CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
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W15c

MEMORANDUM

Date: November 3, 2009

To: Commissioners and Interested Parties

From: Peter Douglas, Executive Director
Robert Merrill, District Manager – North Coast District
Melissa Kraemer, Coastal Program Analyst – North Coast District

Subject: **Addendum to Commission Meeting for Wednesday, November 4, 2009**
North Coast District Item W 15c, CDP No. 1-08-043 (Del Norte County)

Staff is proposing to make certain changes to the October 22, 2009 staff recommendation on Coastal Development Permit Application No. 1-08-043. Since publication of the staff report, the applicant has informed staff that the proposed project necessitates entry into the Klamath River by construction equipment for removal of existing boat ramp materials and grading and placement of rock base along the proposed boat ramp alignment (see Exhibit No. 11). Staff has confirmed, through consultation with the applicant's engineer and with staff from the Department of Fish and Game, that no feasible alternative exists to entering the river with heavy equipment for the proposed work. As a result, staff has revised Special Condition No. 2 of the staff recommendation and related findings to (1) delete the prohibition on equipment entry in the river, and (2) require installation of a turbidity curtain for fish exclusion purposes around the perimeter of the construction zone within the river prior to entrance of the wetted channel by construction equipment. In addition, staff is revising Special Condition No. 2 to require removal of all recoverable debris associated with the authorized development in the event that portions of the development fail and become dislodged into the river in the future. Although the County's geotechnical evaluations indicate the development as designed will remain stable, and geologic risks will be minimized, some risk remains that portions of the development may fail and become dislodged. The special condition will ensure that such dislodged material does not permanently cover river bottom habitat.

Staff continues to recommend that the Commission approve the project with the special conditions included in the staff recommendation of October 22, 2009, as modified by the revisions described below.

I. REVISIONS TO THE STAFF RECOMMENDATION

The revisions to the staff report dated October 22, 2009, including the modification of special condition language and related findings, are shown below. Text to be deleted is shown in ~~strikethrough~~; text to be added appears in **bold double-underline**.

- *Modify the text of Special Condition No. 2 on pages 6-7 as follows:*

2. Construction Responsibilities

The permittee shall comply with the following construction-related requirements, as well as with the conservation measures described in a letter to the County dated April 27, 2007 from the FEMA (Exhibit No. 8) and with the 19 avoidance and minimization measures listed in the March 2007 Biological Assessment prepared for the project for the National Marine Fisheries Service (Exhibit No. 9):

A. 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 Klamath River. Any debris resulting from construction activities that should inadvertently enter the river shall be removed from coastal waters immediately;

B. Any and all debris resulting from construction activities shall be removed from the project site within 10 days of project completion and in accordance with the construction debris removal and disposal plan required by Special Condition No. 4;

C. Silt screens, straw bales, coir-rolls, and/or water bladder walls appropriate for use in riverbank and floodplain settings applications shall be installed at the toe of the slope and around the perimeter of the area to be graded prior to the initiation of grading activities and shall be maintained throughout project construction. Additional siltation barrier materials shall be kept at the site and deployed as needed to reinforce sediment containment structures should unseasonable rainfall occur;

D. ~~The excavator used during the construction process shall not enter the Klamath River channel~~ **. Entry into the river with construction vehicles shall be minimized. Prior to entrance into the wetted channel by any construction vehicle, a turbidity curtain shall be installed around the perimeter of the construction zone within the river for fish-exclusion purposes. The turbidity curtain shall be maintained throughout the period when construction vehicles require entry into the wetted channel.**

E. No excavated materials shall be side-cast during blading operations at the site;

F. If rainfall is forecast during the time construction activities are being performed, all exposed soil areas shall be promptly mulched before the onset of precipitation;

G. Any fueling of construction equipment shall occur within the adjoining parking lot at a minimum of 100 feet from the ordinary high water line of the river; and

H. Fuels, lubricants, and solvents shall not be allowed to enter the waters of the Klamath River. 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. Any accidental spill shall be rapidly contained and cleaned up. All heavy equipment operating in or near the water's edge shall utilize vegetable oil **or other biodegradable** ~~as~~ hydraulic fluid.

I. The permittee shall remove all recoverable debris associated with the authorized development in the event that portions of the development fail and become dislodged into the river in the future. Recovered debris shall be lawfully disposed of at an approved disposal site.

- *Modify the text of the "Feasible Mitigation Measures" section of Finding No. IV-D on pages 21-24 as follows:*

(b) Sensitive Fish Species

According to the staff of National Marine Fisheries Service (NOAA Fisheries), spawning runs of steelhead (*Oncorhynchus mykiss*) and coho salmon (*Oncorhynchus kisutch*) are known to occur in the Klamath River as the rivers rise during the first seasonal rains that occur in the fall of the year and throughout the months of January, February, and March. The proposed project would adversely impact sensitive fish species by increasing water turbidity through disturbance of bottom sediments. According to NOAA-Fisheries, suspended sediments can make salmonid prey and predator detection difficult, reduce feeding opportunities, induce behavioral modifications, cause respiratory problems for fish, and smother incubating eggs or juvenile fish or spawning habitat. Additionally, direct impact and/or vibrations resulting from drilling the ramp panel railings would be injurious to eggs and alevins in the gravel. Furthermore, installation of the new boat ramp would temporarily obstruct migrating anadromous fish or spook fish during the spawning period.

As part of its project description, the County has proposed to implement the 19 avoidance and minimization measures listed in the March 2007 Biological Assessment prepared for the project for the National Marine Fisheries Service (Exhibit No. 9), many of which relate to water quality protection through erosion and sediment control, covering of stockpiles, proper debris disposal, and others. Additionally, one of the proposed measures restricts construction activities in or adjacent to the river to the period of July 1 through October 15 in order to avoid spawning and migrating salmonids in the river. To ensure that this salmonid protection measures are implemented as proposed, the Commission attaches Special Condition Nos. 1 and 2. **Special Condition No. 1** limits the construction window to the period of July 1 through October 15 only to avoid adverse impacts on sensitive salmonids during principal periods of migration. **Special Condition No. 2** requires adherence to the 19 avoidance and minimization measures listed in the March 2007 Biological Assessment prepared for the project for the National Marine Fisheries Service (Exhibit No. 9) as well as to various construction-related responsibilities. These responsibilities include, but are not limited to, requirements that: (a) 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 Klamath River; (b) any and all debris resulting from construction activities shall be removed from the project site within 10 days of project completion and in accordance with the construction debris removal and disposal plan required by Special Condition No. 4 (see below); (c) silt screens, straw bales, coir-rolls, and/or water bladder walls appropriate for use in riverbank and floodplain settings applications shall be installed at the toe of the slope and around the perimeter of the area to be graded prior to the initiation of grading activities and shall be maintained throughout project construction; (d) ~~the excavator used during the construction process shall not enter the Klamath River channel~~ **entry into the river with construction vehicles shall be minimized. Prior to entrance into the wetted channel by any construction vehicle, a turbidity curtain shall be installed around the perimeter of the construction zone within the river for fish-exclusion purposes. The turbidity curtain shall be maintained throughout the period when construction vehicles require entry into the wetted channel**; (e) no excavated materials shall be side-cast during blading operations at the site; (f) if rainfall is forecast during the time construction activities are being performed, all exposed soil areas shall be promptly mulched before the onset of precipitation; (g) any fueling of construction equipment shall occur within the adjoining parking lot at a minimum of 100 feet from the ordinary high water line of the river; ~~and~~ (h) deleterious spills of hazardous materials into the river be minimized by requiring that fuels, lubricants, and solvents not be allowed to enter the waters of the Klamath River, hazardous materials management equipment including oil containment booms and absorbent pads be available immediately on-hand at the project site, a registered first-response, professional hazardous materials clean-up/remediation service be locally available on call, any accidental spill be rapidly contained and cleaned up, and all heavy equipment operating in or near the water's edge utilize vegetable oil **or other biodegradable** ~~as~~ hydraulic fluid**; and (i) the permittee shall remove all recoverable debris associated with the authorized development in the event that portions of the development fail and become dislodged into the river in the future. Recovered debris shall be lawfully disposed of at an approved disposal site.**

Therefore, the Commission finds that the proposed project, as conditioned, will minimize disturbance to sensitive anadromous fish by restricting the timing of the in-stream work and by implementing various measures to protect water quality.

(c) Riverine Water Quality

Construction activities in and adjacent to the river could result in degradation of water quality through the entry of soil materials either directly or entrained in runoff passing over ground disturbed areas. At the bottom of the slope protection zone, a bench would be excavated to provide toe stability. Turbidity may be elevated in the work area during this period of excavation at the toe. However, the levels of suspended sediment are anticipated to be minor and would be diluted soon after leaving the disturbed area. Additionally, a limited amount of existing river sediment may be disturbed when the pre-cast replacement panels are installed below the water surface. Turbidity may be locally elevated in the work area during this period, but these increases would be for very short infrequent periods and would be diluted soon after leaving the work area. Moreover, water quality could be affected if construction debris and construction equipment is allowed to enter the river.

As discussed above, the County has proposed to implement a number of measures to minimize water quality impacts including using silt fences, covering of stockpiles, proper debris disposal, and others, including the conservation measures described in Exhibit No. 8 and the avoidance and minimization measures listed in Exhibit No. 9. **Special Condition Nos. 1 and 2**, as discussed above, will help to protect water quality by limiting the construction window to the dry period of July 1 through October 15 and by requiring adherence to the various conservation measures, avoidance and minimization measures, and construction-related responsibilities. These include, in part the conservation measures described in Exhibit No. 8, the avoidance and minimization measures listed in Exhibit No. 9, and requirements that: (a) 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 Klamath River; (b) any and all debris resulting from construction activities shall be removed from the project site within 10 days of project completion and in accordance with the construction debris removal and disposal plan required by Special Condition No. 4 (see below); (c) silt screens, straw bales, coir-rolls, and/or water bladder walls appropriate for use in riverbank and floodplain settings applications shall be installed at the toe of the slope and around the perimeter of the area to be graded prior to the initiation of grading activities and shall be maintained throughout project construction; (d) ~~the excavator used during the construction process shall not enter the Klamath River channel~~ **entry into the river with construction vehicles shall be minimized. Prior to entrance into the wetted channel by any construction vehicle, a turbidity curtain shall be installed around the perimeter of the construction zone within the river for fish-exclusion purposes. The turbidity curtain shall be maintained throughout the period when construction vehicles require entry into the wetted channel**; (e) no excavated materials shall be side-cast during blading operations at the site; (f) if rainfall is forecast during the time construction activities are being performed, all exposed soil areas shall be promptly mulched before the onset of precipitation; (g) any fueling of construction equipment shall occur within the adjoining parking lot at a minimum of 100 feet from the ordinary high water line of the river; ~~and~~ (h) deleterious spills of hazardous materials into the river be minimized by requiring that fuels, lubricants, and solvents not be allowed to enter the waters of the Klamath River, hazardous materials management equipment including oil containment booms and absorbent pads be available immediately on-hand at the project site, a registered first-response, professional hazardous materials clean-up/remediation service be locally available on call, any accidental spill be rapidly contained and cleaned up, and all heavy equipment operating in or near the water's edge utilize vegetable oil **or other biodegradable** ~~as~~ hydraulic fluid**; and (i) the permittee shall remove all recoverable debris associated with the authorized development in the event that portions of the development fail and become dislodged into the river in the future. Recovered debris shall be lawfully disposed of at an approved disposal site.**

In addition, the Commission attaches **Special Condition No. 4** to ensure that all debris resulting from construction activities is adequately contained during stockpiling and disposed of properly. The special condition requires the County to submit a final plan for the disposal of construction debris and excavated material for the review and approval of the Executive Director. The plan must be consistent with the requirements of Special Condition No. 2 and must describe the

manner by which the material will be removed from the construction site and identify all temporary stockpiling and permit disposal sites that will be utilized. The plan must also demonstrate that all stockpiling and disposal sites are in upland areas where construction-related debris from this project may be lawfully stockpiled and disposed.

Re-fueling of the equipment during project construction is not anticipated. Should re-fueling of equipment become necessary, **Special Condition No. 2-G** requires that the re-fueling occur at the adjoining parking lot where procedures are in place to minimize the occurrence and magnitude of impact of fueling spills. In the event that any petroleum-based products are spilled onto the paved surface of the parking lot, **Special Condition No. 2-H** is included to requires that a registered haz-mat first response service be retained on call. Special Condition No. 2-H also requires that all hydraulic equipment used in proximity of the river's edge be operated with vegetable oil. Vegetable oil is approved for use in work in or over water, since it is biodegradable and essentially harmless in small amounts. As conditioned, potential adverse impacts from fuel or oil spills to marine resources will be reduced to less-than-significant levels.

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, the Commission finds that feasible mitigation is required to minimize all significant adverse impacts associated with the proposed filling of coastal waters.

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Filed:	March 12, 2009
49th Day:	April 30, 2009
180th Day:	September 8, 2009
Staff:	Melissa B. Kraemer
Staff Report:	October 22, 2009
Hearing Date:	November 4, 2009
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.:	**1-08-043**
APPLICANT:	**County of Del Norte, Attn: Jay Sarina**
AGENT:	SHN Consulting Engineers & Geologists, Inc.
PROJECT LOCATION:	At the County of Del Norte Klamath Townsite Boat Launching Facility, situated on the north side of the Klamath River at River Mile 2.5, approximately ¾ mile downstream from the Highway 101 Bridge, near the old townsite of Klamath, Del Norte County (APNs 140-060-01 & -04).
PROJECT DESCRIPTION:	Replacement of the existing ±5,750-square-foot Klamath Townsite boat ramp, damaged during high river flows in the winters of 1996-1997 and 2005-2006. As a measure to prevent future damage from broadside river flows and to launch boats safely throughout the year, the new ramp would extend an additional 88 feet into the river and be oriented at an angle of approximately 60 degrees to the down-stream riverbank (instead of the existing ramp's perpendicular configuration). The County proposes to: (1) remove and dispose of 183 cubic yards of existing, damaged concrete ramp and stem wall, 500 square yards of pavement, and 90 lineal feet of concrete curb; (2) construct a ±4,160-square-foot replacement boat ramp using 122 cubic yards of

	reinforced concrete on an aggregate base and 300 lineal feet of concrete curb; (3) backfill and compact 1,700 cubic yards of fill in the parking lot and the area surrounding the ramp; (4) sawcut 200 feet of asphalt and pave 188 square yards over aggregate base (5) place 6,600 tons of riprap upstream and downstream of the new ramp and (6) place 4,680 square feet of articulated concrete mat planted with native willows upstream and down-stream of the new ramp for bank protection.
LOCAL APPROVALS RECEIVED:	(1) Adoption of CEQA Mitigated Negative Declaration by Del Norte County; and (2) Del Norte County Coastal Grading Permit No. CGP2009-01C, issued March 4, 2009.
OTHER APPROVALS RECEIVED:	(1) Army Corps of Engineers Nationwide Permit Nos. 3 and 13 (Fine No. 2003-278260N); (2) National Marine Fisheries Service Section 7 Consultation under the Endangered Species Act; (3) North Coast Regional Water Quality Control Board FCWA Section 401 certification; (4) Yurok Tribe Section 401 Water Quality Certification and (5) California Department of Fish and Game CFGC Section 1601 Agreement.
SUBSTANTIVE FILE DOCUMENTS:	(1) Del Norte County Local Coastal Program (2) CDP File No. 1-04-001

SUMMARY OF STAFF RECOMMENDATION

Staff recommends that the Commission approve with conditions this application for the replacement of the County of Del Norte's existing recreational boat ramp on the lower Klamath River at the former townsite of Klamath.

The project would entail the complete replacement of the existing approximately 5,750-square-foot concrete boat ramp damaged by floodwater flows in the winters of 1996-1997 and 2005-2006. In addition, approximately 6,600 tons of riprap would be placed upstream and downstream of the new ramp to protect the structure from the erosive forces of the river.

Unlike the existing boat ramp that is oriented perpendicular to the river and its flows, the new 4,160-square-foot concrete ramp would be set in a diagonal configuration at an approximately 60º downstream angle. Reorienting the ramp would provide greater safety for boat launching, especially during outgoing tides when the river flow velocity increases, by creating a calm backwater area where boaters could more precisely pilot

their watercraft without having to simultaneously struggle against the lateral hydraulic forces of the river, as is currently experienced with the existing ramp. With the proposed slipstream design, the new ramp's foundation would also be less susceptible to damage by scouring than the existing ramp, reducing the need for potentially resource impacting in-water repair and maintenance activities.

The proposed project would upgrade a public boat launching facility for recreational boating consistent with the provisions of Sections 30224 and 30234 of the Coastal Act, which provide that facilities serving recreational boating shall be protected and, where feasible, upgraded, and with the provisions of Section 30223 that increased recreational boating use of coastal waters shall be encouraged by increasing public launching facilities.

The project is also an allowable use of fill pursuant to Coastal Act Section 30233(a), because it is intended to rehabilitate an existing recreational boating facility. Staff also has concluded that the proposed project is the least environmentally damaging feasible alternative and that all feasible mitigation measures have either been included in the project description or made conditions of permit issuance, consistent with Section 30233.

With the recommended special conditions, the proposed project would have no significant adverse environmental impacts. Although approximately 14,160 square feet of aquatic riverbed habitat would be covered by the replacement ramp and fortified bank slope protection, this fill area represents a high-energy environment that has been repeatedly scoured and affords only nominal habitat to aquatic species. Impacts to endangered and threatened salmonids would be avoided by limiting the construction period to times of the year when spawning salmonids are not present in the river. The project also would incorporate a suite of water quality best management practices to ensure that coastal waters are not degraded during construction. In addition, the applicant proposes to both revegetate all areas disturbed during construction and plant an additional area located upstream of the boat ramp between the river bank and the parking lot with native willows, alders, and black cottonwoods.

Staff recommends inclusion of the following Special Conditions, among others, to protect water quality, sensitive fish and wildlife species, and adjacent riparian habitat:

- Special Condition No. 1 would limit the construction window to the period of July 1 through October 15 only to avoid adverse impacts on sensitive salmonids during principal periods of migration. In addition, all in-river demolition activities would need to be completed by August 31.
- Special Condition No. 2 would require various water quality best management practices to be employed during demolition and construction. The condition also sets standards for the staging, operation, fueling, hydraulic fluid type, and hazardous material spill prevention and clean-up contingencies to prevent similar entry of hydrocarbon products into coastal waters.

- Special Condition No. 3 would require submittal of a Sensitive Bird Nesting Protection Plan for the Executive Director's review and approval prior to commencement of construction activities. The plan would need to include provisions for surveying the project area during the appropriate sensitive bird nesting season(s) for the presence of active nesting habitat and provisions for avoiding activities during the nesting season(s) if any sensitive bird nesting sites are located in the project vicinity.
- Special Condition No. 4 would ensure that all debris resulting from construction activities is adequately contained during stockpiling and disposed of properly. The plan would be required to demonstrate in part that all stockpiling and disposal sites are in upland areas where construction-related debris from this project may be lawfully stockpiled and disposed.
- Special Condition No. 5 would prohibit construction activities from disturbing or removing any area of riparian vegetation adjacent to the project site. Additionally, no new construction access roads would be allowed to be cut through the riparian habitat, and no debris, soil, concrete, oil or petroleum products, or other material from any construction activities would be allowed to enter into or be placed where it may be washed by rainfall or runoff into river waters. These requirements would avoid disturbance to all of the environmentally sensitive riparian vegetation in the vicinity of the project.
- Finally, Special Condition No. 6 would prohibit the planting of any plant species listed as problematic and/or invasive as well as the use of anticoagulant-based rodenticides within the project site.

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 special conditions.

The Motion to adopt the staff recommendation of approval with conditions is found on Page 6.

STAFF NOTES

1. Previous Commission Action

On May 13, 2004, the Commission approved Coastal Development Permit No. 1-04-001, which authorized the County of Del Norte to replace the existing, damaged 5,750-square foot Klamath Townsite boat ramp. However, the County did not commence the authorized work prior to the permit expiration on May 13, 2006. Since the Commission's previous permit approval, the boat ramp was further impacted from high river flows in December of 2005 and January of 2006 which washed away deep portions of fill associated with the ramp, a thick section of asphalt, and a concrete curb at the turn-around area in the parking lot associated with the ramp approach area. Thus, the

development proposed under the subject permit application differs somewhat from the previously authorized development, as summarized below:

- The currently proposed boat ramp alignment is approximately 50 feet downstream of the previously authorized alignment to avoid currently vegetated riparian habitat to the maximum extent possible.
- The currently proposed concrete boat ramp repair area is 4,160 square feet in size versus the previously authorized 7,004-square-foot concrete repair area.
- The current project proposes slope protection across a 50,400-square-foot area that includes 5,000 cubic yards of riprap and articulated concrete mat planted with native willows versus the previously authorized slope protection area of 6,886 square feet, including 3,000 cubic yards of rock slope protection (no articulated concrete mat was proposed or authorized under the previous permit).
- The current project would result in approximately 14,160 square feet of fill being placed over areas of aquatic bed wetlands at and below the Ordinary High Water Line versus the 1,000 square feet of fill previously authorized;
- The current permit application proposes approximately 12,000 square feet of parking lot asphalt concrete.

2. 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 Del Norte County by the Commission through the County's certified Local Coastal Program. The boundary lies at the river's ordinary high water (OHW) mark (+2.58 feet NGVD29), with the Commission's jurisdiction at and below the OHW mark and the County's jurisdiction lying above OHW.

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 Del Norte County Board of Supervisors adopted a resolution (Resolution No. 2008-072) on November 4, 2008 and the County submitted a letter requesting 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. 3).

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.

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. 1-08-043 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. Timing of Construction

To avoid adverse impacts to sensitive salmonids during principal periods of migration, construction shall be limited to the period of July 1 to October 15 only. In-river demolition activities shall be completed prior to August 31.

2. Construction Responsibilities

The permittee shall comply with the following construction-related requirements, as well as with the conservation measures described in a letter to the County dated April 27, 2007 from the FEMA (Exhibit No. 8) and with the 19 avoidance and minimization measures listed in the March 2007 Biological Assessment prepared for the project for the National Marine Fisheries Service (Exhibit No. 9):

A. 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 Klamath River. Any debris resulting from construction

activities that should inadvertently enter the river shall be removed from coastal waters immediately;

B. Any and all debris resulting from construction activities shall be removed from the project site within 10 days of project completion and in accordance with the construction debris removal and disposal plan required by Special Condition No. 4;

C. Silt screens, straw bales, coir-rolls, and/or water bladder walls appropriate for use in riverbank and floodplain settings applications shall be installed at the toe of the slope and around the perimeter of the area to be graded prior to the initiation of grading activities and shall be maintained throughout project construction. Additional siltation barrier materials shall be kept at the site and deployed as needed to reinforce sediment containment structures should unseasonable rainfall occur;

D. The excavator used during the construction process shall not enter the Klamath River channel;

E. No excavated materials shall be side-cast during blading operations at the site;

F. If rainfall is forecast during the time construction activities are being performed, all exposed soil areas shall be promptly mulched before the onset of precipitation;

G. Any fueling of construction equipment shall occur within the adjoining parking lot at a minimum of 100 feet from the ordinary high water line of the river; and

H. Fuels, lubricants, and solvents shall not be allowed to enter the waters of the Klamath River. 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. Any accidental spill shall be rapidly contained and cleaned up. All heavy equipment operating in or near the water's edge shall utilize vegetable oil as hydraulic fluid.

3. <u>Protection of Sensitive Bird Nesting Habitat</u>

A. **PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES**, the permittee shall submit, for the review and approval of the Executive Director, a Sensitive Bird Nesting Habitat Protection Plan, prepared by a qualified biologist, for conducting pre-construction surveys for sensitive bird nesting habitat in the project area and protecting such habitat from project impacts. The plan shall, at a minimum, include the following:

1) Provisions for surveying the project area by a qualified biologist during the bald eagle nesting season (January 1 through August 31) and during the appropriate nesting seasons of other special-status bird species with the potential for occurrence in the project vicinity as described in Section IV-D-3 for the presence of active nesting habitat;

2) Provisions for avoiding activities during the nesting season(s) within one half mile or line of sight, whichever is greater, of an occupied bald eagle nest and within 100 feet of an occupied nest of other special-status bird species; and

3) Provisions for submittal of the surveys required above for the review and approval of the Executive Director prior to the commencement of the authorized work each construction season that includes a map that locates any sensitive nesting habitat identified by the survey and a narrative that describes sensitive avoidance measures proposed.

B. The permittee shall undertake development in accordance with the approved final nesting bird protection program and the approved season surveys. Any proposed changes to the approved final nesting bird protection program and the approved season surveys shall be reported to the Executive Director. No changes to the approved final nesting bird protection program and the approved season surveys shall occur without an amendment to Coastal Development Permit No. 1-08-043, unless the Executive Director determines that no amendment is legally required.

4. Final Construction Debris Removal & Disposal Plan

A. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit for the review and approval of the Executive Director a final plan for the disposal of construction-related debris and excavated materials. The plan shall be consistent with the requirements of Special Condition No. 2. The plan shall describe the manner by which the material will be removed from the construction site and identify all temporary stockpiling and permit disposal sites that will be utilized. The plan shall demonstrate that all stockpiling and disposal sites are in upland areas where construction-related debris from this project may be lawfully stockpiled and disposed.

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 a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

5. Protection of Adjacent Environmentally Sensitive Riparian Vegetation

The authorized activities shall not disturb or remove any of the mature riparian habitat north and south of the project repair site. No new construction access roads shall be cut through this riparian habitat.

6. Revegetation Standards

The project site shall be revegetated as proposed, and revegetation shall comply with the following standards and limitations:

A. Only native plant species shall be planted and/or seeded. All proposed plantings/ seeds shall be obtained from local genetic stocks within Del Norte County. If

documentation is provided to the Executive Director that demonstrates that native plants from local genetic stock are not available, native plants obtained from genetic stock outside of the local area may be used. 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.

B. All planting shall be completed before the end of the first February following completion of construction.

C. The use of rodenticides containing any anticoagulant compounds, including, but not limited to, Bromadiolone, Brodifacoum or Diphacinone shall not be used.

7. Implementation of Proposed Planting Plan & Submittal of Annual Monitoring Reports

A. **WITHIN 180 DAYS OF COMPLETION OF CONSTRUCTION, AND THEREAFTER ANNUALLY BY OCTOBER 1 OF EACH YEAR FOR A PERIOD OF THREE YEARS,** the permittee shall submit for the review and approval of the Executive Director evidence that the project site has been revegetated in accordance with the approved revegetation plan (Exhibit No. 6), and annual monitoring results as proposed in the approved revegetation plan.

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.

The applicant shall implement the proposed revegetation plan (Exhibit No. 6).

8. Permit Amendment

All development authorized by Coastal Development Permit No. 1-08-043 must occur in strict compliance with the proposal as set forth in the application for the permit as modified by the special conditions. Any deviation from the plan proposal, including a change in the materials for the boat launching ramp or the shoreline protection quarry rock, to install the ramping or riprap in a manner that requires further encroachment into the waters of the Klamath River, or to make any other changes to the proposed project shall require an amendment to this permit, unless the Executive Director determines that no amendment is legally required.

9. Protection of Archaeological Resources

A. If an area of archaeological resources or human remains are discovered during the course of the project, all construction shall cease and shall not recommence

except as provided in subsection (B) hereof, and a qualified cultural resource specialist shall analyze the significance of the find.

B. A permittee seeking to recommence construction following discovery of the cultural deposits shall submit an archaeological plan for the review and approval of the Executive Director.

1) If the Executive Director approves the Archaeological Plan and determines that the 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.

2) If the Executive Director approves the 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.

IV. FINDINGS & DECLARATIONS

The Commission hereby finds and declares as follows:

A. Site Description & Background

The project site is located on the east side of the Klamath River, approximately 2½ miles upstream from its entrance to the Pacific Ocean, in Del Norte County. The project parcel is located on the 100-year floodplain terrace at the northern terminus of a frontage road that runs between Highway 101 and the Klamath River (see Exhibit Nos. 1-2).

According to a Natural Resources Assessment completed for the project by SHN Consulting Engineers & Geologists, Inc. dated November 3, 2008 (Exhibit No. 4), habitat 200-feet upstream of the project site includes riparian vegetation dominated by Pacific willow (*Salix lucida* ssp. *lasiandra*), arroyo willow (*Salix lasiolepis*), Sitka willow (*Salix sitchensis*), red alder (*Alnus rubra*), and black cottonwood (*Populus balsamifera*). Habitat between the parking lot and the river on the upstream bank is dominated mostly by nonnative weedy species including Himalayan blackberry (*Rubus discolor*), tall fescue (*Festuca arundinacea*), Queen Anne's lace (*Daucus carota*), sheep's sorrel (*Rumex acetosella*), orchard grass (*Dactylis glomerata*), sweet white clover (*Melilotus alba*), and Klamath weed (*Hypericum perforatum*). Willow saplings and various, mostly nonnative, herbaceous species are scattered along the immediate downstream side of the boat ramp. A mature band of riparian habitat lines the river bank south of the project site. The Natural Resources Assessment determined that the project area and surrounding vicinity support habitat for various special-status fish and wildlife species including coastal cutthroat trout (*Oncorhynchus clarkia clarkii*), southern Oregon/northern California (SONCC) coho salmon (*O. kisutch*), summer-run steelhead trout (*O. mykiss irideus*), great blue heron (*Ardea herodias*), ruffed grouse (*Bonasa umbellus*), marbled murrelet (*Brachyramphus marmoratus*), willow flycatcher (*Empidonax traillii brewsteri*), bald eagle (*Haliadetus leucocephalus*), osprey (*Pandion haliaetus*), double-crested cormorant

(*Phalacrocorax auritus*), northern spotted owl (*Strix occidentalis caurina*), and stellar (northern) sea-lion (*Eumetopias jubatus*).

Views of the project site and the river from Highway 101 are obscured by the intervening mature vegetation within the bank slope of the roadbed. Only limited views to and along the river to the northwest are afforded from the northern end of the facility's parking lot and from the lower end of the ramp. Because of the dense river corridor riparian vegetation, views of the site are limited to the areas within the river in proximity to the boat launch ramp and from the south abutment of the former Redwood Highway bridge crossing approximately ¼ mile to the south-southwest.

The project area comprises a non-tribal in-holding within the ancestral lands of the Yurok people and is situated within the boundaries of the Yurok Reservation. A cultural resources review performed by the Yurok Tribal Heritage Preservation Office (YTHPO) found no records of previously recorded historical resources within the project area. Noting the disturbed state of the site the YTHPO assessed the site has having a low to moderate probability of containing unrecorded cultural resources. Conditions were attached to the County's coastal grading permit detailing contingencies for ceasing project activities and notifying and consulting with appropriate parties should undocumented cultural relicts or remains be encountered construction

The County of Del Norte's Klamath Townsite Boat Ramp is one of two such public facilities that provide free access to the lower Klamath River for a variety of recreational boating uses. Extending down the right bank from the northern end of the 40-space upland parking lot, the existing boat launching facility consists of a concrete ramp that extends perpendicularly into the submerged waters for a distance of approximately 35 feet. Built in 1990, the ramp is comprised of a series of twenty 30-foot-wide concrete panels set at a roughly 15-percent graded incline. The periphery of the ramp and surrounding riverbank areas is armored with ¼-ton quarry stone revetment. The ramp is designed to enable up to two vehicles to maneuver their trailers side-by-side down into the river at a time to launch or retrieve watercraft.

In January 1997, a series of strong winter storms passed over the Klamath-Trinity River basin. The resulting floodwaters generated by these storms approximated that of the flows experienced during the notorious 1964 "Christmas Eve Flood" (±580,000 cubic-feet/second) that devastated the original Klamath Townsite. As a result of hydraulic scouring at the base of the ramp, the lower portions of ramp were undermined and became dislocated into the river. Less dramatic subsidence of the lower ramp panels also occurs on an on-going basis from erosion during non-flood stage flows as well, requiring periodic maintenance. In addition, the protruding design of the existing ramp and the abrupt edge between the intact and dislodged lower ramp panels makes boat launching difficult, especially on out-going tides, exposing watercraft users to unnecessary risks caused by the eroded areas and strong currents.

To repair the past storm damage, and provide a boat launch that would better withstand the river's erosive forces and require less periodic maintenance, in May of 2004 the

Commission approved Coastal Development Permit No. 1-04-001, which authorized the removal of the existing 165-foot-long ramp and construction of a new ramp set at an approximately 45-degree angle to the downstream bank. Approximately one-half-acre of vegetation was authorized for removal under CDP No. 1-04-001, including 0.32 acres upstream of the existing ramp and 0.18 acres downstream side of the existing ramp down to the water's edge. Approximately 3,000 cubic yards of riverbank fill was authorized for removal to form the roughly 350-foot run for the new boat launching structure. In addition to the 800 cubic yards to be extracted for the ramp slot, the permit approved a bench (extending 250 feet in length upstream of the ramp and 170 feet downstream of the ramp) to be excavated at the base of the graded slopes and along the ramp bottom to serve as a foundation for setting the bottom row of riprap. To anchor the boat ramp, the permit authorized the drilling of two or three holes at the bottom edge of the replacement ramp extending to a depth of approximately six feet deep below riverbed level and filled with a rail and marine concrete slurry in each. The approved ramp itself was to include pre-cast concrete panels and poured concrete between the head of the ramp at the parking lot edge and the pre-cast panels. Finally, to adequately armor the boat launch structure and prevent the adjoining downstream riverbank from being scoured by any gyre backflows generated by the replacement ramp's angled configuration, the permit authorized the placement of approximately 3,000 cubic yards of one-half-ton quarry stone riprap and/or open-block slope protection over a roughly 6,886-square-foot area (0.17 acres upstream and 0.08 acres downstream of the existing ramp) comprising the submerged perimeter of the ramp and the exposed soils at/below a +12 msl elevation, the "run-up zone," representing the shoreline subject to wind, wave and tidal influence. As mitigation for the riverbank areas covered with the rock slope protection, native willows were to be planted both within the area disturbed to construct the replacement boat launch structure and in adjoining undisturbed grassy areas to a distance of 100 feet downstream from the boat ramp site across a total area of 25,144 square feet (2.4:1 mitigation ratio).

After the Commission's approval of CDP No. 1-04-001 in May of 2004 and before the County commenced the authorized work, additional damage occurred to the boat ramp in December of 2005 through January of 2006. A series of severe storms led to high river flows, which washed away deep portions of fill associated with the existing ramp (75 ft x 45 ft x 10 ft), a thick section of asphalt (75 ft x 45 ft x 3 ft), and a concrete curb (150 lineal feet) at the turn-around area in the parking lot associated with the ramp approach area. CDP No. 1-04-001 expired in May of 2006 prior to commencement of the authorized work. Thus, the development proposed under the subject permit application differs somewhat from the previously authorized development, as summarized in Section IV-B below.

B. Project Description

The proposed repair work would be conducted within the area of damage and would extend outside the original boat ramp footprint. The methods would be similar to those previously permitted under CDP No. 1-04-001, as described above, in terms of boat ramp reconstruction. As a measure to prevent future damage from broadside river flows and to launch boats safely throughout the year, the new ramp would be reoriented 60 degrees

downstream on the river and extend an additional 88 feet into the river. Specifically, the County proposes the following (and see Exhibit No. 5 for project plans):

- Remove and dispose of 183 cubic yards of existing reinforced concrete ramp and stem wall, 500 square yards of pavement, and 90 lineal feet of concrete curb;
- Install 122 cubic yards of new reinforced concrete ramp on an aggregate base and 300 lineal feet of concrete curb;
- Backfill and compact 1,700 cubic yards of fill in the parking lot and the area surrounding the ramp;
- Sawcut 200 lineal feet of asphalt and pave 188 square yards over aggregate base;
- Place riprap (6,600 tons) upstream and downstream over filter fabric; and
- Place 4,680 square feet of articulated concrete mat for shoreline protection.

The entire project proposes to install riprap and articulated concrete mat (combined) across a 50,400-square-foot area, which equates to a volume of 5,000 cubic yards (6,600 tons). Native willow poles are proposed to be planted throughout the articulated concrete mat area.

Based on the ordinary high water mark (OHWM) of +2.58 feet (NGVD29), the project proposes to place the following amounts of material below the OHWM: (1) 12,000 square feet of riprap that equates to a volume of 2,710 cubic yards; and (2) 240 square yards (2,160 square feet) of concrete that equates to a volume of 55 cubic yards.

The County has submitted a revegetation plan, which was developed by the County's consultant in consultation with the Department of Fish and Game (Exhibit No. 6). The plan is intended to mitigate for impacts to approximately 18,040 square feet of vegetation along the bank of the Klamath River consisting of various (mostly nonnative) grasses, herbs, Himalayan blackberry, and (native) willow saplings. The County asserts that the proposed plan would improve upon existing riparian habitat located upstream of the boat ramp and would mitigate for vegetation impacts resulting from the proposed boat ramp repairs. The plan proposes to plant containerized red alder and black cottonwood and poles of Pacific willow and arroyo willow in an area located upstream of the boat ramp between the river bank and the parking lot. Willows also would be planted in the area immediately downstream and upstream of the boat ramp where the articulated cable mat would be placed along the shoreline.

The County would use the existing parking area at the boat ramp facility for staging of construction equipment and materials during the proposed repair work. The preliminary staging plan that was submitted with the application proposes to refuel equipment at designated staging areas only, to store and contain all fill away from channel areas to prevent transport of materials into the river, to install silt fencing to collect any discharge, and to maintain adequate materials for spill cleanup on site, among other measures. The County also submitted preliminary plans for debris disposal and erosion control (Exhibit No. 7).

As part of its project description, the County proposes to implement the conservation measures described in a letter to the County dated April 27, 2007 from the Federal Emergency Management Agency (FEMA), which is funding the project (Exhibit No. 8). The conservation measures are part of a 2006 Programmatic Biological Assessment for FEMA-funded disaster assistance projects in California for species under the jurisdiction of the U.S. Fish and Wildlife Service. The conservation measures include, but are not limited to, maintaining a qualified biological monitor on-site for the duration of construction activities, avoiding direct and indirect impacts to listed species, minimizing vegetation disturbance, revegetating sites with native, locally acquired seeds and plants, using standard "best management practices" (BMPs), installing and maintaining sediment-control devices during construction, and measures to protect nesting bald eagles in the area, among other measures. Implementation of the 18 "general conservation measures" and three "proposed conservation measures" is a mandatory stipulation for the use of FEMA funding for the project.

Also as part of its project description, the County proposes to implement the 19 avoidance and minimization measures listed in the March 2007 Biological Assessment prepared for the project for the National Marine Fisheries Service (Exhibit No. 9). The proposed measures are designed to avoid and minimize potential adverse effects to listed salmonids and Stellar sea-lions and their associated habitats and include restricting construction activities in or adjacent to the river to the period of July 1 through October 15, installing erosion and sediment control devices during construction activities, properly disposing of all debris and other material at an approved disposal site, and various other measures (see Exhibit No. 9).

C. Recreational Boating Facilities

Section 30224 of the Coastal Act states:

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

Section 30234 of the Coastal Act further provides that:

> *Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.* [emphases added]

The primary objective of the project is to conduct repairs on an existing boat launching facility by replacing the structure with a more sturdy ramp structure that would better withstand the hydraulic forces of the river during higher flow regimes, such that repeated

damage and closures for repairs would be reduced. In addition, a new angled ramp configuration would be constructed so that a quiet backwater alcove would be formed in which boating recreationists might have an area in which to safely launch and beach their craft without having to fight the lateral push of the river during out-going tides. To realize these goals, the more durable ramp and revetment materials would be installed both along the existing riverbank and on a sloping bench graded back into upland areas on the adjoining floodplain terrace. As such, the project would upgrade the existing recreational boating facility and would encourage increased recreational boating.

The lower Klamath River is a highly popular recreational fishing destination. In addition, Yurok tribal members utilize the lower river and estuary as a subsistence gill-net fishery. However, since the closing in the 1930s of the numerous canneries that lined the banks of the lower Klamath in the vicinity of the town of Requa a mile below the project site, there has not been a commercial fishing industry based on the river for over a half-century. The only remaining fishing-related commercial enterprises in the area are the numerous drift boat guide services that provide private recreational fishing charter excursions on the lower river. These guide services operate primarily during the spring (March-April) and fall (September-November) runs of salmon and steelhead are underway, launching from a variety of private and public launches between Klamath Glen and the mouth of the Klamath. Accordingly, as the development would be constructed during the off-season between the spring and fall runs, and as other boat launching facilities are available for the river guides to use within a reasonable distance of the project site, the proposed boating facilities are designed and located in such a fashion so as not to interfere with the needs of the commercial fishing industry.

Therefore, the Commission finds that the project is consistent with Section 30224 of the Coastal Act, as recreational boating will be encouraged by increasing public boat launching facilities. The Commission also finds the project is consistent with Section 30234 of the Coastal Act requiring that recreational boating facilities shall be protected, and where feasible, upgraded, as the proposed development will upgrade a boat ramp facility for improved safety and operation.

D. Protection of Marine Resources & Coastal Water Quality

Section 30108.2 defines "fill" as the placement of earth or any other substance or material in a submerged area. As the boat ramp and rock slope protection components would be placed in submerged areas, the proposed boat launch facility constitutes fill.

The project involves both dredging and fill in open coastal waters and riverine wetlands to remove the lower portions of the existing ramp and ¼-ton riprap materials at and below an elevation of +2.58′ NGVD29, the Ordinary High Water Line (OHWL) along this portion of the river, and to install the new ramp and ½-ton revetment materials within and along the river banks, respectively. Some of these new fill materials will be placed on areas excavated from dry land atop the former locations of the existing ramp and riprap once these structures are removed, somewhat reducing the net increase of new fill in the river. Table 1 below summarizes the pre- and post construction fill quantities:

Table 1. Pre- and post-construction fill quantities (ft^2).

Fill Element	Before Construction		After Construction	
	At/Below OHWL	Above OHWL	At/Below OHWL	Above OHWL
Concrete boat ramp	875	4,375	2,160	2,000
Rock slope protection	124	357	12,000	8.094
Structural Backfill	N/A	N/A	0	2,996
Articulating Concrete Mat	N/A	N/A	0	4,676
Parking Lot Asphalt Concrete	N/A	N/A	0	12,129
Totals:	**999 ft^2**	**4,732 ft^2**	**14,160 ft^2**	**10,094 ft^2**

The project would result in a total of an additional 13,161 square feet of fill being placed over areas of aquatic bed wetlands at and below the Ordinary High Water Line. It should be noted that although the fill would cover this additional amount of bottom area, most of the additional fill would not extend completely through the water column to the surface. The ramp is designed to have water flow over parts of it and the rock slope protection would extend into the river in a similar fashion. Thus, the surface area of the river would be reduced by a much smaller amount than 13,161 square feet. The area in which the new fill would be placed is currently composed of a mixture of cobbles, and sand inter-layered with silt fines of varying depth, and extends approximately 10 to 20 feet into the river beyond the outward edge of the existing ramp and revetment materials. This type of substrate is not utilized for spawning by anadromous fish, which instead prefer well-sorted gravel areas more commonly found further up the watershed from the project site. Similarly, because of size of the sediments and the high-energy environment that these riverbed materials are exposed, they to do not provide habitat for aquatic micro invertebrates such as mayflies (*Ephemeroptera* sp.), stoneflies (*Plecoptera* sp.), and caddisflies (*Trichoptera* sp.), referred to collectively as "EPT," which prefer gravel to cobble sized particles in less vigorous flow settings.

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

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

Section 30231 of the Coastal Act addresses the protection of coastal water quality and marine resources in conjunction with development and other land use activities. Section 30231 states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of wastewater discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with the 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 provides as follows, in applicable part, the following:

> *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, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities...*

The above policies set forth a number of different limitations on what development projects may be allowed in coastal wetlands. For analysis purposes, the limitations can be grouped into four general categories or tests. These tests are as follows:

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

Each category is discussed separately below.

1. Permissible Use for Fill

The first test for a proposed project involving fill is whether the fill is for one of the seven allowable uses under Section 30233(a). The replacement of the boat ramp would help restore and improve the Klamath Townsite Boat Ramp. The boat launch provides safe ingress and egress to the lower Klamath River for a variety of recreational watercraft ranging from one-person canoes and kayaks to auto trailer winch-mounted motorized "party boats." Thus, the proposed replacement of the boat ramp will provide a slightly enlarged recreational boating facility.

The proposed rock slope protection is needed to armor the boat launch structure and protect the adjacent bank from being scoured by any gyre backflows generated by the replacement ramp. Therefore, the rock slope protection fill is ancillary to, and a necessary part of, the boat ramp facility.

Therefore, the Commission finds that the filling associated with the proposed replacement of the boat ramp is for an expanded boating facility and thus is an allowable use for fill pursuant to Section 30233(a)(3) of the Coastal Act.

2. Least Environmentally Damaging Feasible Alternative

The second 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 the following: (1) partially replacing only damaged sections of the existing boat launch structure; (2) implementing the project as previously approved under Coastal Development Permit No. 1-04-001; and (3) the "no project" alternative. Commission staff also surveyed the lower river for other suitable sites river where a boat ramp might be developed without the need for riparian vegetation removal, grading, and/or the placement of shoreline protective devices. However, because all of the alternate sites identified are under either federal, tribal, or state ownership, the legal and economic barriers to their acquisition by the County render these sites infeasible as project alternatives.

(a) In-kind Replacement of the Damaged Sections of the Existing Ramp Only

One alternative to the proposed project would be to replace only the damaged portions of the existing ramp. This alternative would minimize the initial site disturbance and the amount of new fill required in the river. However, this alternative would not address the inherent problems associated with the design of the existing ramp. The existing Klamath Townsite Boat Launching Facility is permanently damaged and has safety hazards associated with its use. The toe of the ramp requires yearly maintenance to provide adequate footing for boat trailers and to reposition the pre-cast panels that have shifted. During winter flows, the toe of the ramp is scoured and creates a ledge that snags boat trailer tires. Another problem is the high flow velocities that occur during low tides, which create a strong crosscurrent for the launching of boats. Because of these problems, it is difficult for people unfamiliar with the ramp configuration to use the facility. The orientation of the existing ramp, perpendicular to river flow, continually exposes the facility to further damage during periods of high flow and jeopardizes the safety of boat launch users.

Any temporary repairs to the existing ramp would extend its utility by only a few years and would not address safety concerns. With the only other public boat launching facility on the Lower Klamath in disrepair and located nearly four miles upstream at Klamath Glen, the County has determined that this site requires a long-term solution. Del Norte County's proposed project would address the inherent design flaws of the existing ramp

by removing the existing ramp and replacing it with a new ramp that is safer and more stable. These plans include orienting the replacement ramp approximately 60 degrees from the downstream riverbank. The proposed alignment would provide the needed structural stability to minimize erosion and maximize boater safety that simply replacing the damaged portions of the existing ramp would not provide.

Additionally, although the repair in-kind alternative would cause less initial disturbance of the riverine habitat, there would be a greatly increased level of disturbance to tidal waters and marine resources over time, as these sections of the boat ramp repeatedly fail and need to be fixed. Repeated disturbance of the habitat would result in greater cumulative adverse impacts and would not alleviate the boating safety problems inherent with the current ramp configuration. Therefore, replacing damaged sections of the existing boat ramp in-kind is not a feasible less environmentally damaging alternative.

(b) Implementing the Project as Previously Approved Under CDP No. 1-04-001

Another alternative to the proposed project would be to implement it as previously approved by the Commission under Coastal Development Permit No. 1-04-001. This alternative includes a complete replacement of the existing 5,750-square-foot concrete boat ramp with a 7,004-square-foot concrete boat ramp and placement of 6,886 square feet of rock slope protection above, around, and below the new ramp. This alternative also involves reorienting the ramp at a 45 degree downstream angle.

As discussed above in Section IV-A, the existing boat ramp sustained major damage from high river flows in storms during the winters of 1997 and 2005-2006. The project approved under CDP No. 1-04-01 was designed after the 1997 storm damage but prior to the storm events of 2005-2006, which washed away deep portions of fill associated with the existing ramp (75 ft x 45 ft x 10 ft), a thick section of asphalt (75 ft x 45 ft x 3 ft), and a concrete curb (150 lineal feet) at the turn-around area in the parking lot associated with the ramp approach area. Thus, an increased amount of fill (covering an additional area of approximately 5,700 square feet) over the amount approved under CDP No. 1-04-001 is required for the currently proposed project to construct the ramp and restore the bank to previous conditions. The project as currently proposed will restore the original bank cross section and maintain a consistent profile upstream and downstream of the new ramp. As currently proposed, the new alignment and fill quantities will reduce the likelihood of back eddies being created behind the ramp area, which contribute to ramp erosion and have contributed significantly to the erosion of the existing ramp. Additionally, the ramp design approved under CDP No. 1-04-001 located the new ramp approximately 50 feet upstream of the currently proposed ramp. This previously approved location currently contains environmentally sensitive riparian vegetation, which will be avoided under the proposed project design sited 50 feet downstream. Therefore, implementing the project as previously approved under CDP No. 1-04-001 is not a feasible less environmentally damaging alternative.

(c) No Project Alternative

The "no project" alternative means that no improvements would occur to the Klamath Townsite Boat Ramp. The objective of the proposed project, i.e., to replace the boat ramp, would not be met. Without the proposed improvements, the launching facility would remain permanently closed. Such a permanent closure would cause a significant impact to public access and recreational boating opportunities on the lower Klamath River.

Moreover, in its damaged state, the detached ramp panels would constitute an obstruction in the river that would contribute to scour leading to further erosion to the ramp and surrounding banks, and leading to navigational and safety hazards for boats using this portion of the river that could result in damage to the craft and a greater risk of spills of vessel fuels and oils from boats that run aground or are even capsized. If no action is taken, ongoing erosion processes and water quality impacts will continue to result from the current boat ramp. Therefore, the no project alternative is not a less environmentally damaging feasible alternative, as it would not accomplish the project objectives of alleviating hazardous conditions for recreational boaters who use the ramp and to halt the continued erosion at the site.

Based on the alternatives analysis above, the Commission concludes that the proposed project is the least environmentally damaging feasible alternative.

3. Feasible Mitigation Measures

The third 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 marine environment of the Klamath River. The project could have potential impacts to (a) invertebrate and macro algae habitat associated with the existing boat ramp; (b) sensitive fish species; and (c) riverine water quality from siltation associated with grading on the riverbank edge, 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:

(a) Macro-Invertebrate, Macro-algal, and Aquatic Bed Wetland Habitats

The surfaces of the existing ramp and rock slope protection submerged in the river typically support certain common macro-invertebrate organisms [e.g., mayflies (*Ephemeroptera* sp.), stoneflies (*Plecoptera* sp.), and caddisflies (*Trichoptera* sp.) or "EPT"] and algae. Because of their grain size and exposure to currents, these organisms do not utilize the open riverbed areas beyond the existing ramp and riprap surfaces. Demolition of the existing ramp and revetment would remove habitat for these organisms. The community of organisms, although low in density, that exist on the boat ramp and revetment would be lost as a result of the construction of the new ramp and rock slope protection. However, organisms that are found along the existing ramp and revetment surfaces are common and abundant species that would quickly colonize on the new concrete and rock substrate once submerged in the river. It is likely that the smooth

surface of the concrete may preclude some sessile species from attaching to it. However, the proposed rock slope protection to be placed as part of the replacement boat ramp project would provide surfaces for these organisms to colonize in amounts greater than would be lost from the removal of the existing ramp and revetment surfaces. Therefore, the Commission finds that no additional mitigation is necessary for the loss of emergent and aquatic bed wetland habitat associated with the proposed project.

(b) Sensitive Fish Species

According to the staff of National Marine Fisheries Service (NOAA Fisheries), spawning runs of steelhead (*Oncorhynchus mykiss*) and coho salmon (*Oncorhynchus kisutch*) are known to occur in the Klamath River as the rivers rise during the first seasonal rains that occur in the fall of the year and throughout the months of January, February, and March. The proposed project would adversely impact sensitive fish species by increasing water turbidity through disturbance of bottom sediments. According to NOAA-Fisheries, suspended sediments can make salmonid prey and predator detection difficult, reduce feeding opportunities, induce behavioral modifications, cause respiratory problems for fish, and smother incubating eggs or juvenile fish or spawning habitat. Additionally, direct impact and/or vibrations resulting from drilling the ramp panel railings would be injurious to eggs and alevins in the gravel. Furthermore, installation of the new boat ramp would temporarily obstruct migrating anadromous fish or spook fish during the spawning period.

As part of its project description, the County has proposed to implement the 19 avoidance and minimization measures listed in the March 2007 Biological Assessment prepared for the project for the National Marine Fisheries Service (Exhibit No. 9), many of which relate to water quality protection through erosion and sediment control, covering of stockpiles, proper debris disposal, and others. Additionally, one of the proposed measures restricts construction activities in or adjacent to the river to the period of July 1 through October 15 in order to avoid spawning and migrating salmonids in the river. To ensure that this salmonid protection measures are implemented as proposed, the Commission attaches Special Condition Nos. 1 and 2. **Special Condition No. 1** limits the construction window to the period of July 1 through October 15 only to avoid adverse impacts on sensitive salmonids during principal periods of migration. **Special Condition No. 2** requires adherence to the 19 avoidance and minimization measures listed in the March 2007 Biological Assessment prepared for the project for the National Marine Fisheries Service (Exhibit No. 9) as well as to various construction-related responsibilities. These responsibilities include, but are not limited to, requirements that: (a) 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 Klamath River; (b) any and all debris resulting from construction activities shall be removed from the project site within 10 days of project completion and in accordance with the construction debris removal and disposal plan required by Special Condition No. 4 (see below); (c) silt screens, straw bales, coir-rolls, and/or water bladder walls appropriate for use in riverbank and floodplain settings applications shall be installed at the toe of the slope and around the perimeter of the area to be graded prior to the initiation of grading

activities and shall be maintained throughout project construction; (d) the excavator used during the construction process shall not enter the Klamath River channel; (e) no excavated materials shall be side-cast during blading operations at the site; (f) if rainfall is forecast during the time construction activities are being performed, all exposed soil areas shall be promptly mulched before the onset of precipitation; (g) any fueling of construction equipment shall occur within the adjoining parking lot at a minimum of 100 feet from the ordinary high water line of the river; and (h) deleterious spills of hazardous materials into the river be minimized by requiring that fuels, lubricants, and solvents not be allowed to enter the waters of the Klamath River, hazardous materials management equipment including oil containment booms and absorbent pads be available immediately on-hand at the project site, a registered first-response, professional hazardous materials clean-up/remediation service be locally available on call, any accidental spill be rapidly contained and cleaned up, and all heavy equipment operating in or near the water's edge utilize vegetable oil as hydraulic fluid.

Therefore, the Commission finds that the proposed project, as conditioned, will minimize disturbance to sensitive anadromous fish by restricting the timing of the in-stream work and by implementing various measures to protect water quality.

(c) Riverine Water Quality

Construction activities in and adjacent to the river could result in degradation of water quality through the entry of soil materials either directly or entrained in runoff passing over ground disturbed areas. At the bottom of the slope protection zone, a bench would be excavated to provide toe stability. Turbidity may be elevated in the work area during this period of excavation at the toe. However, the levels of suspended sediment are anticipated to be minor and would be diluted soon after leaving the disturbed area. Additionally, a limited amount of existing river sediment may be disturbed when the pre-cast replacement panels are installed below the water surface. Turbidity may be locally elevated in the work area during this period, but these increases would be for very short infrequent periods and would be diluted soon after leaving the work area. Moreover, water quality could be affected if construction debris and construction equipment is allowed to enter the river.

As discussed above, the County has proposed to implement a number of measures to minimize water quality impacts including using silt fences, covering of stockpiles, proper debris disposal, and others, including the conservation measures described in Exhibit No. 8 and the avoidance and minimization measures listed in Exhibit No. 9. **Special Condition Nos. 1 and 2**, as discussed above, will help to protect water quality by limiting the construction window to the dry period of July 1 through October 15 and by requiring adherence to the various conservation measures, avoidance and minimization measures, and construction-related responsibilities. These include, in part the conservation measures described in Exhibit No. 8, the avoidance and minimization measures listed in Exhibit No. 9, and requirements that: (a) 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 Klamath River; (b)

any and all debris resulting from construction activities shall be removed from the project site within 10 days of project completion and in accordance with the construction debris removal and disposal plan required by Special Condition No. 4 (see below); (c) silt screens, straw bales, coir-rolls, and/or water bladder walls appropriate for use in riverbank and floodplain settings applications shall be installed at the toe of the slope and around the perimeter of the area to be graded prior to the initiation of grading activities and shall be maintained throughout project construction; (d) the excavator used during the construction process shall not enter the Klamath River channel; (e) no excavated materials shall be side-cast during blading operations at the site; (f) if rainfall is forecast during the time construction activities are being performed, all exposed soil areas shall be promptly mulched before the onset of precipitation; (g) any fueling of construction equipment shall occur within the adjoining parking lot at a minimum of 100 feet from the ordinary high water line of the river; and (h) deleterious spills of hazardous materials into the river be minimized by requiring that fuels, lubricants, and solvents not be allowed to enter the waters of the Klamath River, hazardous materials management equipment including oil containment booms and absorbent pads be available immediately on-hand at the project site, a registered first-response, professional hazardous materials clean-up/remediation service be locally available on call, any accidental spill be rapidly contained and cleaned up, and all heavy equipment operating in or near the water's edge utilize vegetable oil as hydraulic fluid.

In addition, the Commission attaches **Special Condition No. 4** to ensure that all debris resulting from construction activities is adequately contained during stockpiling and disposed of properly. The special condition requires the County to submit a final plan for the disposal of construction debris and excavated material for the review and approval of the Executive Director. The plan must be consistent with the requirements of Special Condition No. 2 and must describe the manner by which the material will be removed from the construction site and identify all temporary stockpiling and permit disposal sites that will be utilized. The plan must also demonstrate that all stockpiling and disposal sites are in upland areas where construction-related debris from this project may be lawfully stockpiled and disposed.

Re-fueling of the equipment during project construction is not anticipated. Should re-fueling of equipment become necessary, **Special Condition No. 2-G** requires that the re-fueling occur at the adjoining parking lot where procedures are in place to minimize the occurrence and magnitude of impact of fueling spills. In the event that any petroleum-based products are spilled onto the paved surface of the parking lot, **Special Condition No. 2-H** is included to requires that a registered haz-mat first response service be retained on call. Special Condition No. 2-H also requires that all hydraulic equipment used in proximity of the river's edge be operated with vegetable oil. Vegetable oil is approved for use in work in or over water, since it is biodegradable and essentially harmless in small amounts. As conditioned, potential adverse impacts from fuel or oil spills to marine resources will be reduced to less-than-significant levels.

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, the Commission finds that feasible mitigation is required to minimize all significant adverse impacts associated with the proposed filling of coastal waters.

4. Maintenance & Enhancement of Marine Habitat Values

The fourth general limitation set by Sections 30233 and 30231 of the Coastal Act is that any proposed filling in tidal waters or submerged lands must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

As discussed above, the conditions of the permit will ensure that the project will not have significant adverse impacts on the riverine or marine resources of the Klamath River. The mitigation measures incorporated into the project and required by the special conditions discussed above will ensure that the replacement of the boat ramp will not adversely affect the biological productivity and functional capacity of the tidal waters or marine resources. Furthermore, by aiding the re-establishment of riparian vegetation canopy along a denuded stretch of the eastern riverbank that will provide shade during and help cool the waters of the river, as discussed above, the in-river habitat for temperature-sensitive fish species such as salmon and steelhead will be enhanced. This riparian vegetative restoration as well as the sheltered interstitial areas within the new revetment materials installed in the aquatic bed areas will also provide cover and substrate for other aquatic organisms such as macro-invertebrates and algae on which these fish species feed. Therefore, the Commission finds that the project, as conditioned, will maintain and enhance the biological productivity and functional capacity of the habitat consistent with the requirements of Sections 30233 and 30231 of the Coastal Act.

Conclusion

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

E. Environmentally Sensitive Habitat Areas (ESHA)

Section 30240 of the Coastal Act states:

> *(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*
>
> *(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Coastal Act Section 30107.7 defines "environmentally sensitive area as meaning:

> *…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*

Section 30240 of the Coastal Act states that development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat areas.

The proposed project involves development activities in and in close proximity to sensitive bird species as well as riparian vegetation on the adjacent floodplain terraces.

As discussed above in Section IV-A, according to the Natural Resources Assessment prepared for the project by the County's consultant (Exhibit No. 4), the project area and surrounding vicinity support habitat for various special-status bird species including marbled murrelet (*Brachyramphus marmoratus*), willow flycatcher (*Empidonax traillii brewsteri*), bald eagle (*Haliadetus leucocephalus*), osprey (*Pandion haliaetus*), northern spotted owl (*Strix occidentalis caurina*), and others. As part of its project description, the County has proposed implementing the conservation measures described in a letter to the County dated April 27, 2007 from FEMA (Exhibit No. 9), which include measures to protect nesting bald eagle nesting habitat. These proposed measures include in part avoiding project activities from January 1 through August 31 within one half mile or line-of-sight, whichever is greater, of an occupied bald eagle nest. To ensure that this bald eagle protection measure is implemented as proposed, and to ensure that impacts to other sensitive bird nesting habitat potentially present in the area is avoided, the Commission attaches Special Condition No. 3. **Special Condition No. 3** requires submittal of a Sensitive Bird Nesting Protection Plan for the Executive Director's review and approval prior to commencement of construction activities. The plan shall be prepared by a qualified biologist and shall include in part provisions for surveying the project area during the appropriate sensitive bird nesting season(s) for the presence of active nesting habitat and provisions for avoiding activities during the nesting season(s) within one half mile or line of sight, whichever is greater, of an occupied bald eagle nest and within 100 feet of an occupied nest of other special-status bird species.

Therefore, the Commission finds that the proposed project, as conditioned, will minimize disturbance to sensitive bird species by avoiding development activities in the vicinity of nesting bald eagles and other special-status bird species.

The Coastal Commission has previously determined in numerous permit actions that most forms of riparian vegetation, such as willows, are environmentally sensitive, as riparian zones serve many critical ecosystem functions. First, riparian areas contribute important organic debris that is transformed into nutrients, which support the riverine food web. Wood, leaf litter, and other organic matter from riparian areas provide nutrients for life at the base of the food web. Riparian vegetation supports insects and

other prey resources, which are eaten by juvenile salmon and other fish and wildlife. If these areas are altered or eliminated, the food supply and, thus, the abundance of fish is likely to be reduced. Additionally, riparian vegetation provides cover – both for shade and protection purposes – for aquatic species such as salmonids, which need cool water temperatures for growth and survival and protection from predators. Furthermore, riparian areas capture contaminants; by absorbing or filtering contaminated stormwater runoff, soils and vegetation in riparian areas can prevent pollutants from entering coastal waters. Moreover, healthy riparian areas support rich and diverse communities of animals, including birds, amphibians, and mammals, that depend on the areas for feeding, breeding, refuge, movement, and migration. Importantly, riparian areas serve as buffers for human health and safety. The riparian functions of water quality, soil stability, and the ability to absorb the impacts of large storm events and other natural, physical processes have direct benefits to humanity. Flooding and storm events can be exacerbated in the absence of riparian areas, which can serve as protective buffers. The Commission has consistently conditioned permits for development near riparian woodlands along streams and rivers to avoid disturbances of riparian areas where mature vegetation exists.

The riparian vegetation along the Klamath River at the project site is sometimes inundated during high flows and is often uprooted and scoured by river flows. As a result, the willow vegetation in the proposed impact area is young, having only grown a season or several seasons since the time of the last inundation severe enough to remove the plants previously growing there. Given that this riparian vegetation is very new and underdeveloped, it does not provide habitat values sufficient enough for the vegetation to be characterized as environmentally sensitive riparian habitat.

Under Section 30107.5 of the Coastal Act, as described above, any area supporting a plant, animal, or habitat is environmentally sensitive if the area meets two main criteria: (1) the plant, animal, or habitat is either rare or especially valuable because of its special nature or role in the ecosystem, and (2) the area could be easily disturbed or degraded by human activities and developments. The non-persistent, young riparian scrub-shrub areas clearly meet the second criterion in that excavation along the river bank for the installation of shoreline protection, such as proposed by the applicant, can quickly degrade or obliterate any of this habitat that construction activities come into contact with. With regard to the first criterion, the young willow sapling vegetation is not rare, as it generally does not contain rare or endangered species, and it can be found extensively on the many thousands of acres gravel bars and river banks along North Coast waterways. However, such vegetation can be considered especially valuable and therefore also meet the first criterion.

In general, riparian vegetation must grow to a certain size and mass before it can begin to contribute significantly to the river ecosystem. A willow sapling growing in isolation that has just taken root and only rises a few feet out of the ground cannot serve the ecosystem functions discussed above such as contributing organic debris to the riverine food web (including supporting insects and other macro-invertebrates on which juvenile salmonids depend), capturing contaminants, providing forage area, nesting opportunities, or screening from predators for birds and wildlife, and other functions. As the plant

grows taller, however, and as more riparian plants colonize the surrounding area, the developing vegetation begins to contribute more debris to the riverine food web, capture more contaminants, and provide more forage, nesting, and cover opportunities that make it especially valuable habitat and therefore an environmentally sensitive area.

There is no clear-cut answer to the question of just when in the growth and development of riparian vegetation it reaches the point where it can be considered environmentally sensitive. In discussions with Department of Fish and Game (DFG) staff, Commission staff has learned that no specific plant height and diameter, coverage, age, etc. thresholds exist for riparian vegetation that define when habitat value is sufficient to categorize the vegetation as environmentally sensitive. Part of the reason for this uncertainty is that there can be tremendous variability in the values of riparian vegetation of the same size from one location to the next depending on such factors as surrounding habitat and vegetation, surrounding land uses, river configuration, etc.

One standard that the Commission has used in numerous past permit actions for various gravel mining permits in Humboldt County [e.g., CDP Nos. 1-09-005 (Eureka Ready Mix), 1-09-006 (Eureka Ready Mix), 1-09-011 (Charles Hansen), 1-09-014 (Humboldt County), 1-09-021 (Rock & Dwelley), 1-09-022, (Mercer-Fraser Co.) and various others] provides guidance for determining when riparian vegetation reaches the point of becoming environmentally sensitive. In discussions with DFG staff, Commission staff has discerned that under average growing conditions, a willow tree that is either one inch (1") in diameter at breast height (DBH) or part of a contiguous 1/16-acre complex would likely have survived for one growing season. Given that riparian vegetation is only now becoming established, the vegetation may not provide significant habitat value at this point. On the other hand, vegetation that has survived over several growing seasons would be established and likely to be used by wildlife. Therefore, the Commission has found that riparian vegetation should be characterized as an environmentally sensitive area when the vegetation contains woody vegetation that is part of a contiguous complex of 1/16-acre or larger or is one-inch or larger in DBH.

The scattered vegetation that occurs in the 18,000-square-foot area along the river bank that will be impacted by the proposed boat ramp repairs and associated shoreline protection does not meet either of the above criteria for being considered environmentally sensitive, as it consists of small, young, scattered willow saplings interspersed with nonnative grasses, herbs, and Himalayan blackberry. However, environmentally sensitive riparian vegetation that does meet the above criteria occurs upstream and downstream of the project site in the bands of mature riparian vegetation that line the river bank. If not carefully executed, it is possible that construction equipment and activities could adversely impact the environmentally sensitive habitat.

Therefore, to ensure that no project activities are performed within an area of environmentally sensitive riparian vegetation, and to ensure that riparian ESHA adjacent to the development would be protected against any significant disruption of habitat values, the Commission attaches **Special Condition No. 5**. This condition states that construction activities shall not disturb or remove any area of riparian vegetation adjacent

to the project repair site. Additionally, no new construction access roads shall be cut through the riparian habitat. In this manner, disturbance to all of the environmentally sensitive riparian vegetation in the vicinity of the project will be avoided.

Additionally, as discussed above in Section IV-B, the County has submitted a revegetation plan, which was developed by the County's consultant in consultation with the Department of Fish and Game (Exhibit No. 6). The plan is intended to mitigate for impacts to approximately 18,040 square feet of vegetation along the bank of the Klamath River consisting of various (mostly nonnative) grasses, herbs, Himalayan blackberry, and (native) willow saplings. The Commission finds that the proposed plan will improve upon existing riparian habitat located upstream of the boat ramp and will serve to screen and soften the appearance of the new ramp and rock slope protection while not blocking any additional views of the river from the shoreline, as discussed in more detail below in Section IV-F. The plan proposes to plant containerized red alder and black cottonwood and poles of Pacific willow and arroyo willow in an area located upstream of the boat ramp between the river bank and the parking lot. Willows also would be planted in the area immediately downstream and upstream of the boat ramp where the articulated cable mat would be placed along the shoreline**. Special Condition No. 7**, as discussed below, is added to ensure that the applicant's proposed planting plan is implemented.

The use of non-invasive plant species adjacent to environmentally sensitive habitat areas (ESHAs), such as riparian habitat, is critical to protecting such areas from disturbance. If invasive species are planted adjacent to an ESHA they can displace native species and alter the composition, function, and biological productivity of the ESHA.

As discussed above, the County is proposing to plant containerized red alder and black cottonwood and poles of Pacific willow and arroyo willow in an area located upstream of the boat ramp between the river bank and the parking lot. Willows also would be planted in the area immediately downstream and upstream of the boat ramp where the articulated cable mat would be placed along the shoreline. Additionally, a native grass seed mix will be applied in site-specific areas.

To assure that no invasive plant species are seeded in the project area, **Special Condition No. 6** prohibits the planting of any 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. Furthermore, no plant species listed as a "noxious weed" by the governments of the State of California or the United States are to be utilized in the revegetation portion of the project.

To help in the establishment of vegetation, rodenticides are sometimes used to prevent rats, moles, voles, and other similar small animals from eating the newly planted saplings. Certain rodenticides, particularly those utilizing blood anticoagulant compounds such as brodifacoum, bromadiolone and diphacinone, have been found to pose significant primary and secondary risks to non-target wildlife present in urban and urban/wildland areas. As the target species are preyed upon by raptors or other environmentally sensitive

predators and scavengers, these compounds can bio-accumulate in the animals that have consumed the rodents to concentrations toxic to the ingesting non-target species.

To avoid this potential cumulative impact to environmentally sensitive wildlife species, **Special Condition No. 6** contains a prohibition on the use of such anticoagulant-based rodenticides.

The Commission thus finds that the environmentally sensitive habitat areas adjacent to the development will be protected against any significant disruption of habitat values, and only uses dependent on those resources will be developed within those areas. In addition, the proposed recreation facility will be sited and designed to prevent impacts that will significantly degrade environmentally sensitive areas and will be compatible with the continuance of those habitat and recreation areas. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Section 30240 of the Coastal Act.

F. Visual Resources

Coastal Act Section 30251 requires permitted development to be designed and sited to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas.

Consistent with this policy, the project as designed and sited will not significantly obstruct any views to or along the ocean and the Klamath River estuary. There is no view through the site from Highway 101 because of the intervening trees along the slope up to the roadway. The only other views through the site are those oriented downriver towards the estuary from the boat ramp parking lot area itself. Although views downriver from the northern end of the ramp's parking lot will be affected by the proposed riparian vegetation planting, this vegetative screen will not be out of character with the surrounding area, as the planted trees will resemble similar bankside vegetation immediately to the southwest and northeast of the mitigation area. In addition, the views downriver will still be afforded from the river's edge, a short 100-foot walk through the planted trees from parking lot. Moreover, the views currently afforded to boaters both up and down stream from within the river will remain unaffected by the development.

The proposed project as sited and designed also will not result in any appreciable alteration of any landforms. Although the project involves a certain amount of grading and excavation to install the new facility, the new facility will replace the existing one and not significantly alter the shape and form of the riverbank from that that currently exists at the site.

The project also has been designed to be visually compatible with the character of the surrounding area. The replacement boat ramp and riprap structures will be somewhat greater in size than the existing ramp and riprap and will therefore appear somewhat more prominent from public vantage points. However, the riparian vegetation to be planted as

part of the proposed revegetation component would serve to screen and soften the appearance of the new ramp and rock slope protection while not blocking any additional views of the river from the shoreline. Furthermore, the materials and colors proposed for the replacement boat ramp and shoreline revetment will blend with the riverbank materials and with the character of the surrounding riparian corridor.

Special Condition No. 7 is added to ensure that the applicant's proposed planting plan is implemented so that the approval of the new ramp and rock slope protection is screened and softened as described above. The special condition requires that within 180 days of completion of construction, and thereafter annual by October 1 of each year for a period of three years, the permittee must submit for the review and approval of the Executive Director evidence that the project site has been revegetated in accordance with the approved revegetation plan (Exhibit No. 6), and annual monitoring results as proposed in the approved revegetation plan.

Special Condition No. 8 is added to ensure that the proposed neutral gray concrete ramp panels and greenstone quarry rock are used for the project, and that any deviation from the plan proposal including, but not limited to, a change in the color of the ramp or revetment materials will require an amendment to the permit, unless the Executive Director determines that no amendment is legally required. This condition will ensure that the Commission can review any changes to the project for conformance with Section 30251. Therefore, the Commission finds that the proposed development, as conditioned, will protect views to and along the ocean and scenic coastal areas, minimize the alteration of landforms, and be compatible with the character of the surrounding area, consistent with Section 30251 of the Coastal Act.

G. Public Access & Coastal Recreational Opportunities

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 Sections 30211 and 30212, 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 in Section IV.B above, the proposed development entails replacement of a recreational boat launch, a form of coastal access support facility. In addition, the project

as designed will not result in any significant interference with public access. With the exception of closure of the immediate construction site around the existing ramp and roughly one-half of the parking lot for the staging and routing of construction equipment, the construction work will not significantly obstruct shoreline access in the vicinity of the former Klamath Townsite area. Although there will be limited and temporary restrictions on use of these areas during installation of the new launching facility, these impacts are only of a temporary duration that will have no long-term impact on access. The project work will span an approximate three-week timeframe and be undertaken between July 1 and August 31 (for in-river demolition activities, as required by **Special Condition No. 1**), a relatively low-use time of year for anglers prior to the start of the fall runs of Chinook salmon in late September. In addition, informal launching areas for smaller personal watercraft that do not require trailer transport, such as canoes and kayaks, are afforded at numerous points along the lower river.

Therefore, the Commission finds that the proposed project as conditioned, which does not include substantial new public access, is consistent with the public access policies of the Coastal Act.

H. Geologic Stability

The Coastal Act contains policies to assure that new development provides structural integrity, minimizes risks to life and property in areas of high geologic and flood hazard, and does not create or contribute to erosion. Section 30253 of the Coastal Act states in applicable part:

> *New development shall do all of the following:*
>
> *(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.* [emphasis added]

Coastal Act Section 30253 requires the project to assure long-term stability and structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. This requirement is particularly relevant to the proposed project given the dynamic shoreline environment within which the proposed project will be placed. Since hydraulic forces increase with the square of the water height, a small increase in water depth and wind wave height can cause a significant increase in wave energy and potential structural damage. Thus, a small rise in river stage can expose river development to increased live and static hydraulic forces associated with inundation, scour, and wave attack.

The project will involve construction activities along the banks of the Klamath River, the second largest waterway in California. Comprising an approximately 9.5-million-acre basin area, during flood events the lower Klamath conveys flows that approximate the average discharge of the Mississippi River at its delta (±550,000 cubic-feet/second).

During the 1997 flood event that damaged the subject boat ramp, the river in the vicinity of the project site rose to a 32-foot height, inundating the launching facility parking lot area to a depth of twelve feet and generating flow velocities upwards of 10.5 feet/second.

Although the 1997 flood was comparable in discharge volumes to the 1964 "Christmas Eve Flood," generally considered to be the "100-year flood" for purposes of federal floodplain management purposes, it is noted that floods of similar magnitude have also occurred on the Klamath River in 1955, 1974, 1986, and 2005/2006 – roughly every 10 years. Accordingly, as the economic lifespan of the boat launching facility is intended for a period of time greater than 10 years, designing the ramp to withstand floodwater forces similar to that that caused the damage to the ramp in 1997 and 2005/2006 is both an economic and environmental necessity.

To ensure that the replacement launching facility is designed to withstand these river forces, the County contracted civil and geo-technical engineering investigations for the replacement ramp (e.g., Exhibit No. 10). Based on discharge data, the surveyed bathymetry of the river in proximity to the replacement ramp, and other relevant factors such as wind loading and tidal bore, these analyses calculated the materials sizing specifications for the new ramp, including its foundation pilings and revetment.

Most notable of the design changes that resulted from these investigations was a boat ramp configuration that is oriented diagonally downstream to the river rather than the perpendicular arrangement of the existing ramp. In addition, requirements for the rock slope protection materials was up-graded from the current ¼-ton quarry stone to ½-ton based upon design standards taken from the 1996 edition of the California Department of Transportation's (CDOT) *California Bank and Shore Rock Slope Protection Design* manual. The extent of the replacement revetment materials was similarly expanded to extend to a design depth of -13′ NGVD29, based upon a calculated scour depth of five feet below the end elevation of the ramp and spanning up to the +20′NGVD contour to armor against wind wave attack. The longitudinal extent of the new revetment was also stipulated to extend along the shoreline above and below the new ramp to protect these riverbank areas from erosion due to scour and eddies produced by the ramp obstruction.

The project as proposed would assure stability and structural integrity, primarily because the replacement ramp and revetment have been designed with site-specific conditions taken into account, utilizing established design principles to ensure the structures can adequately withstand the floodwater forces that they would be exposed to during the economic lifespan of the improvements. Therefore, the Commission finds the project, as designed, will minimize risks to life and property in areas of high flood hazard and assure stability and structural integrity of the site and its surroundings so that the need for further or additional shoreline protective works will be avoided, as required by Section 30253.

I. Protection of Archaeological Resources

Coastal Act Section 30244 states as follows:

> *Where development would adversely impact archeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

The proposed project is on the Yurok Tribe reservation, although the County owns and maintains the Klamath Townsite Boat Ramp. Ground disturbance above the OHWM will be completed within existing disturbed areas. However, as an added measure to protect any archaeological or cultural resources that may be discovered at the site during construction of the proposed project, the Commission attaches **Special Condition No. 9**. This condition requires that if an area of archaeological resources or human remains is discovered during the course of the project, all construction must cease and a qualified cultural resource specialist must analyze the significance of the find. To recommence construction following discovery of cultural deposits, the applicant is required to submit a supplementary archaeological plan for the review and approval of the Executive Director to determine whether the changes are *de minimis* in nature and scope, or whether an amendment to this permit is required.

Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Coastal Act Section 30244, as the development will include mitigation measures to ensure that the development will not adversely impact archaeological resources.

J. California Environmental Quality Act

The County of Del Norte served as the lead agency for the project for CEQA purposes. The County adopted a mitigated negative declaration for the project on March 17, 2009 (SCH No. 2009012060).

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. Del Norte County Adopted Resolution and Letter from County Requesting Permit Consolidation
4. Natural Resources Assessment by SHN Consulting, November 3, 2008
5. Project Plans
6. Revegetation Plan
7. Preliminary Staging and Debris Removal Plans
8. Proposed Conservation Measures for Protection of Sensitive Wildlife Species
9. Proposed Measures for Protection of Sensitive Fish Species
10. Technical Memorandum from Stover Engineering on Project Design

ATTACHMENT A

STANDARD CONDITIONS

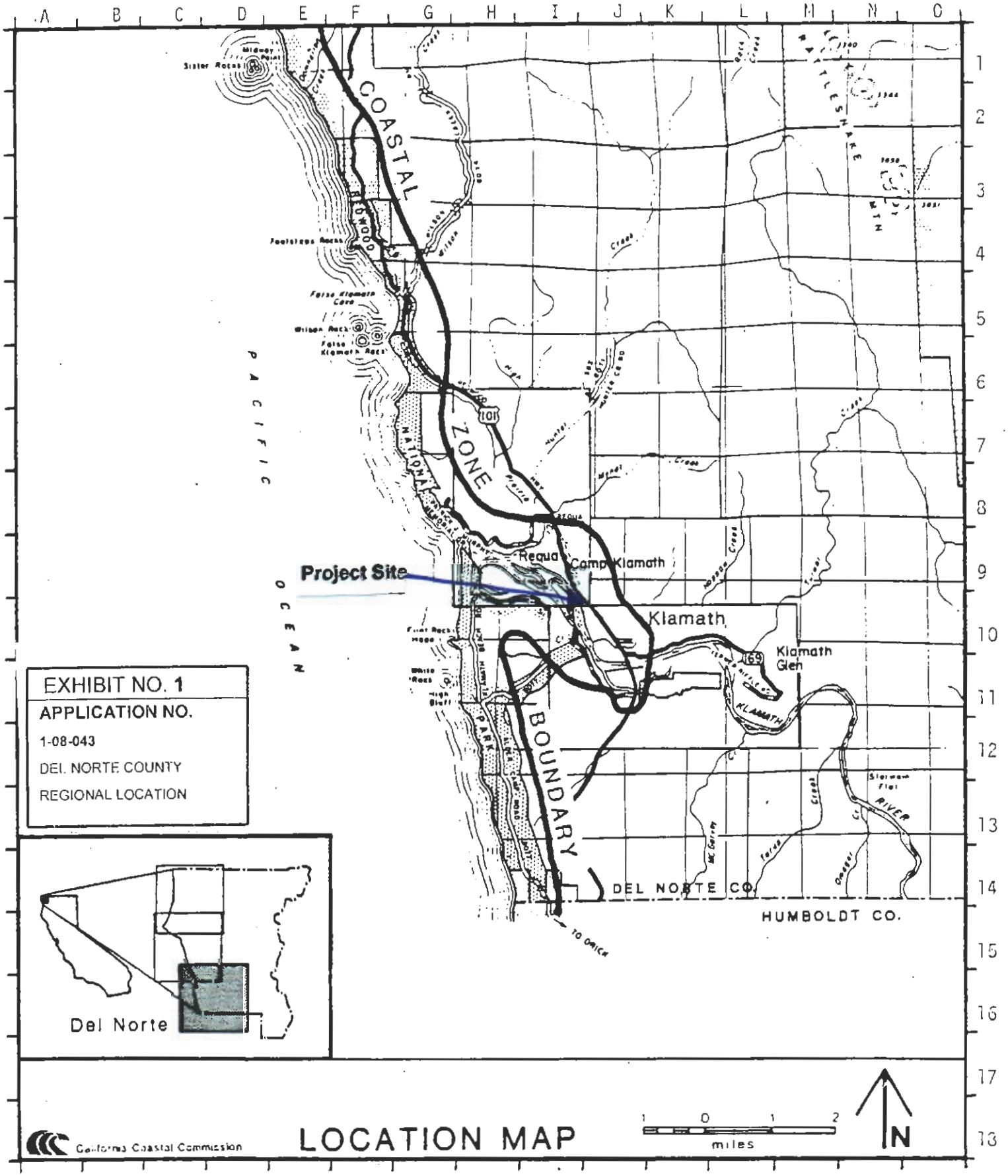
1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

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 Del Norte

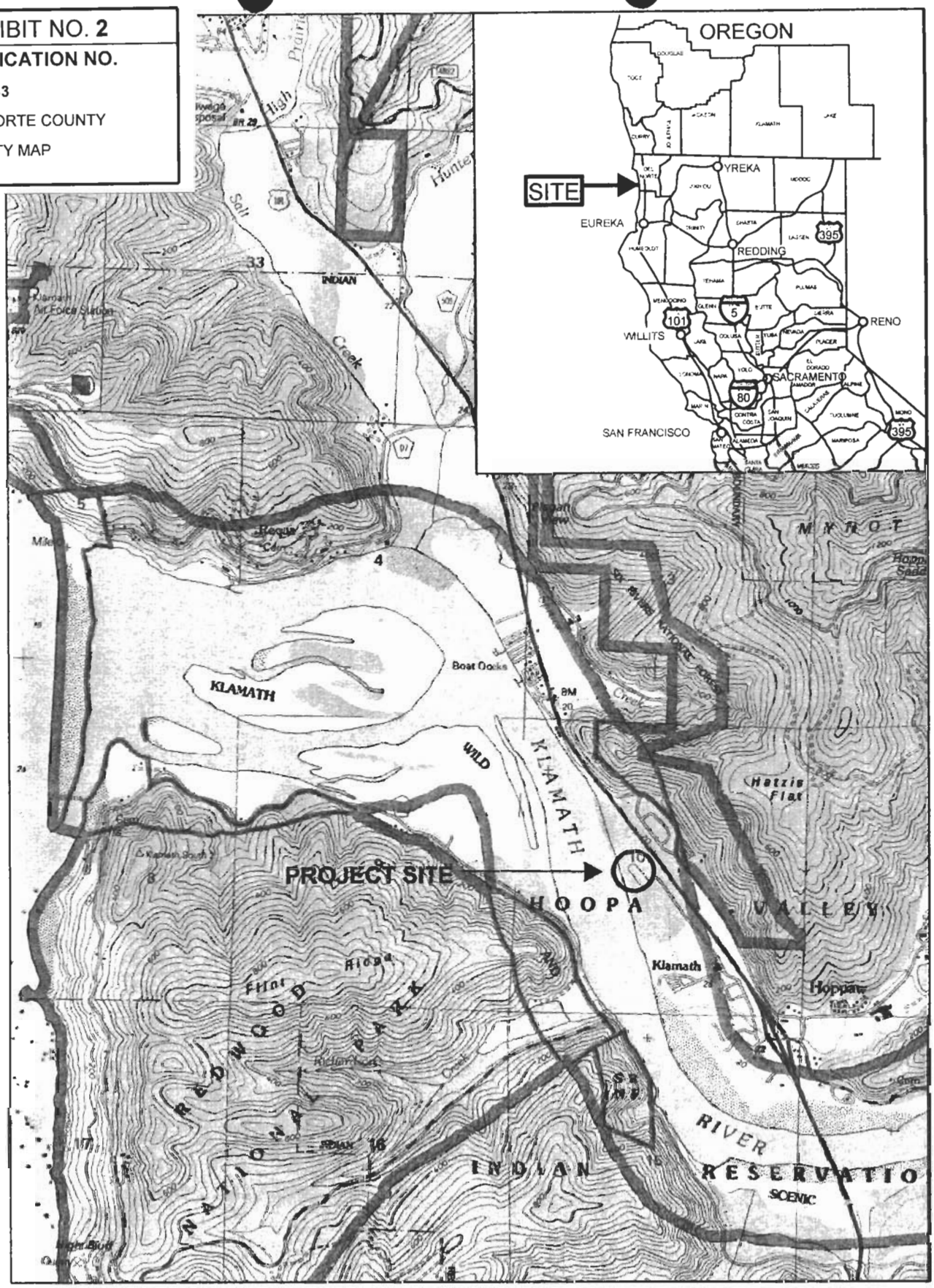
EXHIBIT NO. 2

APPLICATION NO.

1-08-043

DEL NORTE COUNTY

VICINITY MAP



Source: Requa USGS 7.5 minute Minute Quadrangle

SHN Consulting Engineers & Geologists, Inc.	County of Del Norte Old Townsite Boat Ramp Klamath, California	Site Location 008139
	August 2008 | site-loc.mxd	

COUNTY OF DEL NORTE
COUNTY ADMINISTRATIVE OFFICE

981 "H" Street, Suite 210
Crescent City, California 95531

Phone
(707) 464-7214

Fax
(707) 464-1165

November 21, 2008

California Coastal Commission
North Coast District
P.O. Box 4908
Eureka, CA 95502-4908
ATTN: Robert Merrill,

Dear Mr. Merrill,

Del Norte County has adopted the attached Resolution authorizing the Community development Department Director to request the consolidation of Coastal Development permits in which permitting authority is shared with the State Coastal Commission. Consistent with that resolution, as Director of the Del Norte County Community Development Department, please consider this request that the permit process for the Klamath Townsite Boat Launch Replacement Project be consolidated so as to expedite the process to the greatest extent possible.

The above project is a benefit to Del Norte County residents, the general public and to the local Native Americans that utilize this launch to access the Lower Klamath River. The replacement is in response to the 2005 disaster declared by both the State of California and the United States. Staff anticipates the consolidation of the permitting will not substantially impair public participation and will avoid unnecessary and duplicative processing.

If you have any project specific questions please contact Jay Sarina at (707) 464-7214.

Sincerely,

Ernest Perry, Director

CC. Jay Sarina, Assistant County Administrative Officer

EXHIBIT NO. 3
APPLICATION NO.
1-08-043 - DEL NORTE COUNTY
COUNTY ADOPTED RESOLUTION & LETTER REGULATING PERMIT CONSOLIDATION (1 of 3)

BOARD OF SUPERVISORS
COUNTY OF DEL NORTE
STATE OF CALIFORNIA

RESOLUTION NO. 2008-072

To Assign Authority to the Community Development Department Director To Consolidate Coastal Development Permits in Which Permitting Authority is Shared with the State Coastal Commission

WHEREAS, the Coastal Act was amended by Senate Bill 1843 effective January 1, 2007, which allows for a consolidated permitting process for projects for which the Coastal Development Permit (CDP) authority is shared by a local government and the State Coastal Commission; and

WHEREAS, SB 1843 requires that the applicant, the local government, and the Executive Director of the Coastal Commission agree to the consolidation; and

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

WHEREAS, Community Development Department Staff finds that a consolidated coastal development permit application would be beneficial to the public by reducing the total time cost that it takes to go through the entire coastal permitting process; and

WHEREAS, Community Development Department staff finds that consolidated coastal development permit application would benefit the Planning Division of the Community Development Department by reducing workload by avoiding unnecessary and duplicative processing; and

WHEREAS, a public hearing was held on November 4, 2008 to receive public comment on the proposed coastal development permit review consolidation authorization;

NOW, THEREFORE BE IT RESOLVED by the Board of Supervisors of the County of Del Norte, State of California that: Pursuant to Public Resources Code Section 306103, authorizes the Director of the Community Development Department to act on behalf of the Board of Supervisors to recommend coastal development permit consolidations for future projects as appropriate, Appeals of the Director's determination on consolidation of Coastal Development permits will be processed pursuant to existing County Codes.

PASSED AND ADOPTED this 4th day November, by the following polled vote of the Board of Supervisors of the County of Del Norte.

AYES: Supervisors Sullivan, McClure, McNamer, Hemmingsen, Finigan

NOES: None

ABSENT: None

ABSTAIN: None

David Finigan, Chair,
Del Norte County Board of
Supervisors

ATTEST:

Jeremi Ruiz,
Clerk of the Board of Supervisors,
County of Del Norte, State of California

Date: November 4, 2008

I hereby certify that according to the provisions of Government Code Section 25103, delivery of this document has been made.

Clerk of the Board

By:

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

Reference: 008139.400

November 3, 2008

EXHIBIT NO. 4
APPLICATION NO.
1-08-043
DEL NORTE COUNTY
NATURAL RESOURCES ASSESSMENT (1 of 23)

Mr. Jay Sarina, Assistant County Administrative Officer
County of Del Norte
981 H Street, Suite 210
Crescent City, CA 95531

Subject: Natural Resources Assessment for Repairs to the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Dear Mr. Sarina:

The purpose of this natural resources assessment is to determine if the project as proposed has the potential to impact any special status species[1] or their habitat within the vicinity of the Old Townsite Boat Ramp. For species with the potential to be impacted by project activities, we discuss the possible types and sources of impacts and assess the likelihood of an impact. Finally, we make recommendations to avoid and/or minimize potential impacts, based on consultation with state and federal agencies.

On August 13, September 3, and October 23, 2008, SHN Consulting Engineers & Geologists, Inc. (SHN) biologist and/or botanist conducted a survey for special status species and assessed potentially suitable habitat for those species, at the Old Townsite Boat Ramp in Klamath, Del Norte County, California (Figure 1).

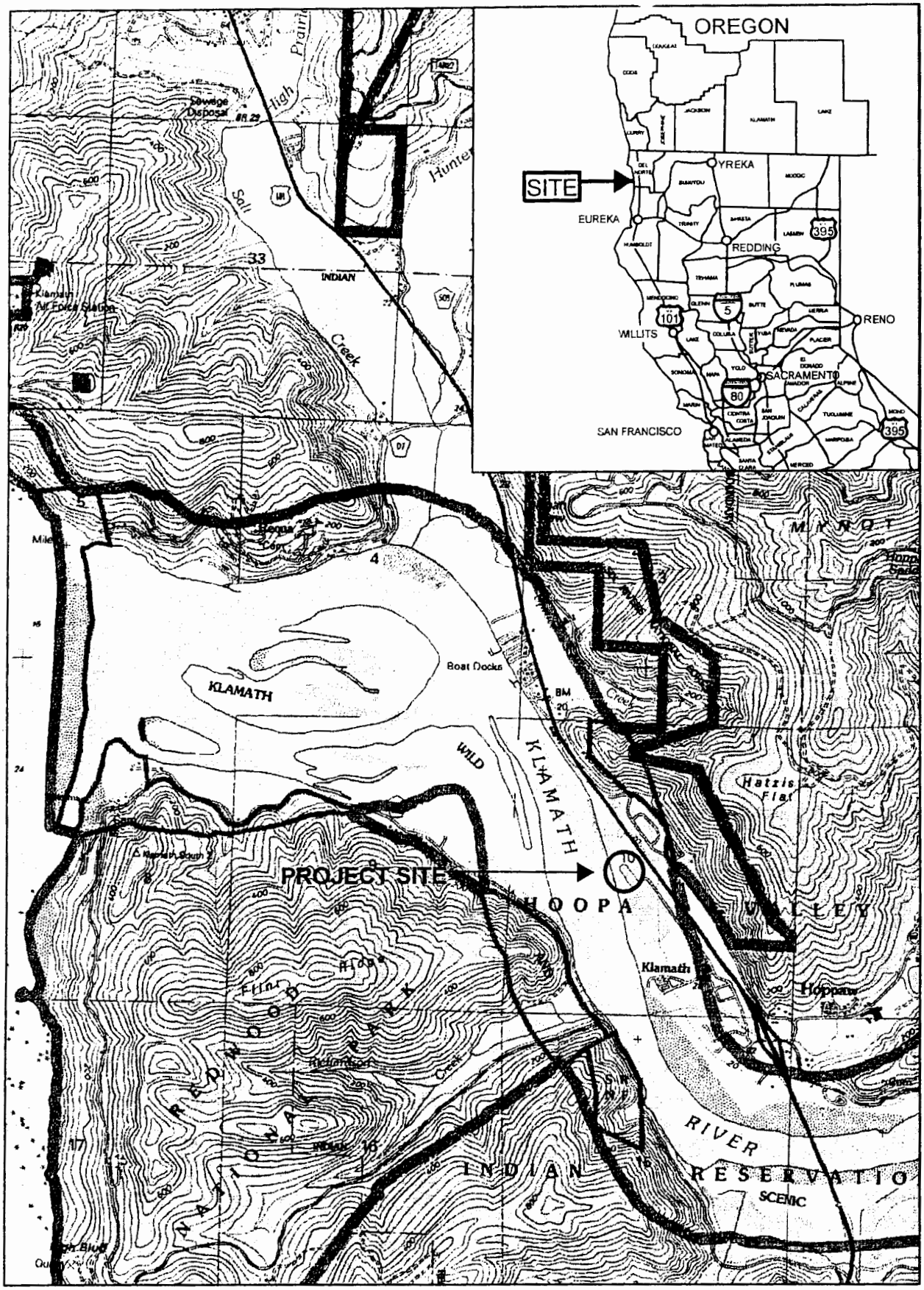
Habitat at the Site

Habitat 200-feet upstream of the Old Townsite includes riparian vegetation dominated by an overstory of Pacific willow (*Salix lucida* ssp. *lasiandra*), arroyo willow (*S. lasiolepis*), Sitka willow (*S. sitchensis*), red alder (*Alnus rubra*), and black cottonwood (*Populus balsmifera* spp. *trichocarpa*). Habitat between the parking lot and Klamath River on the upstream bank is dominated by Himalayan blackberry (*Rubus discolor*), tall fescue (*Festuca arundinacea*), Queen Anne's lace (*Daucus carota*), sheep's sorrel (*Rumex acetosella*), orchard grass (*Dactylis glomerata*), sweet white clover (*Melilotus alba*), and Klamath weed (*Hypericum perforatum*). Willow saplings and herbaceous species are scattered along the downstream side of the boat ramp. Botanical nomenclature follows the Jepson Manual (Hickman 1993).

Special Status Species Reported in the Vicinity of the Project

A California Natural Diversity Database (CNDDB; California Department of Fish & Game [CDFG], 2008a) Rare Find and Biogeographical Information and Observation System (BIOS; CDFG, 2008b) search was completed for the 7.5-minute U.S. Geological Survey (USGS) Requa quadrangle and all

[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.



Source: Requa USGS 7.5 minute Minute Quadrangle

Consulting Engineers & Geologists, Inc.	County of Del Norte Old Townsite Boat Ramp Klamath, California	Site Location 008139
August 2008	21 site-loc.mxd	Figure 1

adjacent quadrangles. The CNDDB and BIOS were queried for historical and existing occurrences of state and federally listed threatened, endangered, and candidate species; species proposed for listing; species of special concern; and species listed by the California Native Plant Society (CNPS; Tibor 2001). In addition, a U.S. Fish and Wildlife Service, Arcata Field Office (AFWO) database query was conducted for all federally listed species in Del Norte County and within the aforementioned quadrangles. Collectively, these species are reported in Tables 1 (plants) and 2 (fish, wildlife, and invertebrates).

Table 1
Special Status Plant Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Species Latin Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present
Abronia umbellata ssp. *breviflora*	pink sand-verbena	1B	Coastal dunes below 50 feet above Mean Sea Level (MSL); blooms June-October.	No
Arabis macdonaldiana	McDonald's rock cress	FE, SE, 1B	Lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest, associated with serpentine; elevation 440-5,900 feet; flowers May-July.	No
Calamagrostis foliosa	leafy reed grass	SR/4	Coastal bluff scrub, North Coast coniferous forest/ rocky substrates from sea level to 4,000 feet above MSL; blooms May-September.	No
Carex lenticularis var. limnophila	lagoon sedge	2	Marshes and swamps in North Coast coniferous forest in gravely shorelines and beaches up to 20 feet above MSL; blooms June-August	Yes
Carex leptalea	flaccid sedge	2	Bogs and fens, meadows and seeps, marshes and wetlands from sea level to 2,300 feet above MSL; blooms May-August.	Yes
Carex lyngbyei	Lyngbye's sedge	2	Brackish or freshwater marshes and swamps below 35 feet above MSL; blooms May-August.	No
Carex viridula var. *viridula*	green yellow sedge	2	Mesic sites in North Coast coniferous forest, marshes and swamps, and bogs and fens from sea level to 5,250 feet above MSL; blooms July-September.	Yes

Table 1
Special Status Plant Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Species Latin Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present
Castilleja affinis ssp. *litoralis*	Oregon coast Indian paintbrush	2	Coastal bluff scrub, sandy coastal scrub, and dunes from 50-330 feet above MSL; blooms in June.	No
Coptis lacinatiata	Oregon goldthread	2	Meadows and seeps, mesic streambanks within North Coast coniferous forest from sea level to 3,280 feet above MSL; blooms March-April	No
Discelium nudum	naked flag-moss	2	Coastal bluff scrub (soil, on clay banks) from 30 to 165 feet above MSL.	No
Empetrum nigrum ssp. hermaphroditum	mountain crowberry	2	Coastal bluff scrub/coastal prairie from 30-100 feet above MSL; blooms April-June	No
Eriogonum nudum var. *paralinum*	Del Norte buckwheat	2	Coastal bluff scrub and coastal prairie from 15 to 265 feet above MSL; blooms June-September.	No
Fissidens pauperculus	minute pocket-moss	1B	Grows on damp soil along the coast in North Coast coniferous forest from 30-330 feet above MSL.	No
Gilia capitata ssp. pacifica	pacific gilia	1B	Various including coastal bluff scrub and coastal prairie generally below 1,000 feet above MSL; blooms May-August.	No
Iliamna latibracteata	California globe mallow	2	North Coast coniferous forest (mesic) from 1,640-6,560 feet above MSL; blooms June-July.	No
Lathyrus japonicus	sand pea	2	Coastal dunes up to 100 feet above MSL; blooms May-August.	No
Lathyrus palustris	marsh pea	2	Bogs and fens, coastal prairie, coastal scrub, lower montane coniferous forest, marshes and swamps, and North Coast coniferous forest/mesic up to 330 feet above MSL; blooms March-August.	No

Table 1
Special Status Plant Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Species Latin Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present
Lilium occidentale	western lily	1B/FE/SE	Coastal bluff scrub, coastal prairies, openings in North Coast coniferous forests including edges of freshwater marshes and wetlands up to 600 feet above MSL; blooms June-July.	No
Mitella caulescens	leafy-stemmed mitrewort	2	Mesic sites in broadleaved upland forest, lower montane coniferous forest, North Coast coniferous forest, and meadows and seeps from 2,000-5,600 feet above MSL; blooms May-July.	No
Monotropa uniflora	indian pipe	2	North Coast coniferous forest and broadleaved upland forest from 30-650 feet above MSL; blooms June-July.	No
Oenothera wolfii	Wolf's evening-primrose	1B	Coastal bluff scrub, coastal dunes, and coastal prairie; from sea level to 2,500 feet above MSL; flowers May-October.	Yes
Packera bolanderi var. bolanderi	seacoast ragwort	2	Bluffs in coastal scrub-shrub habitat and steep slopes or cliffs in North Coast coniferous forests; from sea level to 655 feet; flowers June through July.	No
Pinguicula vulgaris ssp. *macroceras*	horned butterwort	2	Serpentine bogs and fens from 130-6,300 feet above MSL; blooms April-June.	No
Piperia candida	white-flowered rein orchid	1B	Broadleaved upland forest, northern montane coniferous forest, North Coast coniferous forest/ Sometimes associated with serpentine from 100-4,300 feet above MSL; blooms May-September.	No
Potamogeton foliosus var. fibrillosus	fibrous pondweed	2	Freshwater wetlands and marshes from 15-4,250 feet above MSL; blooming period unknown.	No

Table 1
Special Status Plant Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Species Latin Name	Common Name	Listing Status[1]	Preferred Habitat	Habitat Present
Romanzoffia tracyi	Tracy's romanzoffia	2	Rocky areas in coastal bluff scrub and coastal scrub from 50-100 feet above MSL; blooms March-May	No
Sanguisorba officinalis	great burnet	2	Bogs and fens, broadleaved upland forest, meadows and seeps, marshes and swamps, North Coast coniferous forest, riparian scrub/often serpentine; elevations typically range from 195 to 4,600 feet above MSL; blooms July-October.	No
Sidalcea malachroides	maple-leaved checkerbloom	4	Broadleaved upland forest, coastal prairie, coastal scrub, North Coast coniferous forest/ often in disturbed areas up to 2,300 feet above MSL; blooms April-August.	Yes
Silene serpentinicola	serpentine catchfly	1B	Chaparral and lower montane coniferous forest including serpentine openings and gravelly or rocky soils from 475-5,410 feet above MSL; blooming period unknown.	No
Trientalis arctica	arctic starflower	2	Coastal scrub, freshwater wetlands, meadows, bogs and fens up to 50 feet above MSL; blooms June-July .	No
Triquetrella californica	coastal triquetrella	1B	Coastal bluff scrub on soil from 30-330 feet above MSL.	No
Usnea longissima	long-beard lichen	N/A	North Coast coniferous forests. Host trees include Douglas fir, redwood, big-leaf maple, oak, and California bay trees. Identifiable year round	No
Natural Vegetation Communities				
Coastal terrace prairie				
Northern coastal salt marsh				
Sitka spruce forest				

Table 1
Special Status Plant Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

1. 1B: CNPS list 1B includes plants that are rare, threatened, or endangered in California and elsewhere.
   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.
   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.
   SR: State listed Rare, pursuant to CESA. SR designation refers to species that although not presently threatened with extinction, occur in such small numbers throughout their range that they may become endangered if their present environment worsens.
   List 4: CNPS List 4 includes plants of limited distribution and should be documented as they are a watch list species.
2. CNPS List 2 includes plants that are rare, threatened, or endangered in California but more common elsewhere.
   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.

Plants

On August 13 and September 3, 2008, SHN's botanist conducted a site visit at the project site to determine if special status species are present and the site and to evaluate the project area for potentially suitable habitat for special status plant species. Based on the 32 special status plant species included in Table 1, those are considered to have suitable habitat at the project site are lagoon sedge, flaccid sedge, green yellow sedge, Wolf's evening primrose, and maple-leaved checkerbloom. Please note that other species listed in Table 1 have suitable habitat in the project vicinity but the areas with suitable habitat will not be affected by the project; therefore, an impact analysis for those species is not warranted. The site visit was conducted during the seasonally appropriate time of year to detect these five species. The species considered most likely to occur at the Old Townsite Boat Ramp is Wolf's evening primrose due to this species tolerance of disturbed sites and known occurrences in the vicinity of the project site (CDFG, 2008a). No special status plant species were observed at the project site during the August 13 and September 3, 2008 field visits. Previous biological studies for the project site include a botanical survey conducted by Greg Jennings in May 2003. During Mr. Jennings' May 26, 2003 botanical survey, no special status plant species were observed, and Mr. Jennings concluded that overall habitat quality for sensitive plants was poor to moderate within the project site (Attachment 1). The proposed project is not expected to result in any impacts to special status plant species.

Natural Vegetation Communities

No special status vegetation communities are located at the project site.

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Species Latin Name	Common Name	Listing Status[1]	Preferred Habitat	Likelihood of Species Occurring in Action Area[2]
Invertebrates				
Limnephilus atercus	Fort Dick limnephilus caddisfly	N/A	Little is known about the biology of this species. Most *Limnephilus* larvae live in lentic (lake) habitats, but some are known from streams and cold springs. The larva and female of this species are undescribed.	**Not likely.** Klamath River is probably too large. Closest documented occurrence is 1.8 miles to the southwest. The only other occurrence in California is from Fort Dick, Del Norte County. Construction activities should not impact the species.
Polites mardon	mardon skipper	FC	California populations occur in rocky serpentine meadows containing Idaho fescue (*Festuca idahoensis*).	**No potential.** No habitat within action area.
Fish				
Eucyclogobius newberryi	tidewater goby	FE/SSC	Endemic to California. Restricted to coastal brackish water habitats, such as shallow lagoons and lower stream reaches, where water is fairly still, but oxygen-rich.	**No potential.** No habitat within action area.

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Species Latin Name	Common Name	Listing Status[1]	Preferred Habitat	Likelihood of Species Occurring in Action Area[2]
Oncorhynchus clarkii clarkii	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 and in-stream woody debris. Found from the Eel River north to the Oregon border.	**Likely occur within the action area.**
Oncorhynchus kisutch	southern Oregon/ northern California coho salmon	FT/ST	Spawning and rearing habitat mainly in low gradient tributaries and side channels of river systems. Designated critical habitat occurs within the action area.	**Likely occur within the action area.**
Oncorhynchus mykiss irideus	Summer-run steelhead trout	SSC	Cool, swift, shallow water and clean loose gravel for spawning and large pools in which to spend the summer.	**Likely occur within the action area.**
Oncorhynchus tshawytscha	California coastal chinook salmon	FT	Similar to other salmonids. Spawning sites tend to be in larger streams.	**Not likely.** This Evolutionarily Significant Unit (ESU) includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath (exclusive) to the Russian River (inclusive) (NMFS 2007b).

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Amphibians				
Ascaphus truei	western tailed frog	SSC	Sea level to near timberline in cold, fast-flowing perennial streams in forested areas.	**No potential.** No habitat within action area. Suitable habitat exists in nearby forested areas, but not at project site. Closest documented occurrence is over 4 miles to the south-southeast. Construction activities should not impact the species.
Plethodon elongatus	Del Norte salamander	SSC	Rock talus in coniferous forest and under woody debris from sea level to 4,000 feet.	**No potential.** No habitat within action area. Suitable habitat exists in nearby forested areas, but not at project site. Closest documented occurrence is 1.4 miles to the northwest. Construction activities should not impact the species.
Rana aurora aurora	northern red-legged frog	SSC	North Coast coniferous forest; breeds in ponds and slow moving backwater in creeks.	**Not likely.**
Rana boylii	foothill yellow-legged frog	SSC	Found in or near rocky streams in a variety of habitats. Prefer shallow, shaded perennial streams with some open canopy; breeds in stream margins. Rarely encountered far from permanent water.	**Not likely.**

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Rhyacotriton variegatus	southern torrent salamander	SSC	Found primarily in cold, well-shaded permanent streams and spring seepages in redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats from near sea level to about 3,900 ft.	**No potential.** No habitat within action area.
Reptiles				
Caretta caretta	loggerhead sea turtle	FT	Coastal bays, lagoons, estuaries, and open seas.	**No potential.** No habitat within action area.
Chelonia mydas (incl. *agassizi)*	green sea turtle	FT	Shallow water with abundant plants; open ocean.	**No potential.** No habitat within action area.
Dermochelys coriacea	leatherback sea turtle	FE	Open seas, bays, and estuaries.	**No potential.** No habitat within action area.
Lepidochelys olivacea	olive (=Pacific) Ridley sea turtle	FT	Bays, lagoons, and shallow water.	**No potential.** No habitat within action area.
Birds				
Ardea herodias	great blue heron	N/A	Colonial nesting species; nests in trees near tidal flats, marshes, irrigated pastures, and margins of lakes and rivers.	**Likely occur within the action area.**
Bonasa umbellus	ruffed grouse	N/A	In California, restricted to portions of Del Norte, Siskiyou, Trinity, and Humboldt counties. Occurs primarily in ravines and seeps with downed logs, moist-site brush, and berry-bearing shrubs.	**Likely occur within the action area.**

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Brachyramphus marmoratus	marbled murrelet	FT/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.	**Likely occur within the action area.**
Charadrius alexandrinus nivosus	western snowy plover	FT/SSC	Nests on sparsely vegetated coastal beaches and sand spits above the high tide line. Plovers also nest on gravel bars of the Eel River, Humboldt County, as far inland as the confluence with the Van Duzen River, approximately 12 river miles from the ocean (Hunter, et al., 2005).	**Not likely.** No sand/gravel bars immediately upstream or downstream from the action area.
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.	**Not likely.** Suitable habitat does exist within the vicinity of the action area, but the species has not been known to nest in northwestern California (Hunter, et al., 2005).

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Empidonax traillii brewsteri	little willow flycatcher	SE	Within the majority of its range in California the species requires dense thickets of willow (or other riparian shrub) for nesting and roosting. Generally occur near slow-moving streams, standing water, or seeps. In NW California, Oregon, and Washington, breeds also in regenerating clearcuts.	**Likely occur within the action area.**
Haliaeetus leucocephalus	bald eagle	FD/SE, SFP	This species is generally found along ocean shores, lake margins, and rivers. Nests in large trees with open branches, especially ponderosa pine, within 1 mile of water source. Species roosts communally in winter.	**Known to occur in the vicinity of the action area.**
Oceanodroma furcata	fork-tailed storm-petrel	SSC	Pelagic. Returns to land each year only to nest. Nests in burrows, natural cavities, or rock crevices on coastal islands.	**No potential.** No habitat within action area.
Pandion haliaetus	osprey	N/A	Require open water (rivers, lakes, bays, and seacoasts). Nests in dead snags, living trees, utility poles, usually near or above water.	**Known to occur in the vicinity of the action area.**
Pelecanus occidentalis californicus	California brown pelican	FE,FPD/ SE	Near-shore waters along coast; nests on islands in Central and South America.	**No potential.** No habitat within action area.

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

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.	**Known to occur in the vicinity of the action area.**
Phoebastris albatrus	short-tailed albatross	FE	Pelagic. Rarely seen in near-shore waters along coast. Breeds only in Japan.	**No potential.** No habitat within action area.
Strix occidentalis caurina	northern spotted owl	FT	Coastal to mountainous mature coniferous forests. Nests in cavities or on natural platforms.	**Likely occur within the action area.**
			Mammals	
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.	**Not likely.** Suitable habitat exists in nearby forested areas, but not at project site. Closest documented occurrence is over 5 miles to the south. Construction activities should not impact the species.
Balaenoptera borealis	sei whale	FE	Open ocean.	**No potential.** No habitat within action area.
Balaenoptera musculus	blue whale	FE	Open ocean.	**No potential.** No habitat within action area.
Balaenoptera physalus	fin whale	FE	Open ocean.	**No potential.** No habitat within action area.

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Eumetopias jubatus	steller (northern) sea-lion	FT	Open ocean; feeds mainly in continental shelf and slope waters; hauls out and pups mainly along isolated rocky shorelines.	**Likely occur within the action area.**
Lasionycteris noctivagins	silver-haired bat	SSC	Coastal and montane forests with available water. Roosts in hollow trees, beneath bark, in abandoned holes or under rocks. Forages over streams, ponds, and open brushy areas.	**Not likely.** Suitable habitat exists in nearby forested areas, but not at project site. Closest documented occurrence is over 13 miles to the northwest. Construction activities should not impact the species.
Martes americana humboldtensis	Humboldt marten	SSC	Coniferous forest with >40% canopy closure, large trees and snags with complex physical structure near the ground.	**Not likely.** Suitable habitat exists in nearby forested areas, but not at project site. Closest documented occurrence is over 4 miles to the east. Construction activities should not impact the species.
Martes pennanti pacifica	pacific fisher	FC/SSC	Require large stands of mature coniferous forest with snags and large-woody debris and greater than 50% canopy closure.	**Not likely.** Suitable habitat exists in nearby forested areas, but not at project site. Closest documented occurrence is 2.5 miles to the east. Construction activities should not impact the species.

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Megaptera novaengliae	humpback whale	FE	Open ocean.	**No potential.** No habitat within action area.
Myotis thysanodes	fringed myotis	N/A	Optimal habitat includes pinyon-juniper, valley foothill hardwood and hardwood-conifer from 4,000 to 7,000 feet elevation. Uses open habitats, early successional stages, streams, lakes, and ponds as foraging areas. Roosts in snags, caves, mines, buildings, and crevices.	**No potential.** No habitat within action area.
Myotis yumanensis	Yuma myotis	N/A	Open forests and woodlands with sources of water over which to feed and for drinking. Nocturnal.	**Not likely.** Suitable habitat exists in nearby forested areas, but not at project site. Closest documented occurrence is over 7 miles to the northwest. Construction activities should not impact the species.
Physeter macrocephalus	sperm whale	FE	Open ocean.	**No potential.** No habitat within action area.

Table 2
Special Status Fish, Wildlife, and Invertebrate Species Reported Within the Vicinity of the Old Townsite Boat Ramp, Klamath, Del Norte County, California

1. **FE**: Federally listed as 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 as 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.
   SE: State listed Endangered, pursuant to California Endangered Species Act (CESA). Includes taxa that are in danger of extinction throughout all or a significant portion of their range.
   ST: State listed Threatened, pursuant to CESA. Includes taxa that are likely to become endangered throughout a significant portion of their range.
   SSC: Species of Special Concern are species that the California Department of Fish and Game (CDFG) consider of conservation concern. These species must be considered pursuant to CEQA.
   SFP: State fully protected species.
   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. An expanded discussion is included below for those species that are likely to occur within the action area or those with no habitat within the action area proper, but that may occur within a reasonable distance, such that disturbance caused by construction activities within the action area may impact the species.

Wildlife Species

On October 23, 2008, SHN's biologist conducted a site visit of the project site for evaluating the presence and/or absence of potentially suitable habitat for special status fish, wildlife, and invertebrate species. Based on the 42 special status species included in Table 2, the project area contains suitable habitat for the following 12 special status species (3 fish species, 8 bird species, and 1 mammal): southern Oregon/northern California coho salmon (*Oncorhynchus clarkii clarkii*), coast cutthroat trout (*Oncorhynchus clarkii clarkia*), summer-run steelhead trout (*Oncorhynchus mykiss irideus*), marbled murrelet (*Brachyramphus marmoratus*), northern spotted owl (*Strix occidentalis caurina*), bald eagle (*Haliaeetus leucocephalus*), great blue heron (*Ardea herodias*), little willow flycatcher (*Empidonax traillii brewsteri*), ruffed grouse (*Bonasa umbellus*), osprey (*Pandion haliaetus*), double-crested cormorant (*Phalacrocorax auritus*), and steller sea lion. Previous biological studies of the project area included a wildlife survey conducted by Pacific NorthWestern Biological Resources Consultants, Inc. in May 2003 (Attachment 2). During the May 23, 2003 wildlife survey conducted by Pacific NorthWestern Biological Resources Consultants, Inc., the following special status animal species were observed: double-crested cormorant, bald eagle, and osprey. During the October 23, 2008 field survey conducted by SHN the following special status animal species were observed: double-crested cormorant and bald eagle.

Southern Oregon/Northern California (SONCC) Coho Salmon ESU
Coho salmon occur in the lower Klamath River (CDFG, 2008b). There is no designated critical habitat in the action area for this federal- and state-listed Evolutionarily Significant Unit (ESU). FEMA prepared and submitted a draft BA to NMFS for ESA Section 7 consultation (Attachment 3). NMFS completed an informal consultation and concluded that if several avoidance and minimization measures are implemented as specified in the draft BA, the most important of which is to avoid construction activities between October 15 and June 30 when coho are most likely to be present in the river, than the project is not likely to adversely affect the federally threatened coho salmon (Attachment 5). FEMA also determined that the project would not adversely affect Essential Fish Habitat (EFH) (Attachment 3). In the June 6, 2007 informal consultation letter from NMFS, NMFS concurs with FEMA's determination, and therefore EFH consultation was not warranted (Attachment 5). Implementing seasonal restrictions and adherence to other avoidance mitigation potential impacts to the coho will be reduced to less than significant. The avoidance and minimization measure for coho salmon would also protect summer-run steelhead and cutthroat trout.

Steller Sea Lion
The nearest haul-out area for steller sea lions is the sand spit at the mouth of the Klamath River, approximately 1.5 mi. downstream from the project area. There is no designated critical habitat for steller sea lions in the action area. steller sea lions that are hauled out would not be able to see the project site, and the only exposure to the project would be sound from the heavy equipment. As described in the NMFS informal consultation letter (Attachment 5), steller sea lions in the Klamath River would avoid (or already be far enough from) the project site and that the distance from the sea lions in conjunction with the morphology of the river would result in a reduction in sound to insignificant (or potentially discountable) levels. The implementation of mitigation measures will further reduce potential impacts to steller sea lion to less than significant.

Marbled murrelet (MAMU)
Marbled murrelet (MAMU) are in the Family Alcidae and are sea birds associated with mature forest or mature forest components for nesting. The nearest federally designated critical habitat for the MAMU is approximately 4 miles to the south in Prairie Creek Redwoods State Park (CDFG 2008a). No suitable nests trees are within the project are; thus, no direct impacts to MAMU from the construction activities are anticipated. MAMU occurrence records (CDFG 2008a) are documented within ¼ mile of the project site on Six Rivers National Forest land. The MAMU breeding period extends from March 24 through September 15 (CDFG 2003). In May 2006, FEMA prepared a Programmatic Biological Assessment (PBA) that described post-disaster projects funded by FEMA and evaluated the effects of these projects on federally listed species under the jurisdiction of the USFWS. For this project, the County of Del Norte has agreed to implement conservation measures as specified in the April 27, 2007, letter from FEMA to the County, in lieu of ESA Section 7 consultation with the USFWS (Attachment 4). The PBA and the associated Biological Opinion (BO) from the USFWS were examined by a biologist with the USFWS Arcata Field Office (AFWO) who determined that, under the PBA and BO, disturbance issues (excessive noise during the breeding season) for listed species that were likely to occur within the action area did not require consideration and that only direct "take" of a listed species or indirect take through habitat removal

needed to be considered (SHN 2008). No suitable MAMU habitat will be removed or altered at the project site. Daily use at the boat ramp has the potential to attract MAMU predators (e.g., steller's jay and common raven) because there will be increased trash from humans. As requested by CDFG during the site visit conducted on September 3, 2008, installation of permanent trash receptacles with lids is included in the project to minimize potential indirect impacts to MAMU to less than significant.

Bald Eagle

No bald eagle occurrences were documented in the CNDDB or BIOS databases for the action area or the vicinity (CDFG, 2008a). However during the October 23, 2008 field survey, an adult bald eagle was observed west of the project area, flying south (upstream) along the Klamath River corridor. Additionally, multiple bald eagle observations occurred during the site visits conducted for the Roy Rook Boat Facility (RRLF) repair project located approximately 2.5 miles southeast of the Old Townsite (upstream) (SHN 2008). On December 13, 2007, an adult bald eagle was observed roosting on a mature conifer approximately 0.5 mile southwest of the RRLF, across the Klamath River. Approximately 1.3 miles to the northeast from the RRLF, a pair of adult bald eagles was detected during a site visit on February 14, 2008 (SHN 2008). A subsequent survey along Highway 169 detected an active nest site nearby (SHN 2008). When the bald eagle was delisted on July 9, 2007 (72 Fed. Reg. 130:37345-37372), legal protections provided to the bald eagle switched to the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA) and new guidelines were developed (USFWS 2007). The most substantive change in the guidelines was a reduction in the distance between activities and an occupied nest from 0.5 mile to 660 feet when the activity is visible from the nest (line-of-sight). No nests were found near the Old Townsite action area, and the nest observed near the RRLF action area is not visible from the Old Townsite project site. Implementation of mitigation will reduce potential impacts to bald eagle to less than significant.

Potential Effects on Raptor Nests and Migratory Bird Habitat

Raptor nests are protected under the MBTA and by Section 3503.5 of the California Fish and Game Code (CFGC). While only marginal habitat exists within the project footprint, there is a potential that nesting habitat for raptor species is present. Disturbance to an active raptor nest could occur during construction activities. Disturbing an active raptor nest would violate Sections 3503 and 3503.5 of the CFGC and would be considered a potentially significant impact. Migratory bird habitat also exists in the project site. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. Section 3513 of the CFGC essentially overlaps with the MBTA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFG. Additionally, suitable habitat for other special status avian species including, but not limited to, little willow flycatcher exists within the project area. Potential impacts to special status species will be reduced by implementing mitigation measures and complying with conservation measures provided in the April 27, 2007 letter from FEMA to Del Norte County (Attachment 4).

Potential Effects on Riparian Habitat or other Sensitive Natural Community
The proposed fill material on the river bank will restore the site to the previous condition before damage (Stover 2008). The new ramp alignment restores the original bank cross section and maintains a consistent profile upstream and downstream of the new ramp. The proposed project will impact approximately 18,040 square feet (sq.ft.) along the bank of the Klamath River which consists of scattered vegetation including, grasses, herbs, Himalayan blackberry and willow saplings. A riparian revegetation plan has been prepared to mitigate vegetation impacts to a less than significant level (Attachment 6).

Potential Impact on Wetlands
Wetlands are regulated and/or defined by a number of entities ranging from local planning departments to state agencies such as California Costal Commission (CCC), and including federal agencies, such as the U.S. Army Corps of Engineers (ACOE) and USFWS. The criteria used to define a wetland and protection policies vary amongst these entities, but all are based on the following specific criteria: hydrophytic vegetation, hydric soils, and wetland hydrology (saturation or inundation). The ACOE has developed procedural guidelines for delineating wetlands as specified in the 1987 *ACOE Wetland Delineation Manual* (Environmental Laboratory, 1987). This has been succeeded by the *ACOE Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Environmental Laboratory, 2008). During the August 13 and September 3, 2008 site visits the presence or absence of wetlands were assessed under a three parameter criteria (as required by ACOE) and one (as required by CDFG and CCC) parameter. Soils as the project site are sandy with little to no development within the profile. The presence of an organic horizon, organic streaking, and redoximorphic features were not observed on September 3, 2008; therefore, the soil did not meet any of the sandy soil criteria for a hydric soil indicator as defined in the National Resource Conservation Service (NRCS) Field Indicators of Hydric Soils in the United States.

The project will fill *waters of the U. S.* as defined and regulated by ACOE. An ACOE Clean Water Act (CWA) Section 404 and U.S. Environmental Protection Agency (USEPA) CWA Section 401permit will be in place for construction. For projects within tribal lands, EPA and Yurok Tribe process the CWA Section 401 Water Quality Certification application. Obtaining the CWA Section 401 and 404 permits and implementing the conditions of the permits will reduce the impacts to federally protected *waters of the U.S.* (Ordinary High Water Mark [OHWM] and below of the Klamath River) to less than significant.

The project will impact *waters of the State of California* (*State*) as defined and regulated by CDFG and CCC. A CCC Coastal Development Permit (CDP) and CDFG Streambed Alteration Agreement (SAA) will be in place for construction. By obtaining the CDP and CDFG permits and implementing the conditions of the permits will reduce the impacts to *waters of the State* to less than significant.

Potential Impacts on Wildlife Movement
The proposed project is not likely to interfere with the movement of any native or migratory fish or wildlife species including wildlife corridors. See above discussion in regarding MAMU and migratory bird species. By implementing mitigation measures potential impacts to migratory birds are reduced to less than significant.

Potential Conflicts with Local Policies and Plans
The County of Del Norte does not have any local policies or ordinances, such as a tree preservation policy, that would conflict with the proposed project.

Potential Conflicts with a Habitat Conservation Plan
The proposed project is consistent with the policies in the Del Norte County General Plan (Del Norte County, 2003) and will not result in an impact to other biological resources protected by County of Del Norte ordinances.

Recommendations

The following Mitigation Measures will be implemented in order to avoid potential impacts to any special status species[2] or their habitat within the vicinity of the Old Townsite Boat Ramp.

- To mitigate potential impacts to the coho salmon, all construction activities in the Klamath River will be performed between July 1st and October 15th (see Attachment 5).
- Prior to the start of construction operations and during work within the Klamath River, avoidance and minimization measures will be implemented as required in Section 4.2 of the biological assessment for NMFS (See Attachment 3). Avoidance and minimization measures include, but are not limited to, equipment staging and materials storage located in the existing paved parking area; equipment access by way of the existing paved access road; use of an excavator to place the riprap and other permanent materials in the river; and work done in the river limited in duration and during low flows, no earlier than July 1 and no later than October 15.
- To mitigate any impacts to special status species, a qualified biological monitor is to be on site during construction activities related to the project, when 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 CDFG.
- As requested by CDFG during the site visit conducted on September 3, 2008, permanent trash receptacles with lids will be maintained and paid for by the County of Del Norte and to their satisfaction to minimize potential indirect impacts to MAMU to less than significant.

[2] 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.

- Raptor and migratory nesting bird surveys will be conducted prior to construction activities conducted during the breeding season, with a focus on the little willow flycatcher. If an active nest is located, construction activities shall be limited in the vicinity of the nest based on recommendations by the surveying biologist and consultation with the CDFG.
- Prior to the start of construction operations and during work within the Klamath River, conservation measures described in a letter dated April 27, 2007, from FEMA to Del Norte County will be implemented as part of the boat ramp repair, per the USFWS (Attachment 4).
- In order to mitigate impacts to riparian habitat, the upstream area adjacent to the boat ramp will be revegetated with appropriate native species. Willow cuttings will be placed within the one-foot gaps in the cable mat up and downstream of the boat ramp. The revegetation plan and monitoring will be completed to the satisfaction of CDFG and Del Norte County.

Please feel free to call us anytime at 707-441-8855 regarding the results of this report or the project.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.

Aimee C. Weber, CAE
Botanist\Ecologist

Shannon Zimmerman
Biologist

ACW:SSZ:scw

Attachments

References Cited

California Department of Fish & Game. (2008a). California Natural Diversity Database (CNDDB) URL: http://www.dfg.ca.gov/biogeodata/cnddb/. (Database version: January 2008).

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EXHIBIT NO. 5

APPLICATION NO.

1-08-043

DEL NORTE COUNTY

PROJECT PLANS (1 of 8)

DEL NORTE COUNTY
COMMUNITY DEVELOPMENT
DEPARTMENT

KLAMATH TOWNSITE
REPLACEMENT BOAT RAMP

PROJECT FUNDED BY
CALIFORNIA DEPARTMENT
OF BOATING AND WATERWAYS

VICINITY MAP
NTS

LEGEND

----	EXISTING PARKING LOT
----	EXISTING DAMAGED RAMP
----	EXISTING BROKEN ASPHALT
----	PROPOSED CENTERLINE
----	PROPOSED IMPROVEMENTS
----	PROPOSED GRADE BREAK
	PROPOSED GRADING LIMITS
----	EXISTING CONTOUR MAJOR
----	EXISTING CONTOUR MINOR
---- 5.0 ----	PROPOSED CONTOUR MAJOR
---- 4.0 ----	PROPOSED CONTOUR MINOR

BASIS OF BEARINGS & VERTICAL DATUM:

THE BASIS OF BEARINGS IS CONTROL POINTS 1 & 2 AS DESCRIBED BEARING N 35°51'20" W (ASSUMED)

THE VERTICAL DATUM IS BASED ON NGVD 1929

TOPOGRAPHIC SURVEY PREFORMED BY STOVER ENGINEERING ON 05/21/08

CONTROL POINT DATA

POINT No.	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	3788.82	387.80	18.08	MAG NAIL
CP2	[illegible]	615.01	[illegible]	MAG NAIL
CP3	3657.77	[illegible]	[illegible]	MAG NAIL
CP4	3788.07	472.65	18.98	MAG NAIL

PROJECT SITE
NTS

ABBREVIATIONS:

<E>	EXISTING	MAX	MAXIMUM
<N>	NEW	MIN	MINIMUM
ACM	ARTICULATING CONCRETE MAT	NTS	NOT TO SCALE
AGG	AGGREGATE	OC	ON CENTER
BVC	BEGIN VERTICAL CURVE	PRC	POINT OF REVERSE CURVE
BCR	BEGIN CURVE RADIUS	PVC	POLYVINYL CHLORIDE PIPE
BO	WATER BLOW OFF	R	RADIUS OR RIGHT
BSW	BACK OF SIDEWALK	R/W	RIGHT OF WAY
CMP	CORRUGATED METAL PIPE	RCP	REINFORCED CONCRETE PIPE
CO	SEWER CLEAN OUT	RSP	ROCK SLOPE PROTECTION
DI	DRAIN INLET	SDMH	STORM DRAIN MANHOLE
DIA	DIAMETER	SQ FT	SQUARE FEET
ECR	END CURVE RADIUS	SSMH	SANITARY SEWER MANHOLE
ERC	END REVERSE CURVE	STA:	STATION
EVC	END VERTICAL CURVE	TOE	TOE OF RETAINING WALL (ELEV)
ELEV	ELEVATION	TYP	TYPICAL
EP	EDGE OF PAVEMENT	TC	TOP FACE OF CURB (ELEV)
FC	FIRE CONNECTION	VC	VERTICAL CURVE
FG	FINISH GRADE ELEVATION	WQDB	WATER QUALITY DETENTION BASIN
FL	GUTTER FLOW LINE	W/	WITH
HDPE	HIGH DENSITY POLYETHYLENE PIPE	Δ	DELTA ANGLE
L	LENGTH OR LEFT	ℙ	PROPERTY LINE
LEN	LENGTH	℄	CENTER LINE
LF	LINEAL FEET		

THE AGENCY APPROVAL OF THIS PLAN IS FOR GENERAL CONFORMANCE WITH AGENCY ORDINANCES, REGULATIONS, AND THE CONDITIONS OF APPROVAL FOR THE KLAMATH TOWNSITE BOAT RAMP REPAIRS. BY THIS APPROVAL THE AGENCY DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE DESIGN OR CONSTRUCTION OF THE IMPROVEMENTS SHOWN HEREON.

APPROVED ______________________ DATE ________
COUNTY ENGINEER, COUNTY OF DEL NORTE

APPROVED ______________________ DATE ________

SHEET INDEX:

DESCRIPTION	SHEET NO.
COVER SHEET	1
SITE REPAIR PLAN	2
PLAN & PROFILE	3
SITE CROSS SECTIONS	4
DETAILED SECTIONS	5
PRECAST CONCRETE SLAB DETAILS	6
SLEEPER RAIL DETAILS	7
ACM DETAILS	8

No.	Date	Revision	Apprd

DRAWING INFO: DESIGNED BY: RCY DRAWN BY: GLH CHECKED BY: WLS

0 ▬ 1 BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES IF DISTANCE VARIES ACCORDINGLY.

PRELIMINARY

STOVER ENGINEERING
Civil Engineers and Consultants
PO BOX 783 · 711 H STREET
CRESCENT CITY, CA 95531 · 707 · 742

DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

COVER SHEET

JOB NO. 3904
SCALE: ON DWG
DATE: 10/10/08
SHEET 1 OF 8

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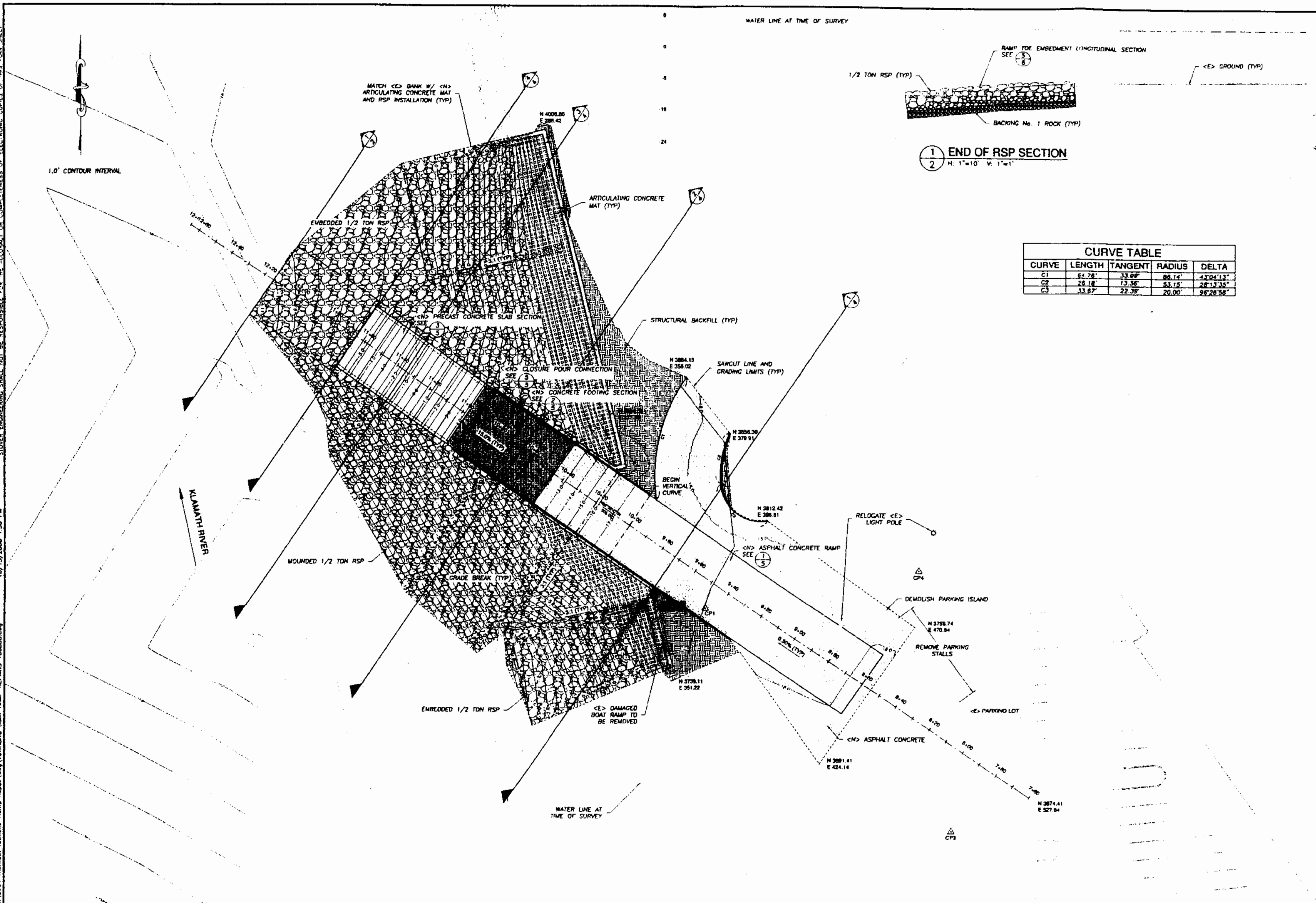

CURVE TABLE				
CURVE	LENGTH	TANGENT	RADIUS	DELTA
C1	64.76'	33.09'	86.14'	43°04'13"
C2	26.18'	13.36'	53.15'	28°13'35"
C3	33.67'	22.39'	20.00'	96°26'58"

DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

SITE PLAN

STOVER ENGINEERING
Civil Engineers and Consultants
PO BOX 783 - 711 H STREET
CRESCENT CITY, CA 95531 - 7[illegible] 8742

JOB NO. 3904
SCALE: 1"=20'
DATE: 10/10/08
SHEET 2 OF 8

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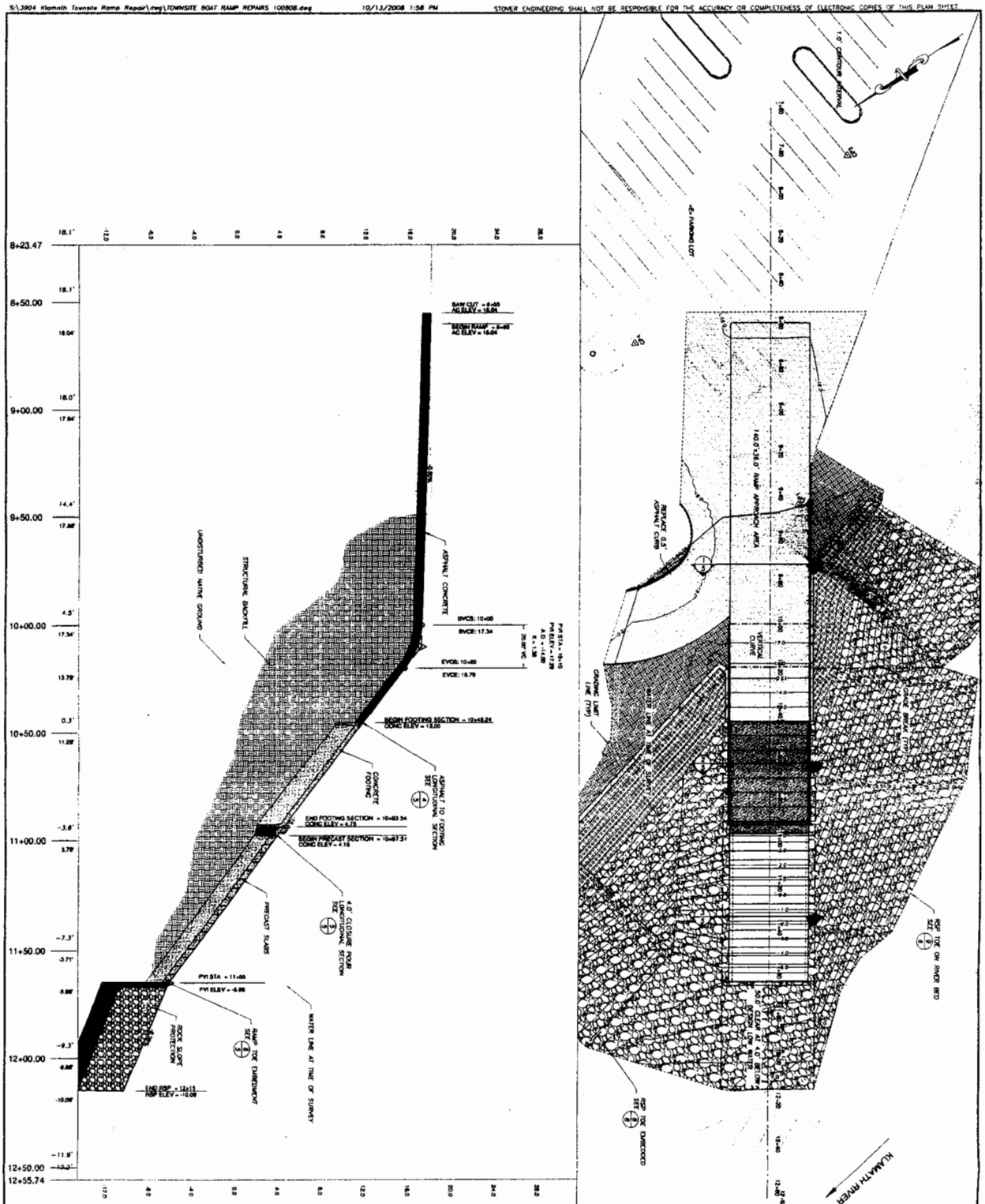
2 of 8 208



SHEET 3 OF 8	DATE: 10/10/08	SCALE: H: 1"=20' V: 1"=4'	JOB NO. 3904

DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

PLAN & PROFILE

STOVER ENGINEERING
Civil Engineers and Consultants
PO BOX 783 - 711 H STREET
CRESCENT CITY, CA 95531 - 7[illegible]5-8742

PRELIMINARY

No.	Date	Revision	Aprvd.

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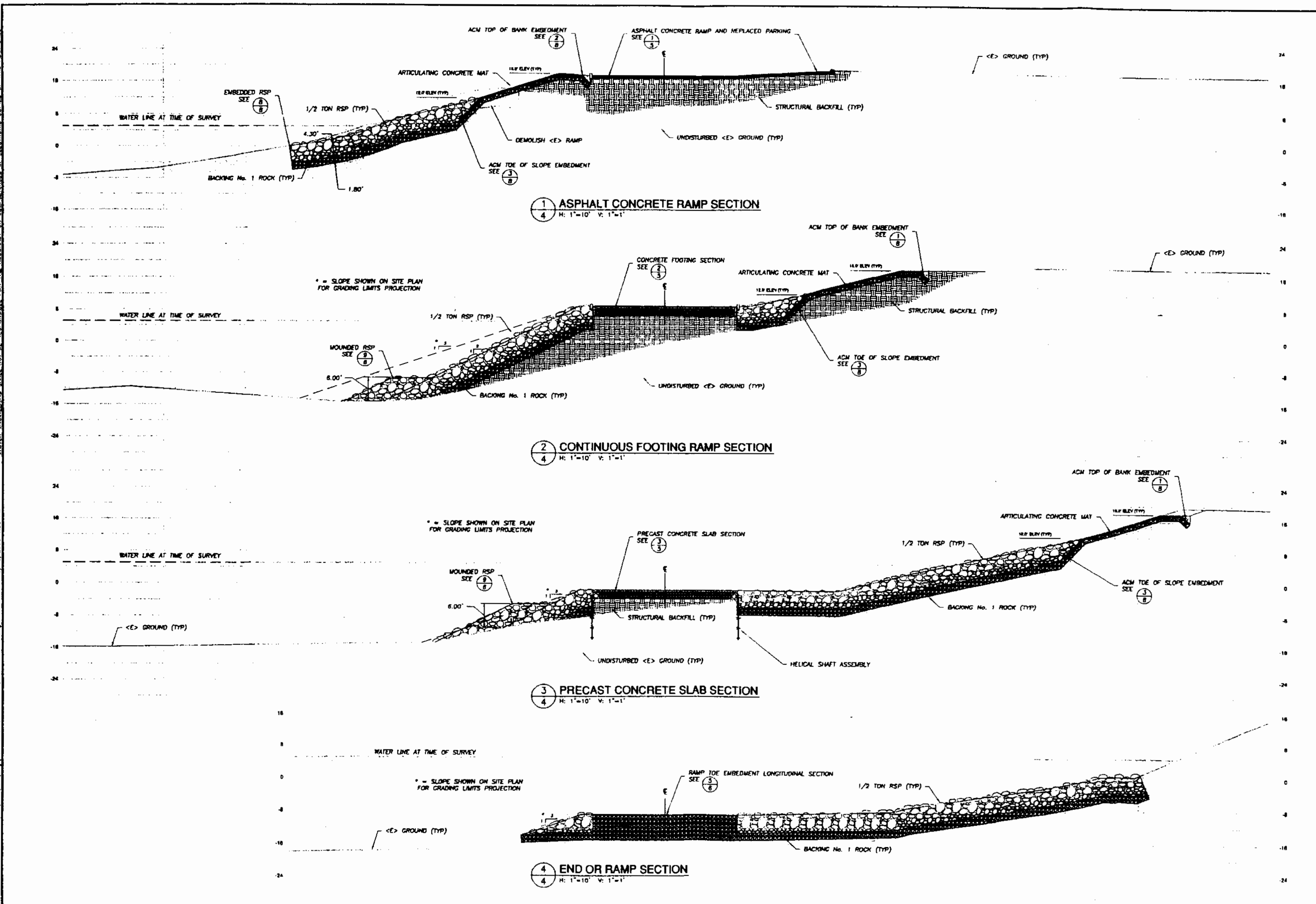

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DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

'TE CROSS SECTIONS

No.	Date	Revision

DRAWING INFO: DESIGNED BY: RCY DRAWN BY: RCY CHECKED BY: WLS

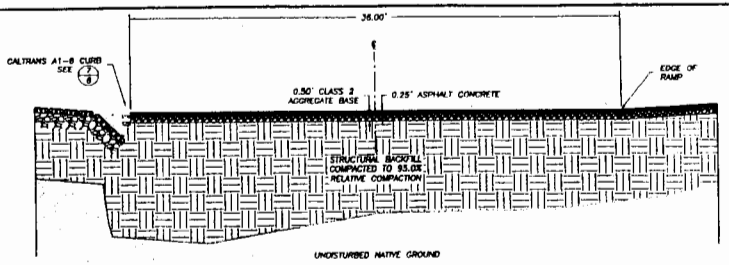
BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES IF DISTANCE VARIES ACCORDINGLY.

JOB NO. 3904
SCALE: H: 1"=10' V: 1"=1'
DATE: 10/10/08
SHEET 4 OF 8

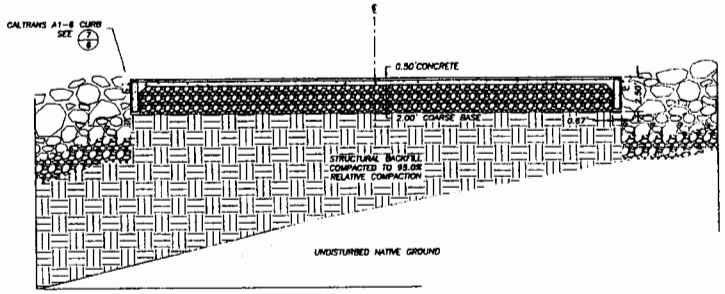
S:\3904 Klamath Townsite Ramp Repair\dwg\TOWNSITE BOAT RAMP REPAIRS 100808.dwg 10/13/2008 1:58 PM STOVER ENGINEERING SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET

448

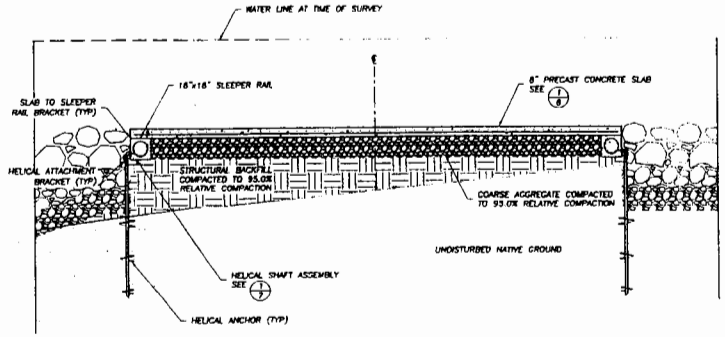
210



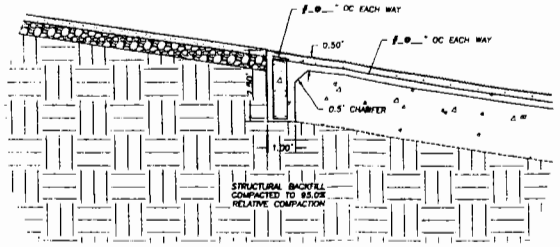
1/5 DETAILED ASPHALT CONCRETE SECTION
1"=4'



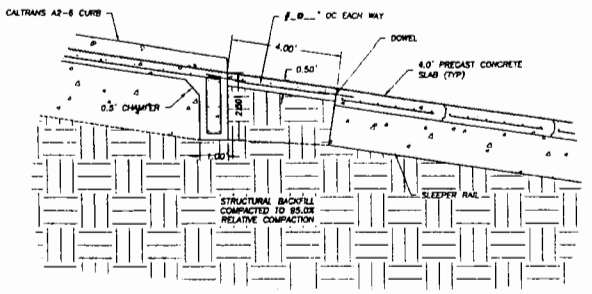
2/5 DETAILED CONTINUOUS FOOTING SECTION
1"=4'



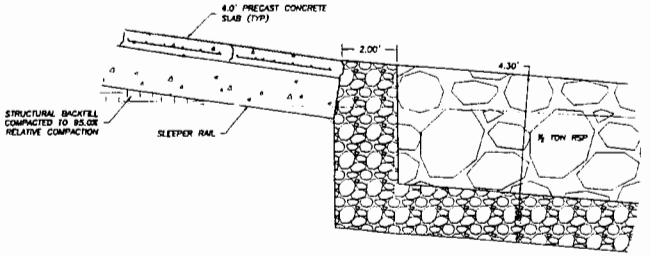
3/5 DETAILED PRECAST CONCRETE SLAB SECTION
1"=4'



4/5 ASPHALT TO FOOTING LONGITUDINAL SECTION
1"=2'



5/5 4.0' CLOSURE POUR LONGITUDINAL SECTION
1"=2'



5/6 RAMP TOE EMBEDDMENT LONGITUDINAL SECTION
1"=2'

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STOVER ENGINEERING SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

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1" BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES IF DISTANCE VARIES ACCORDINGLY.

0 1"

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DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

DETAILED SECTIONS

JOB NO. 3904
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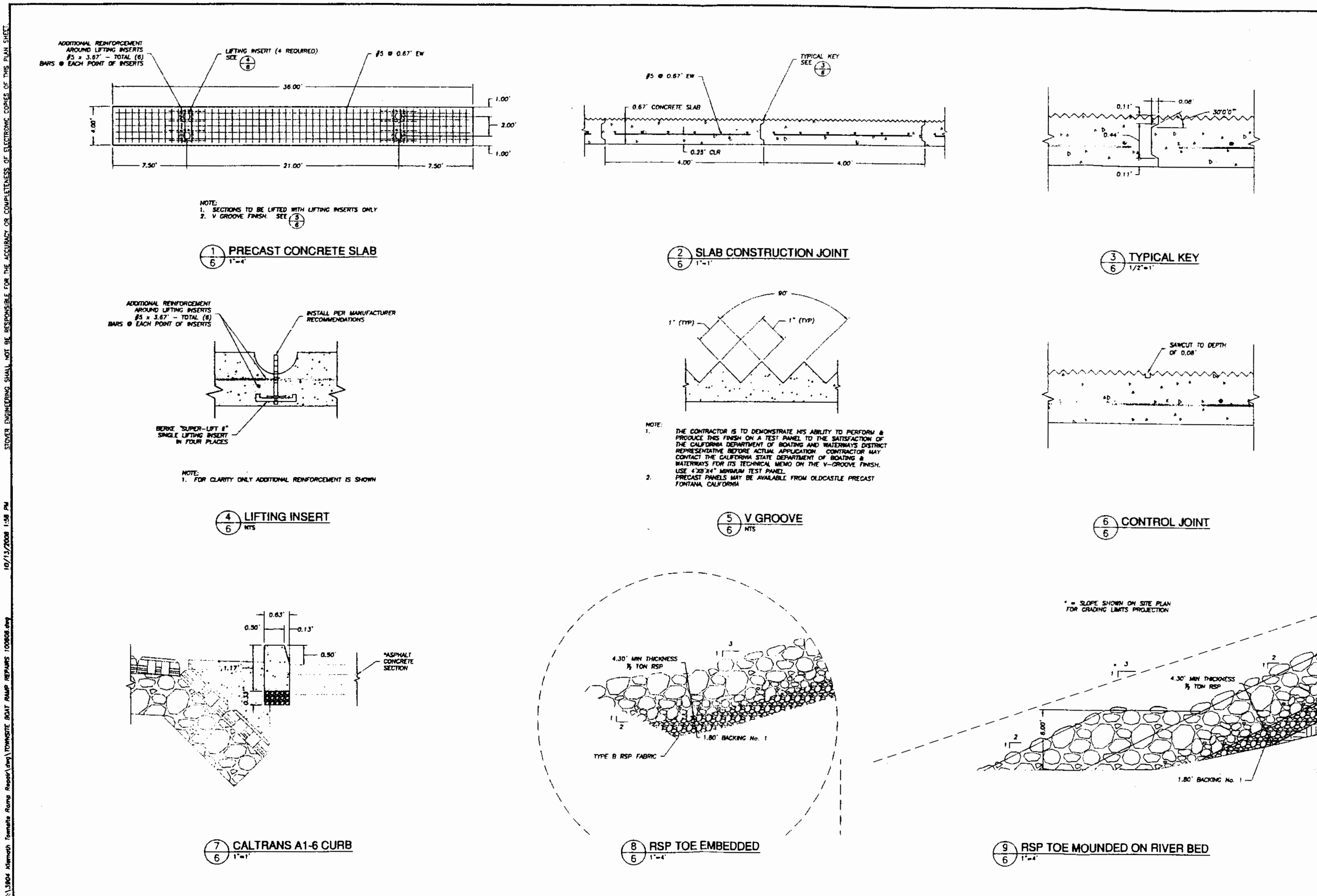
DATE: 10/10/08
SHEET 5 OF 8


ADDITIONAL REINFORCEMENT AROUND LIFTING INSERTS #5 x 3.67' - TOTAL (6) BARS @ EACH POINT OF INSERTS
LIFTING INSERT (4 REQUIRED) SEE 4/6
#5 @ 0.67' EW
36.00'
1.00'
2.00'
1.00'
4.00'
7.50'
21.00'
7.50'
NOTE:
1. SECTIONS TO BE LIFTED WITH LIFTING INSERTS ONLY
2. V GROOVE FINISH. SEE 5/6
1/6 PRECAST CONCRETE SLAB 1"=4'
#5 @ 0.67' EW
TYPICAL KEY SEE 3/6
0.67' CONCRETE SLAB
0.25' CLR
4.00'
4.00'
2/6 SLAB CONSTRUCTION JOINT 1"=1'
0.11'
0.08'
30°0'0"
0.44'
0.11'
3/6 TYPICAL KEY 1/2"=1'
ADDITIONAL REINFORCEMENT AROUND LIFTING INSERTS #5 x 3.67' - TOTAL (6) BARS @ EACH POINT OF INSERTS
INSTALL PER MANUFACTURER RECOMMENDATIONS
BERKE "SUPER-LIFT II" SINGLE LIFTING INSERT IN FOUR PLACES
NOTE:
1. FOR CLARITY ONLY ADDITIONAL REINFORCEMENT IS SHOWN
4/6 LIFTING INSERT NTS
90°
1" (TYP)
1" (TYP)
NOTE:
1. THE CONTRACTOR IS TO DEMONSTRATE HIS ABILITY TO PERFORM & PRODUCE THIS FINISH ON A TEST PANEL TO THE SATISFACTION OF THE CALIFORNIA DEPARTMENT OF BOATING AND WATERWAYS DISTRICT REPRESENTATIVE BEFORE ACTUAL APPLICATION. CONTRACTOR MAY CONTACT THE CALIFORNIA STATE DEPARTMENT OF BOATING & WATERWAYS FOR ITS TECHNICAL MEMO ON THE V-GROOVE FINISH. USE 4'X8'X4" MINIMUM TEST PANEL.
2. PRECAST PANELS MAY BE AVAILABLE FROM OLDCASTLE PRECAST FONTANA, CALIFORNIA
5/6 V GROOVE NTS
SAWCUT TO DEPTH OF 0.08'
6/6 CONTROL JOINT
0.63'
0.50'
0.13'
0.50'
1.17'
0.13'
*ASPHALT CONCRETE SECTION
7/6 CALTRANS A1-6 CURB 1"=1'
4.30' MIN THICKNESS ½ TON RSP
3
1
1
2
1.80' BACKING No. 1
TYPE B RSP FABRIC
8/6 RSP TOE EMBEDDED 1"=4'
* = SLOPE SHOWN ON SITE PLAN FOR GRADING LIMITS PROJECTION
4.30' MIN THICKNESS ½ TON RSP
3
2
2
6.00'
1.80' BACKING No. 1
9/6 RSP TOE MOUNDED ON RIVER BED 1"=4'

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DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

PRECAST CONCRETE SLAB DETAILS

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SCALE: ON DWG
DATE: 10/10/08
SHEET 6 OF 8

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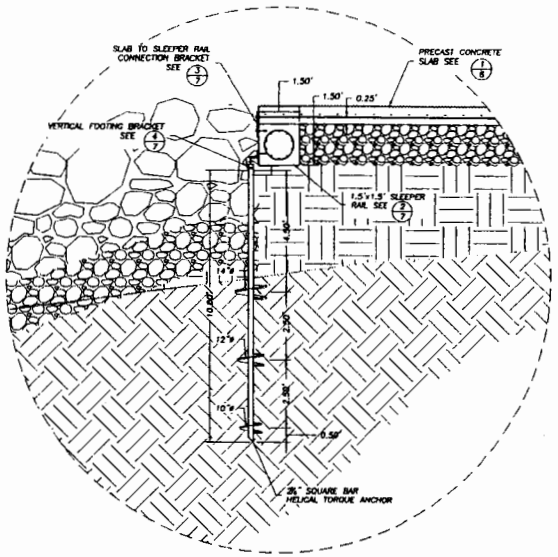
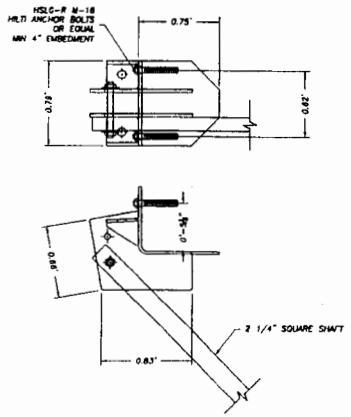
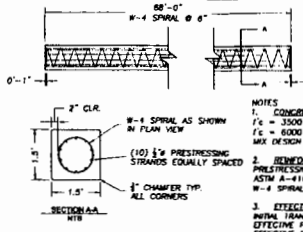


1/7 HELICAL SHAFT ASSEMBLY
1"=2'



4/7 HELICAL SHAFT ATTACHMENT BRACKET
NTS



NOTES
1. CONCRETE
f'c = 3500 psi @ TRANSFER
f'c = 6000 psi @ 28 DAYS AND TIME OF DRIVING
MIX DESIGN = UV-199

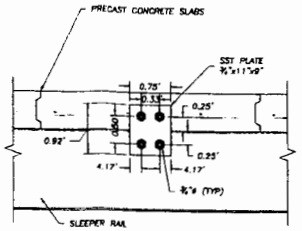
2. REINFORCING
PRESTRESSING STEEL SHALL CONFORM TO ASTM A-416 GRADE 270
W-4 SPIRAL ASTM A82 EPOXY COATED "PURPLE"

3. EFFECTIVE PRESTRESS
INITIAL TRANSFER FORCE/STRAND = 28.8 KIPS (70%)
EFFECTIVE PRESTRESS IN STRAND = 164.3 KSI
EFFECTIVE PRESTRESS IN CONCRETE = 778 PSI

4. SECTION PROPERTIES
18" SQUARE PILE
AREA = 324 SQ.IN.
AREA OF STRAND = 10 STRAND X .153 SQ.IN.
= 1.53 SQ.IN.
WEIGHT = 337.5 POUNDS PER FOOT

5. SLEEPER RAILS MAY BE AVAILABLE FROM OLDCASTLE PRECAST FONTANA, CALIFORNIA

2/7 SLEEPER RAIL
NTS



3/7 SLAB TO SLEEPER RAIL CONNECTION BRACKET

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DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

SLEEPER RAIL DETAILS

JOB NO. 3904
SCALE: ON DWG
DATE: 10/09/08
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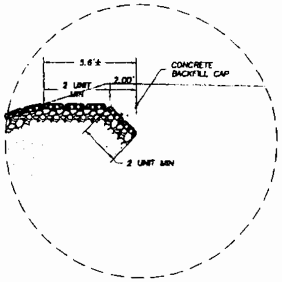
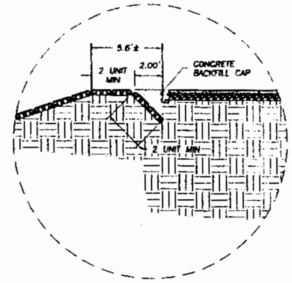
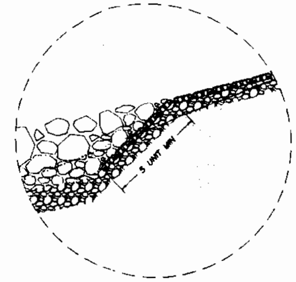


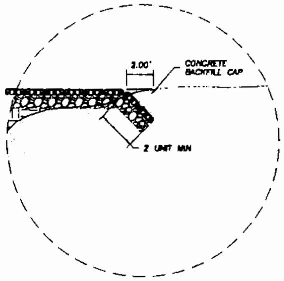
1/8 ACM TOP OF BANK CONNECTION
1"=4'



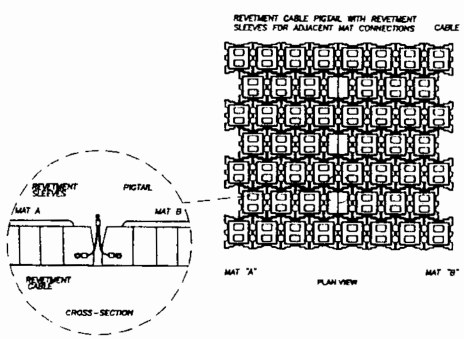
2/8 ACM RAMP CONNECTION
1"=4'



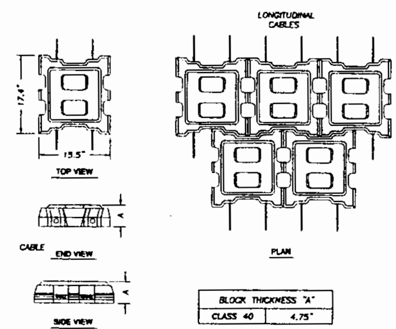
3/8 ACR TOE OF SLOPE CONNECTION
1"=4'



4/8 ACM <E> GROUND FLANK SECTION
1"=4'



5/8 ACM CONNECTION BETWEEN MATS
NTS



BLOCK THICKNESS "A"	
CLASS 40	4.75"

6/8 ACM ARMORFLEX STANDARD CLASS OPEN BLOCK
NTS

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DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

ARTIC TION CONCRETE MAT DETAILS

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

Reference: 008139.400

November 5, 2008

EXHIBIT NO. 6
APPLICATION NO.
1-08-043
DEL NORTE COUNTY
REVEGETATION PLAN (1 of 7)

Mr. Jay Sarina
County of Del Norte
981 H Street
Crescent City, CA 95531

Subject: Revegetation Plan for Repairs to the Old Townsite Boat Ramp, Klamath, Del Norte County, California

Dear Mr. Sarina:

On September 3, 2008, SHN Consulting Engineers & Geologists, Inc. (SHN) conducted a site visit with California Department of Fish and Game's (DFG) environmental scientists, Scott Bauer and Michael van Hattem and representatives from the County of Del Norte for the purpose of discussing the rehabilitation of the Old Townsite Boat Ramp. The proposed project will impact approximately 18,040 square feet (sq.ft.) along the bank of the Klamath River which consists of scattered vegetation including, grasses, herbs, Himalayan blackberry (*Rubus discolor*), and willow (*Salix* spp.) saplings. This revegetation plan addresses those impacts and incorporates DFG's comments. This proposed plan improves upon existing riparian habitat located upstream of the boat ramp and will mitigate vegetation impacts from the boat ramp repairs.

Project Description

The proposed project consists of repairs to the Old Townsite recreational boat ramp located in Klamath, Del Norte County, California. The concrete boat ramp (150 feet [ft] x 35 ft x 10 inch [in]) and associated ramp approach area were damaged by high river flows from December 17, 2005 through January 3, 2006. Storms produced high water flows along the Klamath River and washed away deep portions of fill associated with the ramp (75 ft x 45 ft x 10 ft), a thick section of asphalt (75 ft x 45 ft x 3 in), and a concrete curb (150 linear feet [lf]) at the turn-around area in the parking lot associated with the ramp approach area.

The County of Del Norte, through the Governor's Office of Emergency Services, requested Federal Emergency Management Agency's (FEMA) Public Assistance Program funding to repair the damaged Old Townsite boat ramp and ramp approach area. The purpose of the proposed project is to repair the damaged facility and reduce future risk of damage.

The repair work will be conducted within the area of damage and will extend outside the original boat ramp footprint. As a measure to prevent future damage from broadside river flows and to launch boats safely throughout the year, the ramp will be reoriented 60 degrees downstream on the river and extend an additional 88 feet into the river. Specifically, the work will include the following actions:

1. Removal and disposal of existing 183 cubic yards (cy) of reinforced concrete ramp and stem wall, 500 square yards (sy) of pavement, and 90 lf of concrete curb.
2. Installation of new 122 cy of reinforced concrete ramp on aggregate base and 300 lf of concrete curb.

3. Backfill and compact 1,700 cy of fill in the parking lot and the area surrounding the ramp.
4. Sawcut 200 lf of asphalt and pave 188 sy over aggregate base.
5. Place riprap (6,600 tons) upstream and downstream over filter fabric.
6. Place 4,680 sq.ft. of articulating concrete mat for shoreline protection.

Conservation measures provided in a letter dated April 27, 2007, from FEMA to Del Norte County, will be implemented as part of the boat ramp repair, per the requirements of the U.S. Fish and Wildlife Service. In addition, avoidance and minimization measures will be implemented as required in Section 4.2 of the Biological Assessment prepared for National Marine Fisheries Service (March 2007). Avoidance and minimization measures include, but are not limited to, equipment staging and materials storage which will be located in the existing paved parking area; equipment access will be by way of the existing paved access road; use of an excavator to place the riprap and other permanent materials in the river; and work done in the river will be limited in duration and during low flows, from the period of July 1 to October 15, 2009.

Revegetation Plan

The area that will be planted is located upstream of the Old Townsite Boat Ramp between the river bank and parking lot. Riparian vegetation will also be planted in the area immediately downstream and upstream of the boat ramp where the articulated cable mat will be placed along the shoreline (Figure 1). The planting specifications included in this plan are based on the California Salmonid Stream Habitat Restoration Manual, Third Edition (DFG, 1998). The revegetation plan consists of planting red alder (*Alnus rubra*), black cottonwood (*Populus balsamifera*), Pacific willow (*Salix lucida* ssp. *lasiandra,)*, and arroyo willow (*Salix lasiolepis*). A native grass seed mix will be applied in site-specific areas. Only willows will be planted in the articulated concrete mat.

Site Preparation

Prior to planting the area upstream of the boat ramp, the area should be cleared of dense vegetation that will compete with the establishment of the plantings, particularly black cottonwood. Mechanical methods can be used to prepare the site but the use of herbicides and pesticides is prohibited. Care should be taken during site preparation to ensure there is not significant soil disturbance that could alter site drainage patterns or result in discharges to the Klamath River.

Willow Poles

Willow poles that range from a minimum of ½ inch to 4 inches in diameter will be harvested from healthy, live plants on site. The willow poles will not be too woody and each will have several buds to ensure that adequate rooting occurs. Sharp, clean loppers will be used to harvest the poles, which will be planted the same day as harvested. If several hours pass between the time the poles are cut and planted in the ground, the poles will be placed in a bucket of cold water to ensure they do not dry out. Pole lengths will be several feet long, with a maximum length of 8 feet. The bottom of the poles will be cut at an angle to make planting easier.

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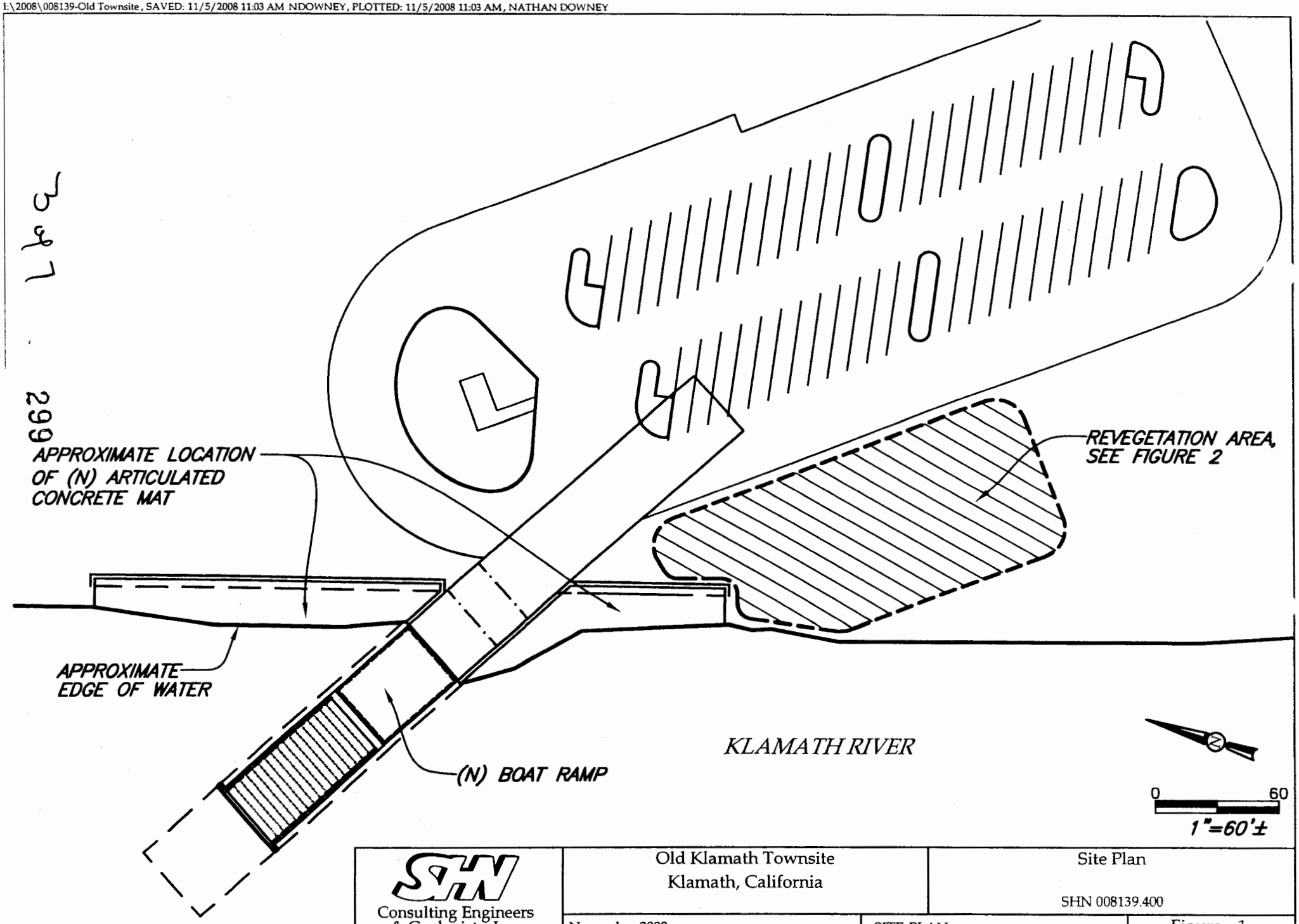


SHN Consulting Engineers & Geologists, Inc.	Old Klamath Townsite Klamath, California	Site Plan SHN 008139.400
	November 2008	SITE-PLAN	Figure 1

The use of an auger may be required to dig the planting hole. However, if the ground is well saturated and soft at the time of the planting, the use of an auger may not be necessary. Approximately ¾ of the willow pole will be buried in the ground with ¼ of the pole exposed. The poles will be installed with the buds pointing up. If the ground is not soft enough, a small sledgehammer will be used to pound the pole into the ground. If the top of the willow pole is damaged when it is pounded into the ground, the damaged part will be cut off with clean loppers.

Appropriate spacing for willow poles in the cable mat is every third hole and should be staggered amongst the rows. Willows that are planted upstream of the boat ramp will be spaced at 2 to 6 feet on center (Figure 2). Twenty-one willow poles will be planted upstream of the boat ramp (Figure 2).

Red Alder

Thirty containerized red alders will be planted (Figure 2). The alders will either be in 5-gallon containers or tree pots. The depth of each planting hole will be twice the depth of the root-ball. The tree will be planted so that the root ball is slightly above the existing grade to account for any soil that settles. Then the hole will be filled and tamped firmly to remove any air pockets. The alders will be watered thoroughly after they are planted. Appropriate spacing for red alders is 8 to 10 feet on center.

Black Cottonwood

15 containerized black cottonwoods will be planted (Figure 2). The cottonwoods will either be in 5-gallon containers or tree pots. The depth of each planting hole will be twice the depth of the root-ball. The tree will be planted so that the root ball is slightly above the existing grade to account for any soil that settles. Then the hole will be filled and tamped firmly to remove any air pockets. The black cottonwoods will be watered thoroughly after they are planted. Appropriate spacing for black cottonwoods is 12 feet on center (Figure 2).

Herbaceous Seed Mix

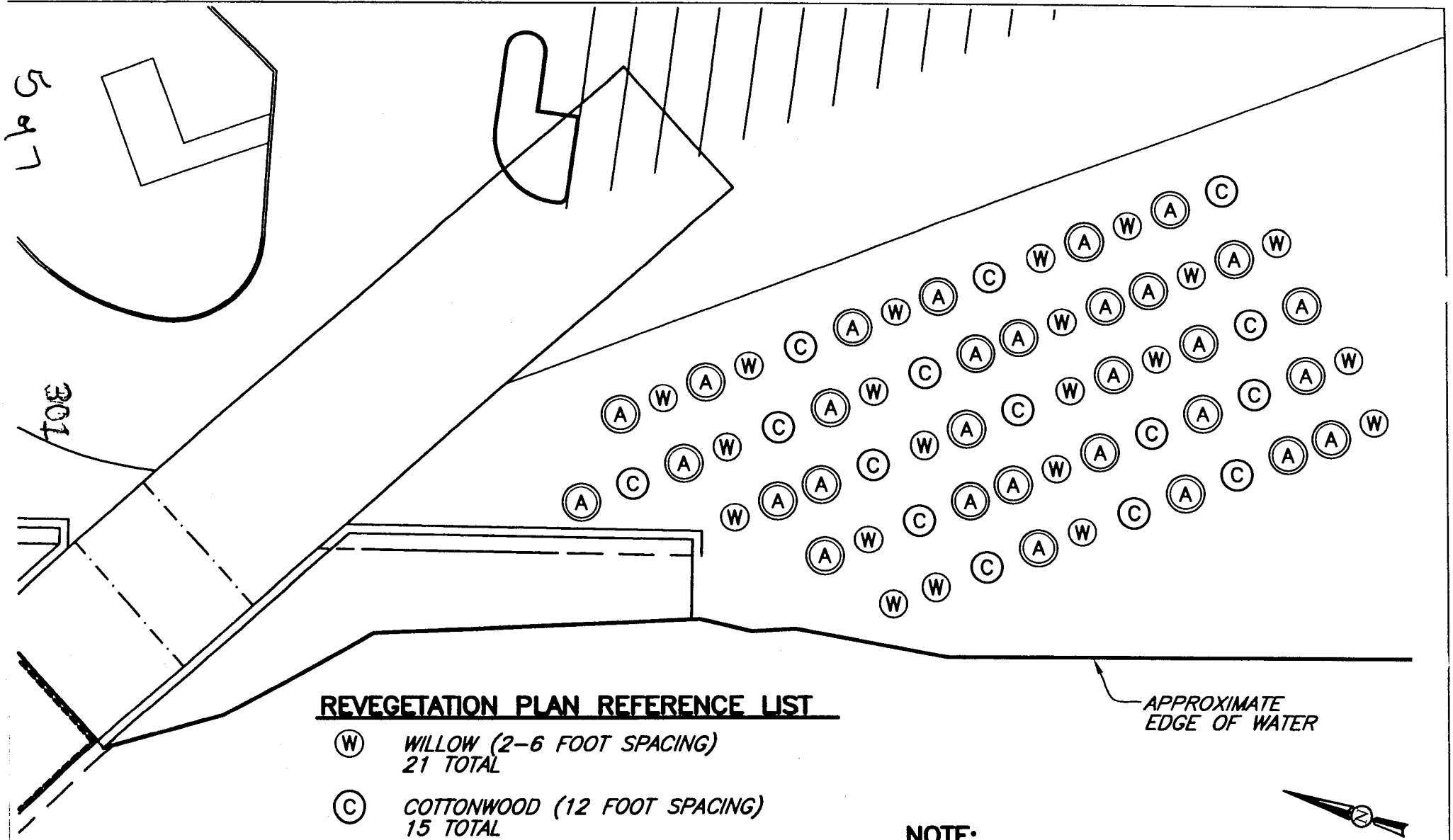
Upon completion of the planting, areas of bare ground shall be seeded with a native grass seed mix. The mix shall consist of meadow barley (*Hordeum brachyantherum*), western bent grass (*Agrostis exarta*), and red fescue (*Festuca rubra*). The seed mix shall consist of 80 pounds per acre.

Protective Measures

In order to prevent herbivory from destroying the newly planted red alders, black cottonwoods, and willows, protective collars should be installed around each tree. Collars can consist of chicken wire or similar material that will protect the plant from grazing.

Timing of Installation

The ideal time of year to harvest willow poles is December through January, when the plants are dormant. The containerized red alder and black cottonwood plants should also be planted in winter. SHN recommends completing the riparian revegetation no later than the second week of



REVEGETATION PLAN REFERENCE LIST

- (W) WILLOW (2–6 FOOT SPACING) 21 TOTAL
- (C) COTTONWOOD (12 FOOT SPACING) 15 TOTAL
- (A) ALDER (10 FOOT SPACING) 30 TOTAL

NOTE:

ALDER TO COTTONWOOD RATIO IS 2:1

0 30

1"=30'±

SHN Consulting Engineers & Geologists, Inc.	Old Klamath Townsite Klamath, California	Revegetation Plan SHN 008139.400	
	November 2008	REVEG-PLAN	Figure 2

February 2010. SHN is available to complete the planting effort within this period of time or provide technical oversight if the planting is completed by another group. Upon completion of the planting, grass seed should be applied as described above.

Report Preparation

Upon the completion of Old Townsite construction operations and vegetation planting, a report that documents the revegetation and implementation of the mitigation measures will be submitted to DFG. This will include the final number of trees that are planted and their respective species, the amount of riparian habitat that is enhanced along the Klamath River, and any corrective measures that are taken.

Site Monitoring

Plants will be qualitatively inspected during May or June for a period of three years by personnel experienced with native plants and assessing plant health. During the first monitoring event, May or June of 2010, additional monitoring events will be conducted and include determining whether supplemental watering is required during the first summer following planting and whether protective collars should be removed during the summer of 2010.

The annual monitoring event will consist of visually assessing the health of the plants including indicators of disease and mortality and photo-documenting the success of the plan. Two photo monitoring locations will be selected to monitor the downstream and upstream plantings. Photos will be taken at each location during monitoring events to document the success of the revegetation plan. If any species that are planted die or become diseased during the three year period, they will be replaced in kind, during the fall/winter dormant period. Success criteria for any species planted shall be at least an 80 percent survival rate at the completion of the three year monitoring period.

Annual monitoring reports will be prepared and submitted to DFG and Del Norte County by September 30 for the duration of the revegetation plan monitoring period. The annual reports will include photo documentation, success of the revegetation plan, and any corrective measures that were taken or are recommended for future monitoring events.

If you have any questions, feel free to give me a call at 707-441-8855.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.

Aimee C. Weber

Aimee C. Weber, CAE
Botanist & Ecologist

ACW:scw

302 647

References Cited

California Department of Fish and Game (DFG) California Salmonid Stream Habitat Restoration Manual, Third Edition (DFG, 1998) downloaded from, including updates since 1998: http://www.dfg.ca.gov/fish/documents/Resources/CaSalmonidStreamHabitatManual/manual3.pdf.

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

Reference: 008139.400

March 12, 2009

Mr. Bob Merrill, District Manager
California Coastal Commission
710 E Street, Suite 200
Eureka, CA 95501

Subject: Preliminary Staging and Debris Removal Plans for Old Townsite Boat Ramp, Klamath, Del Norte County; CDP Application No. 1-08-043

Dear Mr. Merrill:

This letter is follow-up to the January 30, 2009, letter from SHN Consulting Engineers & Geologists, Inc. (SHN) submitted on behalf of Del Norte County (County). We are providing the preliminary staging and debris removal plans requested to proceed with the Coastal Development Permit (CDP) application.

The CDP application was submitted by SHN on behalf of the County on October 28, 2008. On December 1, 2008 (dated November 26, 2008) SHN received a letter from the California Coastal Commission (CCC), requesting additional information to proceed with the review of the CDP application. On January 30, 2009 a response to comments was submitted to the CCC by SHN, and we stated that a Construction Stormwater Pollution Prevention Plan (SWPPP) would be submitted under separate cover in early February. However, the Draft Construction SWPPP is still in progress and is not available at this time. Thus, we have prepared this letter compiling preliminary staging and debris removal plans for the project. This letter will be included as an attachment to the Draft Construction SWPPP.

The Mitigation Measures referred to in this letter correspond to the Mitigated Negative Declaration (MND) adopted during the March 4, 2009 (copy enclosed) County of Del Norte Planning Commission public hearing (State Clearinghouse number 2009012060). The Avoidance and Minimization Measures referred to in this letter are from the Federal Emergency Management Authority (FEMA) Draft Biological Assessment (BA). The Conditions referred to in this letter are from the Yurok Tribe 401 Water Quality Certification (WQC).

Preliminary Staging Plans

The existing paved parking area is the proposed staging area for the project. No offsite staging is anticipated. The measures below have been incorporated into the project to address construction staging.

1) Equipment will be refueled and serviced at a designated construction staging area. All construction material and fill will be stored and contained in a designated area that is located away from channel areas to prevent transport of materials into the adjacent Klamath

River. A silt fence will be installed to collect any discharge, and adequate materials for spill cleanup will be maintained on site (FEMA Draft BA Avoidance and Minimization Measure No. 16, March 2007);

2) All stockpiles and demolition materials will be covered, enclosed on all sides, located as far away as possible from the Klamath River and associated riparian vegetation, and stored within the existing adjacent paved parking lot; and

3) No construction materials, equipment, debris, or waste will be placed or stored where it may be subject to wave, wind, or rain erosion and dispersion.

Preliminary Debris Removal Plans

The measures below have been developed and incorporated into the project to address debris removal.

1) All debris, sediment, rubbish, vegetation or other material removed from the disturbed areas will be disposed of at an approved disposal site (FEMA Draft BA Avoidance and Minimization Measure No. 7, March 2007). Debris will be disposed of at a legal disposal site or recycled at a recycling facility.
2) No permanent disposal of any construction material, demolition wastes, wastewater, or any other pollutant shall be disposed of within the Klamath River or associated riparian vegetation or any lands within the Yurok Reservation boundaries (Yurok Tribe 401 WQC Condition 5). There will be no sidecasting of material into any waterway (FEMA Draft BA Avoidance and Minimization Measure No. 7, March 2007).
3) Any and all debris resulting from demolition or construction activities will be removed from the site within ten days of completion of the project.
4) At the end of the construction period, the County will inspect the project area and ensure that no debris, trash or construction material has been left on the shore or in the water, and that the project has not created any hazard to navigation.
5) Demolition debris and sediment will be removed from the ***work areas*** each day where demolition occurs, and stored appropriately in the staging area to prevent the accumulation of sediment and other debris that may be discharged into the Klamath River.
6) All trash and debris will be disposed in the proper trash and recycling receptacles at the end of every construction day.
7) Construction debris and litter from the project will be removed weekly and by the end of the project (Stover Engineering Preliminary Erosion Control Plan, October 10, 2008).
8) Floating booms will be used to contain debris discharged into coastal waters and any debris discharged will be removed as soon as possible but no later than the end of each day.
9) Permanent trash receptacle(s) that are animal and vandalism proof will be installed on site. The receptacle(s) may be top loading, such as those that are used at state parks, and will be made from heavy duty materials that are vandalism proof and indestructible from animal attacks (MND MM No. 6)

Preliminary Erosion Control Plans

The measures listed in this letter do not include all of the Best Management Practices or good housekeeping practices proposed for the project. Only the BMPs and good housekeeping practices relating to staging, debris removal, and erosion control are included. The Draft Construction SWPPP, currently in progress, will include additional measures. In addition, the Yurok Tribe 401 WQC and FEMA BA include additional measures not outlined in this letter. The California Department of Fish and Game (DFG) Streambed Alteration Agreement (SAA) and Environmental Protection Agency (EPA) 401 WQC are anticipated to include additional conditions and/or avoidance and minimization measures.

1) The work done in the river will be limited in duration and occur during low flows, starting no earlier than July 1, and ending no later than October 15 (MND Mitigation Measure No. 4; FEMA Draft BA Avoidance and Minimization Measure No. 1, March 2007);
2) The site will be 'winterized' prior to seasonal work shut down (Yurok Tribe WQC Condition 2). All disturbed soils at the site will undergo erosion control treatment during construction and after construction is terminated (FEMA Draft BA Avoidance and Minimization Measure No. 5, March 2007);
3) All petroleum products, chemicals, silt, fine soils, and any substance or material deleterious to listed species will not be allowed to pass into, or be placed where it can pass into the water (FEMA Draft BA Avoidance and Minimization Measure No. 7, March 2007).
4) The excavation work in and adjacent to the Klamath River and associated riparian vegetation will be limited to that necessary for the project (Yurok Tribe WQC Condition 3).
5) BMPs for sediment and turbidity control will be implemented in accordance with the project description provided in the permit application and in place prior to, during, and after construction in order to ensure that negligible discharges to applicable waters are ensured (Yurok Tribe WQC Condition 9).
6) The County, or its contractor, will adhere to the monitoring and reporting requirements outlined in the Yurok Tribe CWA 401 WQC (YTWQP-09-001).
7) Water will be applied to disturbed areas as necessary to prevent or alleviate erosion by wind (Stover Engineering Preliminary Erosion Control Plan, October 10, 2008).
8) Machinery or construction materials not essential for project improvements will be prohibited at all times from the Klamath River and associated riparian vegetation.

Closing

A copy of the final MND is attached with this submittal. The County's Notice of Action is also attached for your file. Once the Notice of Determination (NOD) is filed by the County, a copy of the NOD will be submitted to the CCC. As follow-up regarding coordination with the California State Lands Commission (CSLC), the application was determined complete as of February 3, 2009 (CSLC, February 11, 2009). SHN is coordinating with DFG regarding the SAA. The attached final MND includes DFG's comments on the MND and the response to comments prepared by Stover

Engineering (see pages 152 through 168). Additionally, the *Feasibility Study for the Klamath Old Townsite Replacement Boat Ramp* (Stover Engineering, May 2001) is also attached.

SHN is also still coordinating with EPA regarding the EPA 401 WQC, but has received email correspondence that all necessary material has been received to proceed with processing the permit. Since the project will be authorized under Nationwide Permits (NWPs), EPA does not need to issue an individual 401 certification. They have programmatically certified the 2007 NWPs, with conditions. As long as the conditions are followed the project can be considered certified.

This letter and its attachments are also on the attached CD. For your convenience, we have included the Microsoft® Word version of this letter. Once we receive the notice of determination from the County, we will forward it to you. Please let us know if there is anything SHN can do to help expedite the process. We hope that this application can be processed in a timely manner so please do not hesitate to contact me at 707-441-8855 if you have any questions or require further information.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.

Aimee C. Weber

Aimee C. Weber, CAE
Ecologist/Project Manager

SSZ:ACW:bmd

Attachments: Final Mitigated Negative Declaration adopted March 4, 2009 (hard copy only)
Del Norte County Community Development Department Notice of Action
Preliminary Erosion Control Plan Prepared by Stover Engineering dated October 10, 2008
Feasibility Study for the Klamath Townsite Replacement Boat Ramp (Stover Engineering, May 2001; hard copy only)
Compact Disc of Submittal

References

Federal Emergency Management Authority. March 2007. *Draft Biological Assessment for National Marine Fisheries Service Klamath Boat Ramp and Parking Lot.*

Del Norte County. February 26, 2009. Staff Report and Mitigated Negative Declaration.

Yurok Tribe. No Date. Yurok Tribe Water Quality Control Plan Section 401 Water Quality Certification for *Old Klamath Townsite Boat Ramp Replacement Project.*

DEL NORTE COUNTY
TOWNSITE BOAT RAMP REPAIRS
KLAMATH, CA

EROSION CONTROL PLAN

JOB NO. 3904
SCALE: 1"=20'
DATE: 10/10/08
SHEET 1 OF 1

STOVER ENGINEERING
Civil Engineers and Consultants
PO BOX 783 - 711 H STREET
CRESCENT CITY, CA 95531 - 707-465-6742

No.	Date	Revision	Appvd

DRAWING INFO: DESIGNED BY: RCY DRAWN BY: GLH CHECKED BY: WLS

0 1" BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES IF DISTANCE VARIES ACCORDINGLY.

S:\3904 Klamath Townsite Ramp Repair\dwg\TOWNSITE BOAT RAMP REPAIRS 100808.dwg 2/12/2009 4:43 PM

STOVER ENGINEERING SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC FILES OF THIS PLAN SHEET.

595

U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

April 27, 2007

EXHIBIT NO. 8
APPLICATION NO.
1-08-043 - DEL NORTE COUNTY
PROPOSED CONSERVATION MEASURES FOR PROTECTION OF SENSITIVE WILDLIFE SPECIES (1 of 7)

Allen Winogradov
Del Norte County
918 H Street, Suite 240
Crescent City, California 95531

Re: Klamath Boat Ramp, Del Norte County, FEMA-1628-DR-CA, PW #1317

Dear Mr. Winogradov:

Del Norte County, through the Governor's Office of Emergency Services (OES), has applied to the Federal Emergency Management Agency (FEMA) for funding under the Public Assistance Program to replace the Klamath Boat Ramp. To expedite the review process under Section 7 of the Endangered Species Act (ESA), FEMA has developed programmatic compliance documents with the U.S. Fish and Wildlife Service (USFWS or Service). In order for Project Worksheet (PW) #1317 to qualify under this expedited review process, Del Norte County must fully and correctly implement the appropriate conservation measures described in Appendices B and C of FEMA's May 2006 Programmatic Biological Assessment (PBA) for FEMA-Funded Disaster Assistance Projects in California, as amended, for species under USFWS jurisdiction. This includes General Conservation Measures 3 through 18 from Appendix B of the PBA and Proposed Conservation Measures for bald eagle from Appendix C of the PBA. These Proposed Conservation Measures have been specifically tailored for this PW. FEMA biologists have already conducted General Conservation Measures 1 and 2 and determined that the only species with suitable habitat present is the bald eagle. FEMA biologists have assumed presence of bald eagle; therefore, Del Norte County does not need to complete surveys per the most recently available USFWS-approved survey guidance. The appropriate conservation measures are enclosed with this letter. The PBA is posted on the FEMA Region IX website: www.fema.gov/about/regions/regionix/index.shtm.

If Del Norte County accepts implementation of these conservation measures as a stipulation of funding, please sign the enclosed copy of this letter and return it to me in the pre-addressed envelope. FEMA is also consulting with the National Marine Fisheries Service; thus Del Norte County is advised not to proceed with project implementation prior to official notification from FEMA that this consultation has been completed or funding may be jeopardized. If Del Norte County cannot comply with these conservation measures, please notify me at the earliest opportunity, so that FEMA can initiate Section 7 consultation with USFWS for this project. Additionally, if Del Norte County cannot comply with these conservation measures, Del Norte

County is advised not to proceed with project implementation prior to official notification from FEMA that this consultation has been completed or funding may be jeopardized.

If you should require any additional information regarding Section 7 consultation, the PBA, or FEMA's request, please contact Dennis Castrillo of the California Governor's Office of Emergency Services at (916) 845-8270. Thank you in advance for your assistance.

Sincerely,

Alessandro Amaglio
Environmental Officer

Attachments

cc:
Dennis Castrillo, OES
Doug Lashmett, OES

Concurrence

Del Norte County accepts implementation of the conservation measures described in this letter as a stipulation of funding for PW #1317.

Signature	Printed Name	Title	Date

Conservation Measures

General Conservation Measures (from PBA Appendix B)

1. To determine the likelihood that a federally-listed species may be present in the areas that may be directly or indirectly affected by project activities, a qualified biologist will conduct a thorough review of all existing data regarding federally-listed species and their habitats prior to the implementation of any project. This review will include not only a review of the California Department of Fish and Game's California Natural Diversity Database (CNDDB), but all other sources of information and data available within the public domain including, but not limited to, reports submitted to the Service, California Department of Fish and Game, or other public agencies; peer-reviewed publications in scientific journals, internet resources such as California Native Plant Society website, books or other published literature, and all other sources as appropriate. FEMA will consider that a federally-listed species is likely to occur on a project site if (a) it is within the dispersal distance of a documented sighting of the species, and (b) suitable habitat is present in the area.

2. To determine whether suitable habitat is present, and to further inform determinations of the likelihood that a federally-listed species occurs in areas that may be directly or indirectly affected by project activities, a qualified, Service-approved biologist will conduct pre-activity surveys for federally-listed species and habitats prior to the implementation of any project, unless a species has already been assumed to be present, then no surveys are necessary. Surveys will follow the most recently available Service-approved guidance and they will be conducted during the most appropriate times of the year to identify a species' presence. For example, plant surveys will be conducted during the flowering period following the most recently available, Service-approved survey guidance; reptile and amphibian surveys will be conducted during the animal's active periods following the most recently available, Service-approved survey guidance, not during their aestivation periods, *etc.*

3. Project proponents will ensure that, in addition to the general conservation measures proposed herein, that all species-specific conservation measures outlined in Appendix C are implemented for each federally-listed species and their habitats at each project site, as appropriate;

4. A qualified, Service-approved biological monitor will be present on site during all activities related to the project. The biological monitor will provide guidance to the project proponents and crew about federally-listed species and their habitats. The biological monitor will monitor all activities to ensure that no federally-listed species is harassed, killed, or injured and to ensure that the project otherwise conforms to the conservation measures outlined throughout this document and the subsequent programmatic consultation documents. The biological monitor will have the authority to stop any aspect of the project that will result in unauthorized take of federally-listed species;

5. Project proponents will ensure that all work will be conducted in an area, from a location, or in such a manner that it will not directly or indirectly kill or injure a listed species, will not intentional or negligently harass a listed species to such an extent as to significantly disrupt

normal behavioral patterns, or will not adversely modify listed species habitats. Project planning must consider not only the effects of the action itself, but also all ancillary activities associated with the actions, such as equipment staging and refueling areas, topsoil or spoils stockpiling areas, material storage areas, disposal sites, routes of ingress and egress to the project site, and all other related activities necessary to complete the project;

6. Disturbance to existing grades and vegetation will be limited to the actual site of the project and necessary access routes. Placement of all roads, staging areas, and other facilities shall avoid and limit disturbance to federally-listed species and their habitats to the maximum extent practicable. When possible, existing ingress or egress points will be used and the contours of the project site will be returned to pre-construction condition or better;

7. Projects proponents will, to the maximum extent practicable, reduce the amount of disturbance at a site to the absolute minimum necessary to accomplish the project. Wherever practicable, existing vegetation will be salvaged from the proposed project area and stored for replanting after earthmoving activities are completed. Topsoil will be removed, stockpiled, covered, and encircled with silt fencing to prevent loss or movement of the soil into federally-listed species habitats. All disturbed soils will undergo erosion control treatment prior to the rainy season and after construction is terminated. Treatment typically includes temporary seeding with native species and sterile straw mulch. All topsoil will be replaced in a manner to as closely as possible represent pre-disturbance conditions. This is especially necessary for listed plants to preserve the integrity of the seed contained within the topsoil;

8. Project proponents will ensure that project sites are re-vegetated with locally-acquired sources of native seeds and plants in a manner that is not likely to adversely affect listed species and will return the site to at least its pre-existing condition or better. Plantings will be done during the optimal season for the species being planted and, if necessary, an irrigation system will be installed to ensure establishment of vegetation. An 80% or more survival rate over a period of 3-5 years for new plantings will be the target. Invasive exotic plant species will be controlled to the maximum extent practicable to accomplish the re-vegetation effort. Chemical control of invasive exotic plant species will be conducted by a certified pesticide applicator per labeled directions and all other federal, state, and local laws and regulations;

9. Projects being implemented within habitat known to support plant species or species that use underground retreat, escape, hibernacula, and/or aestivation areas (*e.g.*, snakes and amphibians, small mammals, burrowing owls, *etc.*) will require that vehicles and equipment be operated in a manner that does not result in the death or injury of an individual plant or animal and in a manner that does not unduly compact or disturb the soil. For example, temporarily removing topsoil in an area just large enough to allow heavy equipment access to a site (*e.g.*, a levee repair site) after the flowering and seed set period, then returning the topsoil to the area once the equipment work is completed;

10. For projects conducted in areas where species are known to use underground burrows as escape habitat, hibernacula, aestivation areas, or other purposes of retreat, project proponents will completely encircle the project area with exclusionary fencing fitted with one-way exit

holes and buried a few inches below ground level. This fencing will allow species to passively leave the project site while at the same time preventing them from re-entering the work zone. Exclusionary fencing will be installed at least six weeks prior to the implementation of the project and it will be checked frequently to ensure the fencing is intact and functioning properly. The fencing will be maintained, in place, throughout the duration of the project, to prevent species from re-entering the project site until all work activities have ceased;

11. All standardized Best Management Practices (*e.g.*., per Regional Water Quality Control Boards, the California Stormwater Best Management Practice Handbooks, *etc.*) will be implemented for all projects, as appropriate to each project site;

12. Project proponents will ensure that sediment-control devices are installed and maintained correctly. For example, sediment will be removed from sediment controls once the sediment has reached one-third (1/3) of the exposed height of the control. The devices will be inspected frequently (*e.g.*, daily) to ensure they are functioning properly; controls will be immediately repaired or replaced or additional controls will be installed as necessary. Sediment that is captured in these controls may be disposed of on site in an appropriate, safe, approved area, or off site at an approved disposal site;

13. Project proponents will consider design factors and other recommendations detailed in the most recently available publications (*e.g.*, NMFS stream crossing criteria, California Salmonid Stream Habitat Restoration Manual, *etc.*) when undertaking projects such as bridge or culvert replacement, for example, on fish-bearing streams (particularly anadromous fish);

14. Project proponents shall exercise every reasonable precaution to protect federally-listed species and their habitats from pollution due to fuels, oils, lubricants, and other harmful materials. Vehicles and equipment that are used during the course of a project will be fueled and serviced in a "safe" area (*i.e.*, outside of sensitive habitats) in a manner that will not affect federally-listed species or their habitats. Spills, leaks, and other problems of a similar nature will be resolved immediately to prevent unnecessary effects to listed species and their habitats. A plan for the emergency clean up of any spills of fuel or other material will be available on site and adequate materials for spill cleanup will be maintained on site;

15. Project proponents shall exercise every reasonable precaution to protect federally-listed species and their habitats from construction by-products and pollutants such as construction chemicals, fresh cement, saw-water, or other deleterious materials. Water containing mud, silt, concrete, *etc.* from construction activities shall be treated by filtration, retention in a settling pond, *etc.* Fresh cement or concrete shall not be allowed to enter flowing water of streams. Construction pollutants will be collected and transported to an authorized disposal area, as appropriate, and per all federal, state, and local laws and regulations;

16. All hazardous material will be stored in properly designated containers in a storage area with an impermeable membrane between the ground and the hazardous material. The storage area will be encircled by a berm to prevent the discharge of pollutants to ground water or runoff into federally-listed species habitats. A plan for the emergency clean up of any hazardous

material will be available on site and adequate materials for spill cleanup will be maintained on site;

17. All construction material, wastes, debris, sediment, rubbish, vegetation, trash, fencing, *etc.* will be removed from the site once the project is completed and transported to an authorized disposal area, as appropriate, and per all federal, state, and local laws and regulations; and

18. All concrete or other similar rubble shall be free of trash and reinforcement steel. No petroleum-based products such as asphalt will be used as a stabilizing material (*i.e.*, riprap).

Proposed Conservation Measures (from PBA Appendix C)

Bald Eagle

1. Consult a Service-approved biologist with expertise and/or permits specific to bald eagle;
2. Avoid activities from January 1 thru August 31 within one-half (0.5) mile or line-of-sight, whichever is greater, of an occupied nest; and
3. Avoid removing known nest trees, screen trees around known nest trees, perch trees, or roost trees.

4.2 AVOIDANCE AND MINIMIZATION MEASURES

The County would implement the following measures to avoid and minimize potential adverse effects to listed coho salmon and Steller sea lions and their associated habitats.

1. Since habitat for federal listed anadromous fish species are identified as on or adjacent to the project work site and to protect breeding Steller sea lions, all construction and activities in or adjacent to an active stream channel will be performed only between July 1 through October 15.
2. Disturbance to existing grades and vegetation will be limited to the actual site of the project and necessary access routes. Placement of all roads, staging areas, and other facilities will avoid and limit disturbance to streambank or stream channel habitat as much as possible. When possible, existing ingress or egress points will be used and/or work performed from the top of the creek banks. Following completion of the work, the contours of the creek bed and creek flows will be returned to pre-construction condition or better.
3. Erosion control and sediment detention devices (e.g., well anchored sandbag cofferdams, straw bales, or silt fences) will be incorporated into the project design and implemented at the time of construction. These devices will be in place during construction activities, and after if necessary, for the purposes of minimizing fine sediment and sediment/water slurry input to flowing water, and of detaining sediment laden water on-site. These devices will be placed at all locations where the likelihood of sediment input exists. A supply of erosion control materials will be kept on hand to cover small sites that may become bare and to respond to sediment emergencies.
4. Sediment will be removed from sediment controls once the sediment has reached 1/3 of the exposed height of the control. Sediment collected in these devices will be disposed of away from the collection site at approved disposal sites. These devices will be inspected at least once a day to ensure they are functioning properly. Should a control measure not function effectively, the control measure will be immediately repaired or replaced. Additional controls would be installed as necessary.
5. All disturbed soils at the site will undergo erosion control treatment during construction and after construction is terminated. Treatment includes temporary seeding and sterile straw mulch. Any disturbed soils on a gradient of over 30 percent will have erosion control blankets installed. Permanent revegetation and tree replanting to replace vegetation removed by construction activities will take place in small openings in the erosion control blanket, with native species.
6. Any stockpiles of soil used for fill material during construction will be covered with a tarp or erosion control blanket and silt fences will be installed appropriately to contain soils from moving into area waterways. If the local weather forecast indicated that there is greater than a 50 percent chance of rain, the project site will be "rain-proofed" with erosion control measures so that no sediment or turbidity enters the water.
7. All debris, sediment, rubbish, vegetation or other material removed from the disturbed areas will be disposed of at an approved disposal site. All petroleum products chemicals, silt, fine soils, and any substance or material deleterious to listed species will not be allowed to pass into, or be placed where it can pass into the water. There will be no sidecasting of material into any waterway.

8. All materials placed in Klamath River, such as pilings and bulkheads, will be nontoxic. Any combination of wood, plastic, cured concrete, steel pilings or other materials used for in-channel structures will not contain coatings or treatments or consist of substances deleterious to aquatic organisms that may leach into the surrounding environment in amounts harmful to aquatic organisms.
9. No petroleum products such as asphalt may be used.
10. If anchoring and stabilizing fabrics (geotextiles, armorflex, etc.,) are used, they will be slit in appropriate locations to allow for plant root growth.
11. No fill material other than clean, silt-free gravel or river rock will be allowed to enter the water.
12. The subgrantee will exercise every reasonable precaution to protect the Klamath River from pollution with fuels, oils, bitumens, calcium chloride and other harmful materials.
13. Construction by-products and pollutants such as petroleum products, chemicals, fresh cement, or deleterious materials will not be allowed to discharging into the Klamath River, and will be collected and transported to an authorized disposal area.
14. A plan for the emergency clean up of any spills of fuel or other material must be available.
15. Water containing mud or silt from construction activities will be treated by filtration, or retention in a settling pond, adequate to prevent muddy water from entering the Klamath River.
16. Equipment will be refueled and serviced at designated construction staging areas. All construction material and fill will be stored and contained in a designated area that is located away from channel areas to prevent transport of materials into adjacent streams. A silt fence will be installed to collect any discharge, and adequate materials for spill cleanup will be maintained on site.
17. Construction vehicles and equipment will be maintained to prevent contamination of soil or water (from external grease and oil or from leaking hydraulic fluid, fuel, oil, and grease).
18. Good housekeeping practices, use of safer alternative products, such as biodegradable hydraulic fluids, where feasible, and implementation of employee training programs will be utilized. Employees will be trained to prevent or reduce the discharge of pollutants from construction activities to waters and of the appropriate measures to take should a spill occur.
19. In the event of a spill, work would stop immediately and NMFS will be notified.

4.3 SUMMARY OF POTENTIAL ADVERSE EFFECTS TO COHO SALMON AND STEELHEAD

With implementation of the avoidance and minimization measures listed in Section 4.2, FEMA has determined that the proposed action is not likely to adversely affect the SONCC coho salmon ESU or Steller sea lion and would not destroy and/or adversely modify designated critical habitat for either of these two species.

STOVER ENGINEERING

Civil Engineers and Consultants

PO Box 783 - 711 H Street
Crescent City CA 95531
Tel: 707.465.6742
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info@stovereng.com

MEMORANDUM Reference: 3904

To: Rosalind Litzky

From: Ryan Young, PE

Date: 2 October 2008

Subject: Klamath Townsite Boat Ramp – Technical Design Memo

This memo addresses the design questions we discussed on 25 September 2008 regarding the proposed construction improvements for the Klamath Townsite Boat Ramp in Klamath, CA.

Riprap Design

The riprap proposed for the slope protection shown on the plans was sized in accordance with the Caltrans Highway Design Manual. Stover Engineering prepared a Feasibility Study in May 2001 for the purpose of identifying existing conditions of the site and identifying the feasibility of the then proposed improvements. We determined that the mean velocity during the 1997 flood event was 10.45 feet per second (fps) as part of that study. We also determined that the average channel velocity with a water surface elevation of 18 feet is 8.9 fps utilizing conventional hydraulic analysis. Based on the findings, a design velocity of 10.5 fps was used for sizing the riprap. According to the design procedure a riprap size of ¼ ton rock was adequate. This was confirmed as the existing ¼ ton riprap suffered minimal damage during the 1997 flood. For the current design a riprap size of ½ ton is proposed due to the recommendations of the Caltrans Highway Design Manual for wind waves greater than 4 feet. Based on the US Army Corps of Engineers *Shore Protection Manual, 1984*, wind waves of 4 feet can be expected during wind speeds of 80 mph.

Boat Ramp Alignment

The new boat ramp has been oriented 45° downstream from the previous perpendicular alignment. This is to facilitate easier launching conditions. Previously, boat launching was very difficult due to the velocity of the current being directly perpendicular to the ramp. Boats launched into the river were immediately swept sideways with the current. Additionally, the new alignment will minimize the tendency for back eddies to be created at the ramp. The nature of the erosion to the existing ramp is evident of a large back eddy occurring immediately downstream of the ramp location.

Hydraulic Impact

Minimal impacts to river hydraulics are anticipated. The new ramp alignment restores the original bank cross section and maintains a consistent profile upstream and downstream of the new ramp. Previously, the bank profile was interrupted by the ramp. Back eddies were common at the location and contributed to the erosion of the ramp.

The new alignment reduces the likelihood of back eddies being created. The ramp extends approximately 90 feet into the river channel. This is to maintain the appropriate water depths for boat launching as recommended by the Cal Boating Ramp Design Manual. The river channel is approximately 2000 ft. wide at the ramp location. The ramp is less than 5% of the channel width. Minimal fill is proposed beyond what existed prior to the boat ramp damage occurred. The fill shown on the plans restores the site to the previous condition.

100 Year Flood Information

The Army Corps of Engineers conducted a flood plain study after the 196 flood. It resulted in two documents titled "High Water Mark data for Klamath River Lower Portion – Flood of December 1964" and "Report on Historical Flood Damages for Klamath River Basin." The documents continue to be the reference documents to establish 100-year flood elevations in the Lower Klamath area. Interpolation of the 1964 High Water Profile establishes the 100-year flood elevation for the project site to be approximately 32 feet. The parking area elevation is approximately 18 feet.

Waste Management Plan

The project specifications will require the contractor to dispose of excavated materials at a permitted site. The contractor will also be required to provide trash receptacles or dumpsters for collection of trash during construction.