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STAFF REPORT: REGULAR CALENDAR

Application No.:	**1-19-0278**
Applicants:	**John Gary/Heather Plaza and Humboldt Co.**
Agent:	Aldaron Laird, Trinity Associates
Location:	6821 Myrtle Ave., approximately 0.5 miles east of the City of Eureka, Humboldt County (APN 402-181-01).
Project Description:	Implement the "Cochran Creek and Quail Slough Fish Passage and Habitat Enhancement Project" involving the excavation and placement of fill and planting of riparian vegetation across 14 acres of existing degraded stream habitat and agricultural wetlands to improve habitats for fish and wildlife.
Staff Recommendation:	Approval with conditions

SUMMARY OF STAFF RECOMMENDATION

The primary purpose of the project is to restore habitat for marine resources (threatened salmonids) and the biological productivity and quality of coastal waters (Cochran Creek and Quail Slough). These benefits would be achieved by (1) replacing the existing top-hinged tide gate on Cochran Creek with a new side-hinged "fish-friendly" tide gate with an adjustable opening to allow restored tidal hydrology and estuarine habitats within the project reach; (2) dewatering and grading to realign, widen, and deepen the existing channels to restore natural channel morphology, aquatic habitat, and hydraulic capacity, (3) place fill to create berms along the stream channels to provide appropriate elevations for riparian habitat restoration and increase stream capacity, and (4) installing culverts with tide gates under the berms and placing fill within the floodplain/ surrounding agricultural lands adjacent to the channels to direct channel overbank

flooding and fish entrained within the flood flows back to the restored channels (to avoid fish stranding and mortality).

The project site consists primarily of diked former tideland, now mostly farmed wetlands with prime agricultural soil that has been actively farmed (row crops and livestock grazing) for over a century. The subject waterways drain to Humboldt Bay, and both drainages currently are channelized “ditches” that routinely overflow their banks during yearly rain events.

Staff believes that the proposed habitat improvements will maintain and enhance marine resources and the biological productivity of coastal waters, as mandated by the requirements of sections 30230 and 30231of the Coastal Act. Staff further believes that the proposed substantial alterations to the streams and associated floodplain areas are allowable under Coastal Act section 30236, since (1) the primary function of the proposed development is the necessary improvement of fish and wildlife habitat, and (2) the best mitigation measures feasible will be provided to minimize adverse environmental effects. Nevertheless, the project would result in the permanent conversion of five acres of prime agricultural land inconsistent with section 30241 of the Coastal Act. Thus, staff recommends invoking section 30007.5 of the Coastal Act to resolve the conflict in a manner that is on balance most protective of coastal resources. Staff believes that the proposed project presents a true conflict between Chapter 3 policies of the Coastal Act. Although the proposed restoration of habitats for the benefit of threatened salmonids (among other marine resources) would convert agricultural land in a manner inconsistent with the provisions of sections 30241, to not approve the project would result in a failure to maintain and enhance marine resources and the biological productivity of coastal waters that would be inconsistent with the mandates of sections 30230 and 30231. Staff further believes that the benefits of the project are inherent in the essential nature of the project, and there are no alternatives identified that are both feasible and consistent with all the relevant Chapter 3 policies.

An existing tide gate and degraded water quality conditions in both Cochran Creek and Quail Slough limit the availability of migration habitat and suitable rearing habitat for state- and federally listed threatened salmonids that historically existed in the subject tributaries. Approving the development will maintain and enhance marine resources in Humboldt Bay, and in the Cochran Creek watershed in particular, that have been tremendously reduced over the past century and which are critically threatened with extinction. Three species of federally threatened salmonids will once again be able to access historic spawning grounds in the upper watershed that have been blocked for over a century due to the stream conditions in the lower watershed, including on the subject site. As discussed at length in Finding IV.H, staff believes that only as conditioned to include Special Conditions 1 through 6 can the proposed project be approved pursuant to section 30007.5 of the Coastal Act.

The Motion to adopt the staff recommendation of Approval with Conditions is found on page 4.

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LIST OF APPENDICES

LIST OF EXHIBITS

I. Motion and Resolution

A. Motion

I move that the Commission **approve** Coastal Development Permit Application No. 1-19-0278 pursuant to the staff recommendation.

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

B. Resolution

The Commission hereby **approves** Coastal Development Permit Application No. 1-19-0278 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

This permit is granted subject to the following standard conditions:

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

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

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

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

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

III. Special Conditions

This permit is granted subject to the following special conditions:

1. **Submittal of Final Plans**.
   A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-19-0278, the applicant shall submit, for the review and approval of the Executive Director, final revised plans for construction and planting that are consistent with all special conditions of this coastal development permit and that substantially conform with (i) the 90% plans and associated specifications (prepared by Northern Hydrology and Engineering dated December 17, 2019), and (ii) the 30% revegetation plan for the restoration areas, except as modified by the requirements of **Special Condition 2**.
   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.

2. **Revegetation Requirements and Restrictions**.
   A. The evergreen screen proposed along Myrtle Avenue shall include gaps of at least 25 feet between the foliage of the trees and shrubs to be planted at maturity to maintain open views from the public roadway through the site to Humboldt Bay. The partial evergreen screen shall be maintained over time such that the minimum 25-foot gaps between the foliage of the trees and shrubs at maturity shall be maintained to preserve open views from the public roadway through the site to Humboldt Bay.
   B. Only native and/or non-invasive plant species shall be planted in the restoration areas and evergreen screen area.

3. **Submittal of As-Built Plans**. Within 90 days of completion of construction, the applicant shall submit to the Executive Director “as built” plans for the authorized restoration work that show, at a minimum, the following: (a) final topographic contours of the project site, including excavation and fill areas of the channels, berms, and floodplain areas, demonstrating that the constructed channel and floodplain topography conforms with the approved final plans; and (b) executed final planting plan, including locations, types, and numbers of plants installed

both (i) in riparian/tidal areas for fish and wildlife habitat improvement and (ii) along Myrtle Avenue to form the partial evergreen screen.

4. **Final Fish and Wildlife Habitat Improvement Monitoring Plan**.

   A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-19-0278, the applicant shall submit, for the review and approval of the Executive Director, final plans for post-construction restoration monitoring that substantially conform with the preliminary monitoring plans prepared by California Trout dated September 30, 2019 (the relevant excerpts of which are compiled in Appendix C to the staff report for CDP 1-19-0278). The permittee shall implement the fish and wildlife habitat improvement project in accordance with the approved final plan and shall submit annual monitoring reports for five years to the Executive Director by February 1st following each monitoring year.

   B. If the final monitoring report indicates that the fish and wildlife habitat improvement project has been unsuccessful, in part or in whole, based on the approved goals, objectives, and success standards set forth in the approved final monitoring plan, the permittee shall submit a revised or supplemental plan to compensate for those portions of the original plan that did not meet the approved goals, objectives, and performance standards. The revised or supplemental plan shall be processed as an amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

   C. 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. **Construction Requirements to Protect Marine Resources and Water Quality.** All mitigation measures proposed by the permittee shall be implemented, including all mitigation measures included in the CEQA document adopted for the project (compiled in Appendix B to the staff report for CDP 1-19-0278) and in permits and consultations completed by CDFW and NOAA-Fisheries for the project, including, but not limited to, the following:

   A. Timing of Work:

      i. Construction shall only occur during the dry season from July 1 through October 31 when freshwater inflow to Cochran Creek and Quail Slough is at its lowest.

      ii. Construction within stream channels shall be confined to the low-flow period.

      iii. Cofferdams shall be installed and removed during periods of low tide to minimize the potential for turbidity, erosion, and scouring.

B. Fish and Herpetofauna Protection:

i. All measures required for fish handling and protection imposed by CDFW and NMFS under their respective permits and consultations shall be implemented.

ii. Stream flow diversion and dewatering of Cochran Creek and Quail Slough shall follow CDFW and NMFS protocols and guidelines to avoid impacts to fish and herpetofauna.

iii. Prior to dewatering the aquatic work area, surveys for fish and herpetofauna (e.g., red-legged frog, western pond turtle, etc.) shall be conducted by a qualified biologist(s) in consultation with CDFW and NMFS. Fish and herpetofauna within the work area shall be relocated in accordance with CDFW and NMFS protocols and guidelines to avoid impacts to animals during dewatering and instream work.

iv. If an active nest of western pond turtle is identified during preconstruction surveys, the biologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest, and construction in the buffer zone shall be delayed until after the hatchlings have emerged, as determined by additional surveys conducted by a qualified biologist. The construction-free buffer zone shall be a minimum of 100 feet. After hatchlings have emerged, individual animals shall be relocated out of the work area per subsection (iii) above.

v. To prevent fish from moving into the work area during construction, prior to commencement of construction, (1) a fish screen barrier shall be installed upstream of the Myrtle Avenue culvert adjacent to the project site, and (2) the tide gate at the mouth of Cochran Creek on Fay Slough shall be closed.

C. Staging and Stockpile Management:

i. Staging and stockpile areas may be located within farmed wetlands but shall be located at least 150 feet from coastal waters and drainage courses and all other wetlands.

ii. Fueling and maintenance of construction equipment and vehicles shall be conducted off site if feasible. Any fueling and maintenance of equipment required on site shall take place at a designated staging area located in upland areas at least 150 feet from coastal waters, drainage courses, all other wetlands, and storm drain inlets, if feasible (unless those inlets are blocked to protect against fuel spills). The fueling and maintenance area shall be designed to fully contain any spills of fuel, oil, or other contaminants. Equipment that cannot be feasibly relocated to a designated fueling and maintenance area may be fueled and maintained in other areas of the site, provided that procedures are implemented to fully contain any potential spills.

iii. Silt fencing shall be installed around all temporary staging and stockpile areas to prevent sediment- and pollutant-laden runoff from exiting the site(s).

D. Minimize Vegetation Removal & Soil Compaction:

i. The damage or removal of non-invasive vegetation (including trees, native vegetation, and root structures) during construction shall be minimized to maintain transpiration, vegetative interception, pollutant uptake, shading of waterways, erosion control, and other water quality benefits.

ii. Soil compaction due to construction activities shall be minimized to retain the natural stormwater infiltration capacity of the soil.

iii. Placement of fill in the project restoration area(s) shall occur only when the area(s) is not inundated by water.

E. Erosion, Sediment, and Runoff Control:

i. During construction, silt fencing shall be used to isolate work areas from surrounding channels and other sensitive areas and to capture any sediment that might flow from the site.

ii. No construction materials, debris, or waste shall be placed or stored where it may be able to enter or be washed by stormwater runoff into coastal waters.

iii. Saturated soils shall be handled and transported in a manner that prevents excess discharge or spillage of soils or water to surrounding areas.

iv. Following completion of construction or prior to the onset of precipitation capable of generating runoff, whichever comes first, all disturbed soil areas shall be treated with appropriate erosion control devices (e.g., seeding, straw mulch, wood mulch, matting, etc.)

v. Only certified weed-free straw shall be used for mulching, and biodegradable geotextile fabrics shall be used where possible.

vi. Erosion-control seeding shall not include the use of the invasive species Italian ryegrass (Lolium multiflorum also known as Festuca perennis), a common component of erosion-control seed-mixes.

F. Additional Water Quality Protection Measures:

i. Heavy equipment used in project construction shall be in good condition, shall be inspected for leakage of coolant and petroleum products, and shall be repaired offsite if necessary prior to entering the property. If equipment must be washed, washing shall occur offsite only.

ii. Equipment operators shall be trained in the procedures to be taken should an accidental spill occur. Absorbent materials designed for spill

containment and cleanup shall be kept onsite during construction for use in the event of an accidental spill.

iii. Drip pans shall be used for stationary equipment to capture any drips or leaks.

6. Final Debris Disposal Plan.

A. PRIOR TO COMMENCEMENT OF CONSTRUCTION, the applicant shall submit, for the review and approval of the Executive Director, a final plan for the disposal of all construction debris and waste expected to be generated by the authorized work. The plan shall demonstrate that:

i. All temporary stockpiles of construction debris, excess sediments, vegetative spoils, and any other debris and waste associated with the authorized work shall be minimized and limited to areas where (a) they can feasibly be contained with appropriate BMPs to prevent any discharge of pollutants to coastal waters and wetlands, and (b) consistent with the siting requirements of **Special Condition 5(C)(i)**;

ii. All construction debris, excess spoils, and any other debris and waste generated by the authorized work shall be disposed of at an authorized disposal site(s) capable of receiving such materials.

The plan shall include, at a minimum, the following:

i. A site plan showing all proposed locations for the temporary stockpiling of construction debris, soils and vegetative spoils, excess materials, and any other debris and waste associated with the authorized work in relation to wetland areas, drainage courses, storm drain inlets, project features, and property lines;

ii. A description of how the stockpiled materials will be removed from the construction site and identification of all debris disposal sites that will be used; and

iii. A schedule for the removal of all construction debris, excess materials, and any other debris and waste associated with the authorized work.

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.

7. Archaeological Resources Mitigation. If an area of cultural deposits or human remains is discovered during the course of the project, all construction shall cease and shall not recommence until a qualified cultural resource specialist, in consultation with the Tribal Historic Preservation Officers of the Wiyot Tribe, the Bear River Band of Rohnerville Rancheria, and the Blue Lake Rancheria, analyzes the significance of the find and prepares a supplementary

archaeological plan for the review and approval of the Executive Director, and either: (A) the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are de minimis in nature and scope, or (B) the Executive Director reviews the Supplementary Archaeological Plan, determines that the changes proposed therein are not de minimis, and the permittee has thereafter obtained an amendment to CDP 1-19-0278.

8. **Assumption of Risk, Waiver of Liability, and Indemnity Agreement**. By acceptance of this permit, the permittee acknowledges and agrees (A) that the site may be subject to hazards from earthquake shaking, liquefaction, differential settlement, erosion, tsunami inundation, flooding, and other natural hazards; (B) to assume the risks to the permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (C) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (D) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

9. **Deed Restriction Recordation of Permit Conditions**. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-19-0278, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the applicant has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (A) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (B) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

IV. Findings and Declarations

A. Project Location and Environmental Setting

The approximately 60-acre subject property is located 6821 Myrtle Ave., approximately 0.5 miles east of the City of Eureka in Humboldt County (APN 402-181-01) (Exhibit 1). The agricultural property is developed with a farmhouse, a barn, a farm stand, and other agricultural related development. The approximately 22-acre development site on the subject property is diked former tideland, now agricultural land with prime agricultural soil that is actively farmed (row crops and livestock grazing) and which has been farmed for over a century (mostly farmed wetlands). The project site is flanked by Cochran Creek (called Fay Slough downstream from the project site) to the north, Quail Slough (a tributary to Cochran Creek) to the south and west, additional active agricultural land on the property across Quail Slough to the south and west, and Myrtle Avenue to the east. The subject waterways (Cochran Creek and Quail Slough) drain to Humboldt Bay. Both drainages on the property were channelized into "ditches" prior to the Coastal Act and routinely overflow their banks during yearly rain events. Downstream, an existing top-hinged tide gate on Cochran Creek near its confluence with Fay Slough and Quail Slough at the northwestern corner of the project site severely impedes passage of most adult salmonids up the stream and limits the availability of migration habitat and suitable rearing habitat for state- and federally-listed threatened salmonids that presently occur in Humboldt Bay and that historically existed in the subject tributaries (coho salmon, Chinook salmon, and steelhead trout). Limited riparian vegetation lines the drainage reaches within the project area, especially along Quail Slough. Degraded water quality conditions in both Cochran Creek and Quail Slough, impeded fish access (from the existing top-hinged tide gate), invasive vegetation (e.g., reed canary grass), seasonal fluctuations in water temperature and salinity, and lack of shade/organic material (from lack of riparian vegetation) also limit the suitability for salmonid migration and rearing habitat.

B. Project Description

Co-applicants John Gary and Heather Plaza (property owners) and Humboldt County, through grants from the State of California (Coastal Conservancy and Department of Fish and Wildlife) and in partnership with California Trout and other partners, propose to implement the "Cochran Creek and Quail Slough Fish Passage and Habitat Enhancement Project." The project, which the fish habitat restoration partners began planning in approximately 2005, involves temporarily dewatering and grading to realign and enlarge the existing degraded stream channels and associated wetland habitats; placing fill within adjoining agricultural wetlands; and planting riparian vegetation across a ~14-acre project area on the subject site to improve habitats for fish and wildlife, reduce flooding on surrounding agricultural lands, and restore salmonid access to the upper Cochran Creek watershed.

Specifically, the proposed development includes (see Exhibits 2-4):

(1) replacing the existing top-hinged tide gate on Cochran Creek with a new side-hinged “fish-friendly” tide gate with an adjustable opening to allow greater fish passage and restore tidal hydrology and estuarine habitats within the project reach;

(2) restoring and enhancing instream channel and floodplain morphology and habitat complexity within Cochran Creek and Quail Slough (which, in turn, will reduce annual flooding and fish stranding and mortality on surrounding agricultural lands) by (i) dewatering and grading to realign, widen, and deepen the existing channels to restore natural channel morphology, aquatic habitat, and hydraulic capacity; (ii) constructing an engineered rock drop structure with small pools and chutes within the channel just downstream of a box culvert under Myrtle Avenue to enable migrating fish to overcome a 4.4-foot elevation difference between the culvert and the downstream channel; and (iii) constructing earthen berms along the stream channels to help contain high flows to the channels and provide raised areas above estuarine waters to support riparian habitat restoration;

(3) installing approximately six culverts with tide gates under the berms and placing fill within low spots of the surrounding agricultural lands to direct exceedance flood flows (overbank flooding) and any fish entrained within the flood flows back to the restored channels agricultural fencing along the edges of the restored channel and riparian habitat;

(4) installing three culverted cattle and pedestrian crossings across Quail Slough;

(5) installing typical agricultural fencing along the edges of the restored channel and riparian habitat;

(6) installing a rock channel overflow structure near the tide gate;

(7) installing large woody debris at various points within the Cochran Creek channel to further enhance fish habitat; and

(8) planting an approximately 900-foot-long linear evergreen screen of native species on the eastern side of the project area along Myrtle Avenue.

Table 1 below summarizes cut and fill areas and volumes for the two stream and floodplain areas. Imported fill material would include approximately 2,358 cubic yards of rock of varying class sizes for the improved channel areas, tide gate upgrade, overflow structures, and other project elements.

Table 1. Project Cut and Fill Areas and Volumes (from 90% design plan set).

Creek and Floodplain Areas	Area (acres)	Cut (cubic yards)	Fill (cubic yards)
Cochran Creek Channel and Inset Floodplain Areas	2.6	10,825	1,133
Quail Slough Channel and Riparian Fill Areas	4.0	4,219	4,973
Surrounding Floodplain Areas	7.4	45	8,983
Totals:	**14**	**15,089**	**15,089**

Table 2 below summarizes existing and proposed habitat types in the project area. The project would improve over 2,000 feet of stream channel, creating over an acre of new stream channel and backwater habitats on Cochran Creek and Quail Slough, over an acre of improved floodplain habitats (freshwater and intertidal/brackish wetlands), and an added ~2.8 acres of riparian habitat. The project would convert approximately 4.5 acres of prime agricultural land to non-agricultural uses (i.e., restored fish habitat in the form of estuarine rearing habitat and associated riparian habitat).

Table 2. Pre- and Post-Project Proposed Habitat Types/Land Uses.*

Broad Habitats Within the Project Area (with notes on existing conditions)	**Pre-Project** (acres)	**Post-Project** (acres)	**Change** (acres)
Cochran Creek			
Estuarine aquatic (open water & backwater) (tide gate largely blocks tidewater)	0	0.6	+0.6
Estuarine marsh (brackish marsh) (tide gate largely blocks tidewater)	0	0.5	+0.5
Freshwater aquatic (open water & backwater) (channel choked by reed canary grass)	0	0.1	+0.1
Freshwater marsh (dominated by invasive reed canary grass)	0.8	0.1	-0.7
Riparian (largely consists of Himalaya blackberry)	0.35	0.39	+0.4
Quail Sough			
Estuarine aquatic (open water & backwater) (due to existing leaky tide gate)	0.1	0.9	+0.8
Estuarine marsh (brackish marsh) (due to existing leaky tide gate)	0.3	1	+0.7
Riparian (devoid of riparian vegetation)	0	2.4	+2.4
Agricultural Land (Prime)	20.2	15.7	-4.5
Totals:	**21.7**	**21.7**	

* Note that this table includes additional acreage beyond the cut and fill acreage calculated in Table 1, because it includes ~7.5 acres of existing floodplain agricultural land not proposed for any cut/fill disturbance located between the 14-acre channel and floodplain disturbance area(s), as depicted in Exhibit 3.

C. Standard of Review

The project site is located entirely in the Commission's retained permit jurisdiction. The County of Humboldt has a certified Local Coastal Program (LCP), but the site is within an area shown on State Lands Commission maps over which the State retains a public trust interest. Therefore, as required by Public Resources Code section 30519(b) and

Commission regulation 14 CCR section 13166(c), the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

D. Other Agency Approvals

Humboldt County Use Permit

Because the project proposes habitat restoration on lands that are planned and zoned for agricultural uses under the Humboldt County general plan and zoning regulations, the County required a conditional use permit for the project. The County approved CUP-18-026 on May 2, 2019.

California Department of Fish and Wildlife (CDFW)

CDFW has regulatory jurisdiction over the project pursuant to the California Fish and Game Code and the California Endangered Species Act (CESA). Southern Oregon/Northern California Coast (SONCC) coho salmon (Oncorhynchus kisutch), which has the potential to occur in the project area, is listed as threatened under CESA. Other species listed as rare or sensitive by the State, including coastal cutthroat trout (O. clarkia clarkia) also are known to occur in Cochran Creek. CDFW issued a Restoration Management Permit for the project on January 23, 2020 (File No. 2018(a)-2019-047-R1). CDFW also approved a Streambed Alteration Agreement for the project on October 18, 2019 (Notification No. 1600-2019-0380-R1).

North Coast Regional Water Quality Control Board (Regional Board)

The Regional Board has regulatory jurisdiction over the project pursuant to the Clean Water Act and California Water Code. The Regional Board issued a water quality certification for the project on July 16, 2019 (WDID 1B190055WNHU).

U.S. Army Corps of Engineers (Corps)

The Corps has regulatory jurisdiction over the project pursuant to the Clean Water Act and the River and Harbors Act. The Corps determined that the project qualified for coverage under its Nationwide Permit (NWP) program (No. 27, Aquatic Habitat Restoration) and issued its determination on November 12, 2019 (File Number 2019-00129N).

National Marine Fisheries Service (NMFS)

During its review of the project, the Corps undertook consultation with NMFS pursuant to the Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act. The biological opinion (BO), dated October 21, 2019 (NMFS No: WCRO-2019-00341), evaluated the project's potential effects on federally threatened SONCC coho salmon, California Coastal (CC) Chinook salmon (Oncorhynchus tshawytscha), Northern California (NC) steelhead (O. mykiss), and their designated critical habitat.

E. Restoration of Marine Resources and Biological Productivity

Section 30230 of the Coastal Act states as follows (emphasis added):

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

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

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

The primary purpose of the project is to restore habitat for marine resources (threatened salmonids) and the biological productivity and quality of coastal waters (Cochran Creek and Quail Slough). These benefits will be achieved by (a) replacing the existing top-hinged tide gate on Cochran Creek with a new side-hinged “fish-friendly” tide gate with an adjustable opening to allow greater fish passage and restore tidal hydrology and estuarine habitats within the project reach; (b) dewatering and grading to realign, widen, and deepen the existing channels to restore natural channel morphology, aquatic habitat, and hydraulic capacity, (c) constructing an engineered rock drop structure with small pools and chutes within the channel just downstream of a box culvert under Myrtle Avenue to enable migrating fish to overcome a 4.4-foot elevation difference between the culvert and the downstream channel, (d) constructing earthen berms along the stream channels to help contain high flows to the channels and provide raised areas above estuarine waters to support riparian habitat restoration, and (e) installing approximately six culverts with tide gates under the berms and placing fill within low spots of the surrounding agricultural lands to direct channel overbank flooding back to the restored channels to avoid fish stranding and mortality (which has occurred in the past on the site).

Historically, the Humboldt Bay region supported an estimated 10,000 acres of estuarine channel and marsh habitats. From the mid-1800s to the mid-1900s, most of the marshlands and creeks that historically were tidal were diked and drained (largely for agriculture) or filled for development. Today, only around 900 acres of estuarine marshlands remain – a reduction of over 90%. Moreover, because of the prevalence of drainage alterations in the Humboldt Bay bottomlands, including the installation of tide gates on tributaries to the bay, access for anadromous fish (salmonids) to upper watershed spawning grounds has been lost in many areas, including in the Cochran

Creek watershed. Three species of federally and state-listed threatened salmonids presently inhabit Humboldt Bay and historically existed in the subject bay tributaries. As previously noted, the existing tide gate and degraded water quality conditions in both Cochran Creek and Quail Slough, primarily due to impeded access, invasive vegetation (e.g., reed canary grass), seasonal fluctuations in water temperature and salinity, and lack of shade/organic material (from lack of riparian vegetation), limit the availability of migration access to upstream spawning areas as well as the availability of suitable rearing habitat within the project area for salmonids. The U.S. Fish and Wildlife Service, NMFS, CDFW, and other resource agencies and conservation organizations have found that the restoration of estuarine habitats and coastal streams around the Bay is a high conservation priority, because these habitats are critical for the protection, enhancement, and restoration of native fish, wildlife, and plant communities, some of which are dependent on estuarine habitats for their existence.

The proposed restoration work is expected to provide extensive benefits to marine resources such as sensitive fish and estuarine plants and will increase available “critical habitat” for federal- and state-listed threatened and endangered fish species, including coho salmon, steelhead trout, and coastal cutthroat trout. Specifically, the numerous benefits include the following:

- Because the existing top-hinged tide gate prevents or severely impedes passage of most adult salmonid species between Fay Slough and upstream channel habitats (including Cochran Creek and Quail Slough at the project site), replacement of the existing tide gate with a fish-friendly side-hinged tide gate with an adjustable opening will improve migration access for adult and juvenile fish.
- The replacement tide gate door will allow increased flow, increasing stormwater runoff capacity and efficiency (also reducing flooding on the adjacent prime agricultural lands/historically farmed wetlands) and restoring approximately 3 acres of tidal inundation on the site under a muted tidal cycle.
- Restoring a muted tidal prism through approximately 930 feet of the Cochran Creek channel will help control the growth of invasive reed canary grass (which does not tolerate saltwater) and improve channel flow capacity. Currently, reed canary grass contributes to the overbank flooding problem on the creek, which results in fish stranding and mortality in the surrounding agricultural fields.
- Realigning and widening the Cochran Creek channel and floodplain with enhanced morphology between the downstream tide gate and the box culvert under Myrtle Avenue adjacent to and upstream of the property, including a 170-foot-long engineered rock drop structure (a roughened channel designed in a pool-chute configuration) just downstream of Myrtle Avenue to enable fish to overcome a 4.4-foot elevation difference in the channel topography, will allow fish to pass through the channel reach at the site to access the upper watershed of Cochran Creek.
- Cochran Creek is currently channelized in an open ditch, with frequent overbank flooding and fish stranding/mortality in adjacent agricultural lands. The proposed restoration of approximately 1.5 acres of inset floodplains within the enlarged

stream banks of Cochran Creek and Quail Slough will greatly improve channel capacity and increase available fish habitat.

- The project will reduce fish stranding in the pastures adjoining the stream banks by directing exceedance flood flows (overbank flooding) and any entrained fish within the flood flows back to the restored channels through the installation of approximately six culverts with tide gates under the berms to be constructed along the stream banks and placing fill within low spots of the surrounding agricultural lands.
- The project will restore over 2,000 lineal feet of Cochran Creek and Quail Slough, creating over an acre of new and improved stream channel and backwater habitat areas, over an acre of improved floodplain habitats (freshwater and intertidal/brackish wetlands), and an added ~2.8 acres of riparian habitat, all of which will contribute to the maintenance of healthy populations of listed salmonids in these coastal waters.

In past permit actions on stream and wetland restoration projects around Humboldt Bay, the Commission has acknowledged that, in general, restoring areas that historically supported estuarine and marine riparian habitats is preferable when the physical conditions of a site present such an opportunity. Thus, as the proposed habitat improvements will maintain and enhance marine resources and the biological productivity of coastal waters, the Commission finds that the proposed improvements are mandated by the requirements of sections 30230 and 30231.

To ensure that the project is implemented as proposed to achieve the marine resource enhancement objectives for which it is intended, the Commission attaches Special Conditions 1-4. **Special Condition 1** requires submittal of final plans prior to commencement of construction that substantially conform with the proposed plans for habitat restoration. The condition also requires the permittees to undertake development in accordance with the approval final plans, and no changes to the approved final plans shall occur without an amendment to this CDP. **Special Condition 2** imposes requirements and restrictions related to revegetation to ensure that the restoration areas are properly revegetated with native species as proposed. **Special Condition 3** requires submittal of as-built plans within 90 days of completion of construction that demonstrate, at a minimum, (a) the final constructed channel and floodplain topography conforms with the approved final plans; and (b) the locations, types, and numbers of plants installed conform with the final planting plan. **Special Condition 4** requires implementation of restoration monitoring as proposed and achievement of the identified objectives of the proposed plan by the end of the fifth year of monitoring. As detailed in Appendix C, proposed monitoring includes physical (geomorphic), biological (fisheries and vegetation, including estuarine, riparian, and invasive species), and water quality monitoring for five years after implementation. Annual monitoring reports are to be provided to the Executive Director (among other agencies) by February 1st following each monitoring year. Furthermore, Special Condition 4 requires remediation if the monitoring indicates the identified objectives have not been achieved, to ensure that the goals and objectives of the restoration

project are met. In that case, the permittee must prepare a supplemental restoration plan to address the failures of the original project that would be reviewed by the Commission in the form of a permit amendment.

Although the project ultimately will maintain and enhance marine resources as discussed above, construction of the project in sensitive stream and wetland areas could result in short-term impacts to water quality and direct impacts to sensitive salmonids (including "take" of individuals under the federal Endangered Special Act due to pre-construction fish relocation and post-construction monitoring) and other marine resources. However, as noted in the October 2019 BO and Incidental Take Statement completed for the project by NMFS:

> Brief periods of turbidity are expected to extend as far as 200-feet downstream of the tide gate on Cochran Creek and into Fay Slough, and last for only a few hours. The project will be breached during an incoming tide, so that most turbidity is carried into the work sites and project area, and thus limiting the extent that travels downstream to insignificant levels. Contaminants from heavy equipment will be managed in accordance with the proposed minimization measures. Based on these measures, exposure of listed species and critical habitat to contaminants is improbable…

And

> Fish relocation activities pose a risk of death or injury to any salmonids present. Any fish collecting gear has some associated risk to fish, including stress, disease transmission, injury, or death (Hayes et al. 1996)…Because fish relocation activities will be conducted by qualified fisheries biologists, direct effects to and mortality of juvenile coho salmon, Chinook salmon, and steelhead during capture will be minimized. Consequently, small numbers of juvenile coho salmon, Chinook salmon, and steelhead may be injured or killed from crushing or stranding during fish relocation events.

The CEQA document adopted for the project identifies several mitigation measures to protect water quality, to minimize impacts to fish during dewatering and construction, and to minimize disturbance to surrounding wetland habitats. These measures, attached in Appendix B, include the use of various Best Management Practices (BMPs) for dewatering work areas, for erosion and sediment control, for maintenance of construction equipment and materials in and around coastal waters, and for the protection and proper handling of fish and other aquatic resources. The applicants propose to implement these measures as part of the project, and **Special Condition 5** requires the implementation of the various measures. Because of the proposed protection measures combined with the habitat benefits expected from the project, which will be confirmed by the proposed monitoring required to be implemented by **Special Condition 4**, NMFS concludes that the project as proposed "is not likely to jeopardize the continued existence of SONCC coho salmon, CC Chinook salmon, and NC steelhead or destroy, or adversely modify designated critical habitat for these species." NMFS lists implementation of the proposed BMPs (Appendix B) and of the proposed monitoring (Appendix C) as "reasonable and prudent measures" that are

"necessary or appropriate to minimize the impact of the amount or extent of incidental take."

Similarly, CDFW, in its Restoration Management Permit (RMP) issued for the project on January 23, 2020 considering the project's potential impacts on state-listed threatened coho salmon pursuant to CESA, concludes:

> …that the avoidance, minimization, and mitigation measures imposed by the County as conditions of approval of the Restoration Project, along with the Conditions of Approval set forth in CDFW's RMP for the Restoration Project, will ensure that all related impacts on Coho Salmon will be less than significant under CEQA…

The referenced conditions of approval in the RMP include (but are not limited to) requiring (a) a designated biologist with expertise in handling salmonids to be on site during all dewatering activities to capture, handle, and safely relocate salmon to suitable relocation habitat outside of the project area; (b) water quality monitoring (temperature, dissolved oxygen, and salinity) to be conducted at both the dewatering and relocation sites in order to identify suitable relocation habitat and ensure that water quality parameters at both capture and relocation sites are similar; and (c) certain parameters for fish sampling during post-project monitoring to minimize take of fish. These fish protection requirements also are included as requirements of **Special Condition 5**.

As discussed above, the project as proposed by the applicants, and as required to be implemented by other federal, state, and local permits and by the conditions of this CDP, will ensure that the project will not have significant adverse impacts on the water quality of coastal waters and marine resources in the project area during construction. Furthermore, the project's stated purpose is to enhance and restore the functional capacity and biological productivity of coastal waters and associated wetlands, and conditions of the permit will ensure that the site is monitored for achievement of these goals. In short, the proposed project will provide extensive benefits to marine resources and will increase available critical habitat for listed salmonids. Without the proposed project, the existing stream system would continue to be impaired and dysfunctional; there would be no restoration of the tidal prism, no restored connectivity between stream and floodplain lands, and no restored connectivity between the estuarine waters of lower Cochran Creek (Fay Slough/Humboldt Bay) and the upper Cochran Creek watershed – all of which are essential components of a healthy stream and estuarine environment capable of supporting marine resources such as coho salmon and steelhead trout. These species spend portions of their life cycle in the ocean, portions in the estuaries, and portions in the upper watersheds of rivers and streams like Cochran Creek and Quail Slough. As proposed, the project will improve the biological productivity and quality of the coastal waters within the project area, including habitat value for a diversity of sensitive species and habitats associated with the intertidal environment. Therefore, the Commission finds that the project, as conditioned, will maintain and enhance the functional capacity of the habitat and maintain and restore optimum populations of marine organisms as mandated by the requirements of sections 30230 and 30231 of the Coastal Act.

F. Development Within Coastal Rivers and Streams

The following proposed development involving alterations to Cochran Creek and Quail Slough channels and their associated floodplain constitutes "substantial alteration" of rivers and streams and must be found consistent with the specific provisions of section 30236 of the Coastal Act: (a) replacing the tide gate; (b) realigning, widening, and deepening Cochran Creek and Quail Slough channels with enhanced morphology/ functionality, including constructing the engineered drop structure and inset floodplain areas; (c) dredging sediment/aggraded material and vegetation (e.g., reed canary grass) from stream channels; (d) restoring riparian forest on new berms along the outer banks of the two channels; and (e) installing culverts with tide gates under the new berms and placing dredged sediment from the creek channel restoration on adjacent agricultural lands in the floodplain to ensure that overbank flood flows and any entrained fish within floodwaters are conveyed back to the restored channels (an average of 0.7-ft of soil will be placed across ~7 acres).[1]

Any proposed substantial alteration of a river or stream may be allowed only if it is for one of the purposes enumerated section 30236, which states (emphasis added):

> Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

In this case, the primary function of the proposed development is the necessary improvement of fish and wildlife habitat. As discussed in the above Finding, the project, which has been fully funded through habitat improvement grants from the State of California, has been designed to provide extensive fish habitat improvements, including habitats for coho salmon, steelhead trout, and coastal cutthroat trout. Replacing the existing tide gate with a fish-friendly tide gate will restore migration access for adult and juvenile fish. Constructing a new channel and floodplain with enhanced morphology will allow fish passage through the channel reach to upper watershed spawning grounds. Dredging sediment/aggraded material and vegetation (e.g., reed canary grass) from stream channels and restoring inset floodplains and backwater habitats connected to the enlarged channels of Cochran Creek and Quail Slough will improve channel capacity and fish passage, increase available fish habitat, and reduce the frequency of overbank flooding and associated potential for fish stranding and mortality. Restoring a muted tidal prism through the channel reaches via the tide gate replacement work discussed above also will help control the growth of invasive reed canary grass, improve channel capacity, and reduce the frequency of overbank flooding and

[1] The project proposes to place excavated sediments for beneficial reuse across approximately 7.4 acres of agricultural lands within the floodplain around the channels at an average depth of 0.7-ft, and approximately 4.5 acres of this area is classified as coastal wetlands (historically farmed wetlands).

associated (potential) fish stranding/mortality. Restoring riparian forest on new berms along the channel banks will contribute to the maintenance of healthy populations of listed salmonids in these coastal waters. Finally, installing culverts under the berms and placing an average of 0.7-ft. of dredged sediments generated by the creek channel restoration work on surrounding agricultural lands within the floodplain (between approximate elevations 5 ft. and 9 ft. NAVD88) will serve to reconnect the floodplain landscape to the restored channels by conveying exceedance flows, and any entrained fish within those flows, "downstream" (towards the channels). Although the project is designed to reduce overbank flooding by improving channel capacity as discussed above, the project is designed for the 2.5-year flood event (which has a 40% chance of occurrence in any given year). Flood events greater than the 2.5-year event, which have a less-than-40% chance of occurrence in any given year, will continue to overflow beyond the channel banks onto the surrounding floodplain lands. The proposed placement of an average depth of 0.7-ft. of soil material within the floodplain, including across ~4.5 acres of historically farmed wetlands (areas between elevations 5 ft. and 6.5 ft.) and 2.5 acres of historically farmed uplands (areas above 6.5 ft.), all of which is currently part of an active organic farming operation, will appropriately slope the agricultural floodplain in a manner that reconnects the floodplain, where overbank exceedance waters flood, to the restored channels.

The proposed channel and floodplain reconstruction work not only will improve marine fish (salmonid) habitat, but it will do so though restoring the diversity of habitats that historically occurred in the stream corridor, including riparian habitat, floodplain habitats, and transitional habitats between estuarine and freshwater areas. The restored habitat and vegetative diversity along the stream corridors will promote a greater diversity of birds and other wildlife and will be significantly more valuable than the existing channel system, which is choked with monotonous reed canary grass and devoid of beneficial woody debris and cover. The proposed project also is expected to benefit Aleutian cackling geese, previously a federally listed endangered species that has since recovered and was delisted in 2001. Large numbers of Aleutian cackling geese forage on agricultural lands around Humboldt Bay during spring and fall migration seasons, but the geese avoid foraging in fields that are ponded. Recontouring and slightly raising the agricultural floodplain landscape to appropriately slope towards the restored channels will enhance Aleutian cackling goose short-grass grazing habitat within the agricultural floodplain landscape.

Therefore, the Commission finds that the proposed substantial alteration of the stream channels and associated floodplain is for the purpose of improvement of fish and wildlife habitat, which is permissible under section 30236 of the Coastal Act.

Best Mitigation Measures Feasible

Section 30236 also requires the incorporation of the best feasible mitigation measures feasible to avoid or minimize the significant adverse environmental effects of the proposed stream alteration project. The project as conditioned will incorporate such measures to minimize significant adverse environmental effects, including, but not

limited to temporary effects on water quality, salmonids, sensitive reptiles and amphibians, and the conversion of agricultural wetlands to uplands as discussed below.

1. BMPs for Water Quality and Fish Protection

As discussed in the above Finding, **Special Conditions 1 and 3** require the permittee to undertake development in accordance with the approved final plans and submit as-built plans to verify that the stream habitat restoration project is constructed as intended. Similarly, **Special Condition 4** requires implementation of restoration monitoring as proposed (Appendix C) and achievement of the identified objectives of the proposed plan by the end of the fifth year of monitoring (including goals and objectives related to salmonid use of restored habitat areas, riparian planting survival, and target water quality thresholds essential for salmonid habitat such as temperature, dissolved oxygen, pH, and conductivity). **Special Condition 5** requires the implementation of various BMPs for dewatering work areas, for erosion and sediment control, for maintenance of construction equipment and materials in and around coastal waters, and for the protection and proper handling of fish and other aquatic resources (including all measures included in Appendix B). To ensure that waste and debris generated by the project will be properly handled and disposed of in a manner that protects water quality and stream resources, **Special Condition 6** requires submittal of a final debris disposal plan for the Executive Director's review and approval prior to commencement of construction. Special Condition 5 requires the up-front identification (prior to commencement of construction) of authorized disposal sites capable of receiving debris and waste.

2. Protection of Sensitive Reptiles and Amphibians

In addition to the various BMPs proposed to protect fish from construction impacts, the CEQA document completed for the project also identifies mitigation measures adopted for the project (Appendix B) for potential impacts to sensitive species of reptiles and amphibians (herpetofauna) that may inhabit the aquatic habitats of the existing creek channels. Western pond turtle (Emys marmorata) and northern red-legged frog (Rana aurora) both are state-listed Species of Concern that are known to utilize aquatic habitats in the region and, if present in the project area, could potentially be harmed by dewatering and construction activities. Similar to the mitigation measures proposed for fish protection, the applicants propose that a qualified biologist will survey the project area for sensitive herpetofauna no more than two weeks prior to construction and, in consultation with CDFW and in accordance with CDFW protocols, will capture and relocate any individual animals found to nearby suitable habitat outside of the project area. These mitigation measures are required to be implemented by **Special Condition 5-B**. As required under the adopted CEQA document, by the other resource agency permits, the applicants also propose to avoid work during the northern red-legged frog breeding season by limiting construction to July 1-October 31 **Special Condition 5-A** ensures that the permittee adhere to the work window.

Western pond turtle is known to nest along the margins of streams, and there is the potential (albeit slight, according to CDFW) that active nests could occur along existing

banks of Cochran Creek in the project area. The adopted CEQA document and **Special Condition 5-B** require several mitigation measures. First, a qualified biologist shall conduct pre-construction surveys for fish and herpetofauna, and if any active turtle nests are found in the project area, the biologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the active nest. Construction in the buffer zone shall be delayed until after the hatchlings have emerged, as determined by additional surveys conducted by the qualified biologist. The construction-free buffer zone shall be a minimum of 100 feet. After hatchlings have emerged, individual animals shall be relocated out of the work area as described above.

3. Preventing Conversion of Agricultural Wetlands to Uplands

As discussed above, excavated material, which will consist primarily of prime agricultural soils, will be beneficially reused on the agricultural floodplain lands adjacent to the streams. Agricultural lands on the subject site in the floodplain at and below 6.5 feet in elevation have been delineated as historically farmed wetlands. Areas above the 6.5-foot elevation are uplands. Excavated material will be placed on agricultural lands between approximately 5 and 6.5 feet, with the intent not to convert the farmed wetlands to uplands, but rather, as explained above, to reconnect the restored channels and floodplain lands in a manner that conveys exceedance flood flows, and any fish entrained within those flows, back to the restored channels and avoid fish stranding/mortality. Fill placed on these lands will not raise the lands above 6.5 feet, and the lands will remain farmed wetlands. An average of 0.7-ft. of soil material will be placed across ~7 acres of agricultural lands within the floodplain above elevations of 5 ft. (again, ~4.5 acres of which are historically farmed wetlands).

It should be acknowledged that this slight raising of the elevation of a 4.5-acre portion of the farmed wetlands on the 60-acre agricultural property may be beneficial for grazing activities, in that a flatter grazing surface will be created that will retain less surface water in the winter and allow for grazing more days per year on the 4.5 acres than would otherwise be possible. Although this side benefit to agricultural use may result from the project, the primary function of placing this layer of fill is to improve fish habitat by protecting threatened salmonid species that will use the improved and expanded fish habitats from stranding and subsequent mortality.

To ensure that the as-built project maintains the desired wetland elevations, the Commission imposes **Special Condition 3**. This condition, previously discussed, requires submittal of as-built plans within 90 days of completion of construction that show, in part, final topographic contours demonstrating that the floodplain topography within the agricultural portion of the restoration site conforms with the approved final plans.

Conclusion

As (a) the primary function of the proposed stream alteration project is the necessary improvement of fish and wildlife habitat, and (b) the proposed development, as conditioned, incorporates the best mitigation measures feasible, the Commission finds

that as conditioned herein, the project is consistent with the requirements of section 30236.

G. Conversion of Agricultural Lands

Section 30241 of the Coastal Act requires the protection of prime agricultural lands[2] and sets limits on the conversion of all agricultural lands to non-agricultural uses. Section 30241 states (emphasis added):

> The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the area's agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:
>
> a. By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.
>
> b. By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.
>
> c. By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.[3]
>
> d. By developing available lands not suited for agriculture prior to the conversion of agricultural lands.
>
> e. By assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.
>
> f. By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all

[2] The Coastal Act defines "prime agricultural land" through incorporation-by-reference of paragraphs (1) through (4) of Section 51201(c) of the California Government Code. Prime agricultural land entails land with any of the follow characteristics: (1) a rating as class I or class II in the Natural Resource Conservation Service land use capability classifications; or (2) a rating 80 through 100 in the Storie Index Rating; or (3) the ability to support livestock used for the production of food and fiber with an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture; or (4) the ability to normally yield in a commercial bearing period on an annual basis not less than two hundred dollars ($200) per acre of unprocessed agricultural plant production of fruit- or nut-bearing trees, vines, bushes or crops which have a nonbearing period of less than five years.

[3] Section 30250 is not applicable to this project, because it is not new residential, commercial, or industrial development.

> development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.

The subject land is locally planned and zoned for Agriculture Exclusive (AE) uses under the Humboldt County LCP, is part of an existing active organic farm, and has been used for farming for over a century. The farm, which is 60 acres in size, is enrolled in a Williamson Act contract with the County as a "Class D Unique Farmland and Dairy Agricultural Preserve." Under the County's Williamson Act rules, "the majority of the land area of any property under contract must be devoted to agricultural pursuits."

The proposed project will convert approximately five acres of prime agricultural land (based on soil characteristics and annual yield/crop value) to non-agricultural uses (restored bed, bank, and channel areas). Because the converted 5 acres represents only 8% of the 60-acre farm, the project will not violate the existing Williamson Act contract, and the majority of the property will remain devoted to agricultural uses. However, the proposed conversion of five acres of agricultural land for the proposed project constitutes a conversion of prime agricultural land in an area that is neither around the periphery of an urban area nor surrounded by urban uses, and the viability of existing agricultural use at the site is not limited by conflicts with urban uses. The project site is located a half-mile east of the incorporated limits of Eureka at its closest point, and most of the lands surrounding the project site are undeveloped agricultural and natural resource lands. In addition, there may be other areas of undeveloped land within the coastal zone around the Eureka region that are not suitable for agriculture that have yet to be developed.

Thus, given the continued viability of the organic farm on the site and the farm's location relative to urban areas, development of the stream habitat restoration project on the prime agricultural lands of the subject site is not consistent with the limitations on conversion of agricultural lands contained in section 30241 and will not serve to minimize conflicts between agricultural and urban land uses. Therefore, the Commission finds that the development is inconsistent with section 30241

H. Conflict Resolution

As noted above, the proposed project would convert five acres of prime agricultural land inconsistent with the provisions of section 30241. However, as also noted above, to not approve the project would result in a failure to maintain and enhance marine resources and maintain the biological productivity and quality of coastal wetlands and waters, inconsistent with the mandates of sections 30230 and 30231 of the Coastal Act. Section 30230 mandates that marine resources shall be maintained and enhanced. Section 30231 mandates that the biological productivity of coastal waters appropriate to maintain optimum populations of marine organisms shall be maintained.

Invoking a Balancing Approach

As is indicated above, the standard of review for the Commission's decision whether to approve a CDP application in the Commission's retained jurisdiction is whether the project as proposed is consistent the Chapter 3 policies of the Coastal Act. In general, a

proposal must be consistent with all relevant policies in order to be approved. Put differently, consistency with each individual policy is a necessary condition for approval of a proposal. Thus, if a proposal is inconsistent with one or more policies, it must normally be denied (or conditioned to make it consistent with all relevant policies).

However, the Legislature also recognized that conflicts can occur among those policies (Coastal Act section 30007.5). It therefore declared that, when the Commission identifies a conflict among the policies in Chapter 3, such conflicts are to be resolved "in a manner which on balance is the most protective of significant coastal resources [Coastal Act Sections 30007.5 and 30200(b)]." That approach is generally referred to as "conflict resolution." Conflict resolution allows the Commission to approve proposals that conflict with one or more Chapter 3 policies, based on a conflict among the Chapter 3 policies as applied to the proposal before the Commission. Thus, the first step in invoking the balancing approach is to identify a conflict among the Chapter 3 policies.

Identification of a Conflict

For the Commission to use the balancing approach to conflict resolution, it must establish that a project presents a substantial conflict between two statutory directives contained in Chapter 3 of the Coastal Act. The fact that a proposed project is consistent with one policy of Chapter 3 and inconsistent with another policy does not necessarily result in a conflict. Virtually every project will be consistent with some Chapter 3 policy. This is clear from the fact that many of the Chapter 3 policies prohibit specific types of development. For example, section 30211 states that development "shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization . . .," and subdivision (2) of section 30253 states that new development "shall . . . neither create nor contribute significantly to erosion . . . or in any way require the construction of protective devices . . . ." Almost no project would violate every such prohibition. A project does not present a conflict between two statutory directives simply because it violates some prohibitions and not others.

In order to identify a conflict, the Commission must find that although approval of a project would be inconsistent with a Chapter 3 policy, the denial of the project based on that inconsistency would result in coastal zone effects that are inconsistent with some other Chapter 3 policy. In most cases, denial of a proposal will not lead to any coastal zone effects at all. Instead, it will simply maintain the status quo. The reason that denial of a project can result in coastal zone effects that are inconsistent with a Chapter 3 policy is that some of the Chapter 3 policies, rather than prohibiting a certain type of development, affirmatively mandate the protection and enhancement of coastal resources, such as sections 30210 ("maximum access . . . and recreational opportunities shall be provided . . ."), 30220 ("Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses"), and 30230 ("Marine resources shall be maintained [and] enhanced"). If there is ongoing degradation of one of these resources, and a proposed project would cause the cessation of that degradation, then denial would result in coastal zone effects (in the form of the continuation of the degradation) inconsistent with the applicable policy. Thus, the only way that denial of a project can have impacts

inconsistent with a Chapter 3 policy, and therefore the only way that a true conflict can exist is if: (1) the project will stop some ongoing resource degradation, and (2) there is a Chapter 3 policy requiring the Commission to protect and/or enhance the resource being degraded. Only then is the denial option rendered problematic because of its failure to fulfill the Commission's protective mandate.

With respect to the second of those two requirements though, there are relatively few policies within Chapter 3 that include such an affirmative mandate to enhance a coastal resource. Moreover, because the Commission's role is generally a reactive one, responding to proposed development rather than affirmatively seeking out ways to protect resources, even policies that are phrased as affirmative mandates to protect resources more often function as prohibitions. For example, section 30240's requirement that environmentally sensitive habitat areas "shall be protected against any significant disruption of habitat values" generally functions as a prohibition against allowing such disruptive development, and its statement that "only uses dependent on those resources shall be allowed within those areas" is a prohibition against allowing non-resource-dependent uses within these areas. Similarly, section 30251's requirement to protect "scenic and visual qualities of coastal areas" generally functions as a prohibition against allowing development that would degrade those qualities. Section 30253 begins by stating that new development shall minimize risks to life and property in certain areas, but that usually requires the Commission to condition projects to ensure that they are not unsafe. Even section 30220, listed above as an affirmative mandate, can be seen more as a prohibition against allowing non-water-oriented recreational uses (or water-oriented recreational uses that could be provided at inland water areas) in coastal areas suited for such activities. Denial of a project cannot result in a coastal zone effect that is inconsistent with a prohibition on a certain type of development. As a result, there are few policies that can serve as a basis for a conflict.

Similarly, denial of a project is not inconsistent with Chapter 3 and thus does not present a conflict simply because the project would be less inconsistent with a Chapter 3 policy than some alternative project would be, even if approval of the proposed project would be the only way in which the Commission could prevent the more inconsistent alternative from occurring. For denial of a project to be inconsistent with a Chapter 3 policy, the project must produce tangible, necessary enhancements in resource values over existing conditions, not over the conditions that would be created by a hypothetical alternative. In addition, the project must be fully consistent with the Chapter 3 policy requiring resource enhancement, not simply less inconsistent with that policy than the hypothetical alternative project would be. If the Commission were to interpret the conflict resolution provisions otherwise, then any proposal, no matter how inconsistent with Chapter 3, that offered even the smallest, incremental improvement over a hypothetical alternative project would necessarily result in a conflict that would justify a balancing approach. The Commission concludes that the conflict resolution provisions were not intended to apply based on an analysis of different potential levels of compliance with individual policies or to balance a proposed project against a hypothetical alternative.

In addition, if a project is inconsistent with at least one Chapter 3 policy, and the essence of that project does not result in the cessation of ongoing degradation of a resource the Commission is charged with enhancing, the project proponent cannot "create a conflict" by adding on an essentially independent component that does remedy ongoing resource degradation or enhance some resource. The benefits of a project must be inherent in the essential nature of the project. If the rule were to be otherwise, project proponents could regularly "create conflicts" and then demand balancing of harms and benefits simply by offering unrelated "carrots" in association with otherwise-unapprovable projects. The balancing provisions of the Coastal Act could not have been intended to foster such an artificial and manipulatable process. The balancing provisions were not designed as an invitation to enter into a bartering game in which project proponents offer amenities in exchange for approval of their projects.

Finally, a project does not present a conflict among Chapter 3 policies if there is at least one feasible alternative that would accomplish the essential purpose of the project without violating any Chapter 3 policy. Thus, an alternatives analysis is a condition precedent to invocation of the balancing approach. If there are alternatives available that are consistent with all the relevant Chapter 3 policies, then the proposed project does not create a true conflict among Chapter 3 policies.

In sum, in order to invoke the balancing approach to conflict resolution, the Commission must conclude all of the following with respect to the proposed project before it: (1) approval of the project would be inconsistent with at least one of the policies listed in Chapter 3; (2) denial of the project would result in coastal zone effects that are inconsistent with at least one other policy listed in Chapter 3 by allowing continuing degradation of a resource the Commission is charged with protecting and/or enhancing; (3) the project results in tangible, necessary resource enhancement over the current state, rather than an improvement over some hypothetical alternative project; (4) the project is fully consistent with the resource enhancement mandate that requires the sort of benefits that the project provides; (5) the benefits of the project are a function of the very essence of the project, rather than an ancillary component appended to the project description in order to "create a conflict; " and (6) there are no feasible alternatives that would achieve the objectives of the project without violating any Chapter 3 policies.

An example of a project that presented such a conflict is a project approved by the Commission in 1999 involving the placement of fill in a farmed wetland in order to construct a barn atop the fill and the installation of water pollution control facilities on a dairy farm in Humboldt County (CDP 1-98-103, O'Neil).[4] In that case, one of the main objectives of the project was to create a more protective refuge for cows during the rainy season. However, another primary objective was to improve water quality by enabling the better management of cow waste. The existing, ongoing use of the site was degrading water quality, and the barn enabled consolidation and containment of manure, thus providing the first of the four necessary components of an effective waste management system. Although the project was inconsistent with section 30233, which limits allowable fill of wetlands to seven enumerated purposes, the project also enabled

[4] See the staff report link from the Commission's website.

the cessation of ongoing resource degradation. The project was fully consistent with section 30231's mandate to maintain coastal water quality and offered to tangibly enhance water quality over existing conditions, not just some hypothetical alternative. Thus, denial would have resulted in impacts that would have been inconsistent with section 30231's mandate for improved water quality. Moreover, it was the very essence of the project, not an ancillary amenity offered as a trade-off, that was both inconsistent with certain Chapter 3 policies and yet also provided benefits. Finally, there were no alternatives identified that were both feasible and less environmentally damaging.

Proposed Project Presents a Conflict

The Commission finds that the proposed project presents a true conflict between Chapter 3 policies of the Coastal Act. The proposed restoration of marine resources (threatened salmonids) and the biological productivity and quality of coastal waters (Cochran Creek and Quail Slough) would convert agricultural land in a manner inconsistent with the provisions of section 30241 of the Coastal Act. However, to not approve the project would result in a failure to maintain and enhance marine resources and sustain the biological productivity of coastal waters necessary to maintain healthy populations of marine organisms that would be inconsistent with the mandates of sections 30230 and 30231 of the Coastal Act.

As previously discussed, historically the Humboldt Bay region supported an estimated 10,000 acres of estuarine channel and marsh habitats. From the mid-1800s to the mid-1900s, most of the marshlands and creeks that historically were tidal were diked and drained (largely for agriculture) or filled for development. Today, only around 900 acres of estuarine marshlands remain – a reduction of over 90%. Moreover, because of the prevalence of drainage alterations in the Humboldt Bay bottomlands, including the installation of tide gates on tributaries to the bay, access for anadromous fish (salmonids) to upper watershed spawning grounds has been lost in many areas, including in the Cochran Creek watershed. There are three species of federally and state-listed threatened salmonids that presently occur in Humboldt Bay and that historically existed in the subject bay tributaries. As previously noted, existing degraded water quality conditions in both Cochran Creek and Quail Slough, primarily due to impeded fish access, invasive vegetation, seasonal fluctuations in water temperature and salinity, and lack of shade/organic material, limit the availability of migration access to upstream spawning areas as well as the availability of suitable rearing habitat within the project area for salmonids. The proposed development is needed to enhance and restore the functional capacity and biological productivity of coastal waters necessary to maintain optimum populations of marine organisms, and conditions of the permit will ensure that the site is monitored for achievement of these goals.

Although the proposed project is inconsistent with the requirements of section 30241 that protect productive agricultural land and limit the conversion of agricultural land, denial would preclude achieving sections 30230's and 30231's mandates for protection, and maintenance of marine resources and biological productivity. In addition, it is the very essence of the project, not an ancillary amenity offered as a trade-off, that is both inconsistent with certain Chapter 3 policies and yet also provides benefits. Finally, as

discussed below, there are no alternatives identified that were both feasible and more protective of coastal resources.

Alternatives Analysis

As noted above, a true conflict among Chapter 3 policies would not exist if there are feasible alternatives available that are consistent with all the relevant Chapter 3 policies. Alternatives that have been identified include alternative designs and the "no project" alternative:

- **Alternative designs**. The project could be constructed in a manner other than the proposed design. For example, the channel widths and configurations are designed to accommodate the 2.5-year flood event, which is essentially an order of magnitude greater than the current channel capacity. The channel overflows nearly every year, so only the 1-year or less flood event is accommodated under existing channel conditions. Expanding the channel capacity to accommodate a greater flood event, such as a 5-year or 10-year event, would only convert more agricultural land than proposed.

  Another alternative would be to remove the existing tide gate and restore marine resources by introducing a full tidal cycle to this site. However, this action would result in the conversion of a substantial area of prime agricultural lands, as large acreages of farmed wetlands would be tidally inundated with saltwater that would kill pasture grasses and virtually any other agricultural crop that might be planted. The tidal inundation would cover all areas less than 7 feet in elevation – potentially most of the hydrologic sub-unit on Eureka Slough, which is hundreds of acres in extent and extends beyond the applicant's property.

  A third alternative design would be to eliminate the riparian berms from the project, which are responsible for a large percentage of the five acres of prime agricultural land that would be taken to be converted from agricultural use out of agricultural production. However, elimination of the berms would result in daily tidal inundation of additional agricultural lands beyond the berm footprint (lands at and below 6 feet), thereby converting a greater acreage of farmland as well as existing infrastructure (e.g., the applicant's driveway and other existing development).

  Therefore, this alternative is not a feasible alternative that is consistent with all relevant Chapter 3 policies.

- **"No Project" alternative**. The no project alternative would maintain the status quo within the hydrologically dysfunctional creek channels that inhibit fish passage and provide little to no habitat for salmonids. The "no project" alternative would not result in the habitat and water quality improvements needed to maintain marine resources, including improvements necessary for the maintenance of threatened salmonids. The "no project" alternative would have significant impacts to coastal resources that would be inconsistent with section 30230's and 30231's mandate to maintain marine resources and biological

productivity. Therefore, the "no project" alternative is not a feasible alternative that is consistent with all relevant Chapter 3 policies.

Conflict resolution

After establishing a conflict among Coastal Act policies, section 30007.5 requires the Commission to resolve the conflict in a manner that is on balance most protective of coastal resources. In this case, the Commission finds that the impacts on coastal resources from not constructing the project would be more significant than the project's agricultural conversion impacts. Denying the project because of its inconsistency with section 30241 would avoid the conversion of five acres of prime agricultural land. However, as the proposed salmonid habitat improvements will maintain and enhance marine resources and the biological productivity of coastal waters, the proposed improvements are mandated by the requirements of sections 30230 and 30231. Approving the development will maintain and enhance marine resources in Humboldt Bay, and in the Cochran Creek watershed in particular, that have been tremendously reduced over the past century and which are necessary to support salmonid species critically threatened with extinction. Salmonids will once again be able to access historic spawning grounds in the upper watershed that have been blocked for over a century due to the hydrologic conditions within the lower watershed on the subject site. Existing degraded water quality conditions in both Cochran Creek and Quail Slough on the property limit the availability of migration habitat and suitable rearing habitat for state- and federally listed threatened salmonids, and the proposed improvements are needed to help assist in the recovery of these threatened species.

The Commission finds that because the proposed channel and floodplain reconstruction work will (a) restore marine fish (salmonid) habitat though by the functionality and diversity of habitats that historically occurred in the stream corridor, including riparian habitat, floodplain habitats, and transitional habitats between estuarine and freshwater areas, and (b) improve the biological productivity of existing degraded stream channels, approval of the project is more protective of coastal resources than would be denial of the project due to the impermissible conversion of five acres of agricultural land.

As discussed above, to ensure that the maintenance and enhancement of marine resources and of the biological productivity of coastal waters that would enable the Commission to use the balancing provision of section 30007.5 is achieved, the Commission attaches Special Conditions 1 through 6. **Special Conditions 1 and 3** require the permittee to undertake development in accordance with the approval final plans and the submitted as-built plans. **Special Condition 2** requires adherence to revegetation standards, including the use of native plant species. **Special Condition 4** requires implementation of the proposed restoration monitoring (Appendix C) and achievement of the identified objectives of the proposed plan by the end of the fifth year of monitoring. **Special Condition 5** requires the implementation of various BMPs for dewatering work areas, for erosion and sediment control, for maintenance of construction equipment and materials in and around coastal waters, and for the protection and proper handling of fish and other aquatic resources (including all measures included in Appendix B). **Special Condition 6** requires submittal of a final

debris disposal plan that provides for the proper handling and disposal of construction debris and waste. The Commission finds that without Special Conditions 1 through 6, the proposed project could not be approved pursuant to section 30007.5 of the Coastal Act.

Mitigation for agricultural impacts

As stated above, the conflict resolution provisions of the Coastal Act require that the conflict be resolved in a manner that on balance is the most protective of significant coastal resources. To meet this test, in past actions where the Commission has invoked the conflict resolution provisions of the Coastal Act, the Commission has found it necessary to mitigate adverse impacts on coastal agricultural resources to the maximum extent feasible. The applicants have not proposed any mitigation to compensate for the loss of five acres of agricultural land caused by the project. However, it should be noted that the proposed stream habitat improvements are expected to improve productivity on the property's remaining farmlands overall by improving the efficiency of stormwater drainage and reducing the incidents of overbank flood events. Thus, the Commission finds that in this particular case, because (a) the project proposes to re-establish prior beneficial habitat conditions and the processes that create those conditions in a converted and degraded stream and floodplain area; (b) the project, as conditioned, will result in significant improvements in habitat value and diversity necessary to restore marine resources and the biological productivity of coastal waters; and (c) approximately 55 acres of land on the parcel currently in agricultural production (which equates to over 90% of the subject property) will remain in agricultural production and the productivity of some of this land will be enhanced by reducing flooding, no mitigation is necessary to compensate for the conversion of five acres of agricultural land (the loss of less than 3 animal unit months).

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 project area lies within the traditional territory of the Wiki division of the Wiyot tribe. At the time that Euro-Americans first made contact in this region, the Wiyot lived almost exclusively in villages along the protected shores of Humboldt Bay and near the mouths of the Eel and Mad Rivers. Today, representatives of the Wiyot Tribe include the Table Bluff Reservation Wiyot Tribe, the Blue Lake Rancheria, and the Bear River Band of the Rohnerville Rancheria.

A cultural resources investigation and report was completed for the subject property during the early planning phase of the project in February of 2007. The investigation was completed by cultural resources specialist Ann King Smith and historian Susie Van Kirk. The investigation included (a) records research, (b) interviews with long-time residents knowledgeable about the history of the project area, (c) consultations with the

Tribal Historic Preservation Officers (THPOs) of the area tribes, and (d) an on-site survey. The records research was conducted at the North Coastal Information Center of the California Historical Resources Information System, the Humboldt County Recorder's Office, U.S. Census Schedules, and Humboldt County vital records.

The results of the investigation and survey identified no archaeological or paleontological resources within the project site. The consultants' report documents historic resources in the project vicinity, including the Fay Slough dike around the tide gate and elements of a potentially significant rural historic cultural landscape. However, the proposed project as sited and designed will have no impact on the identified historic resources.

In addition to the tribal consultation completed under the cultural resources study, the County, as the lead agency for the project under CEQA, also undertook consultation with the three tribes. Through these consultations, the tribes responded with no recommendations for the project other than inclusion of the standard "inadvertent archaeological discovery" protocol. This requirement was included as a CEQA mitigation measure (Appendix B) and is proposed to be implemented as part of the project.

To comply with the tribes' requests and consistent with the CEQA requirements adopted for the project, the Commission imposes **Special Condition 7**. This condition will ensure protection of any archaeological resources during construction by requiring that if an area of cultural deposits is discovered during the course of the project, all construction must cease, and a qualified cultural resource specialist, in consultation with the THPOs of the Blue Lake Rancheria, Wiyot Tribe, and Bear River Band of Rohnerville Rancheria, must analyze the significance of the find. To recommence construction following discovery of cultural deposits, the permittee is required to submit a supplementary archaeological plan for the review and approval of the Executive Director, who determines 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 development is consistent with Coastal Act section 30244, because as conditioned, the development includes reasonable mitigation measures to address adverse impacts to archaeological resources.

J. Coastal Hazards

Section 30253 of the Coastal Act states, in applicable part, as follows (emphasis added):

> 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…

The proposed project is located near the margin of Humboldt Bay in an active seismic area that is subject to seismic hazards, tsunami inundation, and flooding, which is expected to worsen with projected sea-level rise (SLR). The primary hazard issue raised by the proposed stream restoration project is the potential for the project to affect flood hazards on surrounding structures, roads, and adjacent properties, as the project involves major hydrologic alterations to the site. Most of the property is located within the FEMA-mapped 100-year flood zone,[5] and, as previously discussed, the project will involve significant hydrologic changes to the site, including grading, excavation, placement of fill, and the construction of channel features and berms (to separate the restored estuarine area from the remaining freshwater (agricultural) wetland and upland farmland areas).

The engineering design technical memorandum completed for the project by Northern Hydrology and Engineering in 2018 included a hydrologic analysis used to model flood conditions, design the tide gate, estimate tidal elevations, develop channel parameters, appropriately size drainage culverts, and other project elements essential to project success. In addition to considering factors related to fish passage and fish habitat improvement, the analysis also considered overall stability and structural integrity factors to design channel size, configuration, engineered material sizing and placement, tide gate sizing and placement, berm placement, configuration, and sizing, and other project elements. The project engineer also prepared technical specifications for site preparation and clearing, earthwork, finished grading, and rock slope protection. The engineering report, analyses, and specifications formed the basis for the proposed plans, and **Special Condition 1 and 2** will ensure that the stream habitat restoration project is constructed as recommended by the engineer to ensure that the constructed project assures stability and structural integrity and neither creates nor contributes significantly to erosion, geologic instability, or destruction of the site or surrounding area.

While the reports and analyses described above address project design in the context of current flood risks, the Commission must consider whether SLR may contribute to or exacerbate hazards or impact coastal resources. The project should be designed and built in a way that minimizes risks to surrounding development and avoids impacts to coastal resources considering both current conditions and changes that may arise in the future.

Humboldt Bay has the highest rate of SLR in the State due to active land subsidence, with up to 1.2 feet of rise expected by 2030, 3.1 feet by 2050, and 10.9 feet by 2100.[6]

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[5] Flood Insurance Rate Map Number 06023C0865G, effective on 6/21/2017.

[6] These are the “extreme risk aversion” (H++) projections given in the Commission’s recently adopted Sea Level Rise Policy Guidance Science Update, Table G-2. The projections for relative sea level rise in Humboldt Bay take into account the combined effects of regional eustatic sea level rise and vertical land motion (tectonic uplift and subsidence).

Based on its flood zone location, and considering local relative SLR projections, the project area is vulnerable to an increased level of periodic inundation as a result of high tide and flood events. The property also may be subject to increased storm intensity associated with projected climate change and, as a result, may experience more frequent and intense flooding episodes.

The State of California has undertaken significant research to understand how much SLR to expect over this century and to anticipate the likely impacts of such SLR. In 2017, a working group of the Ocean Protection Council's (OPC) Science Advisory Team released "Rising Seas in California: An Update on Sea-Level Rise Science." This report synthesized recent evolving research on SLR science, including a discussion of probabilistic SLR projections as well as the potential for rapid ice loss leading to extreme SLR. This science synthesis was integrated into the OPC's "State of California Sea-Level Rise Guidance 2018 Update" (State SLR Guidance). This guidance document provides statewide recommendations for state agencies and other stakeholders to follow when analyzing SLR in association with projects. Notably, the guidance provides a set of regional projections recommended for use when assessing potential SLR vulnerabilities for a project. Taken together, the "Rising Seas" report and "State SLR Guidance" account for the current best available science on SLR for the State of California.

The State SLR Guidance provides SLR projections for 12 tide gauges in the state and recommends using the projections for the gauge closest to the project site. In this case, the North Spit tide gauge at Humboldt Bay is the applicable gauge. The amount of SLR projected at the North Spit tide gauge for the year 2050 ranges from 1.5 feet (under the "low-risk aversion" scenario) to 2.3 feet (under the "medium high risk aversion" scenario) to 3.1 feet [under the "extreme risk aversion" (H++) scenario].[7]

The current mean monthly maximum water (MMMW)[8] elevation at the North Spit tide gauge is approximately 7.8 feet NAVD88.[9] Future MMMW in the year 2050 under the low risk scenario cited above is projected to be approximately 9.3 feet (i.e., 7.8 ft. + 1.5 ft. of SLR). Consideration of the low risk scenario (+1.5 ft.) is appropriate in this case, because, as a stream habitat improvement project, the project as designed has a relatively high capacity to adapt to risks associated with tidal flooding, and the

[7] The OPC projections are based on different scenarios related to future emissions and concentrations of greenhouse gases, aerosols, and other climate drivers. As recommended by the OPC guidance, for the year 2100, the "low risk aversion" scenario is derived from taking the upper range of the 66% probability range for "RCP-8.5," which is the "Representative Concentration Pathway" that assumes there will be no significant efforts to reduce emissions globally. The "medium-high risk aversion" projection is derived from the upper range of the 0.5% probability range for RCP-8.5. The "extreme risk aversion" projection is based on presumed ice sheet loss in Greenland and the Antarctic.

[8] MMMW is not an official tidal datum, but it is the tidal boundary most closely associated with the current Humboldt Bay natural shoreline elevation. MMMW is the tidal base elevation that has been used in various regional SLR planning documents (e.g., Trinity Associates 2015) to assess shoreline vulnerability and to depict areas that would be vulnerable to tidal inundation should the existing shoreline protection (e.g., agricultural dikes) be breached.

[9] Northern Hydrology and Engineering 2015.

consequences of the development being subjected to tidal flooding in the future would not be severe from the standpoint of impacts to coastal resources. For example, inclusion of culverts under the berms and the placement of fill in a 4.5-acre portion of the farmed wetlands to direct flood flows and entrained fish in the flood flows back to the channels will limit the consequences of increased flooding.

As designed under the proposed project (proposed design elevations for cutting, grading, and filling), much of the restoration area and associated floodplain areas will remain below 9.3 feet in elevation (most of the property currently is below 8 feet in elevation). Existing dikes along Cochran Creek, which in the case of the dike along the right bank (north side of the creek), will not be modified under the proposed project and will remain at current elevations of 10-15 feet (i.e., above projected flood levels factoring in SLR through 2050). Myrtle Avenue to the east of the project site is at an elevation that ranges between 11-20 feet, which again, is above projected flood levels factoring in SLR through 2050. The new riparian berms proposed to be constructed adjacent to the restored stream channels (on the south side of Cochran Creek and east side of Quail Slough) will be 7.5 feet in height, which is sufficiently high in the proposed muted tidal environment where MMMW will be at an elevation of 6.0 feet. The proposed tide gate modifications will include a muted tidal system with a controlled opening to regulate the new muted tidal cycle for the site such that the tide gate will remain open for daily tidewater exchange and associated fish passage to the restored channel and inset floodplain areas as long as the interior water level is below the designated MMMW elevation of 6.0 feet. When the interior water level is above that elevation, the tide gate will close so that tidewater will be prevented entry while interior waters drain. Thus, the Commission finds that the project as designed will not exacerbate flooding on surrounding lands outside of the stream habitat restoration area when factoring in SLR.

Regardless, because the applicants are electing to undertake new development in an inherently hazardous area, the applicants must assume the risks. **Special Condition 8** is included to require the applicants to assume the risks of flooding and geologic hazards to the property and to waive any claim of liability on the part of the Commission. Special Condition 8 notifies the applicants that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicants to indemnify the Commission if third parties bring an action against the Commission as a result of the failure of the development to withstand the hazards. **Special Condition 9** requires the applicant to record a deed restriction to impose the special conditions of this CDP as covenants, conditions, and restrictions on the use and enjoyment of the property. This special condition is required in part to effectively put future property owners on notice regarding the risks of development on the property, the Commission's immunity from liability, and the indemnity afforded the Commission.

For all the above reasons, the Commission finds that the proposed project, as conditioned, will minimize risks to life and property from geologic and flood hazards consistent with Coastal Act section 30253.

K. Visual Resources

Section 30251 of the Coastal Act states that the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. The policy requires in applicable part that permitted development be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, and to be visually compatible with the character of surrounding areas.

The subject property is not within a designated Highly Scenic Area, and it is near the inland edge of the coastal zone. However, there are existing views of the distant bay through the property available to the public from public vantage points along Myrtle Avenue. In addition, as part of the proposed planting plan, the applicant will plant Sitka spruce trees along the east side of the site adjacent to Myrtle Avenue. Sitka spruce forests historically dominated the tidal fringes of the bay prior to conversion of much of the landscape to agricultural lands over the past century. To protect public views through the site to the bay, the applicant has proposed to leave gaps in its planting screen to maintain view to the bay. **Special Condition 2** requires the final planting scheme of the vegetation along the property line to maintain gaps of non-planted areas such that open views from the public roadway through the site to Humboldt Bay are protected. The gaps in the vegetative screen between the foliage of the trees and shrubs at maturity must be at least 25 feet in width and maintained to preserve open views from the public roadway through the site to Humboldt Bay. As discussed, **Special Condition 9** requires recordation of a deed restriction that will impose the special conditions of this CDP as covenants, conditions, and restrictions on the use and enjoyment of the property and which will effectively put future property owners on notice regarding the requirement to maintain the gaps in the evergreen screen to protect public views of the bay.

The proposed project involves no major landform alteration. The site is relatively flat, and the topography of the built landscape will appear very similar to existing conditions. The project will affect the appearance of the landscape to a degree by adding more complete corridors of riparian vegetation along the creek channels flanked by fencing on a landscape that is currently composed of mostly open pasture lands. However, the additional riparian vegetation will not change the visual character of the area, as it is largely defined by the existing open farmlands, streams, and riparian areas.

In summary, the proposed project as conditioned is consistent with section 30251, as the development will not adversely affect views to or along the coast, result in major landform alteration, or be incompatible with the character of the surrounding area.

L. Public Trust Lands

As discussed above in Finding IV-C, the project site is in an area subject to the public trust. The applicants reached out to the State Lands Commission (SLC) for a jurisdictional determination. In an email dated April 21, 2020, the SLC Granted Lands Program Manager stated that the proposed project is located within “lands the State

patented as Tide Land Survey 20 (Humboldt Co.), no minerals reserved" and within "lands the State acquired and patented as S&O Survey 66 (Humboldt Co.), no minerals reserved." The SLC determination states that the "State does not have interest in the project area. This determination is without prejudice to any future assertion of state ownership or public rights, should circumstances change additional information come to our attention." Although the State does not have a fee ownership interest in the property and no lease or other authorization is required from the SLC, the site is subject to a public trust easement. As such, new development must be consistent with trust uses. The Commission finds that the habitat restoration project is consistent with trust uses.

M. California Environmental Quality Act (CEQA)

The County of Humboldt, as the lead agency, adopted a Mitigated Negative Declaration for the project on May 2, 2019 (State Clearinghouse #2019012046). The Mitigation, Monitoring, and Reporting Program adopted by the County is presented in Appendix B.

Section 13096 of the Commission's administrative regulations requires Commission approval of CDP applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirement of the CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits approval of a proposed development 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. No public comments regarding potential significant adverse environmental effects of the project were received by the Commission prior to preparation of the staff report. As discussed above, the project has been conditioned to be consistent with the policies of the Coastal Act. As specifically discussed in these above findings, 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 development, as conditioned to mitigate the identified impacts, can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.