflict with any determination by the State Water Resources Control Board or any California Regional Water Quality Control Board determination in matters relating to water quality as required by Section 30412 of the Coastal Act. As conditioned to require (a) submittal and implementation of final plans for erosion and run-off control,

and debris disposal, and (b) adherence to various construction responsibilities, the Commission finds that the project provides feasible mitigation measures to minimize the project's potential water quality impacts, as required by Sections 30230 and 30233 of the Coastal Act.

3. Least Environmentally Damaging Feasible Alternative

The third test of Section 30233(a) is whether there are feasible less environmentally damaging alternatives to the proposed project. In this case, the Commission has considered project options and determines that there are no feasible less environmentally damaging alternatives to the project as conditioned. Alternatives that have been identified include (1) the "no project/use of existing dock" alternative, (2) installing a sheet pile bulkhead instead of the proposed rock slope protection along the bank, and (3) installing the rock slope protection at a steeper angle.

1. No Project Alternative/Use of Existing Dock

The "no project/use of existing dock" alternative means that no improvements would occur to the wharf-related structures located bayward of and within the footprint of the proposed new facilities. A 1,600-sq. ft., wood-pile supported (50+ piles) wooden wharf structure is located at the east end of the project site, and presently serves as public fishing and observation access for the City and the HSU Aquatic Center building. West of the wooden wharf, two wood pile mooring dolphins, approximately 100 feet apart, lie parallel to the shore, approximately 40 feet north of the shoreline. The westernmost existing structure, at the foot of J Street, is a concrete pile-supported wooden access pier and a 60-foot long, pile supported dock for mooring the California Department of Fish and Game's (CDFG) patrol boat.

The existing wharf-related features are in poor physical condition and are unsafe for use as a public boat launching facility at this time. The current dock design does not provide a safe or adequate launching facility for small watercrafts (for example, canoes, kayaks, and row boats). Additionally, the existing dock is not accessible for individuals with disabilities under the Americans with Disabilities Act (ADA) of 1990. The new floating dock as proposed is designed for ADA access. As indicated in the CDP application, "the new gangway and floating dock will provide a site for boating instruction and recreational uses on Humboldt Bay." The intent of the facility is for educational and recreational use while facilitating CDFG's continued use as a patrol boat mooring facility. The no build alternative and use of the existing dock would limit the HSU Aquatic Center's ability to provide for education and recreational activities.

The objective of the proposed project is to improve existing launching facilities on Humboldt Bay for educational and recreational opportunities, while facilitating the continued CDFG use and improving safety. Approval of this alternative would not meet

the objectives of the project. No further action at this site would result in: 1) continued degradation of the existing wharf-related structures, and 2) limit opportunities for education and recreation on Humboldt Bay. Therefore, the "no project/use of existing dock" alternative is not a "less environmentally damaging feasible alternative."

2. Installing a Sheet Pile Bulkhead

The project, as proposed, proposes approximately 6 cubic yards of concrete and RSP for new landing. The proposed abutment will extend beyond the top of the bank by approximately 7 feet at the furthest protrusion, and will match the elevation of the existing walkway. The total amount of fill anticipated for this project, as proposed, is at a minimum. Installation of a sheet pile wall was not considered for this project because the existing bank will be virtually unaffected by the project. This project will not impact the existing bank except in the immediate area of the proposed abutment. No additional RSP outside the footprint of the existing RSP is proposed. The proposed abutment is a vertical feature, and existing RSP will be removed for the installation of the abutment. The RSP replaced will not extend beyond the footprint of the existing RSP.

Installation of a sheet pile wall along the bank would create more disturbances below top of bank. It would also require removal of much more existing RSP to allow sheet pile penetration to the former bay bottom, and the construction installation of a sheet pile wall would use more energy (fuel). Additionally, the installation of a sheet pile wall is considered unnecessary and cost prohibitive for the proposed project. Installation of a sheet pile bulkhead would introduce fewer natural features to the shoreline and have more potential to increase erosion. Therefore, the Commission finds that installing a sheet pile bulkhead is not a "less environmentally damaging feasible alternative."

3. Installing Rock Slope Protection at a Steeper Angle

The RSP along the bank is an existing feature. Some of the RSP along the bank will have to be temporarily removed during the construction process to facilitate the installation of piping along the top of bank, but will be replaced to match the pre-construction configuration. The only section of the bank that will be permanently altered by the project is the section in which the abutment for the gangway is to be located. Minimal excavation of the bank will be required at the face of the abutment in order to provide adequate clearance between the underside of the gangway and the ground during low tide events. Installation of RSP at a steeper angle was not considered for this project because this project will not impact the existing bank except in the immediate area of the proposed abutment. No additional RSP outside the footprint of the existing RSP is proposed. The approximately six cubic yards of concrete and RSP for new landing is below top of bank, but within the footprint of the existing RSP. The proposed abutment

is a vertical feature, and existing RSP will be removed for the installation of the abutment. The RSP replaced will not extend beyond the footprint of the existing RSP. Therefore, the Commission finds that installation of RSP at a steeper angle alternative is not a "less environmentally damaging feasible alternative.

Therefore, the Commission finds that the proposed project as conditioned, involves the least environmentally damaging feasible alternative as required by Section 30233(a).

(4) Maintenance and Enhancement of Marine Habitat Values

The fourth general limitation set by Sections 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, where feasible.

As discussed above in the section of this finding on mitigation, the conditions of the permit would ensure that the project will not have significant adverse impacts on wetland habitats, sensitive fish species, or water quality and thus, would not adversely affect the biological productivity and functional capacity of coastal waters, wetlands, or estuarine habitat. The Commission finds that the project, as conditioned, would maintain the biological productivity and functional capacity of the habitat consistent with the requirements of Sections 30231 and 30233 of the Coastal Act.

(5) Conclusion

The Commission thus finds that the project is an allowable use, that there is no feasible less environmentally damaging alternative, that feasible mitigation is required for potential impacts associated with the filling of coastal waters, and that marine habitat values will be maintained or enhanced. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Sections 30230, 30231 and 30233 of the Coastal Act.

- *Add* the following public access finding prior to the CEQA finding on page 23 as follows:

6. Public Access

Coastal Act Sections 30210, 30211, and 30212 require the provision of maximum public access opportunities, with limited exceptions.

Coastal Act Section 30210 requires in applicable part that maximum public access and recreational opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Section 30211 requires in applicable part that development not interfere with the public's right of access to the sea where acquired

through use (i.e., potential prescriptive rights or rights of implied dedication). Section 30212 requires in applicable part that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, such as when adequate access exists nearby or when the provision of public access would be inconsistent with public safety.

In applying these policies, the Commission is limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential public access.

As discussed above, the proposed project involves improvements to Humboldt State University Boating Instructional Safety Center (BISC) including the construction of a new boat dock for use by the University, a public educational institution. The boating facility would be used by students, faculty, and guests associated with educational programs offered by the University. In addition, the general public would continue to be able to use the existing public walkway that extends along the shoreline between the BISC and the Bay.

The proposed new boat dock would not interfere with use of the public walkway. In addition, the new dock facility would not interfere with other boat traffic in the Bay, as the dock has been sited such that it would not extend into the Bay in a manner that would obstruct the navigable channel.

Therefore, the Commission finds that the proposed project as conditioned, does not have any significant adverse effect on public access, and that the project as proposed without new public access is consistent with the requirements of Coastal Act Sections 30210, 30211, 30212, and 30214.

CALIFORNIA COASTAL COMMISSION
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Date Filed:	July 9, 2009
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Staff:	Robert S. Merrill
Staff Report:	November 20, 2009
Hearing Date:	December 10, 2009
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.:	**1-09-004**
APPLICANT:	Humboldt State University Office of Facilities Management
PROJECT LOCATION:	Along the shoreline of Humboldt Bay, at the Humboldt State University Humboldt Bay Aquatic Center, between K and J Streets, Eureka, Humboldt County.
PROJECT DESCRIPTION:	Demolish existing wharf structures and construct a new gangway and 2,080-square-foot floating dock for boating instruction, recreational, and government uses
LOCAL APPROVALS REQUIRED:	City of Eureka: Tidelands Lease Amendment; Design Review
OTHER APPROVALS REQUIRED:	(1) U.S. Fish & Wildlife Service, (2) State Lands Commission Review of Lease Amendment, (3) U.S. Army Corps of Engineers.
SUBSTANTIVE FILE DOCUMENTS:	City of Eureka Local Coastal Program.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission find that the proposed project subject to 15 attached special conditions is consistent with the Chapter 3 policies of the Coastal Act.

The project site is located on the shoreline of Humboldt Bay, immediately north of the Humboldt State University Humboldt Bay Aquatic Center building on Waterfront Drive, between K and J Streets in the City of Eureka. The Aquatic Center houses the Boating Instruction and Safety Center (BISC) and the facility is often referred to as the BISC building (See Exhibits 1-2). The proposed development includes demolition of selected existing structures, construction of a shoreward concrete abutment, and installation of a floating dock structure covering an area of approximately 2,080 square feet that will be anchored by 11 piles and accessed by an 80-foot long aluminum truss gangway (10-feet wide).

The project site is located along the Eureka Inner Channel of Humboldt Bay. The channel includes several environmentally sensitive habitat areas (ESHA) including mudflat habitat that supports eel grass (*Zostera marina*) in certain near the level of Mean Low Water (MLW). In addition, the Eureka Inner Channel and other portions of Humboldt support sensitive anadromous salmon species and longfin smelt, which also qualify as ESHA under the Coastal Act.

The wetland fill associated with the proposed project is for the construction of a new boat docking facility. Therefore, staff recommends that the Commission find that the filling associated with the proposed project is an allowable use for filling and dredging of coastal waters and wetlands, as the fill is for the construction of a new boat docking facility consistent with subsections (a)(3) of Coastal Act Section 30233.

The principle issues raised by the proposed project are impacts to eelgrass beds and fish species associated with the removal of existing wharf structures and the driving of piles in the Bay to secure the new boat dock.

The demolition and construction work could directly disturb existing eelgrass beds on the site and the acoustic impacts from pile driving could adversely affect fish species. Sound pressure levels resulting from pile-driving can be lethal under some circumstances to fish. Therefore, staff recommends that the Commission attach several special conditions as described below.

To ensure that the applicant obtains an accurate inventory of eelgrass present at the site prior to construction and to minimize any adverse impacts to eelgrass, staff recommends Special Condition No. 3. The special conditions requires the applicant to submit an eelgrass monitoring plan for the review and approval of the Executive Director that includes monitoring provisions requiring (1) that the applicant conduct both pre- and post-construction surveys to be completed during the active eelgrass growing season

prior to the beginning of construction, and (2) that if the performance criteria have not been met at the end of three years following the completion of the project, the applicant shall submit an amendment to the coastal development permit for additional mitigation necessary to satisfy the performance criteria consistent with all terms and conditions of this permit.

To avoid significant adverse impacts to salmon, longfin smelt, and other fish species from sound pressure levels resulting from pile driving, staff recommends the Commission attach Special Conditions 4 and 5. Special Condition No. 4 sets certain limitations on the pile driving, including requirements that: 1) the pile driving be limited annually to period from August 1 through October 31when salmon and longfin smelt are not likely to be present in significant numbers, 2) the pile-driving hammer be set at the lowest energy level sufficient to achieve adequate driving force; 3) the heads of all pre-stressed concrete piles be protected by caps with a cushion next to the pile-head to reduce sound from pile driving; 4) jetting of piles be conducted to reduce the number of blow counts necessary to drive each pile to the required depth; 5) sound pressure levels from pile-driving not exceed levels that can be sustained by fish in the area as recommended by the National Marine Fisheries Service and the Department of Fish & Game; and 6) hydroacoustic monitoring be performed consistent with a final hydroacoustic monitoring plan prepared and approved pursuant to the requirements of Special Condition 5 during driving of the first pile to provide a mechanism to ensure that the recommended sound pressure levels not be exceed. The special condition provides that if during the driving of the first pile sound pressure levels do not exceed the exposure criteria, pile-driving operations may continue without additional hydroacoustic monitoring provided all subsequent pile-driving is performed using the same equipment and materials. In the event of an exceedance of the exposure criteria, pile-driving operations must stop immediately and shall not recommence unless the Executive Director, in consultation with the fisheries biologists of the California Department of Fish & Game and the National Marine Fisheries Service so authorizes based on the resumption of hydroacoustic monitoring of all pile driving operations and the deployment of additional sound attenuation or other measures deemed likely by qualified technical experts to return the pile-driving to conformance with the duel metric exposure criteria.

Staff is recommending a number of other special conditions to minimize other potential impacts of the development, including conditions designed to minimize impacts to water quality by requiring submittal of an erosion and sedimentation control plan, a final debris disposal plan, and adherence to construction responsibilties designed to minimize the release of debris and pollutants in the waters of Humboldt Bay. Other conditions require the applicant to monitor for archaeological resource during construction and stop construction in the event of discovery of such resources, organize construction activities so as no to block navigation within the Eureka Inner Channel, submit required approvals from other agencies, and submit post construction plans for submittal to NOAA for updating nautical charts.

As conditioned, staff believes the proposed project is consistent with the Chapter 3 policies of the Coastal Act and recommends approval of the project with the above-described special conditions.

The Motion to adopt the Staff Recommendation of Approval with Conditions is found on page 5 below.

STAFF NOTES

1. Jurisdiction & Standard of Review

The proposed project area is bisected by the boundary between the retained coastal development permit jurisdiction of the Commission and the coastal development permit jurisdiction delegated to the City of Eureka by the Commission through the City's certified Local Coastal Program. The boundary lies at the mean high tide line along the shoreline embankment with the Commission's jurisdiction at and below the mean high tide line and the City's jurisdiction lying above the mean high tide line.

The Coastal Act was amended by Senate Bill 1843 in 2006, effective January 1, 2007. The amendment added Section 30601.3 to the Coastal Act. Section 30601.3 authorizes the Commission to process a consolidated coastal development permit application when requested by the local government and the applicant and approved by the Executive Director for projects that would otherwise require coastal development permits from both the Commission and from a local government with a certified LCP. In this case, the City Council of the City of Eureka adopted a resolution (Resolution No. 2008-64) on November 18, 2008 agreeing to the consolidated processing of the coastal development permit application by the Commission for the subject project, which was approved by the Executive Director (see Exhibit No. 6).

The policies of Chapter 3 of the Coastal Act provide the legal standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3. The local government's certified LCP may be used as guidance.

2. Addendum

This staff report does not contain the complete findings for approval of the project. Staff was unable to complete the findings prior to the mailing of the staff report. However, staff will present the remaining portion of the recommended findings for approval of the project as part of the addendum at the Commission meeting. The findings contained in both this staff report and its addendum will reflect the basis for approval with conditions.

I. MOTION, STAFF RECOMMENDATION, & RESOLUTION:

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve Coastal Development Permit No. 1-09-004 pursuant to the staff recommendation.

Staff Recommendation of Approval:

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

Resolution to Approve 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 Attachment A.

III. SPECIAL CONDITIONS:

1. Construction Responsibilities:

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

a. Heavy equipment shall not operate in the bay or intertidal wetlands. All removal of storm-damaged debris and pilings shall be done either from the upland shore or from the floating barge;

b. All debris, including, but not limited to, timber deck planks, piles, pile caps, and previously-stockpiled material, shall be removed from the site and disposed of in an upland location at an approved disposal facility within 10 days of project completion;

c. No construction materials, debris, or waste shall be placed or stored where it may be subject to entering waters of Humboldt Bay or intertidal wetlands;

d. A floating boom shall be installed around the project area within the bay/intertidal wetlands to contain any debris within the project area that may become inadvertently dislodged during construction work. Any debris discharged into coastal waters shall be recovered immediately and disposed of properly;

e. Any barge used to support pile removal and pile driving equipment shall be floating at all times and shall only operate at tides high enough so that the barge does not rest against the intertidal mudflat bottom;

f. Any piles that break upon removal shall be cut off at least one foot below the mud line;

g. 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. Following construction, all trash and construction debris shall be removed from work areas and disposed of properly;

h. Any fueling and maintenance of construction equipment shall occur within upland areas outside of environmentally sensitive habitat areas or within designated staging areas;

i. Fuels, lubricants, and solvents shall not be allowed to enter the coastal waters or wetlands. 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;

j. All on-site stockpiles of construction debris shall be covered and contained at all times to prevent polluted water runoff; and.

k. The stockpiling area shall be limited to the location and size specified in the permit application.

l. Non-buoyant debris discharged into coastal waters shall be recovered by divers as soon as possible after loss;

3. <u>Eelgrass Monitoring and Mitigation Plan</u>

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-09-004**, the applicant shall submit, for review and written approval of the Executive Director, an eelgrass mitigation and monitoring plan that includes the following provisions:

(a) A pre-construction survey shall be completed during the months of May through August, the period of active growth of eelgrass. The pre-construction survey shall be completed prior to the beginning of construction and shall be valid until the next period of active growth;

(b) The post-construction survey shall be completed in the same month as the pre-construction survey during the next growing season immediately following the completion of construction;

(c) If post-construction surveys indicate any decrease in eelgrass density or cover, then the site shall be monitored consistent with the approved final mitigation and monitoring plan for three years or until the performance criteria in section (f) have been met. If post-construction survey results demonstrate to the satisfaction of the Executive Director that eelgrass densities have not decreased at all and there has been no loss of extent of vegetated cover, then no further monitoring or mitigation is required;

(d) Adverse impacts to eelgrass shall be measured as the difference between the pre-construction and post-construction estimates of eelgrass cover and density. The extent of vegetated cover is defined as that area where eelgrass is present and where gaps in coverage are less than one meter between individual turion clusters. Density is defined as the average number of turions per unit area.

(e) Density and extent of vegetative cover shall be estimated at control areas during pre-construction surveys, post-construction surveys, and during annual monitoring. Changes in density and extent of vegetated cover of the control areas will be used to account for natural variability. Selection of an appropriate control site shall be performed in consultation with the Department of Fish and Game and the National Marine Fisheries Service;

(f) Within three years of completion of the project, the entire project site shall have an extent of vegetated cover equal to the pre-construction extent of vegetated cover and have an average density equal to the pre-construction average density. Specific success and monitoring criteria are as follows:

i. a minimum of 70 percent areal coverage and 30 percent density after the first year;
ii. a minimum of 85 percent areal coverage and 70 percent density after the second year;
iii. a sustained 100 percent areal coverage and at least 85 percent density for the third year.

(g) Monitoring methods shall include photographs and random sampling of the project site using a sampling size adequate to obtain representative qualitative data for the entire project site to determine percent cover and shoot density as defined in subsection (d) above;

(h) A detailed monitoring schedule shall be provided that indicates when each of the required monitoring events will be completed. Monitoring reports shall be provided to the Coastal Commission, the National Marine Fisheries Service, and the Department of Fish and Game within 30 days after the completion of each required monitoring period.

(i) The impacted site shall be remediated within a year of a determination by the permittee or the Executive Director that monitoring results indicate that the site does not meet the performance standards identified in section (f) and in the approved final monitoring and mitigation program. If the performance criteria have not been met at the end of three years following the completion of construction of the project, the applicant shall submit an amendment to the coastal development permit proposing additional mitigation at a ratio of 4:1 to ensure all performance criteria are satisfied consistent with all terms and conditions of this permit.

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

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4. <u>Pile-Driving Limitations</u>.

A. All pile-driving activities shall be performed in full accordance with the following pile-driving requirements:

1) Pile-driving of all piles shall be limited annually to period from August 1 through October 31;

2) The pile-driving hammer shall be set at the lowest energy level sufficient to achieve adequate driving force;

3) The heads of all pre-stressed concrete piles shall be protected by caps with a cushion next to the pile-head;

4) Jetting of piles shall be conducted to reduce the number of blow counts necessary to drive each pile to the required depth;

5) To protect fish from the acoustic impacts of pile-driving, peak sound pressure levels within Humboldt Bay shall not exceed 206 dB and accumulated SEL shall not exceed 183 dB;

6) Hydroacoustic monitoring shall be performed consistent with the approved final hydroacoustic monitoring plan prepared pursuant to the requirements of Special Condition 5 below during driving of the first pile;

7) If during the driving of the first pile sound pressure levels do not exceed either criterion of the dual metric exposure criteria, pile-driving operations may continue without hydroacoustic monitoring provided all subsequent pile-driving is performed using the same equipment and materials;

8) In the event of an exceedance of either criterion of the dual metric exposure criteria, pile-driving operations shall be immediately stopped and shall not recommence unless the Executive Director, in consultation with the fisheries biologists of the California Department of Fish & Game and the National Marine Fisheries Service so authorizes based on the resumption of hydroacoustic monitoring of all pile driving operations and the deployment of additional sound attenuation or other measures deemed likely by qualified technical experts to return the pile-driving to conformance with the duel metric exposure criteria;

(9) If the return to pile-driving after the implementation of the additional measures discussed in Subparagraph (8) above results in an exceedance of either criterion of the dual metric exposure criteria, pile-driving shall be stopped immediately and shall not re-commence until or unless the Commission approves an amendment to CDP 1-09-004 that proposes substantial changes to the proposed project that are deemed by the Executive Director to offer a high likelihood of success in preventing further exceedance of the dual metric exposure criteria.

B. Pile-driving shall be conducted at all times in accordance with these provisions. Any proposed changes to these pile-driving requirements and limitations shall be

reported to the Executive Director. No changes to the requirements of the special condition shall be made without a Coastal Commission approved amendment of CDP 1-09-004 unless the Executive Director determines that no amendment is legally required.

5. Hydroacoustic Monitoring Plan

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-09-004**, the applicant shall submit a Hydroacoustic Monitoring Plan, containing all supporting information and analysis deemed necessary by the Executive Director for the Executive Director's review and approval. Prior to submitting the plan, to the Executive Director, the applicant shall also submit copies of the Plan to the reviewing fisheries biologists of the California Department of Fish & Game and the National Marine Fisheries Service for their review and consideration.

The plan shall be based on the "dual metric exposure criteria" set forth below and shall state that exceedance of either criterion, calculated as required herein, shall be deemed lethal to exposed fish and non-compliant with the Conditions of CDP 1-09-004.

DUAL METRIC EXPOSURE CRITERIA

1) Criteria: SEL-accumulated:
A fish receiving an accumulated Sound Exposure Level (SEL) at or above 183 dB re one micropascal squared-second during the driving of piles shall be deemed to have received a lethal physical injury. To estimate the sound energy to which a fish is exposed during multiple hammer strikes, NMFS uses the simple summation procedure where Total SEL = Single Strike SEL + 10log (number of strikes).

2) Criteria: Peak SPL:
A fish receiving a peak sound pressure level (SPL) at or above 206 dB re one micropascal from a single hammer strike shall be deemed to have received a lethal physical injury.

At a minimum, the Plan shall:

(1) Establish the field locations of hydroacoustic monitoring stations that will be used to document the extent of the hydroacoustic hazard footprint during pile-driving activities, and provisions to adjust the location of the acoustic monitoring stations based on data acquired during monitoring, to ensure that the sound pressure field is adequately characterized;

(2) Describe the method of hydroacoustic monitoring necessary to assess the actual conformance of the proposed pile-driving with the dual metric exposure criteria in the vicinity of the pile-driving locations on a real-time basis, including relevant details such as the number, location, distances, and depths of hydrophones and associated monitoring equipment;

(3) Include provisions to continuously record pile strikes in a manner that enables the time of each strike, the number of strikes, the peak sound pressure and other measures of sound energy per strike, or other information required by the Executive Director in consultation with fisheries biologists of the California Department of Fish & Game and the National Marine Fisheries Service, and the interval between strikes to be determined for all pile-driving activities that may produce measurable acoustic affects in the aquatic environment of Humboldt Bay, as well as provisions to supply all monitoring data that is recorded, regardless of whether the data is deemed "representative" or "valid" by the monitor (accompanying estimates of data significance, confounding factors, etc. may be supplied by the acoustician where deemed applicable);

(5) Include provisions for real-time identification and reporting of any exceedance of the dual metric exposure criteria, clear action and notification protocols to stop pile-driving in case of such exceedance, and procedures to notify pertinent parties including the Executive Director and other pertinent state and federal agencies immediately after any exceedance of the dual metric exposure criteria. The plan shall additionally provide a complete explanation and illustration of the method used to analyze the cumulative impact portion (accumulated SEL) of the dual metric exposure criteria threshold.

(6) Include provisions that in the event of an exceedance of either criterion of the dual metric exposure criteria, pile-driving operations shall be immediately stopped and shall not recommence unless the Executive Director, in consultation with the fisheries biologists of the California Department of Fish & Game and the National Marine Fisheries Service so authorizes based on the resumption of hydroacoustic monitoring of all pile driving operations and the deployment of additional sound attenuation or other measures deemed likely by qualified technical experts to return the pile-driving to conformance with the duel metric exposure criteria;

(7) Include provisions that if the return to pile-driving after the implementation of the additional measures discussed in Subparagraph (6) above results in an exceedance of either criterion of the dual metric exposure criteria, pile-driving shall be stopped immediately and shall not re-commence until or unless the Commission approves an amendment to

CDP 1-09-004 that proposes substantial changes to the proposed project that are deemed by the Executive Director to offer a high likelihood of success in preventing further exceedance of the dual metric exposure criteria.

B. Project activities shall be conducted at all times in accordance with the provisions of the final approved plan. Any proposed changes to the final approved plan shall be reported to the Executive Director. No changes to the final approved plan shall occur without an amendment to CDP 1-09-004 unless the Executive Director determines that no amendment is legally required.

6. Pile Limitations

The applicant shall use only concrete piles. No creosote- treated wooden piles shall be placed in the waters of Humboldt Bay.

7. Timing of Construction

All development to be performed in the waters of Humboldt Bay or below the top of bank shall be limited to the period from August 1 through October 31 except for hand removal with small power tools of the decking of the eastern wooden wharf and western California Department of Fish & Game dock and pier which may be performed during the period from June 15th through October 31.

8. Erosion and Runoff Control Plan

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-09-004**, the permittee shall submit, for review and approval of the Executive Director, a plan for erosion and runoff control demonstrating the following:

(1) The erosion control plan shall demonstrate that:

a. Runoff from the project site shall not result in pollutants entering coastal waters or wetlands;

b. Best Management Practices (BMPs) shall be used to prevent the entry of polluted stormwater runoff into coastal waters or wetlands during construction work;

c. Erosion controls shall be used to protect and stabilize stockpiles and exposed soils to prevent movement of materials (*e.g.*, silt

fences, berms of hay bales, plastic sheeting held down with rocks or sandbags over stockpiles, etc.);

d. After project completion, all exposed soils present in and around the project site which may deliver sediment to the bay or intertidal wetlands shall be stabilized with mulch, seeding, and/or placement of erosion control blankets. Erosion control seeding shall include only native, regionally appropriate species. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the governments of the State of California or the United States shall be utilized within the property; and

e. The erosion and runoff control plan shall be consistent with all other requirements of the coastal development permit and shall be consistent with the approved debris disposal plan required by Special Condition No.9.

(2) The plan shall include, at a minimum, the following components:

a. A narrative report describing all erosion control measures to be used;

b. A site plan showing the location of all erosion control measures;

c. A schedule for installation and removal of the erosion control measures; and

d. A listing of any plant species to be used to stabilize exposed soils and information indicating whether the species are native or regionally appropriate.

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.

9. <u>Final Debris Disposal Plan</u>

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-09-004**, the permittee shall submit, for the review and approval of the Executive Director, a final plan for the disposal of excess construction and demolition related debris, including, but not limited to, timber deck planks, wooden pilings (both treated and untreated), and the abandoned spud barge.

(1) The debris disposal plan shall demonstrate that:

a. Pier piles removed from the pier shall not be mixed with decking and other debris until it is determined whether the piles were previously treated with creosote or other wood preservatives;

b. All temporary stockpiles of demolition and construction debris shall be located where they can feasibly be contained with appropriate BMPs to prevent any discharge of contaminants to the bay;

c. Each proposed disposal site shall be located in an upland area where materials may be lawfully disposed;

d. All demolition and construction debris shall be removed from the site and taken to the approved disposal sites within 60 days of removal from the bay; and

e. The disposal plan shall be consistent with all other requirements of the coastal development permit and shall be consistent with the approved erosion and runoff control plan required Special Condition No. 8.

(2) The plan shall include, at a minimum, the following components:

a. A narrative report describing all debris disposal methods including, but not limited, to how it will be determined whether the pier piles to be removed have been treated with creosote or other wood preservatives, how treated piles and salvageable materials will be separated from other debris, and how debris will be removed from the construction site;

b. Information about each proposed disposal site including the specific location, name, evidence that the disposal site is an upland location, and evidence that the disposal site and identify a disposal site that may lawfully accept the debris (*e.g.*, provide the relevant permit number for the disposal facility from the local jurisdiction, if applicable);

c. A site plan of the project site depicting where all stockpiling and sorting of debris will occur; and

d. A schedule for when demolition and construction debris will be removed from the project site and taken to the approved disposal sites.

B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without an amendment to Coastal Development Permit No. 1-09-004.

10. Channel Access During Construction

At all times during project construction, and at all stages of the tide at and above the mean lower low water (MLLW), a passage of at least 50 feet wide in the Eureka Inner Channel of Humboldt Bay shall be kept clear of all obstructions including floating and submerged structures, equipment, and suspended overhead hazards to allow for continued access through the project area by small boats and recreational water craft. The passage shall be clearly marked with floating buoys.

11. Archaeological Resources

A. If an area of cultural deposits is discovered during the course of the project, all construction shall cease and shall not recommence except as provided in subsection (C) hereof. A qualified cultural resource specialist shall analyze the significance of the find.

B. An applicant seeking to recommence construction following discovery of the cultural deposits shall submit a supplementary archaeological plan for the review and approval of the Executive Director.

(i) If the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are de minimis in nature and scope, construction may recommence after this determination is made by the Executive Director.

(ii) If the Executive Director approves the Supplementary Archaeological Plan but determines that the changes therein are not de minimis, construction may not recommence until after an amendment to this permit is approved by the Commission.

C. The applicant shall undertake development in accordance with the approved supplemental Archaeological Plan. No changes to the approved supplementary archaeological plan shall occur without a Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

12. State Lands Commission Review

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-09-004, 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 or other approvals 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.

13. National Marine Fisheries Service Approval

PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, the permittee shall provide to the Executive Director a copy of any incidental take permit or other approval issued by the National Marine Fisheries Service, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the National Marine Fisheries Service. 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.

14. Army Corps of Engineers Approval

PRIOR TO COMMENCEMENT OF CONSTRUCTION, the permittee shall provide to the Executive Director a copy of a permit issued by U.S. Army Corps of Engineers, a letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the U.S. Army Corps of Engineers. 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.

15. NOAA Nautical Chart Revision

WITHIN 30 DAYS OF THE COMPLETION OF THE APPROVED DEVELOPMENT, the applicant shall provide written verification to the California Coastal Commission that the applicant has submitted to the U.S. Coast Guard and the National Oceanic and Atmospheric Administration (NOAA):

1) as-built drawings, blueprints, or other engineering documents which depict the completed development;

2) geographic coordinates of the location, using a Differential Geographic Positioning System (DGPS) unit or comparable navigational equipment; and

3) the applicant's point of contact and telephone number.

III. FINDINGS AND DECLARATIONS

1. Site Description

The project site is located on the shoreline of Humboldt Bay, immediately north of the Humboldt State University Humboldt Bay Aquatic Center building on Waterfront Drive, between K and J Streets in the City of Eureka, California. The Aquatic Center houses the Boating Instruction and Safety Center (BISC) and the facility is often referred to as the BISC building (See Exhibits 1-2). The project site is located along the northern Eureka waterfront along the Eureka Inner Channel in an area historically and currently used for boating and maritime activities. The site is adjacent to Old Town Eureka.

Several existing wharf-related structures extend bayward of the shoreline of the subject site (See Exhibits 3-4) including: (1) a deteriorating 1,600-square-foot pile supported wooden wharf structure at the east end of the project site that currently serves as a public fishing and observation deck; (2) a 60-foot-long pile-supported dock with a concrete pile-supported access pier that is used for mooring a California Department of Fish & Game patrol boat; and (3) two wood pile mooring dolphins located approximately 100 feet apart and 40 feet from shore. The shoreline embankment of the site consists of old wooden bulkhead walls and concrete rubble and quarry rock placed for rock slope protection.

According to historical maps of the area, the upland project areas may have originally (*e.g.,* a century ago) supported salt marsh habitat, but they were filled and disturbed decades ago (before Coastal Act enactment). Currently, the habitats on and adjacent to the site consist of ruderal/disturbed upland, armored shoreline, and estuarine intertidal mudflats ("estuarine intertidal aquatic bed habitat" as classified by the National Wetlands Inventory classification system; Cowardin *et al.* 1979). Portions of the mudflats within

the project area support eelgrass beds near the level of Mean Low Water (MLW). The eelgrass beds qualify as Environmentally Sensitive Habitat Area (ESHA) under the Coastal Act. In addition, the Eureka Inner Channel and other portions of Humboldt support sensitive anadromous salmon species and longfin smelt, which also qualify as ESHA under the Coastal Act.

2. Project Description

The proposed development includes demolition of selected existing structures, and new construction of a shoreward concrete abutment, access gangway, and floating dock structure.

Existing facilities to be demolished include:

- The approximately 1,600-square-foot (sq. ft.), wood-pile supported (50+ piles) wooden wharf structure that is in poor physical condition and located at the east end of the project site. The wharf currently serves as public fishing and observation access for the City of Eureka (City) and the HSU Aquatic Center building.
- The two wood pile (10+ piles) mooring dolphins located parallel and approximately 40 ft. north of the shoreline.
- The westernmost existing structure, at the foot of J Street, consisting of a wood and concrete pile-supported (10+ piles) wooden access pier and a 60-foot long, pile-supported dock for mooring the CDFG patrol boat. The CDFG dock and access pier covers approximately 500 sq. ft.

All existing pilings (70+ pile total) will be removed with the various associated structures (approximately 2,100 sq. ft. total). Existing above-ground utilities, serving the existing dock, will be abandoned by removal during dock demolition. Existing subsurface utilities will be incorporated into the proposed new water, electrical, and communication services. Dredging is not anticipated, as recent (2006-2007) harbor maintenance dredging has deepened bottom areas of proposed construction area to suitable elevations.

New construction will include the following facilities and issues (see Exhibit No. 4):

1. A concrete abutment for securing the new gangway, landward, located on the City property at the existing top of the bank north of the HSU Aquatic Center building. Two 15-inch concrete gangway abutment support piles (approximately 60 ft. long, with a top elevation of 9.5 ft. New Eureka Datum); footprint area approximately 130 sq. ft.
2. An 80-foot long aluminum truss gangway (10-feet wide) with fixed support at the abutment, and a sliding support on the new floating dock; footprint area approximately 800 sq. ft.

3. A floating dock system consisting of the following: 110 ft. of fiberglass floating dock (west of gangway, and including gangway landing) covering an area of approximately 1,340 sq. ft.; 130 ft. of High Density Polyethylene (HDPE) modular block floating dock (east of gangway landing) covering an area of approximately 2,080 sq. ft.; six, 24-inch octagonal concrete guide piles with a top elevation of 13 ft.; and five, 15-inch octagonal concrete floating dock guide piles with a top elevation of 13 ft. The eastern portion of the floating dock system (HDPE modular block section) will have less freeboard than the western portion of the floating dock system (fiberglass floating dock). The north, outboard edge, of the new floating dock is to be positioned to allow no encroachment into the designated channel line by moored vessels or initial launching of recreational equipment.

   Total number of piles for the floating dock system and concrete abutment for securing the new gangway is 13 piles. Total square footage for the floating dock system, aluminum truss gangway, and concrete abutment for securing the new gangway is approximately 4,350 sq. ft.

4. New water (fire suppression and potable) and electrical services to the CDFG mooring portion of the new floating dock, with electrical service for dock lighting (warning and security); no wastewater transfer facilities to be provided; all services to be flex coupled, with appropriate shut-off components, at shore to bay connections.

5. Rock slope protection along construction-disturbed embankment areas to protect the new shoreward facilities.

6. Construction will be limited to daylight hours, Monday through Friday.

Equipment anticipated to be used for the demolition and construction activities include the following:

1. A barge-mounted crane or contractor-selected equipment for existing piling removal, with piling to be transferred to, and appropriately stored on land for subsequent disposal or recycling at appropriately licensed facilities. Piles removed during the demolition phase shall be stored on site and wrapped in plastic sheeting (Visqueen) to prevent any potential discharges to waters of the U.S. and State.

2. A barge-mounted pile driving equipment for new guide pile construction. Concrete piles shall be driven with a hammer to be selected by the contractor based on required pile capacity and driving conditions. Hammer efficiency shall be demonstrated by using a Pile Driving Analyzer (PDA) supplied and operated by the contractor. Jetting[1] may be

[1] Jetting in piles is a technique that in effect loosens the material that the pile is being driven into by forcing a strong jet of water in front of the pile tip.

used to aid in the installation of the guide piles. The heads of all pre-stressed concrete piles shall be protected by caps of approved design, with a cushion next to the pile head. Pile driving is anticipated to take less than one week.

3. Staging is proposed in the gravel lot west of the existing HSU Aquatic Center Building. The contractor may be allowed (as coordinated with HSU) to use a portion of the existing fenced storage/parking area associated with HSU Aquatic Center Building. Possible use of the adjacent parcel to the immediate west (Assessor's Parcel Number [APN] 001-161-009) for construction staging shall be negotiated by the contractor with the property owner and occupant. The existing storage/parking area west of the Aquatic Center Building is fenced and not open for public use. The existing parking area east of the Aquatic Center Building is a public parking area, and may be used for minimal construction staging (for example, demolition of the existing wharf). The adjacent parcel gravel lot (APN 001-161-009) is occupied by Eureka Fisheries, Inc. and not used as public parking.
4. Excavators, backhoes, cranes, dump trucks, rubber tire loaders, and miscellaneous construction equipment and support vehicles for landward gangway abutment and gangway placement, underground utility construction, aboveground embankment protection construction, and bayward construction support.
5. Equipment and materials for construction of erosion control and spill prevention measures for both landward and bayward operations.

3. Protection of Coastal Wetlands, Estuaries, and Water Quality

Section 30108.2 of the Coastal Act defines "fill" as:

> *earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area.*

Section 30230 of the Coastal Act states, in applicable part:

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

Section 30231of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Section 30233(a) 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:*
>
> …
>
> *(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, <u>new or expanded boating facilities</u> and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
>
> …
>
> *(6) <u>Restoration purposes</u>.*
>
> *(7) <u>Nature study</u>, 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]

The proposed project involves removing existing wharf structures and installing a floating dock covering an area of approximately 2,080 square feet anchored by 11 piles and accessed by an 80-foot long aluminum truss gangway (10-feet wide). The proposed installation of piles and construction of a floating boat dock in Humboldt Bay constitute wetland fill under Section 30108.2 of the Coastal Act. The removal of the existing wharf structures are also a form of dredging subject to the requirements of Coastal Act Section 30233.

Coastal Act Sections 30230, 30231, and 30233 cited above set forth a number of limitations on development in coastal waters, wetlands, and estuaries. For analysis purposes, the limitations can be grouped into four general categories or tests. These tests are:

a. that the purpose of the filling, diking, or dredging is for one of the seven uses allowed under Section 30233;

b. that the project has no feasible less environmentally damaging alternative;

c. that feasible mitigation measures have been provided to minimize adverse environmental effects; and

d. that the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

a. Allowable Use for Fill in Wetlands

The first test for a proposed project involving filling or dredging in coastal waters, wetlands, or estuaries is whether the fill or dredging is for one of the eight allowable uses under Section 30233(a). Subsection (a)(3) lists "…*new or expanded boating facilities,*" among the allowable uses for fill and dredging in wetlands.

The wetland fill associated with the proposed project is for the construction of a new boat docking facility. Structural wetland fill associated with the project would be limited to the installation of 11 concrete piles driven into the muddy intertidal bottom of the Eureka Inner Channel of Humboldt Bay, comprising a total of approximately 20 square feet of new structural wetland fill. The floating portion of the dock would be located above marine habitat, but would not result in direct structural fill.

Therefore, the Commission finds that the filling and dredging associated with the proposed project are for an allowable use for filling and dredging of coastal waters and wetlands, as the fill is for the construction of a new boat docking facility intended to facilitate boating facilities consistent with subsection (a)(3) of Coastal Act Section 30233.

4. State Lands Commission Approval

The project site is located in an area subject to the public trust. Therefore, to ensure that the applicant has the necessary authority to undertake all aspects of the project on these public lands, the Commission attaches Special Condition No. 12, which requires that the project be reviewed, and where necessary approved, by the State Lands Commission prior to the commencement of construction.

5. Army Corps of Engineers and National Marine Fisheries Service Approvals

Portions of the project require review and approval by the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Federal Clean Water Act (PL 95-217). 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 USACE, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit.

As part of the Corps' permit process, applicants often are required to undergo formal Federal Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS). Because of the presence of threatened salmon species in the waters of Humboldt Bay, the National Marine Fisheries Service is reviewing the proposed development. Certain types of projects qualify for issuance of one of the Corps' established "nationwide permits" for minor classes of development determined to have minimal impacts to water quality and navigable waters. It is not clear what type of permit the Corps is issuing for the proposed project. Nevertheless, to ensure that the project ultimately approved by the Corps, in consultation with the NMFS is the same as the project authorized herein, the Commission attaches Special Condition Nos. 13 and 14. These special conditions require the applicant to submit to the Executive Director, prior to commencement of any development, evidence of the Corps' and National Marine Fisheries Service's approvals of the project. The conditions also require that any project changes resulting from agency approval(s) not be incorporated into the project until the applicant obtains any necessary amendments to this coastal development permit.

6. California Environmental Quality Act

The applicant, Humboldt State University, served as the lead agency for the project for CEQA purposes. The University adopted a mitigated negative declaration for the project on June 2, 2009 (SCH No. 2009022055).

Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. Those 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 above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. As specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts, which the activity may 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.

EXHIBITS:

1. Regional Location Map
2. Vicinity Map
3. Site Photos
4. Project Plans
5. Project Description
6. Consolidated Permit Request
7. Preliminary Eelgrass Survey
8. Biological Assessment (Excerpts)

ATTACHMENT A

STANDARD CONDITIONS

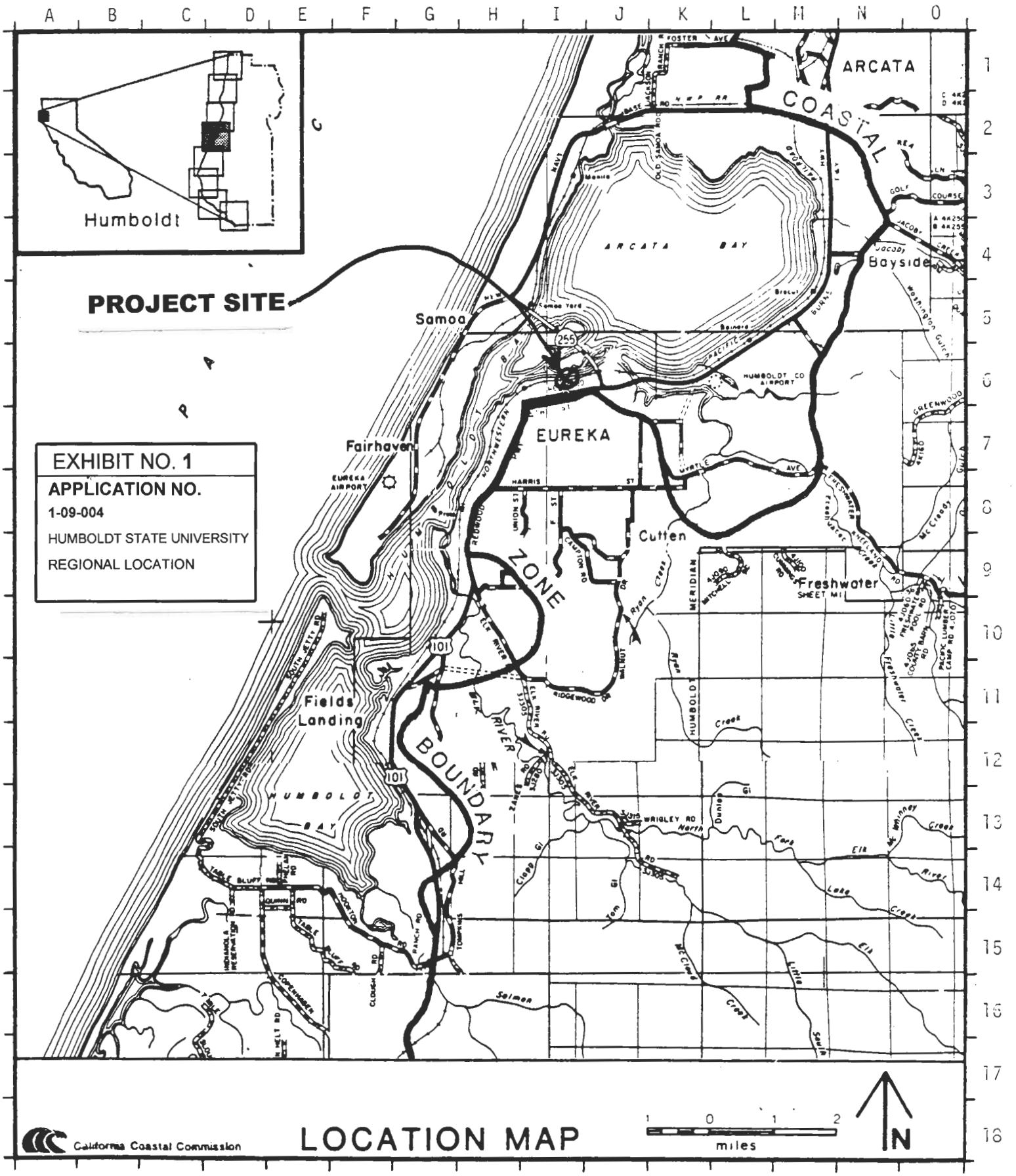
1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

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 amount of time. Application for extension of the permit must be made prior to the expiration date.

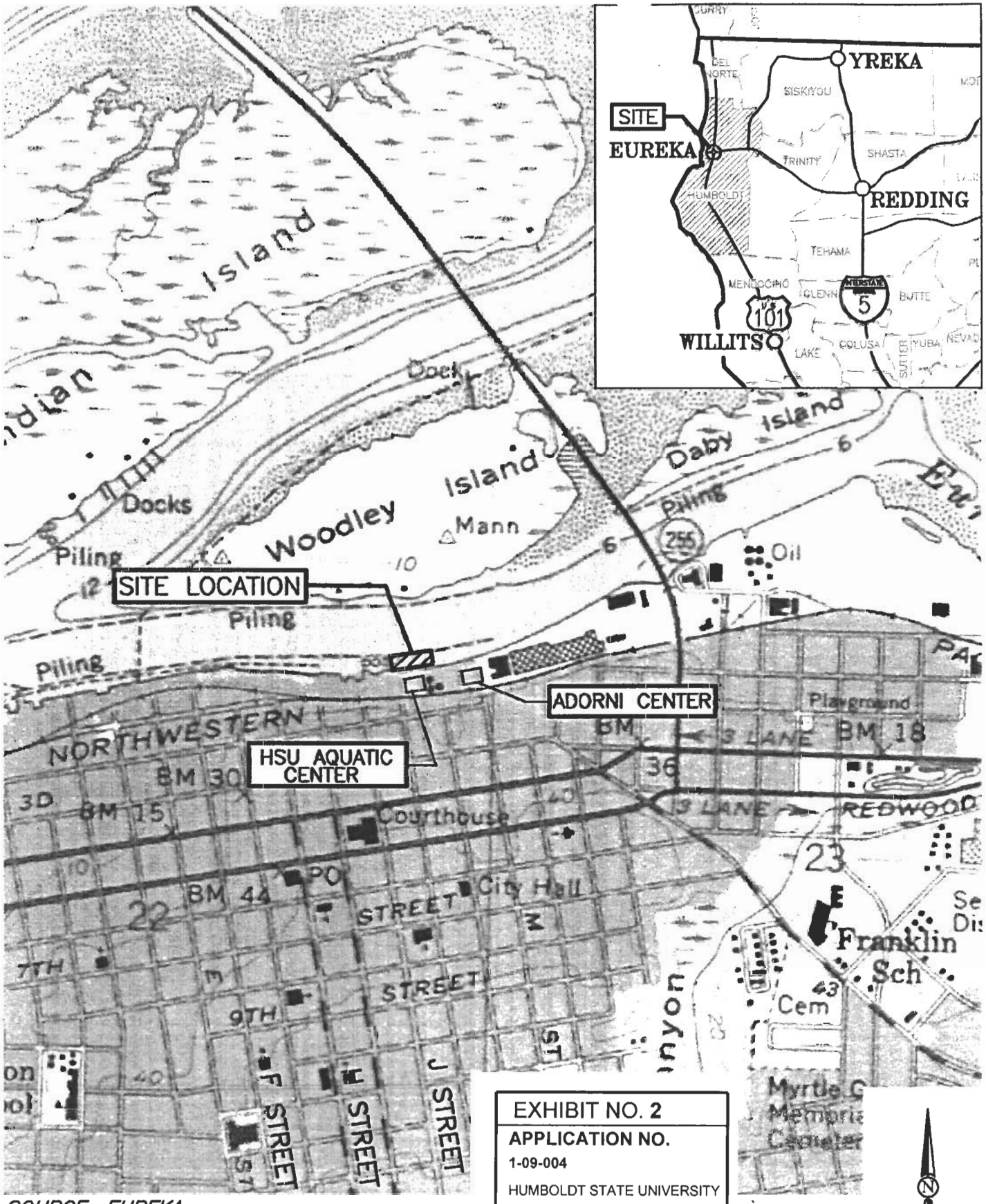
3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director of the Commission.

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.



County of Humboldt



SOURCE: EUREKA USGS 7.5 MINUTE QUADRANGLE

EXHIBIT NO. 2

APPLICATION NO.

1-09-004

HUMBOLDT STATE UNIVERSITY

VICINITY MAP

1"=1000'±

SHN Consulting Engineers & Geologists, Inc.	HSU Humboldt Bay Aquatic Center Floating Dock Eureka, California	Site Location Map SHN 007107	
	December 2008	007107-LOCATION-FIG1-08.dwg	Figure 1

I:\2007\007107\DWG, SAVED: 12/24/2008 1:42 PM NDOWNEY, PLOTTED: 12/24/2008 1:42 PM, NATHAN DOWNEY

Photo 1: View west facing the existing dock and pier structure serving the California Department of Fish and Game (CDFG) at the foot of J Street (taken August 1, 2007).

Photo 2: Close-up of existing dock and pier structure serving the CDFG at the foot of J Street. The red arrow is pointing towards an existing outfall pipe immediately to the east (taken July 18, 2007).

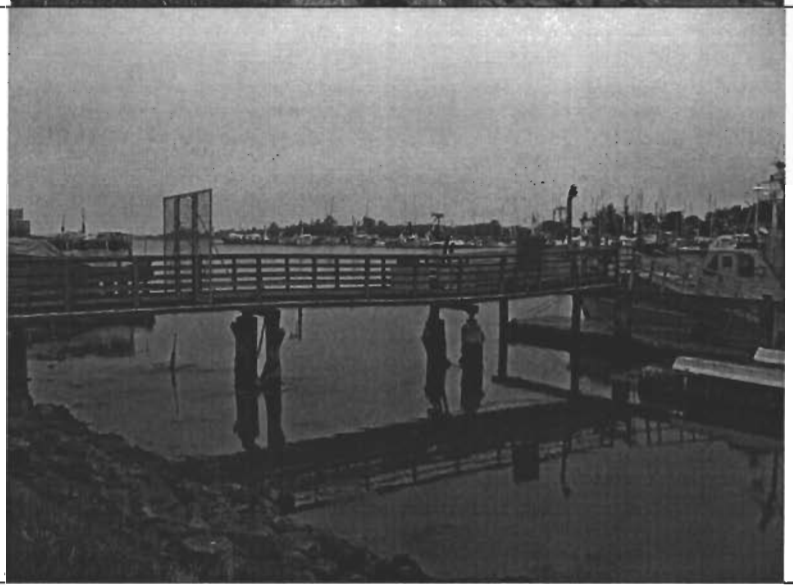


Photo 3: Similar view as Photo 2 at a higher tide (taken August 21, 2007)

EXHIBIT NO. **3**

APPLICATION NO.

1-09-004

HUMBOLDT STATE UNIVERSITY

SITE PHOTOS (1 of 3)

	Photo 4: View facing east from the west side of existing pier structure serving the CDFG at the foot of J Street (taken August 1, 2007).
	Photo 5: Similar view as Photo 4. The red arrow shows PVC pipe from the preliminary eelgrass survey (taken September 28, 2007).
	Photo 6: View southwest from the pier structure serving the CDFG at the foot of J Street (taken July 18, 2007).

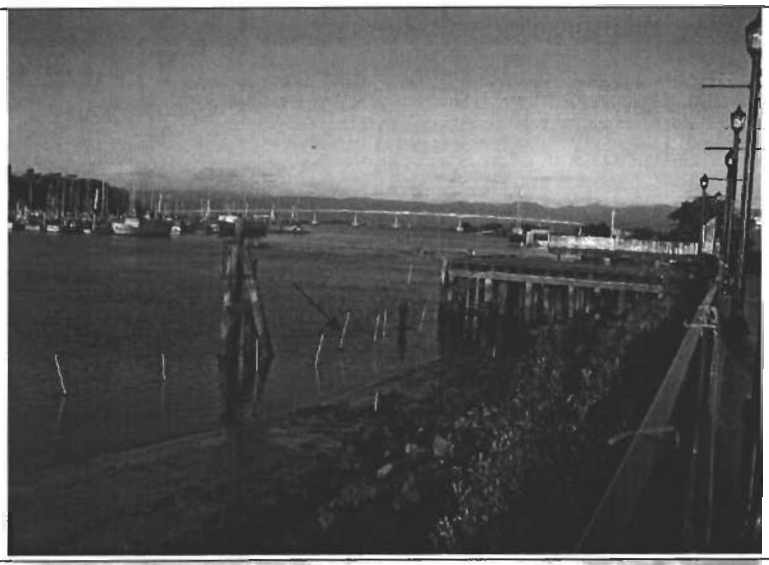
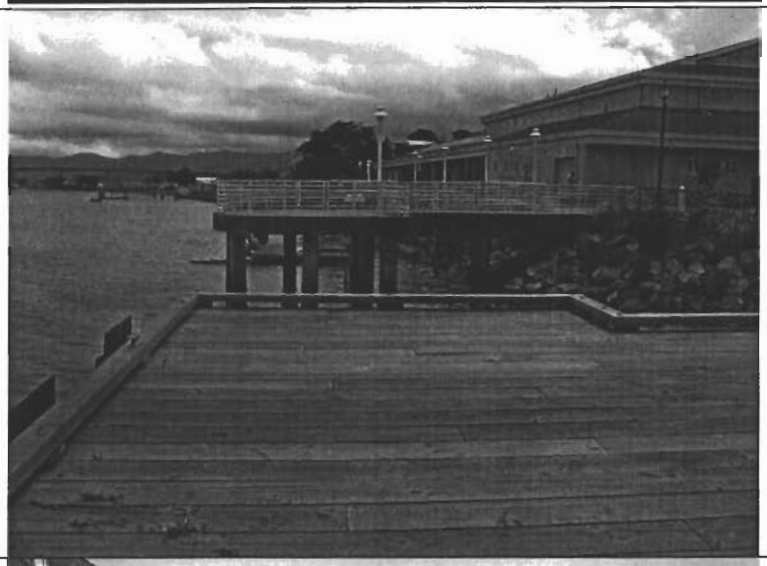
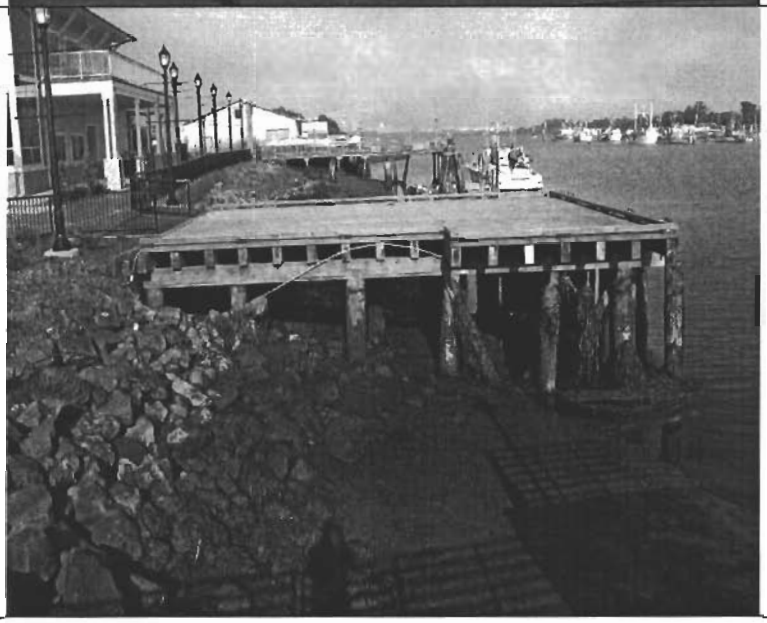
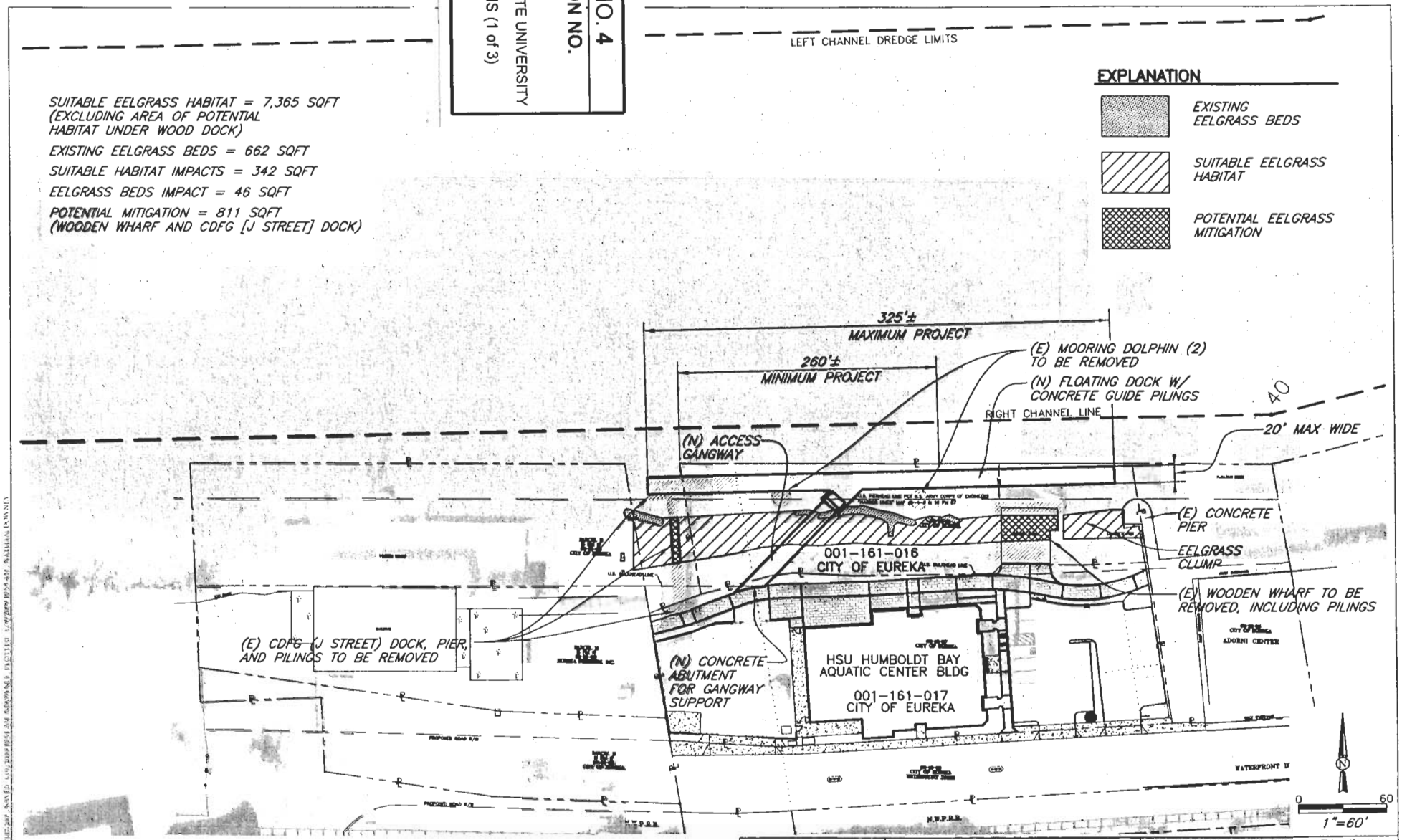
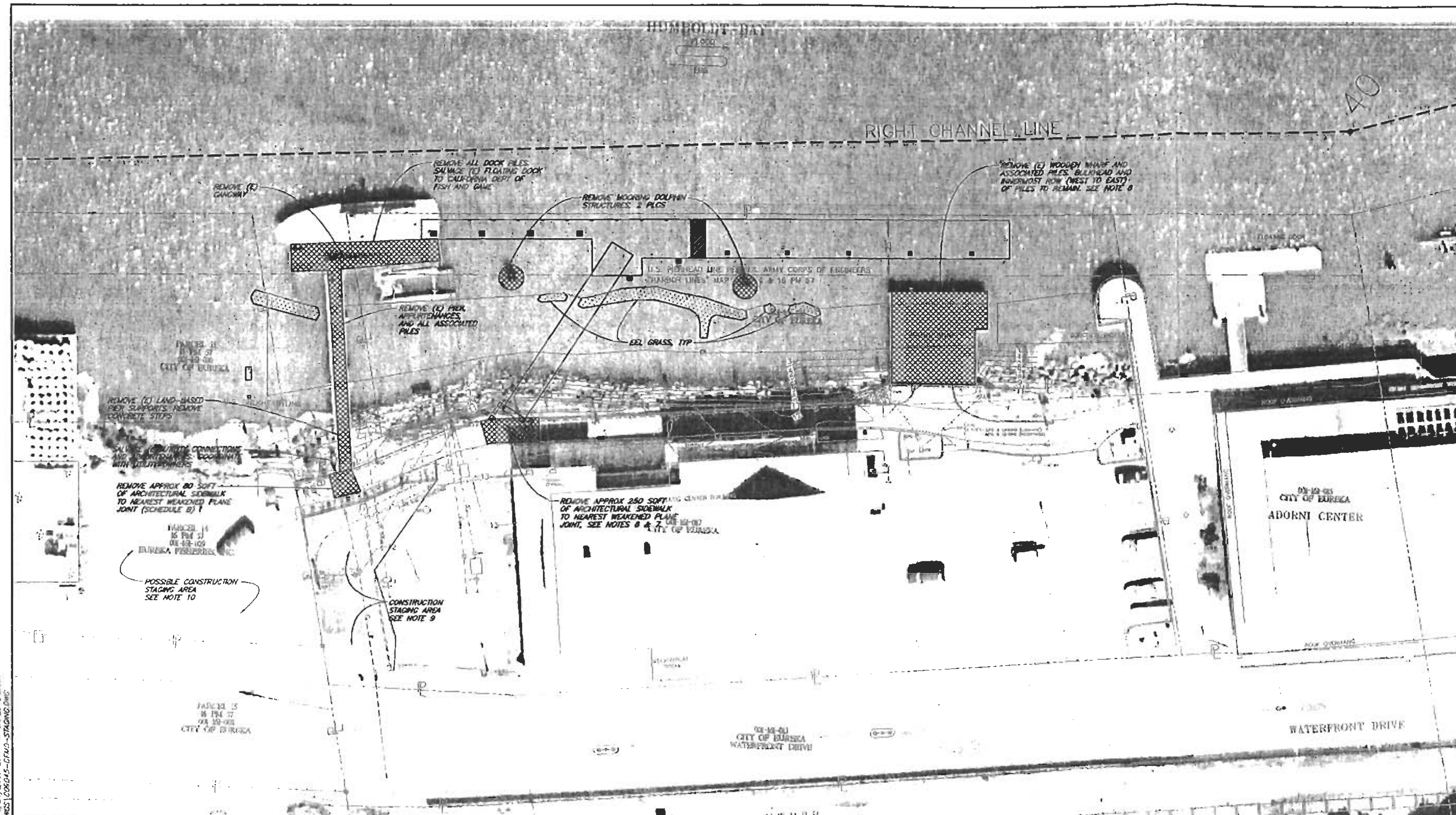
	Photo 7: View northeast from the Humboldt Bay Aquatic Center. The red arrow is pointing towards PVC piping from the preliminary eelgrass survey (taken September 28, 2007).
	Photo 8: View east from the existing eastern wooden wharf proposed for demolition (July 18, 2007).
	Photo 9: View west of the existing eastern wooden wharf proposed for demolition (taken August 1, 2007).

EXHIBIT NO. 4
APPLICATION NO.
1-09-004
HUMBOLDT STATE UNIVERSITY
PROJECT PLANS (1 of 3)



SHN Consulting Engineers & Geologists, Inc.	HSU Humboldt Bay Aquatic Center Floating Dock Eureka, California	Conceptual Layout & Eelgrass Distribution SHN 007107.200
	January 2009	007107-200-CONC-LAYOUT-EELGRASS	Figure 2



NOTES:

1. CONTRACTOR SHALL COMPLY WITH ALL PERMIT CONDITIONS AND WITH THE MITIGATION AND MONITORING MEASURES OF THE MITIGATED NEGATIVE DECLARATION DOCUMENT.
2. CONTRACTOR SHALL NOT ALLOW EXCESS SEDIMENT OR DEBRIS FROM THE WORK TO EXIT THE WORK AREA.
3. CONTAINMENT CURTAINS AND FLOATING BOOMS SHALL BE FIRMLY ANCHORED ON SHORE AND SHALL NOT BE PLACED WITHIN THE NAVIGATION CHANNEL.
4. DISTURBANCE TO EXISTING EEL GRASS BEDS SHALL BE AVOIDED TO THE MAXIMUM EXTENT POSSIBLE.
5. THE OWNER WILL PROVIDE BIOLOGICAL CONSTRUCTION MONITORING AS REQUIRED. THE CONTRACTOR SHALL COORDINATE WITH THE OWNERS REPRESENTATIVE IN RELATION TO SCHEDULING ACTIVITIES.
6. REMOVE (E) ELECTROLIER. PROTECT FROM DAMAGE. INSTALL IN GANGWAY ABUTMENT.
7. REMOVE APPROX 25 LF OF (E) RAILING/FENCE SYSTEM AND PROTECT FROM DAMAGE. INSTALL BETWEEN (E) END POSTS AT ENTRANCE TO (E) WOODEN WHARF. MATCH (E) RAILING SYSTEM INSTALLATION.
8. SALVAGE ALL TOP DECKING TIMBERS AND UNDER-DECKING JOIST TIMBERS. DELIVER TO CITY OF EUREKA STORAGE AREA NEAR WHARFINGER BUILDING.
9. CONTRACTOR MAY BE ALLOWED TO USE A PORTION OF (E) FENCED STORAGE/ PARKING AREA FOR CONSTRUCTION STAGING. COORDINATE WITH OWNER
10. POSSIBLE USE OF ADJACENT PARCEL FOR CONSTRUCTION STAGING SHALL BE NEGOTIATED BY CONTRACTOR WITH PROPERTY OWNER AND OCCUPANT.
11. ALL DEMOLITION IS UNDER SCHEDULE SCHEDULE A UNLESS NOTED OTHERWISE.
12. EXISTING UTILITIES HAVE BEEN SHOWN ON THESE PLANS AND ARE TO BE USED FOR REFERENCE ONLY. THE ENGINEER MAKES NO CLAIM AS TO THE ACCURACY OR COMPLETENESS OF ANY OF THE EXISTING UNDERGROUND FEATURES. IT IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY EXISTENCE, LOCATION, AND DEPTH OF ALL UTILITIES LOCATED WITHIN CONSTRUCTION AREA. NOTIFY ENGINEER AND INSPECTOR OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO CONSTRUCTION.

LEGEND

(E) EEL GRASS

DEMO/REMOVE STRUCTURE

1"=20'

Revised 06-24-09

EXP 3-31-2010

SAVED: 6/24/2009 2:24 PM JOBARR, PLOTTED: 6/24/2009 2:47 PM JARED O'BARR

VERIFY SCALES: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.
812 W. Wabash, Eureka, CA 95501 (707)441-8855 FAX (707)441-8877

NO.	DATE	REVISION	BY
1	6/24/09	SCHEDULES ADDED	KJN

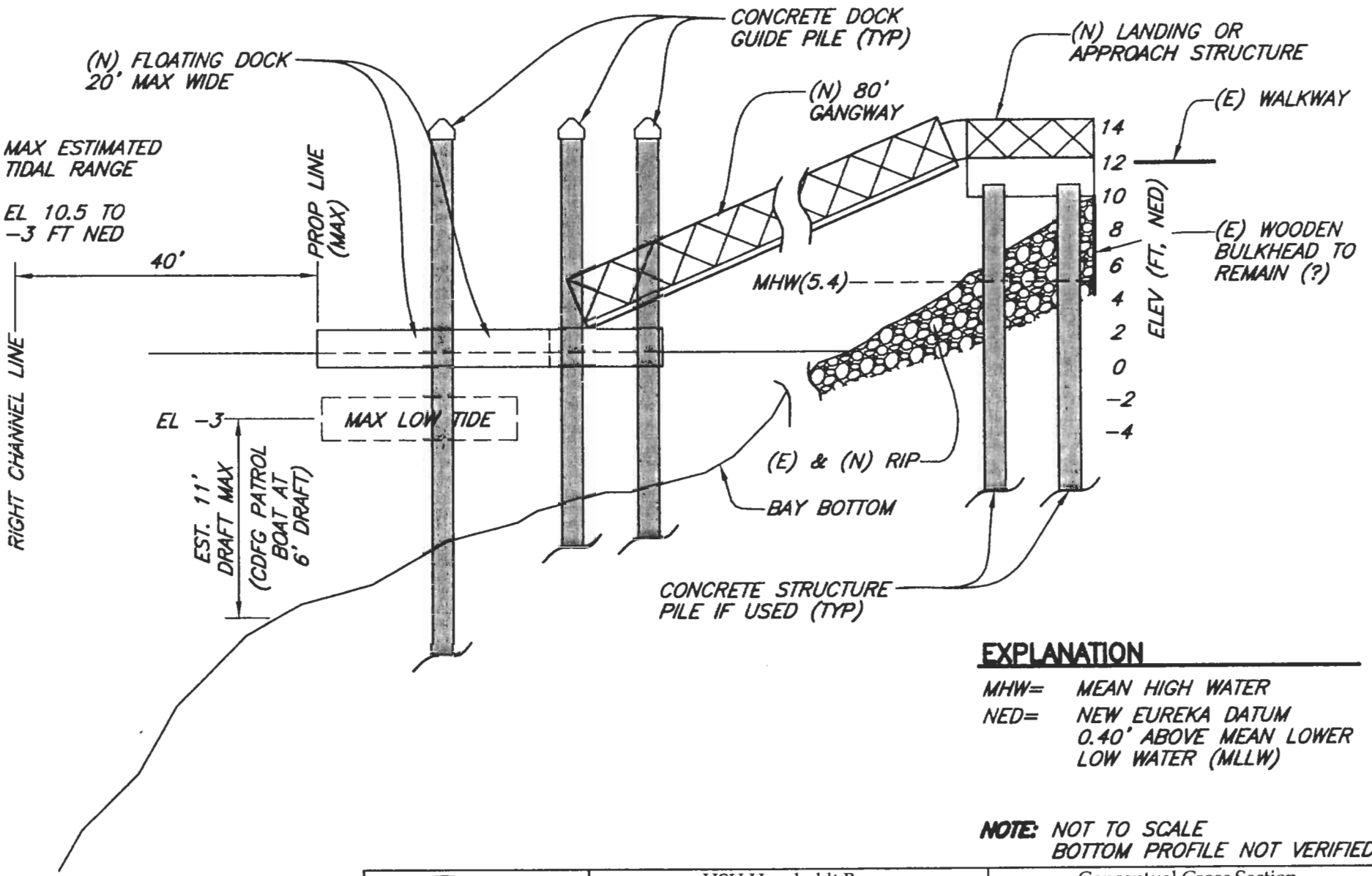
DSGN JSO/WLM · DR CDN · CHK MEL · APVD

HUMBOLDT STATE UNIVERSITY
HUMBOLDT BAY AQUATIC CENTER DOCK
EUREKA, CALIFORNIA

CONSTRUCTION STAGING & DEMOLITION PLAN

DRAWING C-1
SHT 3
DATE 6/2009
PROJ. NO. 009045

2 of 3



EXPLANATION

MHW= MEAN HIGH WATER
NED= NEW EUREKA DATUM
0.40' ABOVE MEAN LOWER
LOW WATER (MLLW)

NOTE: NOT TO SCALE
BOTTOM PROFILE NOT VERIFIED

SHN Consulting Engineers & Geologists, Inc.	HSU Humboldt Bay Aquatic Center Floating Dock Eureka, California	Conceptual Cross Section SHN 007107
	January 2009 | 007107-XSECT	Figure 3

Humboldt State University Aquatic Center Floating Dock
Project Description

General project components will consist of demolition of selected existing structures, and new construction of a shoreward concrete abutment, access gangway, and floating dock structure. Service utilities will be reconstructed to service the California Department of Fish and Game (CDFG) and Humboldt State University (HSU) Aquatic Center portions of the new floating dock.

Demolition

Existing facilities to be demolished include:

- The approximately 1,600 square foot (sq. ft.), wood-pile supported (50+ piles) wooden wharf structure that is in poor physical condition. This wharf is located at the east end of the project site, and presently serves as public fishing and observation access for the City of Eureka (City) and the HSU Aquatic Center building.
- The two wood pile (10+ piles) mooring dolphins located west of the wooden wharf, approximately 100 feet (ft.) apart parallel to the shore, approximately 40 ft. north of the shoreline.
- The westernmost existing structure, at the foot of J Street, consisting of a wood and concrete pile-supported (10+ piles) wooden access pier and a 60-foot long, pile-supported dock for mooring the CDFG patrol boat. The CDFG dock and access pier covers approximately 500 sq. ft.

All existing pilings (70+ pile total) will be removed with the various associated structures (approximately 2,100 sq. ft. total). Existing above-ground utilities, serving the existing dock, will be abandoned by removal during dock demolition. Existing subsurface utilities will be incorporated into the proposed new water, electrical, and communication services. Dredging is not anticipated, as recent (2006-2007) harbor maintenance dredging has deepened bottom areas of proposed construction area to suitable elevations.

Construction

New construction will include the following facilities and issues (see Sheets C-1 through C-2.2 dated June 2009, attached):

1. A concrete abutment for securing the new gangway, landward, located on the City property at the existing top of the bank north of the HSU Aquatic Center building. Two 15-inch concrete gangway abutment support piles (approximately 60 ft. long, with a top elevation of 9.5 ft. New Eureka Datum); footprint area approximately 130 sq. ft.
2. An 80-foot long aluminum truss gangway (10-feet wide) with fixed support at the abutment, and a sliding support on the new floating dock; footprint area approximately 800 sq. ft.

3. A floating dock system consisting of the following: 110 ft. of fiberglass floating dock (west of gangway, and including gangway landing) covering an area of approximately 1,340 sq. ft.; 130 ft. of High Density Polyethylene (HDPE) modular block floating dock (east of gangway landing) covering an area of approximately 2,080 sq. ft.; six, 24-inch octagonal concrete guide piles with a top elevation of 13 ft.; and five, 15-inch octagonal concrete floating dock guide piles with a top elevation of 13 ft. The eastern portion of the floating dock system (HDPE modular block section) will have less freeboard than the western portion of the floating dock system (fiberglass floating dock). The north, outboard edge, of the new floating dock is to be positioned to allow no encroachment into the designated channel line by moored vessels or initial launching of recreational equipment.

   Total number of piles for the floating dock system and concrete abutment for securing the new gangway is 13 piles. Total square footage for the floating dock system, aluminum truss gangway, and concrete abutment for securing the new gangway is approximately 4,350 sq. ft.

4. New water (fire suppression and potable) and electrical services to the CDFG mooring portion of the new floating dock, with electrical service for dock lighting (warning and security); no wastewater transfer facilities to be provided; all services to be flex coupled, with appropriate shut-off components, at shore to bay connections.

5. Rock slope protection along construction-disturbed embankment areas and to protect the new shoreward facilities.

6. Construction will be limited to daylight hours, Monday through Friday.

Anticipated Methods of Demolition and Construction

Because general methods of demolition and construction procedures are dependent upon contractor and permitting requirements, equipment may include the following:

1. Barge-mounted crane or contractor-selected equipment for existing piling removal, with piling to be transferred to, and appropriately stored on land for subsequent disposal or recycling at appropriately licensed facilities. Piles removed during the demolition phase shall be stored on site and wrapped in plastic sheeting (Visqueen) to prevent any potential discharges to waters of the U.S. and State.

2. Barge-mounted pile driving equipment for new guide pile construction. Concrete piles shall be driven with a hammer to be selected by the contractor based on required pile capacity and driving conditions. Hammer efficiency shall be demonstrated by using a Pile Driving Analyzer (PDA) supplied and operated by the contractor. Jetting[1] may be used to aid in the installation of the guide piles. The heads of all pre-stressed concrete piles shall be protected by caps of approved design, with a cushion next to the pile head. Pile driving is anticipated to take less than one week.

1 Jetting in piles is a technique that in effect loosens the material that the pile is being driven into by forcing a strong jet of water in front of the pile tip.

3. Staging is proposed in the gravel lot west of the existing HSU Aquatic Center Building. The contractor may be allowed (as coordinated with HSU) to use a portion of the existing fenced storage/parking area associated with HSU Aquatic Center Building. Possible use of the adjacent parcel to the immediate west (Assessor's Parcel Number [APN] 001-161-009) for construction staging shall be negotiated by the contractor with the property owner and occupant. The existing storage/parking area west of the Aquatic Center Building is fenced and not open for public use. The existing parking area east of the Aquatic Center Building is a public parking area, and may be used for minimal construction staging (for example, demolition of the existing wharf). The adjacent parcel gravel lot (APN 001-161-009) is occupied by Eureka Fisheries, Inc. and not used as public parking.

4. Excavators, backhoes, cranes, dump trucks, rubber tire loaders, and miscellaneous construction equipment and support vehicles for landward gangway abutment and gangway placement, underground utility construction, aboveground embankment protection construction, and bayward construction support.

5. Equipment and materials for construction of erosion control and spill prevention measures for both landward and bayward operations.

RECD DEC - 5 2008

CITY OF EUREKA
CERTIFICATE OF THE CITY CLERK

STATE OF CALIFORNIA)
County of Humboldt) ss.
City of Eureka)

I, Kathleen L. Franco Simmons, City Clerk of the City of Eureka, California hereby certify as follows:

The foregoing is a full, true and correct copy of Resolution No. 2008- 64 : " A resolution of the Council of the City of Eureka granting permitting authority to the California Coastal Commission, North District, for proposed development at the Humboldt Bay Aquatic Center, City of Eureka, Humboldt County, California.", duly adopted at the regular meeting of the City Council of the City of Eureka duly and legally held at the regular meeting place thereof on November 18, 2008, of which meeting all of the members of said City Council had due notice and at which a majority thereof were present.

At said meeting, said resolution was adopted by the following vote:

AYES:	COUNCILMEMBERS:	GLASS, ENDERT, LEONARD, KERRIGAN, JONES
NOES:	COUNCILMEMBERS:	NONE
ABSENT:	COUNCILMEMBERS:	NONE
ABSTAIN:	COUNCILMEMBERS:	NONE
DISQUALIFIED:	COUNCILMEMBERS:	NONE

An agenda of said meeting was posted at least 72 hours before said meeting at City Hall, 531 "K" Street, Eureka, California, a location freely accessible to members of the public, and a brief description of said resolution appeared on said agenda.

Said resolution has not been amended, modified or rescinded since the date of its adoption, and the same is now in full force and effect.

DATED: December 5, 2008

Kathleen L. Franco Simmons
City Clerk, City of Eureka

(Seal of the City of Eureka)

EXHIBIT NO. 6
APPLICATION NO.
1-09-004
HUMBOLDT STATE UNIVERSITY
CONSOLIDATED PERMIT REQUEST (1 of 3)

RESOLUTION NO. 2008-64

A RESOLUTION OF THE COUNCIL OF THE CITY OF EUREKA GRANTING PERMITTING AUTHORITY TO THE CALIFORNIA COASTAL COMMISSION, NORTH DISTRICT, FOR PROPOSED DEVELOPMENT AT THE HUMBOLDT BAY AQUATIC CENTER, CITY OF EUREKA, HUMBOLDT COUNTY, CALIFORNIA

WHEREAS, the Humboldt Bay Aquatic Center (also known as the Boating Instruction and Safety Center (BISC)) is located on Assessors Parcel Number 001-161-016 north of Waterfront Drive between "J" and "K" Streets within the city limits of the City of Eureka, California; and

WHEREAS, the Humboldt Bay Aquatic Center is located within the coastal zone; and

WHEREAS, Humboldt State University is proposing proposed improvements to the Aquatic Center that include the construction of a floating dock. The construction of the floating dock is considered "development" which requires the approval of a coastal development permit; and

WHEREAS, the proposed project requires a coastal development permit from the City of Eureka and from the State Coastal Commission; and

WHEREAS, only a very small portion of the proposed work will occur landward of the top of bank within the City's primary coastal permit jurisdiction. The City's coastal development permit can be appealed to the California Coastal Commission, North District (Coastal Commission); and

WHEREAS, the majority of the project will occur bayward of the top of bank within the Coastal Commission's coastal permit jurisdiction; and

WHEREAS, the California Coastal Act of 1976 (*Public Resources Code* Section 30000 *et. seq.*) was amended by Senate Bill 1843, which became effective on January 1, 2007, and allows for a consolidated permitting process for projects for which the coastal development permit authority is shared by a local government and the State Coastal Commission; and

WHEREAS, SB 1943 requires the applicant, the local government, and the Executive Director of the Coastal Commission to agree to the consolidation; and

WHEREAS, consolidation may only proceed where public participation is not substantially impaired by that review consolidation; and

WHEREAS, the City of Eureka finds that the consolidated coastal development permit application would benefit the City, the Applicant and the Coastal Commission by avoiding unnecessary and duplicative processing; and

NOW, THEREFORE, BE IT RESOLVED, by the Council of the City of Eureka that pursuant to Public Resources Code Section 30601.3 the City Council recommends coastal development permit consolidation for the work proposed by Humboldt State University at the Humboldt Bay Aquatic Center.

PASSED, APPROVED, AND ADOPTED by the City Council of the City of Eureka, County of Humboldt, State of California, on the 18th day of November, 2008, by the following vote:

AYES: COUNCIL MEMBERS: GLASS, ENDERT, LEONARD, KERRIGAN, JONES

NOES: COUNCIL MEMBERS: NONE

ABSENT: COUNCIL MEMBERS: NONE

ABSTAIN: COUNCIL MEMBERS: NONE

ATTEST:

Virginia Bass
Virginia Bass
Mayor

Kathleen L. Franco Simmons
City Clerk

APPROVED AS TO ADMINISTRATION:

David. W. Tyson
City Manager

APPROVED AS TO FORM:

Sheryl M. Schaffner
City Attorney

CONSULTING ENGINEERS & GEOLOGISTS, INC.
812 W. Wabash • Eureka, CA 95501-2138 • 707/441-8855 • FAX: 707/441-8877 •shninfo@shn-engr.com

Memorandum

EXHIBIT NO. 7
APPLICATION NO.
1-09-004
HUMBOLDT STATE UNIVERSITY
PRELIMINARY EELGRASS SURVEY (1 of 3)

Reference: 007107.200
Date: December 2, 2008
To: Humboldt State University
From: Shannon Zimmerman
Subject: Preliminary Eelgrass Survey

Humboldt State University (HSU) proposes to demolish existing wharf structures and construct a new gangway and floating dock for boating instruction and recreational uses on Humboldt Bay. Additionally, a portion of the dock will be used as a mooring site for the California Department of Fish and Game (CDFG) patrol boat(s). The intent of the proposed facility is for educational and recreational use while facilitating CDFG's continued use as a patrol boat mooring facility.

The project area is located on Humboldt Bay, immediately north of the recently constructed HSU Humboldt Bay Aquatic Center building (fronting Waterfront Drive), between K and J Streets in Eureka, California. The Boating Instruction and Safety Center (BISC) is located within the HSU Aquatic Center (see Figure 1 for a site location map). The project area is located on Assessors Parcel Number (APN) 001-161-016 and 001-161-017, which is owned by the City of Eureka and leased to HSU. The project area covers approximately 1.16 acres, primarily north of the U.S. Bulkhead line (Figure 2).

The proposed project could result in reduced density or cover of eelgrass (*Zostera marina*) beds identified within the project area (Figure 2). Eelgrass is an important and often critical component of the intertidal ecosystem. The California Coastal Commission (CCC) recognizes eelgrass habitats as Environmentally Sensitive Habitat Areas (ESHA) which are protected under section 30240 of the California Coastal Act (1976). The CDFG recommends avoidance of eelgrass beds when possible and to mitigate for unavoidable eelgrass impacts for a project. Eelgrass beds are recognized as Essential Fish Habitat (EFH) by the National Marine Fisheries Service (NMFS, 2005). The Army Corps of Engineers (ACOE) is required to consult with NMFS and the U.S. Fish and Wildlife Service (USFWS) for projects that may affect EFH and/or result in the potential to impact species protected under the federal Endangered Species Act (FESA) of 1973, as amended. After initial correspondence with agencies, it was determined that the project could impact EFH and species listed with NMFS, pursuant to FESA; therefore a preliminary eelgrass survey and mitigation plan is required to reduce potential impacts to a less than significant level. HSU intends to mitigate for any potential impacts to existing eelgrass beds associated with the project.

On Friday September 28, 2007, a preliminary eelgrass survey was conducted to initiate compliance with the requirements of the CDFG, ACOE, and CCC. This survey was conducted by HSU graduate students and SHN Consulting Engineers and Geologists, Inc (SHN). This survey will be used in conjunction with a pre-construction survey as well as a post construction survey to document and mitigate potential impacts to eelgrass habitat within the construction area. The results of the preliminary survey and a description of actions to be taken in order to assist in mitigation for potential impacts are provided in this report.

Existing Conditions

Several wharf-related structures are located bayward of and within the footprint of the proposed new facilities. A 1,600 square foot (sq. ft.), wood-pile supported wooden wharf structure that is in poor physical condition is located at the east end of the project area, and presently provides public fishing access to Humboldt Bay (Figure 2). West of the wooden wharf, two wood pile mooring dolphins, approximately 100 feet (ft.) apart, lie parallel to the shore, approximately 40 ft. north of the shoreline (Figure 2). The westernmost existing structure, at the foot of J Street, is a concrete pile-supported wooden access pier and a 60-foot long, pile-supported dock for mooring the CDFG patrol boat. The wooden access pier covers approximately 500 sq. ft. and the dock covers over 700 sq. ft., at an elevation of 12 ft., new City of Eureka datum (NED); NED is approximately 0.4 ft. above Mean Lower Low Water (MLLW). The dock is serviced with potable water, electricity, and communications landlines, all having access utility vaults in the ground south of the gangway access landing.

Landward, the frontage of the site consists of old wooden bulkhead walls, and concrete rubble and quarry rock used as Rock Slope Protection (RSP) (Figure 2). Top of bank elevation along the project area is approximately 12.5 ft. NED, with RSP northward to approximately an elevation of 3 ft. NED. Eelgrass occurs intermittently within the intertidal area of the project area.

Environmental Setting

The project area is located along the Eureka waterfront within Humboldt Bay. Eelgrass beds occur along the shoreline within the boundaries of the project area. Eelgrass beds are an important marine habitat type in Humboldt Bay. Humboldt Bay has one of the three largest stands of eelgrass in the State (Barnhart, 1992). There are approximately 3,000 acres of eelgrass beds within South Bay and Arcata Bay. In total, eelgrass beds account for approximately 20% of the intertidal habitat of Humboldt Bay. Eelgrass grows in muddy to fine-sand substrates within Humboldt Bay, generally near the elevation of "Mean Lower Low Water," and extending to both higher and lower elevations (Harbor District, 2006). Eelgrass beds active growth period is May through August. The beds recede in the winter months. The beds influence sedimentary regime, wave action, and distribution of benthic organisms, fish, and birds. Eelgrass beds provide food and habitat for marine invertebrates. Animals and plants found on eelgrass blades represent a distinctive assemblage of organisms ranging from unicellular plants to larval and juvenile forms of fish species (Barnhart, 1992).

Eelgrass blades float to the surface of the water from shoots called turions, and their root-like rhizomes reach down into the muddy substrate. Eelgrass beds may possibly be impacted by coastal development activities. The plant is vulnerable because it has a narrow tolerance for turbidity, sediment disturbance, and eutrophication, as well as a need for high ambient light. With the loss of eelgrass, fish abundance and diversity decline dramatically (Frey, 2006).

Survey Methods

The preliminary eelgrass survey was conducted on Friday September 28, 2007 at low tides. The survey methods followed procedures outlined in NMFS *Southern California Eelgrass Mitigation Policy* which was developed to evaluated eelgrass coverage and density (NMFS, 1991). The methods were modified by HSU graduate students taking into consideration both the conditions of the project area and the monitoring needs associated with the project.

The survey assessed the location of potential eelgrass habitat and eelgrass bed density within the project area. The size and location of each eelgrass mat located within the construction area was mapped. Bed boundaries were marked with temporary polyvinyl chloride (PVC) pipe to map with a global positioning system unit corrected for sub-meter accuracy of the distribution of the beds. A Total Station was used to get the X and Y coordinates which were used along with SHN elevation data to get the Z coordinate. These coordinates were then used to generate a map of the surveyed area (Figure 2). Mapping of eelgrass from approximately -1.5 ft. to -3.0 ft. was not allowed due to the combination of darkness, turbidity, and tidal level during September 2007. A control site was not assessed during this preliminary survey.

In order to assess eelgrass shoot density at the impact site, random positions along a primary transect in the high and dry intertidal zone were identified. The primary transect was opposite eelgrass beds as indicated by the PVC pipe markers around the perimeter of existing eelgrass beds. Actual quadrat sampling was conducted perpendicular to the water line along the primary transect. The maximum height of existing eelgrass contour was marked with PVC parallel to the shoreline. Surveyors assumed that the highest eelgrass patch represents the highest position that eelgrass can grow at the site. When the tide receded enough to expose the upper limit of the highest patch, the water-mud edge was staked with short PVC pipe along the entire length of the site to delineate the elevation contour line. Pipes were necessary every 10.0 – 15.0 meters (m).

The minimum number of 0.25 m^2 quadrats actually containing eelgrass within one of the elevation zones along the secondary transect was not less than 30 for the site. Sampling was stratified by elevation (low, medium, and high eelgrass habitat) at the primary transect that ran perpendicular to the shoreline. High quadrats were placed at the maximum possible eelgrass elevation as indicated by the short PVC pipes. The low quadrat was placed at the edge of the water 20 minutes before or after (40 min. window) a -1.4 ft. MLLW tide. The mid-elevation eelgrass habitat quadrat position was half the vertical (not horizontal) difference between the low and high quadrat positions. A data recording person at the random positions along the primary transect orientated the low intertidal sampling team so that they were in line with the random 2° transect above the existing bed locations.

Biological Assessment

Humboldt State University
Aquatic Center Floating Dock

Prepared for:

Humboldt State University Office of Facilities Management

Prepared by:

Consulting Engineers & Geologists, Inc.
812 W. Wabash Ave.
Eureka, CA 95501-2138
707-441-8855

January 2009

QA/QC:MEL___

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Table of Contents

Appendices

List of Illustrations

Acronyms and Abbreviations

ft.	feet or foot
m	meter
min.	minimum
max.	maximum
sq. ft.	square feet
ACOE	U.S. Army Corps of Engineers
AFWO	USFWS, Arcata Field Office
BGEPA	Bald and Golden Eagle Protection Act
BIOS	Biogeographical Information and Observation System
BISC	Boating Instruction and Safety Center
CCA	California Coastal Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH	Critical Habitat
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DPS	Distinct Population Segment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EGP	City of Eureka General Plan
EIR	Environmental Impact Report
ESHA	Environmentally Sensitive Habitat Areas
ESU	Evolutionary Significant Unit
FC	Federal Candidate
FD	Federally delisted
FE	Federally Listed Endangered
FESA	Federal Endangered Species Act
FPD	Federally Proposed Delisted
FPE	Federally Proposed Endangered
FT	Federally listed Threatened
HSU	Humboldt State University
LCP	Local Coastal Program
MBTA	Migratory Bird Treaty Act
MHHW	Mean Higher High Water
MHW	Mean High Water

Abbreviations and Acronyms, Continued

MLLW	Mean Lower Low Water
MLW	Mean Low Water
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSL	Mean Sea Level
MTBA	Migratory Bird Treaty Act of 1918
N/A	Not Applicable
NCCP	Natural Community Conservation Planning Act
NED	new City of Eureka datum
NMFS	National Marine Fisheries Service
NPPA	Native Plant Protection Act
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
PVC	Polyvinyl Chloride
RSP	Rock Slope Protection
RWQCB	California Regional Water Quality Control Board
SE	State listed Endangered
SFP	State Fully Protected
SHN	SHN Consulting Engineers & Geologists, Inc.
SONCC	Southern Oregon/Northern California Coast
SSC	Species of Special Concern
ST	State listed Threatened
SWRCB	State Water Resources Control Board
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDRs	Waste Discharge Requirements

1.0 Introduction

1.1 Project Purpose and Need

Humboldt State University (HSU) proposes to demolish existing wharf structures and construct a new gangway and floating dock for boating instruction and recreational uses on Humboldt Bay. The proposed project is a California Department of Boating and Waterways funded project. Additionally, a portion of the dock will be used as a mooring site for the California Department of Fish and Game (CDFG) patrol boat(s). The intent of the facility is for educational and recreational use while facilitating CDFG's continued use as a patrol boat mooring facility.

1.2 Scope of Report

The purpose of this biological assessment is to evaluate the proposed project's potential impacts on special status species[1], habitat that is jurisdictionally regulated (such as, wetlands), and/or other sensitive natural communities that may be subject to local policies or ordinances. The findings and recommendation measures included in this report shall be used to facilitate the California Environmental Quality Act (CEQA) review and biological permitting (including Federal Endangered Species Act (FESA) Section 7 consultation) for the proposed project.

1.3 Project Location

The project area is located on Humboldt Bay, immediately north of HSU's recently constructed HSU Humboldt Bay Aquatic Center building (fronting Waterfront Drive), between K and J Streets in Eureka, California. The Boating Instruction and Safety Center (BISC) is located within the HSU Humboldt Bay Aquatic Center and the facility is often referred to as the BISC building. See Figure 1 for a site location map. The project area is located on Assessor's Parcel Numbers 001-161-016 and 001-161-017, and is owned by the City of Eureka and leased to HSU. The project area covers approximately 1.16 acres, primarily north of the U.S. Bulkhead line. See Figure 2 for the conceptual layout and eelgrass distribution.

For purposes of FESA Section 7 consultation, the action area includes the physical work area between K and J Streets in, including landside work, to the south of the bank of Humboldt Bay.

1.4 Project Description

1.4.1 Existing Structures and Facilities

Several wharf-related structures are located bayward of and within the footprint of the proposed new facilities. A 1,600-square foot (sq. ft.), wood-pile supported (50+ piles) wooden wharf structure that is in poor physical condition is located at the east end of the project area, and presently serves as public fishing and observation access for the City of Eureka and the HSU Aquatic Center

[1] The term "Special Status Species" is used collectively to refer to species that are state or federally listed, federal species of concern, species that are state candidates for listing, and all species listed by the California Natural Diversity Database. This term is consistent with the biological resources that need to be assessed pursuant to the California Environmental Quality Act

building. West of the wooden wharf, two wood pile mooring dolphins, approximately 100 feet (ft.) apart, lie parallel to the shore, approximately 40 ft. north of the shoreline. The westernmost existing structure, at the foot of J Street, is a concrete pile-supported wooden access pier and a 60-foot long, pile-supported dock for mooring the CDFG patrol boat. The CDFG dock and access pier covers approximately 500 sq. ft. and the wood wharf covers over 700 sq. ft., at an elevation of 12 ft., new City of Eureka datum (NED); NED is approximately 0.4 ft. above Mean Lower Low Water (MLLW). The dock is serviced with potable water, electricity, and communications landlines, all having access utility vaults in the ground south of the gangway access landing.

Landward, the frontage of the site consists of old wooden bulkhead walls, and concrete rubble and quarry rock used as Rock Slope Protection (RSP). Top of bank elevation along the project area varies from approximately 10 ft. to 12.3 ft. NED, with RSP northward to approximate elevation 3 ft. NED.

1.4.2 Proposed Project Components

General project components will consist of demolition of selected existing structures, and new construction of a shoreward concrete abutment, access gangway, and floating dock structure. Service utilities will be reconstructed to service the CDFG and HSU Aquatic Center portions of the new floating dock.

1.4.2.1 Demolition

Existing facilities to be demolished include:

- the wooden wharf and support piling structures (Photos 7 through 9),
- the two mooring dolphin structures (Photo 1), and
- the existing dock and pier structure serving the CDFG at the foot of J Street (Photos 1 through 3 and 5). Note that during design of project, some existing facility elements may be used temporarily or left in place.

All existing pilings will be removed with the various associated structures. Existing above ground utilities, serving the existing dock, will be abandoned by removal during dock demolition. Existing subsurface utilities will be incorporated into the proposed new water, electric, and communication services. Dredging is not anticipated; as recent (2006-2007) harbor maintenance dredging has deepened bottom areas of proposed construction to suitable elevations (to be confirmed prior to final design).

1.4.2.2 Construction

New construction will include, but is not limited to the following facilities and issues (see Figure 3 for conceptual cross section):

1. A concrete abutment for securing the new gangway, landward, located on the City property at the existing top of the bank north of the HSU Aquatic Center building.
2. An 80-foot long aluminum truss gangway (10- to 12-ft. wide) with fixed support at the abutment, and a sliding support on the new floating dock; footprint area 800 to 960 sq. ft.

3. A floating dock system: composite, fiberglass, lightweight concrete, treated wood, or other deck material; aluminum framing and sealed foam floats; approximately 260 ft. (minimum [min.]) to 325 ft. (maximum [max.]) long, by 16 ft. (min.) to 20 ft. wide (east 120 ft. min. of the gangway landing), 8 ft. wide west of gangway landing; with inshore side (south) 14-inch square, concrete guide piling (estimate 14 to 20 new piles, approximately 50 ft. long, with a top elevation of 12.5 ft. NED; and the eastern portion of the dock having a lower freeboard elevation (stepped) than the floating dock at the western CDFG boat mooring location.
    - North, outboard edge of the new floating dock to be positioned to allow no encroachment into the designated channel line by moored vessels or initial launching of recreational equipment.
    - Footprint area 3,500 to 5,700 sq. ft.
    - New dock and gangway facilities to be constructed of materials to maximize ambient light penetration to the water beneath and in the shadow of the new facilities.
4. New water (fire suppression and potable), electrical, and communications services to the CDFG mooring portion of the new floating dock, with electrical service for dock lighting (warning and security); no wastewater transfer facilities to be provided; all services to be flex coupled, with appropriate shut-off components, at shore to bay connections.
5. RSP along construction disturbed embankment areas and to protect the new shoreward facilities.
6. Construction scheduling to be determined by regulatory constraints to account for appropriate seasonal restrictions relative to salmonids or other identified species.
7. Impacts to eelgrass/essential fish habitat to be mitigated by the removal of the eastern wooden wharf, which contains potentially suitable substrate and elevations for eelgrass; appropriate construction techniques that minimize environmental impacts will be implemented during project.

1.4.3 Anticipated Methods of Demolition and Construction

Because general methods of demolition and construction procedures are dependent upon contractor and permitting requirements, equipment will include, but will not be limited to the following:

1. Barge-mounted crane or contractor-selected equipment for existing piling removal, with piling to be transferred to and appropriately stored on land for subsequent disposal or recycling at appropriately licensed facilities. Pilings stored on site will be wrapped in plastic (Visqueen) to prevent any potential discharges to waters of the U.S. and State.
2. Barge-mounted pile driving equipment for new guide pile construction.
3. Land-based staging area in close proximity to the site for contractor equipment and materials storage.
4. Excavators, backhoes, cranes, dump trucks, rubber tire loaders, and miscellaneous construction equipment and support vehicles for landward gangway abutment and gangway placement, underground utility construction, aboveground embankment protection construction, and bayward construction support.

5. Equipment and materials for construction of erosion control and spill prevention measures for both landward and bayward operations.

2.0 Methods

2.1 Literature Review

This biological assessment includes a review of pertinent literature on habitat characteristics of the site, and a review of information related to species of plants and animals that could potentially use the described habitats. A habitat analysis has been conducted in order to determine the potential presence or absence of biological resources occurring within the project area. This report documents the methods, results, and conclusions for the biological assessment and analysis conducted for the site.

The findings for this report are a result of several sources, including a review of existing literature regarding sensitive resources that have the potential to occur within the site. Resources for this determination included:

1. California Natural Diversity Database (CNDDB) query for the Eureka and the surrounding[2] U.S. Geological Survey (USGS) 7.5 minute topographic quadrangles (CDFG, 2008a)
2. Biogeographical Information and Observation System (BIOS; CDFG, 2008b).
3. Electronic Inventory of Rare and Endangered Vascular Plants of California (California Native Plant Society ([CNPS], 2008) was queried for a list of all plant species reported for the Eureka and the surrounding USGS 7.5 minute topographic quadrangles
4. U.S. Fish and Wildlife Service (USFWS) Listed/Proposed Threatened and Endangered Species for the Eureka USGS 7.5 minute topographic quadrangle (Candidates Included) (USFWS, 2008a)
5. Special Animals (CDFG, 2008c)
6. State and Federally Listed Endangered and Threatened Animals of California (CDFG, 2008d)
7. State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFG, 2008e)
8. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication (CDFG, 2008f)
9. *Humboldt Bay Management Plan Draft Environmental Impact Report* (Humboldt Bay Harbor, Recreation, and Conservation District [Harbor District], 2006)
10. *Humboldt Bay Management Plan* (Harbor District, 2007)

Nomenclature for special-status animals conforms to CDFG (2008a, 2008b, and 2008d). Plant community names conform to Holland (1986) and Sawyer and Keeler-Wolf (1995). Special-status plant community designations correspond to *List of Terrestrial Natural Communities recognized by the CNDDB* (CDFG, 2003) and *Vegetation Classification and Mapping Program List of California Vegetation Alliances* (CDFG, 2007). Botanical nomenclature in this assessment follows the *Jepson Manual* (Hickman, 1993).

[2] The surrounding USGS 7.5 minute topographic quadrangles include: (Mcwhinney [654A], Fields Landing [654B], Cannibal Island [655A], Arcata South [672D], Arcata North [672A], and Tyee City [672B]).

2.2 Field Observations and Eelgrass Survey

The preliminary eelgrass survey was conducted on September 28, 2007 at low tides. The survey methods followed procedures outlined in National Marine Fisheries Service (NMFS) *Southern California Eelgrass Mitigation Policy,* which was developed to evaluate eelgrass coverage and density (NMFS, 1991). This survey was conducted by HSU graduate students and biologists with SHN Consulting Engineers and Geologists, Inc. (SHN). The methods were modified by HSU graduate students taking into consideration both the conditions of the project area, potential impacts, and the monitoring needs associated with the project.

The survey assessed the location of potential eelgrass habitat and eelgrass bed density within the project area. The size and location of each eelgrass mat located within the construction area was mapped. Bed boundaries were marked with temporary polyvinyl chloride (PVC) pipe to map with a global positioning system unit corrected for sub-meter accuracy of the distribution of the beds (Photos 5 and 7). A Total Station was used to get the X and Y coordinates, which were used along with SHN's elevation data to get the Z coordinate. These coordinates were then used to generate a map of the surveyed area (Figure 2). Mapping of eelgrass from approximately -1.5 ft. to -3.0 ft. NED was not allowed due to the combination of darkness, turbidity, and tidal level during September 2007. A control site was not assessed during this preliminary survey.

In order to assess eelgrass shoot density at the impact site, random positions along a primary transect in the high and dry intertidal zone were identified. The primary transect was opposite eelgrass beds as indicated by the PVC pipe markers around the perimeter of existing eelgrass beds. Actual quadrat sampling was conducted perpendicular to the water line along the primary transect. The maximum height of existing eelgrass contour was marked with PVC parallel to the shoreline. Surveyors assumed that the highest eelgrass patch represents the highest position that eelgrass can grow at the site. When the tide receded enough to expose the upper limit of the highest patch, the water-mud edge was staked with short PVC pipe along the entire length of the site to delineate the elevation contour line. Pipes were necessary every 10 to 15 meters (m).

The number of 0.25-square meter quadrats actually containing eelgrass within one of the elevation zones along the secondary transect was equal to or more than 30 for the site (Appendix B). Sampling was stratified by elevation (low, medium, and high eelgrass habitat) at the primary transect that ran perpendicular to the shoreline. High quadrats were placed at the maximum possible eelgrass elevation as indicated by the short PVC pipes. The low quadrat was placed at the edge of the water 20 minutes before or after (40 min. window) a -1.4 ft. MLLW tide. The mid-elevation eelgrass habitat quadrat position was half the vertical (not horizontal) difference between the low and high quadrat positions. A data recording person at the random positions along the primary transect oriented the low intertidal sampling team so that they were in line with the random secondary transect above the existing bed locations.

A focused botanical survey was not conducted, and is not considered necessary as the landward extent of the site is an existing paved parking lot. Scattered salt marsh vegetation, pickleweed (*Salicornia virginica*), saltgrass (*Distichlis spicata*), and the invasive cordgrass (*Spartina densiflora*) are located along the existing RSP (Photo 6). However, due to a lack of suitable substrate and potentially suitable habitat, no focused botanical surveys for special status plant species were conducted. Vegetation above the RSP consists of ruderal species such as fennel (*Foeniculum vulgare*), sweet vernal grass (*Anthoxanthum odoratum*), hedgehog dogtail grass (*Cynosurus cristatus*), and wild radish (*Raphanus sativus*).

3.0 Environmental Setting

3.1 Climate and Project Location

The environmental setting within the City of Eureka is predominately affected by the mild maritime climate, active tectonic processes that are manifested in the geomorphic landscape, and current and historical development. Influence from these factors is evident in the variety of habitat types found throughout the City, which include freshwater wetlands, salt marshes, deepwater channels, intertidal areas, and North Coast coniferous forest.

3.2 Affected Environment

The habitats on site and adjacent to the site consist of ruderal/disturbed upland, armored shoreline, and estuarine intertidal mudflats (Figure 2). Wetland habitats have been classified according to *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). This classification system incorporates a hierarchical structure of systems, subsystems, and classes to identify wetland habitat types.

The project area is located along the Eureka waterfront within Humboldt Bay. Eelgrass beds occur along the shoreline within the boundaries of the project area (Figure 2). Eelgrass, a species of sea grass found in near-shore coastal environments and estuaries, is the primary vegetation in this habitat type. Eelgrass beds are an important marine habitat type in Humboldt Bay. Humboldt Bay has one of the three largest stands of eelgrass in the State (Barnhart, 1992). There are approximately 3,000 acres of eelgrass beds within South Bay and Arcata Bay. In total, eelgrass beds account for approximately 20% of the intertidal habitat of Humboldt Bay. Eelgrass is characteristically found near the level of Mean Low Water (MLW) in Humboldt Bay, which ranges from +1 to -3 m MLLW (pers. comm. Frey).

4.0 Regulatory Setting

Regulatory authority over biological resources is shared by federal, state, and local authorities under a variety of legislative acts. This section summarizes the federal, state, and local policies and laws relevant to biological resources in the project area.

4.1 Federal Laws

4.1.1 Clean Water Act Sections 404 and 401

Under Section 404 (33 United States Code [USC] 1344) of the Clean Water Act (CWA), as amended, the U.S. Army Corps of Engineers (ACOE) retains primary responsibility for permits to discharge dredged or fill material into waters of the U.S.[3]. The ACOE takes jurisdiction under Section 404 for

[3] As defined by the ACOE at 33 Code of Federal Regulations (CFR) 328.3(a), waters of the U.S. are those that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; tributaries and impoundments of such waters; and all interstate waters including interstate wetlands; and territorial seas. Wetlands are further defined as "those areas that are inundated or saturated by surface or ground water at a frequency and

The estuarine intertidal mudflats of Humboldt Bay are considered a sensitive natural community under the CCA.

4.3 Other Statutes, Codes, and Policies Affording Limited Species Protection

California Native Plant Society. CNPS maintains a list of plant species native to California whose members exists in significantly reduced populations from historical levels, occur in limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California (Tibor, 2001; CNPS, 2008). CDFG recognizes that Lists 1A, 1B, 2, 3, and 4 of the CNPS Inventory consist of plants that may qualify for listing, and the CDFG recommends they be addressed in projects pursuant to CEQA.

Further discussion is included in Section 5.0.

4.4 Local Regulations and Ordinances

The project site is located within the Coastal Zone in the City of Eureka. The project is under, under both State and LCP jurisdiction. For the proposed project, the City of Eureka passed Resolution No. 2008-64 on November 18, 2008; therefore, the proposed project only requires a state CDP (see Section 4.2.4 for full discussion).

Biological and ecological resources at the project site are subject to the City of Eureka General Plan (EGP) regulations and guidelines, specifically those that pertain to natural resources within the Coastal Zone (EGP, Section 6).

5.0 Special Status Species Analysis

The CNDDB, (CDFG, 2008a), BIOS (CDFG, 2008b), and CNPS (2008) searches were completed for the 7.5-minute USGS Eureka quadrangle and all adjacent quadrangles. In addition, a USFWS, Arcata Field Office (AFWO) database query was conducted for all federally listed species known in the Eureka quadrangle. The databases were queried for historical and existing occurrences of state and federally listed threatened, endangered, and candidate species; species proposed for listing; special status species; and species listed by the CNPS. In addition to the database queries described above, the Humboldt Bay Management Plan Draft EIR (HBHRCD, 2006) Table 11-2 ("Additional Species Known to Occur in the Humboldt Bay Region that are "Sensitive" but which Lack CNDDB Occurrence Records") was reviewed for additional botanical and wildlife species occurring within Humboldt Bay.

Table 1 (see next page) includes the federally listed plant and wildlife species that potentially, or are known to, occur within the Eureka area. Table 2 (following Table 1) includes the non-federally listed special status plant and wildlife species that potentially, or are known to, occur within the Eureka area. In order to facilitate FESA Section 7 consultation, all of the federally listed botanical and wildlife species included in Table 1 are described in more detail in the text following the tables. However, only the species from Table 2 with potential habitat in the project area are described in more detail in the text.

Harbor seals (*Phoca vitulina richardsi*) and eelgrass are described in more detail in the text as both species are important to the ecology of Humboldt Bay. Harbor seals are protected under the MMPA. Eelgrass beds are recognized as EFH by the NMFS protected under the MSA.

5.1 Special Status Plant Species

Based on a review for special status plant species (CDFG, 2008a; CNPS 2008; USFWS, 2008a), a total of 30 special status plant species have been reported from the region consisting of the site's quadrangle (Eureka) and the aforementioned surrounding quadrangles. Based on the 30 plant species reported, range of habitats present at the project site, and geographical range of the various special status plant species, none of the plant species listed in Table 1 have habitat present. No focused botanical surveys were conducted due to the lack of potentially suitable habitat.

"Section 6.4: Essential Fish Habitat" includes further discussion regarding potential impacts from the proposed project on eelgrass and potential eelgrass habitat.

5.2 Special Status Animal Species

Based on a review for special status animal species (CDFG, 2008a; USFWS, 2008a; Harbor District, 2007), a total of 55 special status animal species have been recorded or have potential to occur in the project region consisting of the site's quadrangle (Eureka) and the aforementioned surrounding topographic quadrangles. Based on the 55 animal species potentially occurring in the region, the habitat present at the project area, and the geographical range of the various special status animal species, 21 animal species listed in Tables 1 and 2 are considered to have habitat in the project area, which includes 9 federally listed species. The species described in Tables 1 and 2 with habitat present in the project area are further discussed below.

Table 1
Regionally Occurring Federally Listed Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
			Plants	
Erysimum menziesii ssp. *eurekense*	Humboldt Bay wallflower	FE/SE/1B	Coastal dunes up to 30 ft. above Mean Sea Level (MSL); blooms March-April.	No
Layia carnosa	beach layia	FE/SE/1B	Coastal dunes and coastal scrub up to 200 ft. above MSL; blooms March-July.	No
Lilium occidentale	western lily	FE/SE/1B	Coastal bluff scrub, coastal prairies, openings in North Coast coniferous forests including edges of freshwater marshes and swamps up to 600 ft. above MSL; blooms June-July.	No
			Fish	
Acipenser medirostris	green sturgeon-southern DPS[3]	FT/SSC	Most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento. Spawns at temps between 8-14 °C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.	No
Eucyclogobius newberryi	tidewater goby	FE (CH)/SSC	Brackish water habitats along the California coast from San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, where water is fairly still but not stagnant water with high oxygen levels.	No
Oncorhynchus kisutch	southern Oregon/ northern California (SONCC) coho salmon	FT (CH)/ST	Freshwater, nearshore, and offshore environments throughout their lifecycles. Coho prefer low stream velocity, shallow water, and small gravel. Spawning and rearing habitat mainly in low gradient tributaries and side channels of river systems. Require beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water, and sufficient dissolved oxygen.	Yes
Oncorhynchus mykiss irideus	northern California steelhead	FT (CH)/SSC	Coastal basins from Redwood Creek south to the Gualala River. Spawning and rearing habitat mainly in low-medium gradient tributaries, side channels, and main stem of river systems.	Yes

Table 1
Regionally Occurring Federally Listed Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
Oncorhynchus tshawytscha	California coastal Chinook salmon ESU	FT (CH)	Naturally spawned coastal spring and fall Chinook salmon between Redwood Creek in Humboldt County and the Russian River in Sonoma County. Spawning and rearing habitat mainly in low-medium gradient tributaries, side channels, and main stem of river systems.	Yes
			Reptiles	
Caretta caretta	loggerhead sea turtle	FT	Continental shelves, bays, estuaries, and lagoons in temperate, subtropical, and tropical waters. Seen along the Pacific coast from southern California to Chile, but have been reported as far north as Kodiak, Alaska (during El Niño weather conditions). Nest in Japan and Australia.	Yes
Chelonia mydas (incl. *agassizi*)	green sea turtle	FT	Oceanic beaches (for nesting), convergence zones in the open ocean, and benthic feeding grounds in coastal areas such as bays and lagoons. Found in warm ocean waters (temperatures 13-15 °C). Along the Pacific coast they are most common from Peru to southern California and may be seen occasionally as far north as the Gulf of Alaska. Nests in Baja California, Mexico.	Yes
Dermochelys coriacea	leatherback sea turtle	FE (CH)	Sandy nesting beaches backed with vegetation and sloped sufficiently so the crawl to dry sand is not too far; the preferred beaches have proximity to deep water and generally rough seas. Occasionally enter bays and estuaries, but are primarily pelagic, remaining far offshore. Nesting beaches are in the subtropical and tropical areas.	Yes
Lepidochelys olivacea	olive (=Pacific) Ridley sea turtle	FT	Mainly protected, shallow, marine waters, including bays and lagoons. Nests on beaches. Found from California to Galãpogos Islands. Known to breed or nest on California coast.	Yes
			Birds	
Brachyramphus marmoratus	marbled murrelet	FT (CH)/SE	Spend the majority of their lives on the ocean, but come inland to nest in old-growth forests, characterized by large trees, multiple canopy layers, and moderate to high canopy closure.	No

Table 1
Regionally Occurring Federally Listed Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
Charadrius alexandrinus nivosus	western snowy plover	FT (CH)/SSC	Sparsely vegetated beaches, along coastal strip, also inland; ground nester and gregarious in non-breeding season.	No
Pelecanus occidentalis	brown pelican	FE/SE	Near-shore waters along coast; nests on islands in central and south America.	Yes
Phoebastris albatrus	short-tailed albatross	**FE/SSC**	Pelagic. Rarely seen in near-shore waters along coast. Breeds in Japan.	No
Rallus longirostris obsoletus	California clapper rail	FE/SE	Exclusively found in tidal salt marshes. Once present in Humboldt County; however, habitat loss and alteration from both human activities and invasion by non-native plant species has largely contributed to the extirpation of this species in Humboldt County (Hunter et al., 2005).	No
Strix occidentalis caurina	northern spotted owl	FT (CH)/SSC	Coastal to mountainous mature coniferous forests. Nests in cavities or on natural platforms.	No
			Mammals	
Balaenoptera borealis	sei whale	FE	Open ocean.	No
Balaenoptera musculus	blue whale	FE	Open ocean.	No
Balaenoptera physalus	fin whale	FE	Open ocean.	No
Eumetopias jubatus	Steller (northern) sea-lion	FT (CH)	Distributed across the north Pacific Ocean rim from northern Japan and Russia, the Aleutian Islands, central Bering Sea, southern coast of Alaska, and south to the Channel Islands of California. Feed on a variety of fish and cephalopods including walleyed pollock, salmon, and squid.	Yes
Megaptera novaengliae	humpback whale	FE	Open ocean.	No
Physeter macrocephalus	sperm whale	FE	Open ocean.	No

Table 1
Regionally Occurring Federally Listed Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]

1. CNPS list 1B includes plants that are rare, threatened, or endangered in California and elsewhere.
   CH: Critical Habitat
   FE: Federally listed Endangered, pursuant to the Federal Endangered Species Act (FESA). This designation includes taxa that are in danger of extinction throughout all or a significant portion of their range.
   FT: Federally listed Threatened, pursuant to the FESA. This designation refers to species that are not presently threatened with extinction but are likely to become endangered throughout all or a significant portion of their range in the foreseeable future if special protection and management efforts are not undertaken.
   FC: Federal Candidate. This designation includes taxa that require additional information to propose for listing pursuant to the FESA.
   FD: Federally delisted.
   FPD: Federally proposed delisted.
   FPE: Federally proposed endangered.
   SE: State listed Endangered, pursuant to California Endangered Species Act (CESA). SE designation includes taxa that are in danger of extinction throughout all or a significant portion of their range
   ST: State listed Threatened, pursuant to CESA. ST designation includes taxa that are likely to become endangered throughout a significant portion of their range.
   CDFG: California Department of Fish and Game
   SSC: Species of Special Concern are species that the CDFG consider of conservation concern. These species must be considered pursuant to CEQA.
2. Habitat that is defined as present is not restricted to the study area but also includes adjacent areas if they are identified as suitable for supporting the specified species.
3. Distinct Population Segment (DPS). The Southern DPS consist of populations originating from coastal watersheds, south of Eel River, with the only known spawing population in Sacramento River.
4. ESU: Evolutionary Significant Unit

Table 2
Regionally Occurring Non-Federally Listed Special Status Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
			Plants	
Abronia umbellata ssp. *breviflora*	pink sand-verbena	1B	Coastal dunes below 50 ft. above Mean Sea Level (MSL); blooms June-October.	No
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	1B	Mesic coastal dunes, coastal salt marshes and swamps below 100 ft. above MSL; blooms April-October.	No
Carex arcta	northern clustered sedge	2	Mesic sites in North Coast coniferous forests, and bogs and fens between approximately 195 and 4,600 ft. above MSL; blooms June-August.	No
Carex leptalea	bristle-stalked sedge	2	Bogs and fens, meadows and seeps, marshes and swamps from sea level to 2,300 ft. above MSL; blooms May-August.	No
Carex lyngbyei	Lyngbye's sedge	2	Brackish or freshwater marshes and swamps below 35 ft. above MSL; blooms May-August.	No
Carex praticola	northern meadow sedge	2	Mesic meadows and seeps in North Coast coniferous forests from sea level to 10,500 ft. above MSL; blooms May-July.	No
Castilleja affinis ssp. *litoralis*	Oregon coast paintbrush	2	Coastal bluff scrub, sandy coastal scrub, and dunes from 50-330 ft. above MSL; blooms in June.	No
Castilleja ambigua ssp. *humboltiensis*	Humboldt Bay owl's clover	1B	Coastal salt marsh and swamps up to 10 ft. above MSL; blooms April-August.	No
Cordylanthus maritimus ssp. *palustris*	Point Reyes bird's-beak	1B	Coastal salt marsh and swamps up to 30 ft. above MSL; blooms June-October.	No
Erythronium revolutum	coast fawn lily	2	Bogs and fens, mesic areas in broadleaved forests and North Coast coniferous forest, and streambanks up to 3,500 ft. above MSL; blooms March-June.	No
Fissidens pauperculus	minute pocket-moss	1B	Grows on damp soil along the coast in North Coast coniferous forest from 30-330 ft. above MSL.	No
Gilia capitata ssp. *pacifica*	Pacific gilia	1B	Various including coastal bluff scrub and coastal prairie generally below 1,000 ft. above MSL; blooms May-August.	No

Table 2
Regionally Occurring Non-Federally Listed Special Status Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
Gilia millefoliata	dark-eyed gilia	1B	Coastal dunes up to 65 ft. above MSL; blooms April-July.	No
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	1B	Coastal bluff scrub and coastal dunes up to 700 ft. above MSL; blooms March-June.	No
Lathyrus japonicus	seaside pea	2	Coastal dunes up to 100 ft. above MSL; flowers May-August.	No
Lathyrus palustris	marsh pea	2	Bogs and fens, coastal prairie, coastal scrub, lower montane coniferous forest, marshes and swamps, North Coast coniferous forest/mesic up to 330 ft. above MSL; blooms March-August.	No
Lycopodium clavatum	running pine	4	Typically on mesic substrate in redwood and mixed conifer forest including woody debris, old roads, and marshes and swamps from 200-2,600 ft. above MSL. Identifiable year round; fertile July-August.	No
Mitella caulescens	leafy-stemmed mitrewort	4	Mesic sites in broadleaved upland forest, lower montane coniferous forest, North Coast coniferous forest, and meadows and seeps from 20-5,600 ft. above MSL; blooms May-July.	No
Monotropa uniflora	ghost pipe	2	North Coast coniferous forest and broadleaved upland forest from 30-650 ft. above MSL; blooms June-July.	No
Montia howellii	Howell's montia	2	Vernally wet, open sites in North Coast coniferous forests including meadows and seeps/often in disturbed areas (e.g. roadsides); blooms in March-May.	No
Puccinellia pumila	dwarf alkali grass	2	Coastal salt marshes and swamps up to 30 ft. above MSL; blooms in July.	No
Sidalcea malachroides	maple-leaved checkerbloom	4	Broadleaved upland forest, coastal prairie, coastal scrub, North Coast coniferous forest/ often in disturbed areas (e.g., roadsides) up to 2,300 ft. above MSL; blooms April-August.	No
Sidalcea malviflora ssp. *patula*	Siskiyou checkerbloom	1B	Openings in North Coast coniferous forest and coastal prairie from 50-215 ft. above MSL; blooms May-June.	No
Sidalcea oregana ssp. *eximia*	coast checkerbloom	1B	Openings in lower montane and North Coast coniferous forests, meadows and seeps, and coastal prairie up to 5,900 ft. above MSL; blooms June-August.	No

Table 2
Regionally Occurring Non-Federally Listed Special Status Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
Spergularia canadensis var. *occidentalis*	western sand spurrey	2	Coastal salt marshes and swamps up to 10 ft. above MSL; blooms June-August.	No
Usnea longissima	long-beard lichen/ Methuselah's beard	N/A	North Coast coniferous forests. Host trees include Douglas fir, redwood, big-leaf maple, oak, and California bay trees. Identifiable year round.	No
Viola palustris	marsh violet	2	Mesic coastal scrub and coastal bogs and fens up to 50 ft. above MSL; blooms March-August.	No
			Invertebrates	
Cicindela hirticollis gravida	sandy beach tiger beetle	N/A	Clean, dry, light colored sand above non-brackish waters.	No
Haliotis cracherodii	black abalone	FPE	High intertidal zone to 20 ft. depth, most abundant intertidally; Distributed from Coos Bay (Oregon) to Cabo San Lucas (Baja California).	No
			Fish	
Oncorhynchus clarii clarki	coast cutthroat trout	SSC	Spawns in small coastal tributary streams, and utilizes slow flowing backwater areas, low velocity pools, and side channels for rearing of young. Prefers good forest canopy cover, in-stream woody debris, from the Eel River north to the Oregon border.	Yes
Spirinchus thleichthys	longfin smelt	SSC	Inhabits estuaries along the Pacific Coast, from San Francisco Bay to Alaska. Primary habitat is the open water of estuaries, both in seawater and freshwater areas, typically in the middle or deeper areas of the water column.	Yes
Thaleichthys pacificus	eulachon	SSC	An anadromous species, adults enter fresh water and spawn from February to mid-May. This species' range is Northern California to the eastern Bering Sea and the Pribilof Islands.	Yes
			Amphibians	
Ascaphus truei	western tailed frog	SSC	Inhabits cold, clear, rocky fast flowing perennial streams in forested areas. From near sea level to 8,400 ft. above MSL.	No

Table 2
Regionally Occurring Non-Federally Listed Special Status Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
Rana aurora aurora	northern red-legged frog	SSC	North Coast coniferous forest; breeds in ponds and slow moving backwater in creeks. Found in humid forests, woodlands, grasslands, and streamsides with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Breeding habitat is in permanent water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. From sea level to 4,680 ft. above MSL.	No
Rhyacotriton variegatus	southern torrent salamander	SSC	Habitat includes cold, clear well-shaded streams, waterfalls and seepages, particularly those running through talus and under rocks all year. Found primarily on north-facing slopes in the southern part of their range where forests are warmer and drier. Sea level to 5,000 ft. above MSL.	No
			Reptiles	
Actinemys marmorata marmorata	northwestern pond turtle	SSC	Aquatic habitat with some slow water component, basking sites are important, with suitable upland nesting sites within a few hundred meters of aquatic habitat.	No
			Birds	
Accipiter cooperi	Cooper' hawk	N/A	Non-breeding habitat preference highly variable from closed forests to urban interface. Nesting locations tend to be dense mixed-forests but can also be urban.	No
Accipiter striatus	sharp-shinned hawk	N/A	Non-breeding habitat preference highly variable from closed forests to urban interface. Nesting locations tend to be dense mixed-forests but can also be urban.	No
Ardea alba	great egret	N/A	Colonial nesting species; nests in trees near tideflats, marshes, irrigated pastures, and margins of lakes and rivers.	Yes
Ardea herodias	great blue heron	N/A	Colonial nesting species; nests in trees near tideflats, marshes, irrigated pastures, and margins of lakes and rivers.	Yes

Table 2
Regionally Occurring Non-Federally Listed Special Status Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
Chaetura vauxi	Vaux's swift	SSC	Nests in dead or live, but large redwood, Douglas-fir, or other coniferous trees in hollows, usually in broken tops. Foraging over forests in breeding season.	No
Circus cyaneus	northern harrier	SSC	Nests in coastal freshwater and saltwater marshes. Forages in grasslands and marshes.	No
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FC/SE	Nests in tall cottonwood and willow riparian woodland. Requires patches of at least 10 hectares (25 acres) of dense riparian forest with a canopy cover of at least 50 percent in both the understory and overstory; nests typically in mature willows.	No
Contopus cooperi	olive-sided flycatcher	SSC	Primarily montane and northern coniferous forests. Within coniferous forest habitat, most often associated with forest openings, forest edges near natural openings (e.g., meadows, bogs, canyons, rivers) or human-made openings (e.g., harvest units), or open to semi-open forest stands.	No
Egretta thula	snowy egret	N/A	Colonial nesting species; nests in trees near tideflats, marshes, irrigated pastures, and margins of lakes and rivers.	Yes
Elanus leucurus	white-tailed kite	SFP	Low foothills or valley areas valley or live oaks, riparian areas, and marshes near open grassland for foraging.	No
Falco peregrinus anatum	peregrine falcon	FD/SE, SFP	Forages over wetlands, lakes, rivers, or other water and breeds nearby on high cliffs, banks, dunes, mounds.	Yes
Haliaeetus leucocephalus	bald eagle	FD/SE, SFP	This species is generally found along ocean shores, lake margins, and rivers. Nests in large, old growth, or live trees with open branches, especially ponderosa pine, within 1 mile of water source. Species roosts communally in winter.	Yes
Nycticorax nycticorax	black-crowned night heron	N/A	Colonial nesting species; nests in trees near tideflats, marshes, irrigated pastures, and margins of lakes and rivers.	Yes
Pandion haliaetus	osprey	N/A	Nests in tall trees near freshwater lakes, reservoirs, large rivers, estuaries, and bays.	Yes

Table 2
Regionally Occurring Non-Federally Listed Special Status Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]
Phalacrocorax auritus	double-crested cormorant	N/A	Colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	Yes
Poecile atricapilla	black-capped chickadee	N/A	Deciduous and mixed deciduous/coniferous woodlands, open woods and parks, willow thickets, and cottonwood groves. Also in old fields and suburban areas. Most numerous at forest edges.	No
Riparia riparia	bank swallow	ST	Colonial nester in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast.	No
Selasphorus sasin	Allen's hummingbird	N/A	Breeds in sparse and open woodlands, coastal redwoods, and sparse to dense scrub habitats.	No
Synthliboramphus hypoleucus	Xantus' murrelet	FC/ST	Found far offshore in warm water, nest in crevices. Summer on coast and coastal islands; winter at sea. Breeds off the coast of southern California and Baja California, Mexico.	No
			Mammals	
Arborimus albipes	white-footed vole	SSC	Mature coastal forest with dense alder and shrubs, from the Mad River in Humboldt County north	No
Arborimus pomo	Sonoma tree vole	SSC	Coniferous forest, especially those dominated by Douglas-fir. Build nests within the living portion of the canopy. Arboreal species. May spend entire life in a single tree.	No
Martes americana humboldtensis	Humboldt marten	SSC	Coniferous forest with >40% canopy closure, large trees and snags with complex physical structure near the ground.	No
Myotis evotis	long-eared myotis	N/A	All brushy, woodland, and forest habitats from sea level to approximately 9,000 ft. above MSL.	No

Table 2
Regionally Occurring Non-Federally Listed Special Status Plant and Wildlife Species from Eureka Area
Humboldt State University Aquatic Center Floating Dock Project, Eureka, California

Scientific Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present[2]

1. CNPS list 1B includes plants that are rare, threatened, or endangered in California and elsewhere.
   CNPS List 2 includes plants that are rare, threatened, or endangered in California but more common elsewhere.
   CNPS List 4 includes plants of limited distribution and should be documented as they are watch list species
   CH: Critical Habitat
   FE: Federally listed Endangered, pursuant to the Endangered Species Act of 1973, as amended. This designation includes taxa that are in danger of extinction throughout all or a significant portion of their range.
   FT: Federally listed Threatened, pursuant to the Endangered Species Act of 1973, as amended. This designation refers to species that are not presently threatened with extinction but are likely to become endangered throughout all or a significant portion of their range in the foreseeable future if special protection and management efforts are not undertaken.
   FC: Federal Candidate. This designation includes taxa that require additional information to propose for listing pursuant to the Endangered Species Act of 1973, as amended.
   FD: Federally delisted.
   FPD: Federally proposed delisted.
   FPE: Federally proposed endangered.
   SE: State listed Endangered, pursuant to California Endangered Species Act (CESA). SE designation includes taxa that are in danger of extinction throughout all or a significant portion of their range
   SFP: State Fully Protected
   ST: State listed Threatened, pursuant to California Endangered Species Act (CESA). ST designation includes taxa that are likely to become endangered throughout a significant portion of their range.
   CDFG: California Department of Fish and Game
   SSC: Species of Special Concern are species that the CDFG consider of conservation concern. These species must be considered pursuant to CEQA.
   N/A: Not Applicable; species is considered to be sensitive for other reasons such as colonial nesting or that the species is rare or uncommon. While no formal conservation status is afforded, the CNDDB still tracks the presence of these species and they must be considered.
2. Habitat that is defined as present is not restricted to the study area but also includes adjacent areas if they are identified as suitable for supporting the specified species.

5.2.1 Federally Listed Species

The **Southern Oregon/Northern California Coast (SONCC) coho salmon** Evolutionarily Significant Unit (ESU)[4] is listed as threatened by NMFS under the FESA. SONCC coho salmon is state listed as threatened. The **California Coastal chinook salmon** ESU is listed as federally threatened by NMFS. The **Northern California steelhead trout** ESU is federally listed as threatened by NMFS. In addition, all three species have received Critical Habitat designations pursuant to the FESA. The Critical Habitat designations for each of these species include Humboldt Bay's waters.

Migrating adult and juvenile salmonid species are likely present in Humboldt Bay between December 1 and June 30 and could be adversely affected by construction activities on the site during this period. Construction activities could disturb aquatic species by creating increased sedimentation in the water or by causing vibration effects. Adult salmonids have the ability to avoid the area and adequate habitat exists throughout Humboldt Bay. As recommended by the NMFS, it would be advisable to complete construction prior to migration of juvenile salmonids. By avoiding the migration season of juvenile salmonids, the proposed project **may affect, but is not likely to adversely affect,** salmonids.

Although infrequent, sea turtles have occasionally been reported in coastal California. Four species were included in the USFWS database query for the Eureka quadrangle, including **green turtle, Pacific Ridley turtle, leatherback turtle,** and **loggerhead turtle.** Of the four species, three of them (loggerhead, green, and Pacific ridley) are listed as threatened species under the FESA. The leatherback is listed as an endangered species under the FESA. The Critical Habitat designation for leatherback sea turtle does not include Humboldt Bay's waters. In the eastern Pacific, most of the turtles nest along the coasts of Mexico and Central America. The eggs, after being laid in the sand, hatch in about two months; and the young instinctively head for the sea. Although sea turtles are not common to Humboldt Bay, they have occasionally been reported near Humboldt Bay. In 2006, a Pacific Ridley sea turtle was found alive on Somoa Peninsula, a long sandy dune spit at the north side of the entrance to Humboldt Bay (Calphotos, 2008). Due to the limited potential for sea turtles to occur within Humboldt Bay, the project is anticipated to have **no effect on** sea turtles.

Brown Pelican is listed as federal and state endangered. The brown pelican is found in estuarine, marine subtidal, and marine pelagic waters along the California coast. In northern California, the brown pelican is fairly common from June to November. Brown pelicans forage almost entirely on fish, mainly in the early morning or late afternoon, or when the tide is rising (Palmer, 1962). Brown pelicans are strong flyers that do not breed in or around the project area. Because Brown Pelicans have the ability to avoid the area and adequate feeding areas are still available in Humboldt Bay, no impact is expected on this species as a result of the proposed project. Thus, the project is anticipated to have **no effect on** brown pelican.

Steller sea lions are the largest member of the Otariid (eared seal) family, and are rarely seen in Humboldt Bay due to its tendency to use the open coast rather than bays and estuaries. These sea lions are sensitive to human disturbance (Whitaker, 1998). Pups are born on offshore islands from mid-May to mid-July (Marine Mammal Center, 2008). Steller sea lions are present on rocky shores

[4] This ESU consists of California coastal Chinook salmon populations from Redwood Creek in Humboldt County south through the Russian River in Sonoma County.

and coastal waters along the California coastline (Whitaker, 1998). Males that breed in California spend the nonbreeding months in Alaska and British Columbia, and are rarely seen in California or Oregon outside of the breeding season (NMFS, 1992). There is no designated critical habitat for steller sea lions in Humboldt Bay. Due to the limited potential for Steller sea lions to occur within Humboldt Bay, the project is anticipated to have **no effect on** Steller sea lions.

5.2.2 Non-Federally Listed Species

Coastal cutthroat trout, longfin smelt, and eulachon are identified as California SSC by CDFG. Coastal cutthroat trout are in the Family Salmonidae and are found in coastal streams from the Eel River to Seward in southeastern Alaska. Longfin smelt are "anadromous" in a general sense, although it appears that adults characteristically do not move to offshore oceanic waters. Spawning occurs in low-salinity waters in estuary tributaries, apparently including those in the Humboldt Bay watershed. Eulachon are fully anadromous, with adults moving offshore as a schooling pelagic species, then returning to spawn in coastal rivers, apparently including the Mad River; this species is not known to spawn in Humboldt Bay tributaries, although it has been encountered in the bay previously (Harbor District, 2006). Due to the seasonal restriction on construction, no significant impact is expected to occur to these species as a result of the proposed project.

Wading birds, including **great egret, great blue heron, snowy egret,** and **black-crowned night heron** are primarily associated with shallow wetland and estuarine habitats where they prey upon fish and amphibians. Other important foraging habitat for herons and egrets includes fields and pastures, where they prey upon abundant small mammals. Wading birds congregate in large breeding colonies during the breeding season, making them susceptible to failure if disturbed. While no nesting colonies currently exist within the project area, herons and egrets are common along the estuarine habitat of Humboldt Bay. One of the described nesting colonies for these species is the cypress grove on Indian Island located approximately 0.25 miles north of the project area. In addition, a pond area bordered by cypress trees on nearby Woodley Island is used by herons and egrets primarily for roosting. There are no appropriate nesting sites for these species in the project area. Foraging habitat is located adjacent to the project area within the Humboldt Bay; however, has the ability to avoid the project area and adjacent habitats. No impacts are anticipated on these species as a result of the proposed project.

Peregrine Falcon was delisted as an endangered species under the FESA, but is a state endangered species and also "fully protected" under the CFGC. This species is present in winter in the Humboldt Bay area, and hunts broadly for waterfowl and shorebirds over tidal flats and diked former tidelands (as well as in open areas within the limits of the cities adjacent to the bay). They most often breed in woodland, forest, and coastal habitats, but these falcons are known to nest on buildings and bridges. Appropriate nest sites do not occur in the project area or in the immediate vicinity. Foraging habitat is located adjacent to the project area within the tidelands of Humboldt Bay; however, this species has the ability to avoid the project area and adjacent habitats. Additionally, as previously stated, this species is present in winter in the Humboldt Bay area; thus, this species is not anticipated to be present in Humboldt Bay during the project construction. No impact is anticipated on this species as a result of the proposed project.

Bald eagle is a state endangered species, and also "fully protected" under the CFGC. Bald Eagles are found throughout North America. Bald eagles are opportunistic foragers with variable diets based of prey availability. Bald eagles build large stick nests that are often reused from year to year by the same pair. Breeding habitat is associated with aquatic habitats (coastal areas, rivers, lakes,

and reservoirs) with forested shorelines (USFWS, 2008b). Foraging habitat is located adjacent to the project area within the Humboldt Bay; however, this species has the ability to avoid the project area and adjacent habitats. No impact is anticipated on this species as a result of the proposed project.

Osprey is designated a California SSC. This species is commonly observed hunting for fish over Humboldt Bay and along the Humboldt County coastline. The CNDDB includes, for the Humboldt Bay region, 76 known nesting locations for osprey, almost all of which occur far from the bay lands. However, there are nesting records for this species at the Harbor District's Redwood Dock facility, which is approximately 1 mile northwest of the project area. No nests exist near the action area. Foraging habitat is located adjacent to the project area within the Humboldt Bay; however, this species has the ability to avoid the project area. No impact is anticipated on this species as a result of the proposed project.

Double-crested cormorants are common along rocky coasts, beaches, and inland lakes and rivers. Double-crested cormorant individuals are commonly observed sunning and preening in Humboldt Bay; however, this species has the ability to avoid the project area. No impact is anticipated on this species as a result of the proposed project.

Harbor seals are protected under the MMPA. Fairly common, the non-migratory harbor seals are found on California islands and along entire mainland coast. These seals are often found in estuaries and bays. In the months of April through June, harbor seals leave the water for short periods of time to rest and give birth to young. Seals leave the water during ebb tides onto mud flats next to small tidal channels in the South Bay. The mudflats adjacent to the project area do not provide adequate resting or rearing habitat primarily because of it's proximity to mainland urban activities within the City of Eureka. Due to the harbor seals ability to avoid the project area and the site's location adjacent to urban activities, no impact is anticipated on this species from the proposed project.

5.3 CNDDB Natural Communities

Natural communities are habitats that are generally defined by vegetation type and geographical location and are increasingly restricted in abundance and distribution. CNDDB natural communities are habitat for numerous special status plant and animal species. The natural communities that are included in the CNDDB are based on the state and global ranking status, which provides an estimate of the number of acres that remains of a particular community and threat level designation. Recognition of natural communities is an ecosystem-based approach to maintaining biodiversity in California. The potential regionally occurring natural communities from the Eureka area, according to the CNDDB query include: Coastal Terrace Prairie, Northern Coastal Salt Marsh, Northern Foredune Grassland, and Sitka Spruce Forest.

Coastal Terrace Prairie (41100). Coastal terrace prairie is a native grassland community found on sandy, marine terraces within the zone of fog intrusion. This habitat is dominated by fairly tall (greater than 3 ft.) sod and tussock-forming perennial grasses. Herbaceous annual species are typically scattered amongst the grasses. Much of California's coastal prairie habitat has been destroyed by agricultural conversion and development. The remaining areas are also threatened by the invasion of non-native species such as annual fescues (*Vulpia* sp.), nonnative bromes (*Bromus* sp.), and oats (*Avena* sp.). The state rarity status for coastal terrace prairie is very threatened (S2.1) with 2,000-10,000 acres remaining in the state. This natural community is not located on or adjacent to the site.

Northern Coastal Salt Marshes (52110). Northern coastal salt marshes develop along the intertidal shores of bays, lagoons, and estuaries. The historic distribution of northern coastal salt marsh in Humboldt County and throughout California has been greatly reduced by agricultural conversion, diking, and coastal development. Native species commonly associated with northern coastal salt marsh include spearscale, tufted hairgrass, saltgrass, gumweed, salt rush, pickleweed, and silverweed. A number of sensitive plant species are found within this habitat type (refer to Tables 1 and 2). The state rarity status for northern coastal salt marsh is threatened (state rank S3.2) with 10,000 to 50,000 acres remaining in the state. This natural community is not located on or adjacent to the site. The site's wetland consist of estuarine intertidal mudflats.

Northern Foredune Grassland (21211). Northern foredune grassland habitat is located in active coastal dune areas where plants are subject to desiccating, salt-bearing winds. Perennial grasses that are up to 2.5 ft. tall dominate this habitat. Coverage varies from dense to scattered. Dominant grass species in northern foredune habitat are almost always European dunegrass (*Ammophila arenaria*) and American dunegrass (*Leymus mollis*). Succulent, perennial herbs and stunted shrubs approximately 10 inches tall are often interspersed amongst the grasses. Associates typically include yellow sand verbena (*Abronia latifolia*), silver beachweed (*Ambrosia chamissonis*), and sea rocket (*Cakile maritima*) in areas most exposed to the wind and beach morning glory (*Calystegia soldanella*) and beach primrose (*Camissonia cheiranthifolia*) in more sheltered sites (Holland, 1986). The state rarity status for northern foredune grassland is very threatened (state rank S1.1) with less than 2,000 acres remaining in the state. The only northern foredune grassland reported by the CNDDB is from Humboldt County, at Lanphere Dunes (CDFG, 2008a). This natural community is not located on or adjacent to the site.

Sitka Spruce Forest (82100). Sitka spruce grows in mild wet coastal climates and occurs in a narrow band along the Pacific coast from Northern California to Alaska. Sitka spruce forest is usually found growing on steep seaward upland slopes or topographically flat areas, but can also occur in wetlands, such as stream and river backwaters, bottoms, and floodplains. Species commonly associated with upland Sitka spruce forests include redwood (*Sequoia sempervirens*), western hemlock (*Tsuga heterophylla*), hazelnut (*Corylus cornuta*), cascara (*Rhamnus purshiana*), salmonberry (*Rubus spectabilis*), Douglas's iris (*Iris douglasiana*), false lily-of-the-valley (*Maianthemum dilatatum*), and sword fern. The state rarity status for Sitka spruce forest is very threatened (state rank S1.1) with less than 2,000 acres remaining in the state.

Palustrine forested wetlands that are dominated with Sitka spruce have a different assemblage of species. The overstory typically consists of Sitka spruce, Oregon crabapple (*Malus fusca*), red alder (*Alnus rubra*), with a subcanopy of cascara, willows, twinberry (*Lonicera involucrate*), and wax myrtle (*Myrica californica*). Dominant shrubs include salmonberry, thimbleberry (*Rubus parviflorus*), and elderberry (*Sambucus racemosa*). Common herbaceous species are sword fern, false lily-of-the-valley, milk maids (*Cardamine californica*), Douglas iris, and grass species including Pacific reed grass (*Calamagrostis nutkaensis*). This natural community is not located on or adjacent to the site.

5.4 Essential Fish Habitat

Numerous fish in Humboldt Bay are included in EFH designations. EFH for Chinook salmon, coho salmon, coastal pelagics, and Pacific groundfish are in Humboldt Bay. Eelgrass beds are recognized as EFH by the NMFS (NMFS, 2005).

Humboldt Bay has one of the three largest stands of eelgrass in the State (Barnhart, 1992). There are approximately 3,000 acres of eelgrass beds within South Bay and Arcata Bay. In total, eelgrass beds account for approximately 20% of the intertidal habitat of Humboldt Bay. Eelgrass is characteristically found near the level of MLW line in Humboldt Bay which ranges from +1 to -3 m MLLW (Frey, 2006). The eelgrass in Humboldt Bay grows in muddy to silty sediments and has an important influence on the sedimentary regime. The eelgrass beds' active growth period is approximately May through August. The beds recede (senesce) in the winter months. The beds influence sedimentary regime, wave action, and distribution of benthic organisms, fish, and birds. Eelgrass beds provide food and habitat for marine invertebrates. Animals and plants found on eelgrass blades represent a distinctive assemblage of organisms ranging from unicellular plants to larval and juvenile forms of fish species (Barnhart, 1992). Eelgrass blades float to the surface of the water from shoots called turions, and their root-like rhizomes reach down into the muddy substrate. The plant is vulnerable because it has a narrow tolerance for turbidity, sediment disturbance, and eutrophication, as well as a need for high ambient light. With the loss of eelgrass, fish abundance and diversity decline dramatically (Frey, 2006).

The project area is located along the Eureka waterfront within Humboldt Bay. Eelgrass beds occur along the shoreline within the boundaries of the project area. Impacts to existing eelgrass beds and potential eelgrass habitat will be avoided to the maximum extent possible during construction. A preliminary eelgrass survey was conducted on Friday, September 28, 2007, at low tides (Appendix B). The survey methods followed procedures outlined in NMFS *Southern California Eelgrass Mitigation Policy*, which was developed to evaluated eelgrass coverage and density (NMFS, 1991). The methods were modified by HSU graduate students taking into consideration both the conditions of the project area and the monitoring needs associated with the project.

6.0 Environmental Impacts

Direct impacts from the proposed floating dock installation include the loss of estuarine intertidal mudflat habitat and potential reduced density or cover of eelgrass beds (i.e., EFH). The indirect impacts from the proposed floating dock include: (a) the increase in turbidity in the intertidal mudflat habitat and associated eelgrass beds due to construction activity; (b) an increase in noise as part of the proposed construction; and (c) an increase in shading of existing eelgrass beds from the proposed floating dock. Direct and/or indirect impacts are anticipated from the proposed project. However, by implementing Mitigation Measure 2 (seasonal restriction for construction) and Mitigation Measure 6 (biological monitoring), potential impacts are reduced to "may affect, but is not likely to adversely affect" (FESA Section 7 consultation) and/or a level of less than significant (CEQA).

6.1 Direct Impacts

The proposed construction activities will result in permanent direct impacts in the form of fill of waters of the U.S. and State. For the proposed installation of the gangway and floating dock, impacts to armored shoreline and estuarine intertidal mudflat habitat are anticipated at and below the top of bank[5] of Humboldt Bay (Figure 2).

[5] Top of Bank = 12.5 NED

The demolition of existing structures is anticipated to impact a total of approximately 140 sq. ft. at and below MHW line[6]. The removal of pilings is approximately 80 sq. ft. (approximately 70 pilings at 1.2 ft. diameter). The removal of existing RSP is approximately 60 sq. ft.

The new construction is anticipated to impact a total of approximately 85 sq. ft. at and below the MHW line. The installation of pilings is approximately 25 sq. ft. (20 pilings at 1.2 ft. diameter) of impact at and below the MHW line. The installation of concrete and RSP is approximately 60 sq. ft. at below the MHW line. An approximate volume of 10 cubic yards of fill is anticipated for the new construction at and below the MHW line. The project includes the following types of material to be discharged:

- A maximum of 20 piles at 1.2 ft. diameter.
- 6 cubic yards of concrete and RSP for new landing.
- 4 cubic yards of miscellaneous RSP for construction disturbed embankment areas.

The new construction is anticipated to impact a total of approximately 190 sq. ft. at and below the top of bank, with an anticipated volume of approximately 28 cubic yards of fill.

No dredging anticipated. The recent (2006-2007) harbor maintenance dredging has deepened bottom areas of proposed construction to suitable elevations (to be confirmed prior to final design and permit application). Impacts will be mitigated by the removal of the eastern wooden wharf and western CDFG dock and pier, which is estimated at approximately 811 sq. ft. (Figure 2).

Construction activities may result in impacts to suitable eelgrass habitat and existing eelgrass. The footprint area of the new floating dock will be between approximately 3,500 and 5,700 sq. ft. The area of suitable eelgrass habitat and existing eelgrass beds, and potential area of impact are summarized below (Figure 2):

- Approximately 7,365 sq. ft. of suitable eelgrass habitat exist in the project area (excluding area of potential habitat under eastern wooden wharf).
- Approximately 662 sq. ft. of existing eelgrass beds exist in the project area.
- Approximately 342 sq. ft. of potential impacts to suitable eelgrass habitat.
- Approximately 46 sq. ft. of potential impacts to existing eelgrass beds.

Impacts will be mitigated by the removal of the eastern wooden wharf and western CDFG dock and pier, which is estimated at approximately 811 sq. ft. (Figure 2). The estuarine intertidal mudflat habitat under the existing eastern wooden wharf and western CDFG dock and pier contains potentially suitable substrate and elevations for eelgrass; appropriate construction techniques to minimize environmental impacts will be implemented for the project. Removal of the wooden wharf will also include removing any debris that could interfere with the establishment of eelgrass.

6.2 Indirect Impacts

An indirect impact from the proposed project would be the temporary, or short-term, increase in turbidity, or suspended sediment, within the adjacent intertidal mudflat habitat. Short-term increases in the level of suspended sediment can give rise to changes in water quality, which can affect marine flora and fauna unfavorably, such as increased turbidity. Settlement of these

[6] MHW = 5.4 ft. NED

suspended sediments can result in the smothering or blanketing of adjacent intertidal mudflat habitat. By virtue of the short term action and implementation of Mitigation Measure 5 (silt curtain) the impacts related to sediment can be considered less than significant and will rapidly attenuate.

Another indirect impact from the proposed project is an increase in noise as part of the proposed construction. Due to the short duration of construction and proposed implementation of Mitigation Measure 10 (fewest number of piles and minimize noise and vibration) and Mitigation Measure 6 (biological monitor), the increase in noise is considered less than significant.

7.0 Mitigation

This section presents mitigation measures that will be implemented during proposed construction activities to mitigate the direct and indirect impacts discussed above, in order to decrease the impacts to a less than significant impact.

Mitigation Measure 1: The project applicant shall prepare and submit applications for the following permits and approvals:

a. Rivers and Harbors Act Section 10/CWA Section 404 permit from the ACOE
b. CWA Section 401 Water Quality Certification from the North Coast RWQCB
c. Coastal Development Permit from the CCC
d. Development permit from the Harbor District
e. Consistency determination regarding SONCC coho salmon with CDFG

Mitigation Measure 2. In order to prevent impacts to salmonids and other special status species, construction activities below top of bank of Humboldt Bay shall be performed between August 1 and September 15, unless modified by written agreement with ACOE, NMFS, and CDFG. Hand removal (with small power tools) of the decking of the eastern wooden wharf and western CDFG dock and pier may occur starting June 15. No in-water work or work below the top of bank will occur beyond September 15, to the satisfaction of ACOE, NMFS, CDFG, CCC, and HSU.

Mitigation Measure 3. All construction activities that include the removal and installation of dock materials (whether structural purposes or protection [riprap]) below the MHW line shall be conducted during periods of low tide, or floating booms and/or similar barriers for control of debris will be set around the active construction perimeter, to the satisfaction of ACOE, CDFG, RWQCB, and HSU.

Mitigation Measure 4. Machinery or construction materials not essential for project improvements shall not be allowed in the bay, to the satisfaction of ACOE, RWQCB, CCC, CDFG, and HSU.

Mitigation Measure 5. Silt curtains or other sediment catchment devices shall be used to minimize and control turbidity to the maximum extent practicable, but steps shall be taken to ensure that the silt curtain is not a hazard to navigation, to the satisfaction of Harbor District, RWQCB, NMFS, ACOE, CDFG, CCC, and HSU.

Mitigation Measure 6. To mitigate potential impacts to special status species, HSU should have a qualified biological monitor on site during bayside construction activities related to the project, as determined necessary or appropriate. If special status species are encountered or construction activities are impacting the resources, the biologist will halt work until appropriate mitigation can be achieved to the satisfaction of NMFS, CDFG, and HSU.

Mitigation Measure 7. The project includes the following measures to mitigate for potential eelgrass impacts:

a. HSU shall conduct a survey within the potential disturbance area and at a nearby unaffected control site during the eelgrass growing season (between May and August) immediately before the scheduled project construction to determine the density and approximate distribution of eelgrass within the likely disturbance zone.

b. Existing eelgrass beds shall be avoided to the maximum extent possible. The new dock and gangway facilities shall be constructed of materials to maximize ambient light penetration to the water beneath and in the shadow of the new facilities.

c. During the eelgrass growing season after construction, HSU shall conduct a survey within the affected area site to determine the extent of eelgrass damaged or otherwise adversely affected by the project. The nearby unaffected control site shall also be surveyed to determine natural changes. This survey is to compare the pre- and post-removal eelgrass density and cover throughout the project area and identify all areas where post-removal density is less than 85% of preremoval density or where the extent of vegetated cover is less after removal than before. The survey shall use the same sampling and statistical methods used in the approved preremoval survey. After correcting for natural changes based on observations at the control site, if there are areas where densities are less than 85% of pre-removal density or where there is a decrease in extent of eelgrass cover, HSU shall prepare a mitigation and monitoring plan for these impacts. The proposed mitigation shall provide no less than 3:1 mitigation, shall identify the proposed eelgrass mitigation areas (receiver) and donor site, and shall include monitoring for at least five years after planting and contingency plans to ensure mitigation success. The estuarine intertidal mudflat habitat under the existing eastern wooden wharf and western CDFG dock and pier contains potentially suitable substrate and elevations for eelgrass. The demolition of the eastern wooden wharf and western CDFG dock and pier structures is a component of the proposed project; thus, the area under the eastern wooden wharf is the anticipated mitigation area.

to the satisfaction of ACOE, NMFS, CDFG, CCC, and HSU.

Mitigation Measure 8. Armoring material placed along the bay side shall not be end-dumped, but placed in an interlocking fashion along the bank face to avoid spreading beyond the former footprint of existing armoring material and to provide a structurally integrated revetment, to the satisfaction of ACOE, RWQCB, CCC, CDFG, and HSU.

Mitigation Measure 9. All new revetment material to be used shall consist of either clean quarry rock or concrete rubble material free of asphalt and waste materials, to the satisfaction of ACOE, RWQCB, CCC, CDFG, and HSU. The revetment materials shall not be greater than 3 ft. in any one direction or smaller than 1 cubic foot in size. All exposed reinforcement bar shall be removed prior to installation of any concrete rubble riprap.

Mitigation Measure 10. The project applicant shall use the fewest number and smallest size of piles feasible. New piles shall be embedded in such a manner to minimize noise and vibration, to the satisfaction of ACOE, NMFS, CDFG, and HSU.

Mitigation Measure 11. If revegetation occurs, no invasive exotic plant species shall be used to revegetate areas affected by the construction, to the satisfaction of CDFG and HSU.

Mitigation Measure 12. All construction debris shall be removed from the site and disposed of only at an authorized disposal site, to the satisfaction of ACOE, CDFG, RWQCB, and HSU. Sidecasting of such material or placement of any such material within Humboldt Bay or any wetland area is prohibited.

Mitigation Measure 13. To prevent and address spill of equipment fuels, lubricants, and similar materials the repair and work shall incorporate the following measures:

a. No equipment fueling, except vessels, shall occur on the within or immediately adjacent to the bay.

b. All equipment used during construction shall be free of oil and fuel leaks at all times.

c. Oil absorbent booms and/or pads shall be on site at all times during project construction and deployed if necessary in the event of a spill.

d. All spills shall be reported immediately to the appropriate public and emergency services response agencies.

e. All equipment staging and materials storage shall be within existing paved parking area.

f. Equipment working over water, below MHW, shall use non-petroleum hydraulic fluid.

to the satisfaction of ACOE, RWQCB, Harbor District, CCC, CDFG, and HSU.

Mitigation Measure 14. Pilings removed shall be covered after removal or when temporarily stored for disposal to prevent any materials from entering waters of the U.S. and State, to the satisfaction of ACOE, RWQCB, CCC, CDFG, and HSU.

8.0 Conclusions

The habitats on site and adjacent to the project site consist of ruderal/disturbed upland, armored shoreline, and estuarine intertidal mudflats (Figure 2; Appendix B). Direct impacts from the proposed floating dock installation include the loss of estuarine intertidal mudflats habitat and potential reduced density or cover of eelgrass beds. The indirect impacts from the proposed floating dock include: (a) an increase in turbidity in the intertidal mudflat habitats due to construction activity; (b) an increase in noise as part of the proposed construction; and (c) an increase in shading of existing eelgrass beds from the proposed floating dock.

Mitigation measures are proposed to mitigate the direct and indirect impacts to habitats and special status species in order to decrease the impacts to less than significant. Best management practices will be implemented and include spill response materials, visual observations of heavy equipment for potential leaks or mechanical failure, and spill prevention and response procedures for operators.

In conclusion, the proposed demolition of the existing wooden wharf and CDFG dock and pier structures and construction of a new gangway and floating dock would have a less than significant impact on the habitats within the project site or on any special status species, including federally listed species.

9.0 List of Preparers

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