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STAFF REPORT: REGULAR CALENDAR

Application No.:	**1-19-0813**
Applicant:	**Caltrans District 1**
Location:	An approximately 70-acre agricultural property adjacent to State Highway 255 and between V Street and Pacheco Lane, west of Arcata, Humboldt County
Project Description:	Implementation of a wetland restoration project involving the restoration and enhancement of freshwater and estuarine wetlands.
Staff Recommendation:	Approval with Special Conditions

SUMMARY OF STAFF RECOMMENDATION

Caltrans proposes to implement the "Humboldt Bay Area Mitigation" (HBAM) wetland restoration project on a 70-acre Caltrans-owned property referred to as the "Samoa Parcel." Historically, approximately 75% of the project site was part of Humboldt Bay as tidelands (estuarine marsh and channels), and 25% of the project site consisted of higher elevation freshwater palustrine and scrub-shrub (riparian) wetlands. Agricultural dikes built around the bay in the early 1900's have mostly prevented tidewater from accessing the site for more than a century. Drainage ditches, culverts, and tide gates constructed and maintained on and around the property over the past century have drained the wetlands on site sufficiently to allow them to be farmed during the dry season. The property is planned and zoned Agriculture Exclusive under

the Humboldt County certified LCP and has been used for cattle grazing and hay production for the past several decades.

The stated purpose of the project is to modify the existing freshwater (agricultural wetlands) and estuarine (brackish marsh) degraded habitats to restore and enhance freshwater marsh, riparian, and brackish marsh habitats. To achieve these restoration and enhancement goals, the project includes several components that involve filling and dredging of coastal wetlands, as virtually the entirety of the subject property has been delineated as one-parameter, two-parameter, or three-parameter coastal wetlands. Although the proposed project would convert approximately 70 acres of agricultural land to non-agricultural uses, staff believes the proposed conversion of the subject agricultural lands is a permissible conversion of agricultural land consistent with section 30241 of the Coastal Act.

Staff believes that the proposed restoration of historic tidelands, historic riparian habitat, and historic wetland transition habitat between tidal and non-tidal lands is consistent with the definition of restoration and constitutes filling and dredging for "restoration purposes" consistent with section 30233(a)(6). Staff also believes that the proposed development, as conditioned to include the feasible mitigation measures required by recommended Special Conditions 6 through 9, is the least environmentally damaging feasible alternative as required by section 30233(a). Staff recommends Special Conditions 2 through 5 to ensure that the proposed project will be successful in restoring the various historic habitats and processes as proposed and increasing habitat values.

The motion to adopt the staff recommendation of approval with special conditions is on page 4.

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I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** coastal development permit 1-19-0813 pursuant to the staff recommendation.*

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

Resolution:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

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. **County Encroachment Permit**. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF THE DEVELOPMENT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT NO. 1-19-0813, the applicant shall submit to the Executive Director, for review and approval, evidence that any needed encroachment permit has been obtained from the County of Humboldt for the development, or evidence that no such encroachment permit is required. The encroachment permit or exemption shall provide evidence of the ability of the applicant to develop within County property, including public street rights-of-way, as conditioned herein. The applicant shall inform the Executive Director of any changes to the project required by the County. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

2. **Implementation of the Approved Final Wetland Restoration Plan for the Authorized Development.**
   A. The applicant shall implement wetland restoration consistent with the proposed Wetland Restoration Plan titled "Mitigation and Monitoring Plan for the Humboldt Bay Area Mitigation (HBAM) Project" dated December 19, 2019, including, but not limited to, submittal of annual monitoring reports for ten (10) years to the Executive Director by February 1st following each monitoring year.
   B. If the final monitoring report indicates that the Wetland Restoration Plan has been unsuccessful, in part or in whole, based on the approved goals, objectives, and success standards set forth in the approved final plan, the applicant 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 applicant 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 approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

3. **Submittal of As-Built Plans.** Within 60 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 elevation contours, (b) location and typical cross-sections of all constructed berms, including "C" berms, (c) executed final

planting plan, including locations, types, and numbers of plants installed, (d) final fencing and signage, and (d) documentation of the removal of wells.

4. **Long-Term and Adaptive Management Activities Authorized Under This CDP.** Coastal Development Permit 1-19-0813 authorizes only the following long-term and adaptive management development:
   A. Removal of invasive species using "manual" (no heavy equipment) methods;
   B. Removal, using "manual" (no heavy equipment) methods, of trash and debris that may accumulate on site via wind, stormwater runoff, flooding, unpermitted camping, etc.;
   C. Low-intensity livestock grazing for invasive species management and/or to reduce thatch build-up using, at a maximum, up to 20 heads of cattle for a period of two weeks every five years;
   D. Repair and maintenance of temporary BMPs (e.g., those approved pursuant to Special Condition 6) and irrigation equipment and removal of temporary BMPs and irrigation equipment prior to the end of the 10-year monitoring period; and
   E. Passive use of the site for monitoring, inspections, and nature study (e.g., occasional student access).

   Any other long-term and adaptive management development requires separate CDP authorization pursuant to Special Condition 5.

5. **Future Development Requires CDP Authorization.** This permit is only for the specific development expressly identified in the special conditions of this CDP and the development described in (a) Chapter 3 sections 3.2 through 3.5, and (b) Chapter 4 sections 4.1 through 4.3 of the proposed Wetland Restoration Plan titled "Mitigation and Monitoring Plan for the Humboldt Bay Area Mitigation (HBAM) Project" dated December 19, 2019 (Phase I site preparation, implementation, monitoring, and reporting activities). An amendment to CDP 1-19-0813 from the Commission or an additional CDP from the Commission or from the applicable certified local government is required and shall be obtained for other development described in the approved final plan, including for Phase II activities and for those long-term and adaptive management activities not expressly authorized under Special Condition 4.

6. **Construction and Pollution Prevention Plan.**
   A. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF THE DEVELOPMENT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT NO. 1-19-0813, the applicant shall submit, for the review and written approval of the Executive Director, a final Construction and Pollution Prevention Plan prepared and certified by a qualified licensed professional that demonstrates that all construction, including, but not limited to, clearing, grading, staging, storage of equipment and materials, or other activities that involve ground disturbance, shall comply with the following requirements:
      (i) Minimize Erosion and Sediment Discharge. During construction, erosion and the discharge of sediment off-site or to coastal waters shall be minimized through the use of appropriate Best Management Practices (BMPs), including:

a. Erosion control BMPs (such as mulch, soil binders, geotextile blankets or mats, or temporary seeding) shall be installed as needed to prevent soil from being transported by water or wind. Temporary BMPs shall be implemented to stabilize soil on graded or disturbed areas as soon as feasible during construction, where there is a potential for soil erosion to lead to discharge of sediment off-site or to coastal waters.

b. Sediment control BMPs (such as silt fences, fiber rolls, sediment basins, inlet protection, sand bag barriers, or straw bale barriers) shall be installed as needed to trap and remove eroded sediment from runoff, to prevent sedimentation of coastal waters.

c. Tracking control BMPs (such as a stabilized construction entrance/exit, and street sweeping) shall be installed or implemented as needed to prevent tracking sediment off-site by vehicles leaving the construction area.

d. Runoff control BMPs (such as a concrete washout facility, dewatering tank, or dedicated vehicle wash area) that will be implemented during construction to retain, infiltrate, or treat stormwater and non-stormwater runoff.

e. All erosion and sediment controls, including measures to block the culvert at the southeastern end of the property to prevent discharge through the culvert to the bay during construction, shall be in place prior to the commencement of construction, as well as at the end of each workday. At a minimum, when grading and excavation is taking place, sediment control BMPs shall be installed at the perimeter of the construction site and upstream from the culvert at the southeastern end of the property to prevent construction-related sediment and debris from entering waterways, natural drainage swales, and the storm drain system.

f. Grading and excavation work shall be avoided during the rainy season, from November 15th to June 1st. The Executive Director may grant an extension to the work window for good cause.

(ii) Minimize Other Pollutant Discharge. The discharge of other pollutants resulting from construction activities (such as vehicle fluids, petroleum products, asphalt and cement compounds, debris, and trash) into runoff or coastal waters shall be minimized through the use of appropriate BMPs, including:

a. Materials management and waste management BMPs (such as stockpile management, spill prevention, and good housekeeping practices) shall be installed or implemented as needed to minimize pollutant discharge and polluted runoff resulting from staging, storage, and disposal of construction chemicals and materials. BMPs shall include, at a minimum:

1) Covering stockpiled construction materials, soil, and other excavated materials to prevent contact with rain, and protecting all stockpiles from stormwater runoff using temporary perimeter barriers.

2) Cleaning up all leaks, drips, and spills immediately; having a written plan for the clean-up of spills and leaks; and maintaining an inventory of products and chemicals used on site.

3) Proper disposal of all wastes; providing trash receptacles on site; and covering open trash receptacles during wet weather.
4) Detaining, infiltrating, or treating runoff, if needed, prior to conveyance off-site during construction.

b. Fueling and maintenance of construction equipment and vehicles shall be conducted off site if feasible. Any fueling and maintenance of mobile equipment conducted on site shall take place at a designated area located at least 50 feet from wetlands, coastal waters, drainage courses, 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) Minimize Plastic Debris and Other Impacts. The use of temporary erosion and sediment control products (such as fiber rolls, erosion control blankets, mulch control netting, and silt fences) that incorporate plastic netting (such as polypropylene, nylon, polyethylene, polyester, or other synthetic fibers) shall be avoided, to minimize wildlife entanglement and plastic debris pollution.

(iv) Minimize Vegetation Removal & Soil Compaction.

a. 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.

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

(v) Manage Construction-Phase BMPs. Appropriate protocols shall be implemented to manage all construction-phase BMPs (including installation and removal, ongoing operation, inspection, maintenance, and training), to protect coastal water quality.

(vi) Construction Site Map and Narrative Description. The Construction and Pollution Prevention Plan shall include a construction site map and a narrative description addressing, at a minimum, the following required components:

a. A map delineating the construction site, construction phasing boundaries, and the location of all temporary construction-phase BMPs (such as silt fences, inlet protection, and sediment basins).

b. A description of the BMPs that will be implemented to minimize land disturbance activities, minimize the project footprint, minimize soil compaction, and minimize damage or removal of non-invasive vegetation. Include a construction phasing schedule, if applicable to the project, with a description and timeline of significant land disturbance activities.

c. A description of the BMPs that will be implemented to minimize erosion and sedimentation, control runoff and minimize the discharge of other pollutants resulting from construction activities. Include calculations that demonstrate proper sizing of BMPs.

d. A description and schedule for the management of all construction-phase BMPs (including installation and removal, ongoing operation, inspection, maintenance, and training). Identify any temporary BMPs that will be converted to permanent post-development BMPs.

(vii) Debris Disposal. The Construction and Pollution Prevention Plan shall include provisions for disposal of spoils and debris consistent with Special Condition 7.

(viii) Protection of Sensitive Coastal Resources. The Construction and Pollution Prevention Plan shall include provisions for protecting sensitive species, habitat areas, and archaeological resources consistent with Special Conditions 8 through 11.

(ix) Notification. The permittee shall notify the Commission's North Coast District Office at least three working days in advance of the following: (a) commencement of construction activities, (b) completion of construction activities, (c) any anticipated changes to the approved BMPs, and (d) any anticipated changes to the construction schedule based on site conditions, weather or other unavoidable factors.

B. The applicant shall undertake development in accordance with the approved Construction-Phase Pollution Prevention Plan, unless the Commission amends this permit or the Executive Director provides written determination that no amendment is legally required for any proposed minor deviations.

7. **Final Debris Disposal Plans.**

A. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF THE DEVELOPMENT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT NO. 1-19-0813, the applicant shall submit, for the review and written approval of the Executive Director, final plans for the disposal of all construction debris, excess sediments, vegetative spoils, and any other debris and waste expected to be generated by the authorized work.

(i) The plans shall demonstrate that:

a. 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 within the proposed project footprint and where they can feasibly be contained with appropriate BMPs to prevent any discharge of contaminants to coastal waters and wetlands;

b. All construction debris, excess sediments and vegetative 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; and

c. Side casting or placement of any construction debris, excess materials, and any other debris and waste generated by the authorized work within any slough, creek, or drainage, or any other coastal wetland area is prohibited.

(ii) The plans shall include, at a minimum, the following:

a. A site plan showing all proposed locations for the temporary stockpiling of construction debris, excess materials, and any other debris and waste associated with the authorized work during construction operations;
b. A description of the manner by which the stockpiled materials will be removed from the construction site and identification of all debris disposal sites that will be used; and
c. A schedule for the removal of all construction debris, excess materials, and any other debris and waste associated with the authorized work.

B. The applicant shall undertake development in accordance with the approved final debris disposal 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.

8. **Protection of Bird Nesting Habitat.** The applicant shall undertake development in compliance with the following bird nesting habitat protection measures:

A. Clearing of vegetation that may provide nesting habitat for sensitive avian species shall be avoided during the nesting season (mid-March to mid-August) to the maximum extent feasible;

B. If it is not feasible to remove vegetation that may provide potential nesting habitat outside of the avian nesting season, a survey for nesting birds in and adjacent to the project construction area shall be conducted by a qualified biologist according to current California Department of Fish and Wildlife (CDFW) protocols no more than seven days prior to the commencement of construction activities. If any active nest 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 young have fledged, as determined by additional surveys conducted by a qualified biologist. The construction-free buffer zone shall be a minimum of 300 feet for nesting raptors and a minimum of 100 feet for other sensitive bird species; and

C. Prior to the commencement of construction authorized during the avian nesting season, the permittee shall submit, for the review and approval of the Executive Director, the survey required in Part B above, including a map that locates any nesting habitat identified by the survey and delineates the required construction-free buffer zone, and a narrative that describes proposed sensitive habitat avoidance measures.

9. **Protection of Northern Red-legged Frogs.** The applicant shall undertake development in compliance with the following frog protection measures:

A. No more than one week prior to commencement of ground disturbance within 100 feet of all suitable northern red-legged frog habitat, a qualified biologist shall perform a pre-construction survey for the northern red-legged frog and shall coordinate with the CDFW staff to relocate any tadpoles that occur within the work impact zone to nearby suitable habitats; and

B. If the northern-red legged frog is observed in an active construction zone, the contractor shall immediately halt construction activities until a biologist, in consultation with CDFW, has moved the frog to a safe location in similar habitat outside of the construction zone.

10. **Sensitive Bat Roosting Habitat Protection Requirements for Development Authorized by CDP No. 1-19-0813**. The applicant shall undertake development in compliance with the following sensitive bat species protection measures:

A. If construction is planned to occur between June and the end of August, a seasonally appropriate pre-construction survey for roosting bats shall occur during the potential maternal bat roosting season within potential bat roosting sites, including existing structures on the property, to determine whether roosting bats are present in the structure(s). The survey shall be conducted by a qualified biologist with experience surveying for bat roosts and experience conducting habitat assessments for bats. Surveyor qualifications shall be provided to Commission staff for review and approval in consultation with CDFW staff. Survey results shall be submitted for the review and approval of the Executive Director no later than ten (10) days prior to commencement of the authorized construction work and shall include, at a minimum, the following: (1) a map that depicts the location(s) of any sensitive roosting habitat, (2) a narrative discussion of the species found, its relative abundance, and an overview of the general bat habitat quality. No pre-construction bat roosting survey need be performed if all construction work will be completed outside of the maternal bat roosting season (i.e., during September through May), and there are no noise level restrictions outside of the maternal roosting season.

B. If the results of the bat roosting survey are negative for bat presence, no noise restrictions apply to the authorized construction activities. If the results of the bat roosting survey are positive for bat presence, no noise levels reaching 80dB or higher, as determined through noise monitoring described below, shall be allowed to reach the roosting area(s) until juvenile bats are volant, as confirmed by a qualified biologist in consultation with CDFW, or until September 1st (whichever is earlier). Noise levels shall be measured by a qualified noise monitor with experience measuring noise levels using a calibrated noise-meter at the closest edge of the structure to the noise source. The monitor shall report to the Caltrans Resident Engineer who shall be given the authority and responsibility to direct the contractor to stop construction activities that reach or exceed 80dB noise levels.

11. **Protection of Archeological Resources**. If an area of cultural deposits or human remains is discovered during the course of the project, all construction shall cease and shall not re-commence 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 applicant has thereafter obtained an amendment to CDP 1-19-0813.

12. **Assumption of Risk, Waiver of Liability, and Indemnity Agreement**. By acceptance of this permit, the applicant 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 applicant 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.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

A. PROJECT DESCRIPTION

The California Department of Transportation (Caltrans) District 1 (hereafter "applicant") proposes to implement the "Humboldt Bay Area Mitigation" (HBAM) project on a Caltrans-owned property referred to as the "Samoa Parcel" located along State Highway 255 between post miles 6.0 and 7.6 and between V Street and Pacheco Street, just west of Arcata, in Humboldt County (APNs 506-021-05 & -06). The subject site is adjacent to the ~550-acre California Department of Fish and Wildlife (CDFW) Mad River Slough Wildlife Area and northwest of the ~300-acre City of Arcata Marsh and Wildlife Sanctuary (Exhibits 1-3).

The proposed wetland restoration project (HBAM, updated December 19, 2019, Exhibits 4-5) involves the restoration and enhancement of approximately 70 acres of existing freshwater and brackish wetland habitats near northern Humboldt Bay. Historically, 75% of the site was part of the bay as tidelands (estuarine marsh and channels), and 25% of the site consisted of higher elevation freshwater palustrine and scrub-shrub (riparian) wetlands (based on the 1870 U.S. Coast and Geodetic Survey of Humboldt County) (Exhibit 4). Agricultural dikes built around the bay in the early 1900's have mostly prevented tidewater from accessing the site for more than a century. Drainage ditches, culverts, and tide gates constructed and maintained on and around the property over the past century have drained the wetlands on site sufficiently to allow them to be farmed during the dry season. The property is planned and zoned Agriculture Exclusive (AE) under the Humboldt County certified local coastal program (LCP) and has been used for cattle grazing and hay production for the past several decades.

The proposed HBAM project, as described in Exhibit 5, would be implemented as two functionally independent projects (described as "Phase I" and "Phase II" activities in the HBAM plan), both of which are required to be implemented by the U.S. Army Corps of Engineers

(Corps) and the North Coast Regional Water Quality Control Board (Regional Water Board) permits discussed below. However, only those proposed activities described as Phase I would be covered under the scope of this CDP.[1] Separate CDP authorization from the Commission in the form of a CDP amendment or new CDP will required for Phase II development.

The primary identified goals of the proposed project are to: (1) establish and enhance freshwater wetlands [palustrine scrub-shrub (PSS) and palustrine emergent (PEM) wetlands]; (2) enhance Humboldt Bay tideland, including brackish marsh habitat; (3) create and enhance habitat for native amphibians (including the Northern Red-Legged Frog, *Rana aurora*, a state-listed species of special concern); and, (4) provide "functional ecological lift." The latter refers to increasing the site's ecological functions above current conditions, primarily with respect to (a) enhancing hydrology at the ground surface and in the upper 12 inches of the soil, which, in turn, would increase available potential habitat for amphibians, birds, and other wildlife; (b) increasing native plant species cover and diversity on the site, which, in turn, would increase available food and habitat for native insects, birds, and other wildlife; and (c) diversifying vegetation structure (from existing "single layer" agricultural grassland to multidimensional overstory and understory habitats), which, in turn, would increase available foraging, nesting, and other habitats for a variety of birds, mammals, and other wildlife.

The proposed wetland restoration project is intended to comply with the requirements of permits issued by the Corps and the Regional Water Board that require mitigation for wetland impacts from the applicant's Eureka-Arcata Highway 101 Corridor Improvement Project approved by the Commission in August of 2019, and related Humboldt Bay Trail projects. The Corps and Regional Water Board permits require implementation of the HBAM project to mitigate for impacts to both freshwater and estuarine wetlands from the three projects. However, in its consideration of the proposed HBAM project under CDP Application No 1-19-0813, the Commission is not evaluating whether the proposed HBAM project will provide adequate mitigation under the Coastal Act for wetland impacts associated with those three projects, because the Commission's approval required different wetland mitigation.[2] The Commission

[1] A separate project planned for the future on the site under the HBAM plan presented in Exhibit 5 (described as "Phase II" activities) may involve the following: (1) demolish and remove the existing farmhouse, barn, sheds, and septic tank to create an additional approximately 0.5-acre area available for estuarine restoration; (2) modify or replace an existing tidegate on the adjacent property to the south of the proposed estuarine restoration area on the subject site owned by CDFW to allow additional tidewater to regularly pass through and enter the southeastern portion of the subject property to restore tidal hydrology to the area at a muted level; (3) replace an existing old corrugated metal culvert under Old Samoa Road with a new culvert that could better accommodate the restored tidal hydrology; and (4) add and modify berms in the estuarine restoration area on the subject property and in the area around the tidegate (on CDFW property) to contain restored tidewaters and to redirect freshwater surface runoff in a manner that allows freshwater to flow offsite while prohibiting tidal water from extending beyond the boundaries of the proposed estuarine restoration area. This Phase II project potentially would result in the additional restoration of 14.6 acres of salt marsh and 5.1 acres of tidal mudflat.

[2] While the Commission's approval of the Eureka-Arcata Highway 101 Corridor Improvement Project in August of 2019 (CDP Application File No. 1-18-1078) authorized impacts to over 10 acres of coastal wetlands (mostly palustrine emergent wetlands) within the project footprint, the Commission's approval did not contemplate the currently proposed HBAM project to mitigate for wetlands to be impacted by the highway corridor improvement project. Rather, the Commission approved an alternative wetland mitigation plan proposed by Caltrans at that time involving the removal and permanent eradication of 179 acres of the invasive dense-flowered cord grass (*Spartina densiflora*) from existing degraded salt marsh habitat on Indian Island in Humboldt Bay.

only is evaluating the conformance of the proposed restoration project with the Chapter 3 policies of the Coastal Act.

Development proposed under the scope of this CDP

The following development is proposed by the applicant under this CDP to restore the site and achieve the identified goals of the project:

- Decommission five existing agricultural wells on the property through removal of concrete at the wellhead, removal of the casings at five feet below grade, and placement of a cement seal over the casings;
- Remove approximately 13,200 linear feet of existing agricultural fencing from the site;
- Erect approximately 7,750 linear feet of "wildlife-friendly" fencing (three-strand smooth wire on 7-foot metal line posts) around the perimeter of the property. Wire mesh metal gates would be included to allow for site access;
- Grade approximately 26 acres of the property within the proposed freshwater restoration areas to a depth of 12 inches to 18 inches in areas where wetland hydrology indicators have not been documented and where freshwater and estuarine wetland restoration and enhancement is proposed. The total grading, including the estuarine restoration area grading described below, would generate approximately 39,000 cubic yards of material. About 35,000 cubic yards of the material would be transported offsite for beneficial reuse at the White Slough Tidal Restoration Project in South Humboldt Bay. The remainder would be used on site;[3]
- Excavate approximately 2,730 cubic yards of material in the proposed estuarine restoration area on the southeastern portion of the property to enhance up to 4.3 acres of brackish marsh habitat. A small area of brackish marsh habitat currently exists on this portion of the property, as a result of regular leakage of marine waters from an old, poorly maintained tidegate on the adjacent land to the south that is owned and managed by the CDFW. The channel excavation to be implemented during Phase I activities is intended to increase the area of inundation from the leaking tidegate to expand the area occupied by brackish species, such as pickleweed (*Salicornia pacifica*) and salt grass (*Distichlis spicata*);
- Place fill material, including approximately 4,000 cubic yards of graded soils and additional salvaged thatch material containing native plants and topsoil, across approximately 18 acres of the site within portions of the proposed freshwater wetland restoration and enhancement areas. Large woody debris also would be placed throughout the restoration site to enhance habitat complexity for wildlife;
- Construct several low-relief earthen berms on the site, including:
    - Low-relief earthen berms along the western, southern, and eastern perimeter of the property to maximize rainwater runoff retention on site, which would enhance and expand wetland hydrology on the property. Berms would be constructed approximately 1-2 feet above grade with top widths of two feet and 4:1 side

[3] The U.S. Fish and Wildlife Service is in the midst of a multi-year tidal marsh restoration project, the White Slough Restoration Project, on the Humboldt Bay National Wildlife Refuge, which involves the placement of over 200,000 cubic yards of clean sediment, from various sources over multiple years to restore over 40 acres of tidal marsh habitat on Humboldt Bay.

slopes. Berms would be designed to support restored riparian habitat and would be planted with native riparian species;

- A low-relief berm between the freshwater and estuarine restoration areas. This berm would be constructed approximately 2-3 feet above grade with a top width of 8 feet and 6:1 side slopes. This berm would not be planted with riparian species but would be hydroseeded with a mix of native wetland grasses, sedges, and herbs;
- Approximately 14 additional "C" berms interspersed throughout the freshwater wetland restoration area to enhance habitat complexity. C-berms would be constructed up to 200 feet long by 10 feet wide by 2 feet tall and would be designed to retain more water in localized areas and support wetland habitat vegetation. C-berms would be planted with a mix of native wetland riparian and/or herbaceous plants depending on which "planting zone" a berm is located;

- Plant approximately 16,500 individual native wetland trees, shrubs, and herbaceous plants across the site where freshwater wetland restoration and enhancement is proposed. Three planting zones are proposed for different proposed habitats on the site (wetland, riparian, and "wetland transition," which is the area between wetland and riparian planting zones), each with a proposed plant palette that includes a diversity of native, regionally appropriate wetland species;
- Install eight new 30-inch-tall by 24-inch-wide "Habitat Restoration Area" signs on 4-inch by 4-inch pressure-treated posts along the perimeter of the property adjacent to the public roadways; and
- Install temporary irrigation infrastructure and water tanks.

Proposed maintenance activities

Proposed maintenance activities would be undertaken for 10 years following completion of construction of the proposed project. Maintenance primarily would involve watering, weeding, and replacement planting, if needed.

Proposed success criteria, monitoring, and reporting

The applicant would monitor the restoration site annually for 10 years following completion of construction to achieve the following success criteria by Year 10:

- Within the freshwater wetland enhancement and establishment areas (PEM wetlands), absolute percent cover of native wetland-rated plants must be at least 85%.
- Within the riparian wetland establishment areas (PSS wetlands), at least 85% of the total number of plants installed and/or volunteer native woody plants recruited must be self-sustaining (without water) for the last three years of the monitoring period.
- Within the estuarine wetland restoration area, absolute cover of native estuarine plants must be at least 85%. In addition, the absolute cover of invasive *Spartina* must be less than 5%.
- No native vegetation cover performance criterion is proposed for the tidal mudflat restoration area, which is naturally unvegetated. The absolute cover of *Spartina* must be less than 5%.

Additional performance criteria are proposed for monitoring years 1, 3, and 5 to measure whether the restoration and mitigation goals are on a trajectory to being attained and to guide site maintenance activities. Monitoring reports must be completed and submitted to permitting agencies annually. Reports must be prepared by a qualified biologist or mitigation specialist and evaluate whether the restoration areas have achieved/are on a trajectory towards achieving the goals and success criteria set forth in the plan. The proposed plan includes a list of the information to be included in annual monitoring reports.

Proposed long-term management

After completion of the 10-year performance monitoring period described above, the site would be managed to ensure the long-term sustainability of the restored and enhanced wetland habitat areas. A conservation easement would be established and recorded over the property. Caltrans plans to transfer the property to CDFW for ownership and long-term management. Caltrans would fund long-term management tasks through a non-wasting endowment.

B. STANDARD OF REVIEW

The proposed project is located entirely within the coastal zone and includes areas within the retained CDP jurisdiction of the Commission and the CDP jurisdiction delegated to the County of Humboldt by the Commission through the County's certified LCP. Most of the subject site is within the Commission's retained CDP jurisdiction, within an area shown on State Lands Commission maps over which the state retains a public trust interest. A portion of the northern section of the property adjacent to Highway 255 is in the County's CDP jurisdiction.

Under Coastal Act section 30601.3, when a project requires a CDP from both a local government with a certified local coastal program and the Commission, the Commission may process a consolidated CDP application for the proposed development when the applicant, the local government, and the Commission's Executive Director agree to process the CDP as a consolidated CDP. In this case, Humboldt County and the applicant have both requested that the Commission process a consolidated CDP for this project, and the Executive Director has agreed. Under a consolidated CDP application, the standard of review that the Commission must apply to the proposed new development is the Chapter 3 policies of the Coastal Act pursuant to section 30601.3. The local government's certified LCP may be used as guidance.

C. OTHER AGENCY APPROVALS

County of Humboldt

Because construction access to the site will be via County roads, a County encroachment permit will be required. Special Condition 1 is included to require submittal of the County permit prior to commencement of construction. If the County's permit requires changes to the project, Special Condition 1 requires that those changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this CDP.

North Coast Regional Water Quality Control Board

The Regional Water Board permitted the proposed project under water quality certification #WDID No. 1B190035WNHU issued 6/24/19 for the Eureka-Arcata Highway 101 Corridor Improvement Project.

U.S. Army Corps of Engineers
The Corps permitted the proposed project under Permit No. SPN-2005-296590N issued 9/30/19 for the Eureka-Arcata Highway 101 Corridor Improvement Project.

U.S. Fish and Wildlife Service (FWS)
The FWS was consulted on the project due to the project's possible effects on Tidewater goby, a federally listed species under the Endangered Species Act. The FWS determined (in an email from Gregory Schmidt to Caltrans staff dated May 9, 2019) that the proposed project would have no potential to impact nesting habitat for gobies.

D. DEVELOPMENT WITHIN COASTAL WETLANDS

Section 30230 of the Coastal Act states (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 (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.*

Section 30233 of the Coastal Act provides, in applicable part, as follows (emphasis added):

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *…*
>
> *(6) Restoration purposes.*
>
> *(7) Nature study, aquaculture, or similar resource dependent activities.*
>
> *(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation.*

> *Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.*
>
> *(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary…*
>
> …

As discussed, the stated purpose of the project is to modify the existing freshwater (agricultural wetlands) and estuarine (brackish marsh) degraded habitats to restore and enhance approximately 70 acres of palustrine emergent (i.e., freshwater marsh), palustrine scrub-shrub (i.e., riparian), and estuarine (i.e., brackish marsh) habitats. To achieve these restoration and enhancement goals, the project includes several components that involve filling and dredging of coastal wetlands, as virtually the entirety of the subject property has been delineated as one-parameter, two-parameter, or three-parameter coastal wetlands.[4] The proposed dredging includes grading or excavating approximately 40,000 cubic yards of material. Fill is proposed through placement of approximately 4,000 cubic yards of soils, large woody debris, and low-relief berms in various places throughout the site.

Section 30233 limits the diking, dredging, and filling of coastal wetlands to seven specific enumerated uses and also requires that any project that results in excavation, dredge, or fill in coastal wetlands be the least environmentally damaging feasible alternative and provide feasible mitigation to minimize adverse environmental effects. These policy "tests" are discussed below:

Allowable use

The first test set forth above is that any proposed filling, diking, or dredging in wetlands must be for an allowable purpose as specified under section 30233. In this case, the relevant category of use is listed under section 30233(a)(6): *restoration purposes*.

Restoration entails returning something to a prior state. Freshwater and estuarine wetlands are extremely dynamic systems in which specific physical functions such as nutrient cycles, succession, water levels and flow patterns directly affect biological composition and productivity. Consequently "restoration," as contrasted with "enhancement," encompasses not only reestablishing certain prior conditions but also reestablishing the processes that create those conditions. In addition, the reestablished conditions must persist to some degree, in order for a project to result in restoration. Moreover, finding that proposed diking, dredging, and/or filling constitutes "restoration purposes" must be based, in part, on evidence that the proposed project will be successful in improving habitat values. Should the project be unsuccessful at increasing and/or enhancing habitat values, or worse, if the proposed diking, dredging and filling impacts of the project actually result in long term degradation of the habitat, the proposed project would not be for "restoration purposes."

[4] The three wetland parameters include hydric soils, wetland hydrology, and a predominance of hydrophytic (wetland-oriented) vegetation. Currently, the entire property has been delineated as having hydric soils and/or a predominance of hydrophytic vegetation, but only a portion of the property (approximately 15 acres) displays all three wetland parameters.

In sum, to ensure that a proposed restoration project achieves its stated habitat objectives, and therefore can be recognized as being for "restoration purposes," the project must demonstrate that: (1) it either entails a return to or re-establishment of former habitat conditions, or it entails actions taken that will result in the reestablishment of ecological processes and abiotic/biotic linkages associated with the freshwater and estuarine habitats; (2) there is a reasonable likelihood that the identified improvements in habitat value and diversity will result; and, (3) once re-established, the restoration project has been designed to provide the desired habitat characteristics in a self-sustaining, persistent fashion independent of the need for repeated maintenance or manipulation to uphold the habitat function.

Through the combination of several components of the proposed project involving the diking, dredging, and filling of coastal wetlands (summarized above), the project will reestablish freshwater and enhance estuarine habitats that historically existed in the area (based on historic maps) prior to hydrologic modifications of the site by historic land use practices, including constructing levees, installing tide gates, and draining the land to support agriculture. The essential purpose of the proposed dredging and filling activities is to restore freshwater marsh, tidal channel, brackish marsh, and riparian habitat to a natural condition of much greater ecological value than the existing altered, degraded habitats. The proposed project will restore freshwater wetland hydrology, which, in turn, will increase surface water ponding and shallow soil saturation on site and increase available habitat for native amphibians (including, potentially, for Northern Red-Legged Frog, *Rana aurora*, a state-listed species of special concern). The project also will increase the opportunity for passive tidal hydrology (via an existing leaky tide gate) to expand existing brackish marsh habitat on the site, which, in turn, will contribute to the reestablishment of ecological processes associated with the wetland habitat that historically existed in the area.

Furthermore, the existing degraded habitats of the site currently are limited in terms of habitat value due to a lack of vertical vegetation structure (in the freshwater areas) and predominance of nonnative vegetation throughout the site. Thus, the proposed planting of over 16,000 native, regionally appropriate wetland plants (herbaceous plants, shrubs, and trees) will greatly increase native wetland plant species cover and diversity throughout the site. Currently, only approximately half of the site exhibits a predominance of wetland vegetation that is native. Other wetland areas have a predominance of non-native pasture vegetation such as tall fescue, ryegrass and clover. The proposed project will more than double the cover of native wetland plant species over current conditions as well as diversify vegetation structure from a managed single-layer pastureland to a more natural mosaic of scrub-shrub, palustrine emergent, and brackish marsh wetlands. This diversified vegetation in turn will increase available food and habitat for native insects, birds, and other wildlife.

The Commission finds that the proposed restoration of historic tidelands, historic riparian habitat, and historic wetland transition habitat between tidal and non-tidal lands entail actions taken in converted or degraded agricultural wetlands that will result in the reestablishment of ecological processes associated with the wetland habitat that historically existed in the area. The Commission therefore finds that the proposed restoration is consistent with the definition of restoration and constitutes filling and dredging for restoration purposes consistent with section 30233(a)(6).

This finding that the proposed project constitutes "restoration purposes" is based, in part, on the assumption that the proposed project will be successful in restoring the various historic habitats and processes as proposed and increasing habitat values. Should the project be unsuccessful, or result in long-term degradation of the habitats, the proposed diking, filling, and dredging would not be for "restoration purposes." Thus, to assure the success of the restoration project, the applicant has proposed a 10-year monitoring and reporting program. Approval of this permit is based on the applicant's proposed monitoring program, which shall ensure the success of the proposed restoration.

In addition, to ensure that the proposed dredging and diking project will achieve the objectives for which it is intended, the Commission attaches Special Conditions 2 through 5:

- Special Condition 2 requires the applicant to implement the authorized wetland restoration project as proposed in the approved final HBAM wetland restoration plan (Exhibit 5) and achieve the identified objectives of the Plan by the end of the 10th year of monitoring. The condition requires submittal of annual monitoring reports to the Executive Director by February 1st following each monitoring year. Furthermore, Special Condition 2 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.

- Special Condition 3 requires submittal of as-built plans within 60 days of completion of construction so that the Commission can confirm that the restoration project is implemented as authorized and to inform monitoring and, if needed, adaptive management. The as-built plans shall show, at a minimum, the following: (a) final elevation contours, (b) location and typical cross-sections of all constructed berms, including "C" berms, (c) executed final planting plan, including locations, types, and numbers of plants installed, (d) final fencing and signage, and (d) documentation of the removal of wells.

- Special Condition 4 identifies those proposed long-term and adaptive management development components that are associated and compatible with the project's restoration purpose. These activities include those actions necessary for restoration purposes for the success of the project, including: (a) manual removal of invasive species and trash; (b) low-intensity livestock grazing for invasive species control and/or to control thatch built-up (i.e., rotating, at a maximum, up to 20 heads of cattle for a period of two weeks every five years); (c) repair and maintenance of temporary BMPs and irrigation equipment and removal of temporary BMPs and irrigation equipment prior to the end of the 10-year monitoring period; and (c) passive use of the site for monitoring, inspections, and nature study.

- Special Condition 5 clarifies the scope of the wetland restoration activities covered under this CDP and notifies the applicant that future development beyond the scope of the authorized development requires separate CDP authorization. The proposed HBAM wetland restoration plan describes two functionally independent projects (described as

Phase I and Phase II activities) both of which are required to be implemented by the Corps and the Regional Water Board. The requirements of Special Condition 5 will ensure that the Commission will have the opportunity to evaluate the separately planned Phase II project to ensure its compatibility with the restoration project authorized under CDP 1-19-0813 and its consistency with the Chapter 3 policies of the Coastal Act.

With the imposition of Special Conditions 2-5, the project will result in the restoration of tidal and non-tidal wetlands and ensure that the restoration project is successful in the long term. Therefore, the Commission finds that the proposed fill, dredging and diking activities described above, as conditioned, are permissible under section 30233(a)(6) for "restoration purposes."

Alternatives

For projects involving diking, dredging, and filling, the Commission must ensure that the proposed project has no less environmentally damaging feasible alternative consistent with section 30233 of the Coastal Act. Coastal Act section 30108 defines "feasible" as …c*apable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors*. The project alternatives are discussed below.

1. No project alternative

The "no project" alternative would maintain the status quo of the site and would not restore and enhance 70 acres of wetland habitat as proposed. Existing conditions on the project site consist of relatively low-quality (habitat quality), hydrologically degraded wetlands that have been subject to repeated disturbance (agricultural activities, including drainage of the site) over many decades. The agricultural productivity on this non-prime agricultural land is also relatively low-quality, due in part to the flood-prone nature of the site and the increasingly saline soils, resulting in part, from the downstream leaky tide gate allowing tidewater onto the site. Under the "no project" alternative, the agricultural productivity of the land would remain low and there would be no improved habitat for native wetland and riparian plants, amphibians (including Northern red-legged frog), waterfowl, and other water-associated wildlife as would occur with the proposed project. Accordingly, taking into consideration the economic, environmental, and social factors, the no project option is not a feasible less environmentally damaging alternative than the proposed project as conditioned.

2. Alternative sites

Much of the historic tidelands surrounding Humboldt Bay have been diked, drained, and converted to agriculture and other use types (e.g., public facilities, commercial and industrial development, etc.), and restoration and enhancement theoretically could occur on other parcels around the bay if there were willing landowners. However, the applicant spent several years pursuing other possible sites to restore for mitigation purposes for the Eureka-Arcata Highway 101 corridor project, but no other non-wetland properties were available and feasible to purchase

for restoration purposes.[5] Additionally, only a limited number of sites (such as the subject site) around the bay are available for brackish marsh restoration, because historically this habitat type occurred at the outer fridges of historic tidelands where freshwater input (e.g., from seasonal stormwater runoff) intermixed with tidal flux to create a transitional brackish habitat. Furthermore, most of the land in immediate proximity to Humboldt Bay and its tributaries where restoration of these habitat types is possible is itself wetland by nature. Therefore, implementing the project at an alternative location is not a feasible less environmentally damaging alternative to the proposed development as conditioned.

3. Alternative methods

Instead of implementing the project as proposed, the applicant could undertake a different amount of grading, excavate additional or fewer channels, place a greater or lesser amount of fill material in the wetlands on site, and/or use other restoration methods/design than proposed. The proposed design is based on supporting hydrologic and geologic studies of site elevations, soils, groundwater, and drainage capacity as well as historic site conditions prior to the diking, drainage, and conversion of the site to agricultural use. Given the time and expense associated with the proposed earth-moving activities, including hauling over 30,000 cubic yard of material offsite for disposal/beneficial reuse, the restoration project has been designed to minimize the total amount of grading and excavation needed to achieve restoration success in a single construction season (which is limited to the dry season). Importantly, the proposed project is designed to achieve the desired level of restoration necessary to maintain and enhance marine resources and the biological productivity of coastal wetlands, as is mandated by the requirements of Coastal Act sections 30230 and 30231. Therefore, implementing the project using alternative methods is not a feasible less environmentally damaging alternative to the proposed development as conditioned.

For all the reasons discussed above, the Commission finds that the proposed development, as conditioned to include the feasible mitigation measures discussed below, is the least environmentally damaging feasible alternative as required by section 30233(a).

Feasible Mitigation Measures

In addition to requiring that diking, dredging, and filling in coastal wetlands and waters only be permitted if found to be an allowable use and the least environmentally damaging feasible alternative, section 30233 further requires that feasible mitigation measures be provided to minimize adverse environmental effects. The applicant has not provided any specific measures or Best Management Practices (BMPs) that would be employed to minimize adverse environmental effects for the project. The below findings discuss several feasible mitigation measures imposed by the Commission to protect water quality and sensitive species and habitats.

1. Feasible mitigation measures to protect water quality and the marine environment

[5] Another property known as the Lanphere parcel that Caltrans owns also is available for wetland restoration. However, restoration on this property, also an existing agricultural wetland, raises the same issues – i.e., diking, dredging, and filling activities in an existing wetland would be required to restore wetlands on the property.

Because coastal wetlands and waters are both within and adjacent to the project site, project construction could result in impacts to water quality and aquatic species from sediment mobilization, construction debris, and hazardous materials entering coastal waters. The site drains to Humboldt Bay via an existing culvert located at the southeastern end of the property, which flows to a small brackish drainage channel on the CDFW-owned MRWA, which enters Humboldt Bay via an existing tide gate. Other than implementing the work during the dry season when the potential for pollutants to mobilize in stormwater runoff to nearby wetlands and waters is low, no specific Best Management Practices (BMPs) for water quality protection have been proposed. Therefore, the Commission attaches Special Conditions 6 and 7. Special Condition 6 requires the applicant to prepare and submit for the Executive Director's review and approval a Construction and Pollution Prevention Plan prior to commencement of construction. The plan must be prepared by a qualified licensed professional and demonstrate that all construction, including, but not limited to, clearing, grading, staging, storage of equipment and materials, or other activities that involve ground disturbance, shall comply with various standards specified in the condition. The plan must include provisions for all of the following: (a) minimizing the potential for discharge of sediment off-site or to coastal waters during construction by use of appropriate BMPs; (b) managing construction materials, equipment, and waste to minimize the potential for pollutant discharge; and (c) minimizing soil compaction and the removal of non-invasive vegetation during construction to retain the natural stormwater infiltration capacity of the soil and other water quality benefits.

Special Condition 6-A(iii) requires that a component of the required Construction and Pollution Prevention Plan be a prohibition in the plan on the use of temporary erosion and sediment control products (such as fiber rolls, erosion control blankets, mulch control netting, and silt fences) that incorporate plastic netting (such as polypropylene, nylon, polyethylene, polyester, or other synthetic fibers). Although erosion and sediment control products classified as temporary are designed to degrade with time, several temporary erosion and sediment control products with netting are commonly left in place permanently. The length of time it takes for netting to begin to degrade depends on the netting composition and the environmental conditions, but the netting can remain intact many years after installation. When plastic netting does eventually fall apart, plastic fragments may be blown or washed into waterways and the ocean, creating an entanglement and ingestion hazard for marine life. Plastic netting also has been found to entangle terrestrial wildlife, including reptiles, amphibians, birds, and small mammals.

Finally, to ensure the proper handling and disposal of construction debris, excess sediments, vegetative spoils, and any other debris and waste associated with the authorized work, Special Condition 7 requires submittal of a final debris disposal plan for the Executive Director's review and approval prior to commencement of construction. The debris disposal plan must identify receiving sites (authorized disposal sites) capable of receiving such materials. The plan prohibits side-casting or placement of such construction debris/excess materials within any slough, creek, or drainage, or any other coastal wetland area.

The Commission finds that as conditioned, the project provides feasible mitigation measures to protect the biological productivity and quality of coastal waters and wetlands consistent with Coastal Act sections 30230, 30231, and 30233.

2. Feasible mitigation measures to protect Tidewater goby

The applicant consulted with the FWS on the proposed project, because critical habitat for Tidewater goby (*Eucyclogobius newberryi*) has been mapped in the brackish waters of the MRWA adjacent to the project site. Tidewater goby is a small marine fish species listed as endangered under the federal Endangered Species Act. Suitable habitat for Tidewater goby could possibly be present on the property during winter months if the combination of tidal flow entering the project site via the downstream leaky tide gate and rainfall and ground saturation is sufficient to support the brackish aquatic habitat used by the goby for breeding. However, no surveys for Tidewater goby have been conducted on the site to date.

The FWS found that because the tide gate, though leaky, is currently not "fish friendly," it is unlikely that gobies could enter the project area, even if suitable habitat were present. However, potential goby habitat exists downstream from the project site and the FWS suggested that the following measures should be implemented to prevent sediment-laden runoff from entering downstream aquatic habitat and the bay and to ensure that the project has no impact on potentially occurring nesting gobies: (a) schedule the work in the summer when no water is present in the intermittent brackish channel on the property, (b) block the culvert inlet on the property prior to implementation of the grading work, and (c) ensure that sediment control BMPs are in place following completion of grading and excavation work and prior to opening the culvert back up. To ensure that the project includes the recommended feasible mitigation measures to protect Tidewater goby, the Commission incorporates these requirements in Special Condition 6-A(i)(e) and Special Condition 6-A(i)(f).

The Commission finds that as conditioned, the project provides feasible mitigation measures to protect the biological productivity and quality of coastal waters and wetlands appropriate to maintain optimum populations of marine organisms, including Tidewater goby, consistent with Coastal Act sections 30230, 30231, and 30233.

3. Feasible mitigation measures to protect special-status nesting birds

According to information submitted by the applicant and obtained by Commission staff through consultation with CDFW staff, several sensitive avian species potentially nest in the existing pastures and brackish marsh of the project area, including, but not limited to, Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*) and Northern harrier (*Circus hudsonius*). Construction activities during the breeding season, as proposed by the applicant, could result in loss of fertile eggs or nestlings or otherwise lead to nest abandonment. To protect sensitive bird nesting habitat areas, the Commission attaches Special Condition 8, which requires compliance with the following sensitive bird nesting habitat protection measures: (a) clearing of vegetation that may provide nesting habitat for sensitive avian species shall be avoided during the nesting season (mid-March to mid-August) to the maximum extent feasible; (b) if it is not feasible to remove vegetation that may provide potential nesting habitat outside the avian nesting season, a qualified biologist must conduct pre-construction surveys for nesting birds no more than seven days prior to the commencement of any such clearing activity; and (c) if any active nest is identified, the biologist, in consultation with CDFW, must determine the extent of a construction-free buffer zone to be established around the nest, and construction must be delayed

until after the young have fledged, as determined by additional surveys conducted by a qualified biologist. Based on the recommendation of CDFW, the construction-free buffer zone shall be a minimum of 300 feet for nesting raptors and a minimum of 100 feet for other sensitive bird species. With the inclusion of Special Condition 8, the Commission finds that the project provides feasible mitigation measures to protect sensitive bird nesting habitat areas consistent with section 30233.

4. Feasible mitigation measures to protect Northern red-legged frog

According to information submitted by the applicant and obtained by Commission staff through consultation with CDFW, the property supports habitat for Northern red-legged frog (*Rana aurora*), a state-listed species of special concern that breeds in freshwater wetlands from Mendocino County to British Columbia. Frog breeding habitat is present in the roadside ditches that run along the perimeter of portions of the property where eggs and tadpoles of Northern red-legged frog have been documented in the recent past. Breeding typically occurs fall to winter, with eggs developing into tadpoles by spring, and tadpoles metamorphosizing to adult frogs spring to summer. Once metamorphosis is complete, adult frogs leave their aquatic habitat and migrate to upland and riparian habitats. As discussed in the Project Description finding, a goal of the project is to create and enhance habitat for the Northern red-legged frog and other amphibians by both expanding opportunities for ponding water on the site and by restoring riparian habitat adjacent to existing Northern red-legged frog habitat (i.e., adjacent to roadside ditches, which are not proposed to be disturbed or altered under the proposed project).

To minimize adverse effects to sensitive Northern red-legged frogs during construction, the Commission attaches Special Condition 9 requiring the following: (a) as recommended by CDFW, a qualified biologist shall perform a pre-construction survey for the frog no more than one week prior to commencement of ground disturbance within 100 feet of all suitable northern red-legged frog habitat and shall coordinate with CDFW to relocate any tadpoles that occur within the work impact zone to nearby suitable habitats, and (b) if the northern red-legged frog is observed in an active construction zone, the contractor shall immediately halt construction activities until a biologist, in consultation with CDFW, has moved the frog to a safe location in similar habitat outside of the construction zone.

With the inclusion of Special Condition 9, the Commission finds that the project provides feasible mitigation measures to protect the sensitive frog species consistent with section 30233.

Maintenance and Enhancement of Biological Productivity and Functional Capacity

The final policy "test" required under sections 30230, 30231, and 30233 of the Coastal Act for projects involving diking, dredging, and/or filling of coastal wetlands and waters is that any proposed dredging or filling in coastal wetlands must maintain, enhance and where feasible restore the biological productivity and functional capacity of the habitat. Section 30233(c) states that the diking, filling, or dredging of wetlands shall maintain or enhance the functional capacity of the wetland. Section 30230 states that marine resources shall be maintained, enhanced, and where feasible, restored. Section30231 states that the biological productivity of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of species of marine organisms and protect human health shall be maintained and, where feasible, restored.

As discussed above, the conditions of the permit will ensure that the project will not have significant adverse impacts on the water quality of any of the coastal waters around the project area and will ensure that the project construction will not adversely affect the biological productivity and functional capacity coastal waters or wetlands. Furthermore, the project's stated purpose is to restore and enhance the biological productivity of coastal wetlands, and conditions of the permit will ensure that the site is monitored for achievement of these goals. Therefore, the Commission finds that the proposed development, as conditioned, will maintain and enhance the functional capacity of the habitat, maintain and restore optimum populations of marine organisms, and protect human health consistent with the requirements of sections 30233, 30230, and 30231.

E. PROTECTION OF ESHA

Section 30240 of the Coastal Act states (emphasis added):

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

Based on Commission staff's consultation with CDFW staff, several sensitive bat species are known to occur in the project vicinity and potentially could roost in the existing abandoned structures (barn and house) on the property, adjacent to the project site. The development authorized herein does not encroach into this potential environmentally sensitive habitat area. There are eight species of bats known to occur in Humboldt County that are state-listed as sensitive, including one species (Townsend's big-eared bat, *Corynorhinus townsendii*) that currently is a candidate for listing as "threatened" under the California Endangered Species Act. Bats often are considered "keystone species" that are essential to ecosystem health due to "services" they may provide such as pollination, seed dispersal, soil enrichment (from guano), and/or insect consumption (including, in some cases, consumption of damaging agricultural pests).[6] Many species of bats, including those that occur in the project region, have a tendency to aggregate in colonies – hibernating colonies in the winter and maternity colonies (composed of adult females and their young) from spring through early fall.[7] Typical colony size varies from species to species. The entire population for a large area may be concentrated in a single roost.[8] In general, many species of California bats are known to commonly roost on or in anthropomorphic structures (e.g., bridges and buildings), and Townsend's big-eared bat, among several other species, is known to roost in buildings on an occasional basis.[9]

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[6] Bat Conservation International: http://www.batcon.org/.

[7] H.T. Harvey & Associates et al. December 29, 2004.

[8] Ibid.

[9] Szewczak, J.M.. 2009.

Bats use different roosts for different purposes, but common to all suitable roosting habitats are an appropriate temperature regime and protection from predators and undesirable weather.[10] Extra noise, vibration, increased lights, the reconfiguration of large objects, changes in humidity or temperatures, and changes in the approach to a roost that could force the animals to change their mode of egress and/or ingress to a roost all could cause significant disturbance to roosting bats.[11] As bats have a relatively low reproductive rate (most species have only one young per year, and females are often two years old before bearing their first young), impacts to a population can potentially be severe, as it can take a colony many years to recover from activities that cause mortality or even temporary reduced fecundity.[12] According to Bat Conservation International, bat populations are declining around the globe, largely as a result of human activity.[13] Because of the rarity of bats and the value of bats due to their role in the ecosystem combined with the fact that bat roosting areas can be easily disturbed or degraded by human activities and developments, bat roosting areas qualify as ESHA under the Coastal Act.

No bat surveys have been conducted on the site to determine whether bats roost in the existing abandoned structures. CDFW staff recommended in its consultation with Commission staff that if construction is planned to occur between June and the end of August, a seasonally appropriate pre-construction survey for bats should occur during the potential maternal bat roosting season within potential bat roosting sites, including existing structures on the property, to determine whether roosting bats are present in the structure(s). If the results of the bat roosting survey are positive for bat presence, CDFW recommended that no noise levels reaching 80dB or higher, as determined through noise monitoring, should be allowed to reach the roosting area(s) until juvenile bats are volant, as confirmed by a qualified biologist in consultation with CDFW, or until September 1st (whichever is earlier).

To ensure these mitigation measures are implemented during project construction to avoid impacts that would significantly degrade the adjacent environmentally sensitive bat roosting habitat area, the Commission includes these requirements in Special Condition 10. The condition requires that construction noise levels be measured by a qualified noise monitor with experience measuring noise levels using a calibrated noise-meter at the closest edge of the structure to the noise source. The monitor shall report to the Caltrans Resident Engineer who shall be given the authority and responsibility to direct the contractor to stop construction activities that reach or exceed 80dB noise levels.

With the inclusion of Special Condition 10, the Commission finds that the project is sited and designed to prevent impacts that would significantly degrade environmentally sensitive bat roosting habitat and is compatible with the continuance of the habitat consistent with Coastal Act section 30240(b).

[10] H.T. Harvey & Associates et al. 2004.

[11] Ibid.

[12] Ibid.

[13] Bat Conservation International: http://www.batcon.org/ .

F. CONVERSION OF AGRICULTURAL LANDS

Section 30241 of the Coastal Act requires the protection of prime agricultural lands[14] and sets limits on the conversion of all agricultural lands to non-agricultural uses. Section 30241 states:

> *The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas 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.*[15]
>
> *(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 development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.*

The project site is agricultural land that has been in agricultural production (in recent decades for grazing and hay production) for approximately 100 years. The proposed project will convert approximately 70 acres of agricultural land to non-agricultural uses.

Section 30241 applies to prime agricultural land and all agricultural lands on the periphery of an urban area. The subject property is on the periphery of an urban area, as it

[14] 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.

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

is within 1,000 feet of the LCP-certified urban limit line of the City of Arcata northeast of the property. Therefore, the Commission must review the proposed conversion of the agricultural land to open space and wetland habitat for consistency with the requirements of section 30241.

No Effect on Maintaining Prime Agricultural Land in Agricultural Production

As cited above, section 30241 sets forth policies that protect agricultural production on prime agricultural lands. Based on soil maps produced by the Natural Resources Conservation Service (NRCS), the agricultural land on the property is mapped primarily (~96%) as Occidental, a soil type consisting of "very deep, very poorly drained soils on reclaimed salt marshes and tidal marshes on alluvial plains.[16] These soils are "influenced by its tidal fluctuations," which contributes to their poor drainage. Because the NRCS classifies this soil type as a hydric soil that frequently ponds for long periods December through March, neither the land use capability classification nor Storie Index rating meet the first or second criteria for the definition of prime agricultural soils.

Similarly, the land also doesn't meet the potential qualifying definition of prime agricultural land related to the ability to support livestock used to produce food or fiber with an annual carrying capacity of at least one animal-unit per acre. Based on information from the County Farm Advisor for the U.C. Cooperative Extension office in Eureka, the low-lying, poorly drained, saltwater-intruded, and flood-prone soils along the northern reclaimed fringes of Humboldt Bay typically require 3 acres per animal-unit. The project site supports only 0.33 animal unit months (AUMs) per acre, which is less than the amount needed for the land to qualify as prime under the Coastal Act.[17]

Finally, the land does not qualify as prime based upon its potential for commercial fruit or nut crop production at specified minimal yields. Due to the maritime-influenced climate of the western Humboldt County, commercial nut production is precluded along the immediate coastal areas by the significant precipitation and limited number of warm, overcast-free days to allow for full seed maturation. In addition, due to the high bulk density of the soils underlying the project site and the relatively shallow water table, fruit and nut production on an economically successful commercial basis is not currently nor has ever been historically pursued in open coastal environs such as the project area.

Therefore, the Commission finds that the subject site does not contain prime agricultural soils or livestock and/or crop productivity potential, and the first directive of section 30241 regarding maintaining the maximum amount of prime agricultural land in agricultural production is not applicable to the project site.

Minimizing Conflicts Between Agricultural and Urban Land Uses

As cited above, section 30241 also enumerates a series of measures to be undertaken to minimize conflicts between agricultural lands, both prime and non-prime, and urban uses. As discussed, the proposed project will convert approximately 70 acres of non-prime farmland to non-

[16] https://soilseries.sc.egov.usda.gov/OSD_Docs/O/OCCIDENTAL.html

[17] An AUM is the amount of forage necessary to feed a mature cow (or its equivalent) for one month.

agricultural uses. The Commission finds that for the reasons discussed below, the conversion of the subject agricultural lands to the proposed habitat restoration use that will occur around the periphery of an urban area is a permissible conversion consistent with the applicable criteria of section 30241.

1. Establishing stable boundaries between urban and rural uses

The urban boundary as designated in the County's certified LCP is within 1,000 feet of the northeast corner of the subject site, and the City of Arcata urban limits and urban services area are approximately 1,300 feet to the east/northeast (Exhibit 3). Although the subject property borders agricultural lands to the west, northwest, and north, no agricultural parcels exist in the area between the subject parcel and the urban boundary to the northeast. The property is immediately bounded by County roads to the east, south, and west, and by Highway 255 to the north. The lands surrounding the property beyond the roads are designated and zoned as follows:

- To the northeast = privately owned, undeveloped open space land zoned for Natural Resources (NR) uses under the County's certified LCP;
- To the east, southeast, south, and southwest = Humboldt Bay tidal wetlands (salt marsh, tidal mudflat, and tidal channels) of the CDFW Mad River Wildlife Area (MRWA); and
- To the west, northwest, and north = privately owned, undeveloped agricultural land zoned for Agriculture Exclusive uses (AE, 60-acre minimum parcel size) under the County's certified LCP.

The proposed conversion of agricultural lands would add 70 acres to the adjacent 587-acre MRWA, since the restored lands will be transferred to CDFW for ownership and long-term protection and management after the 10-year monitoring period and achievement of the plan's identified success criteria. The expanded wildlife area, together with the undeveloped open space land designated NR to the northeast of the subject parcel, will provide a continuous swath of open space lands, which will establish a stable boundary separating the remaining agricultural lands to the west, northwest, and north of the subject property from the urban uses of Arcata to the northeast. As a result, the project will provide a clearly defined buffer between potentially incompatible uses. Therefore, conversion of the site's existing agricultural lands through the development of the proposed project will minimize conflicts between agricultural and urban land uses.

2. Limiting Conversions Around Urban Periphery to Complete Stable Boundaries

The proposed conversion of agricultural lands constitutes a conversion of agricultural land around the periphery of an urban area (1,000 feet to the northeast, on the other side of the adjacent NR-zoned lands, as discussed above) that would complete a logical and viable "neighborhood" of open space and wildlife lands, by providing for the future merger of the subject site with the adjacent MRWA and expanding the current open space lands adjoining the tidelands of Humboldt Bay. As discussed above, the proposed conversion of agricultural lands for the restoration project will contribute to the establishment of a stable limit on the encroachment of urban development into the unincorporated rural areas southwest of the City.

3. Develop Lands Not Suitable for Agriculture First Before Converting Agricultural Lands

The proposed conversion of the 70 acres of agricultural land around the periphery of an urban area will occur on land not particularly suited for agricultural use. A combination of (a) ongoing subsidence of the area; (b) the site's proximity to the bay and estuary and its high-water table and poor drainage that lead to saturated soils for several months each year; and (c) an earthen dike with a leaky tide gate separating the farmland from Humboldt Bay has led to saltwater intrusion into a significant portion of the agricultural lands (southeastern portion of the property in particular, which is classified as brackish marsh). Thus, the site's relatively saline soil levels further limit the agricultural productivity of these lands. Accordingly, given the projected increase of saltwater intrusion expected for the site, ongoing regional subsidence, and predicted incremental rise in sea level, the suitability of the grazing lands for continued agricultural use is expected to continue to degrade in the coming years and possibly be completely extinguished by these forces.

4. Avoid Nonagricultural Development That Would Impair Viability of Agricultural Lands

The proposed conversion of agricultural land will not result in the development of infrastructure that would be financed through assessments against the adjoining agricultural properties. Furthermore, the proposed conversion of grazing lands to restored habitat, as conditioned, will not result in emissions or discharges that would degrade air and water quality and thereby impact agricultural viability of the surrounding agricultural lands.

Conclusion

For all of the reasons discussed above, the Commission finds that the proposed conversion of the subject agricultural lands is a permissible conversion of agricultural land consistent with section 30241 of the Coastal Act.

G. ARCHAEOLOGICAL RESOURCES

Section 30244 of the Coastal Act states:

> *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 are the Table Bluff Reservation Wiyot Tribe, the Blue Lake Rancheria, and the Bear River Band of the Rohnerville Rancheria.

An archaeologist from Caltrans consulted with the Tribal Historic Preservation Officers (THPOs) for the Wiyot area tribes and conducted an archaeological investigation and survey of the site. The investigation and survey did not identify any archaeological resources on the property. Commission staff also contacted the THPOs for the Wiyot area tribes requesting

comments and recommendations on the project.[18] The THPO for the Blue Lake Rancheria responded that previous coordination with the Caltrans archaeologist had occurred, and the tribe recommended inclusion of an "inadvertent discovery" condition.

The Commission therefore attaches Special Condition 11 to ensure protection of any archaeological resources that may be discovered at the site during construction of the proposed project. This special condition requires 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, the 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, as conditioned, is consistent with Coastal Act section 30244, because as conditioned, the development includes reasonable mitigation measures to avoid adverse impacts to archaeological resources.

H. PUBLIC ACCESS

Section 30210 of the Coastal Act requires that maximum public access shall be provided consistent with public safety needs and the need to protect natural resource areas from overuse. Section 30212 requires, in part, that access from the nearest public roadway to the shoreline be provided in new development projects, except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or where adequate access exists nearby. Section 30211 requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30214 provides that the public access policies of the Coastal Act shall be implemented in a manner that considers the capacity of the site and the fragility of natural resources in the area. In applying sections 30210, 30211, 30212, and 30214, the Commission is also limited by the need to show that any denial of a permit application based on these sections or any decision to impose conditions requiring public access on the granting of a permit is necessary to avoid or offset a project's adverse impact on existing or potential access.

No existing public access to the bay shoreline is available on the subject property, but the site is directly across the road(s) from restored tidelands of Humboldt Bay that are within the Mad River Wildlife Area (MRWA). The MRWA is open to the public year-round for wildlife-related activities such as bird watching, kayaking, hunting (pursuant to applicable seasons and regulations), research, and education.

No public trails or other access amenities are planned for the site at this time. In fact, the proposed project includes the installation of new wildlife-friendly fencing around the perimeter of the property to prevent public access to the site during the 10-year restoration monitoring period. However, the proposed development will not restrict existing public access in the

[18] Commission staff referred to project (via email) to tribal representatives from the Blue Lake Rancheria, Bear River Band of the Rohnerville Rancheria, Wiyot Tribe, Big Lagoon Rancheria, and Trinidad Rancheria on November 19, 2019.

adjoining MRWA, and the County roads that separate the subject site from the adjacent MRWA (V Street and Old Samoa Road) will remain open for through passage during project construction. In addition, the restored project area will ultimately increase the amount of land potentially available for public access and recreational opportunities, as the site will be added to the MRWA after completion of the 10-year monitoring program and achievement of the restoration plan's success criteria. Public use of the project site and the flanking wildlife area likely will increase after project implementation for nature study uses (e.g., bird-watching), since the project will restore and enhance wildlife habitat abundance and diversity in the area. As described in the Project Description Finding, the project includes the installation of eight new "Habitat Restoration Area" signs around the perimeter of the property adjacent to the County roads, which may attract people to the area for passive recreation uses such as bird-watching.

Therefore, the Commission finds that the proposed project will not have an adverse effect on public access, and the development as proposed without new public access is consistent with the requirements of sections 30210, 30211, and 30212.

I. 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 wetland restoration project is the potential for the project to increase flood hazards to surrounding structures, roads, and adjacent properties, as the project involves major hydrologic alterations to the site. The property is located within the FEMA-mapped 100-year flood zone,[19] and, as previously discussed, the project will involve significant grading (~26 acres/39,000 cubic yards), excavation (~4.3 acres/~2,730 cubic yards), and placement of fill, including the construction of berms to maximize rainwater runoff retention on site and separate the freshwater and estuarine restoration areas.

The applicant submitted a flood evaluation report prepared by a registered professional civil engineer (Caltrans district hydraulic engineer) confirming that the proposed wetland restoration project: (a) poses no significant flood risk; (b) is compatible with floodplain development; (c) presents no significant impacts on natural and beneficial floodplain values; (d) requires no

[19] Flood Insurance Rate Map Number 06023C0855G, effective on 6/21/2017.

special mitigation measures to minimize impacts or restore and preserve natural and beneficial floodplain values; and (e) does not constitute a significant floodplain encroachment.[20] The applicant also prepared hydraulic and geotechnical reports which support the flood evaluation report and confirm that the project will not result in increased flooding on surrounding roads.

While the reports described above address current flood risk from stormwater runoff, 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 in light of 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.[21] 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"

[20] Per 23 CRF, sec. 650.105(q), *"Significant encroachment" shall mean a highway encroachment and any direct support of likely base flood-plain development that would involve one or more of the following construction-or flood-related impacts: (1) a significant potential for interruption or termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route; (2) a significant risk; or (3) a significant adverse impact on natural and beneficial flood-plain values.*

[21] 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).

scenario) to 2.3 feet (under the "medium high risk aversion" scenario) to 3.1 feet [under the "extreme risk aversion" (H++) scenario].[22]

The current mean monthly maximum water (MMMW)[23] elevation at the North Spit tide gauge is approximately 7.8 feet NAVD88.[24] 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 wetland restoration project, the project as designed has a relatively high capacity to adapt to risks associated with tidal flooding, and the 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, increased tidal flooding "impacts" in the wetland restoration area would be beneficial for marine resources and would not pose any risk to new structures in the area, since no new structures are proposed under this CDP (in fact five existing wells will be decommissioned as part of the project).

As designed under the proposed wetland restoration project, much of the property will be below 9.3 feet in elevation (the proposed design elevations range between approximately 3.8 feet at the southeastern end and 11 feet at the northern end). Highway 255 to the north is at an elevation of 12-15 feet, and the County roads to the west, south, and east are at elevations as low as 6 feet. The low-relief berms proposed to be constructed around the western, southern, and eastern sides of the property will be 6.7 feet in height. However, the top of the bayfront dikes on the adjacent CDFW property (Mad River Wildlife Area) to the south and east, which separate the site and the adjoining MRWA from Humboldt Bay, are at an elevation of 9 feet.[25] These dikes and the tidegate covering the outlet end of the drainage channel and culvert that connects the subject property to the bay together prevent tidal waters from significantly flooding the subject lands (except via the leaks in the existing tide gate that allow tidewaters to occasionally flow up channel through the culvert under Old Samoa Road onto the subject site). Thus, the project area will be protected from the effects of SLR and will not experience tidal flooding until sea levels exceed the 9-foot-elevation dikes on the adjacent land. Under the low-risk scenario, this is projected to occur between 2040 and 2050. Moreover, Caltrans and CDFW are in the process of planning further tidal restoration work in the future to proactively convert the restoration area to estuarine habitat, which will accommodate the rise in sea level at whatever point SLR actually threatens the area.

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[22] 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.

[23] 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.

[24] Northern Hydrology and Engineering 2015.

[25] Based on information in the permit for the McDaniel Slough project approved under CDP 1-06-036-A1 on 8/13/09.

In sum, while portions of the project will be vulnerable to tidal flooding in 10 to 20 years (depending on the risk aversion scenario), as discussed, the consequences of the flooding would not be severe from the standpoint of impacts to coastal resources. Regardless, because the applicant is electing to undertake new development in an inherently hazardous area, the applicant must assume the risks. Special Condition 12 is included to require the applicant 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 12 notifies the applicant that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicant 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.

For all of 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.

J. CALIFORNIA ENVIRONMENTAL QUALITY ACT

The applicant served as the lead agency for the project for California Environmental Quality Act (CEQA) purposes. The applicant adopted a Final Environmental Impact Report for the Eureka-Arcata Highway 101 Corridor Improvement Project, which includes the proposed HBAM restoration work on January 20, 2017. An addendum to the FEIR will be required for the Phase II project components, which, as previously discussed, also will require separate CDP authorization.

Section 13096 of the Commission's administrative regulation requires Coastal 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 requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed herein, the proposed project has been conditioned to be found consistent with the Chapter 3 policies of the Coastal Act. Mitigation measures that will minimize all adverse environmental impacts have been made requirements of project approval. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A
SUBSTANTIVE FILE DOCUMENTS

Application File for Coastal Development Permit No. 1-19-0813

Application File for CDP 1-18-1078 (Caltrans Eureka-Arcata Highway 101 Corridor Project)

Application File for CDP 1-16-0122 (Arcata Bay Trail)

Application File for CDP 1-14-0249 (Reginal *Spartina* Eradication)

California Coastal Commission (2015, August 12; including October 2018 Science Update adopted November 7, 2018). California Coastal Commission sea level rise policy guidance: Interpretive guidelines for addressing sea level rise in local coastal programs and coastal development permits.

County of Humboldt certified Local Coastal Program

Laird, Aldaron, Brian Powell. 2013. Humboldt Bay shoreline inventory, mapping, and sea level rise vulnerability assessment, with an Addendum: Shoreline Vulnerability Ratings. Prepared for the State Coastal Conservancy.

Northern Hydrology & Engineering. (2015, April). Humboldt Bay: Sea level rise, hydrodynamic modeling, and inundation vulnerability mapping – Final report. Prepared for the State Coastal Conservancy and Coastal Ecosystems Institute of Northern California.

Trinity Associates. (2015, February). Sea Level Rise Adaptation Planning Project – Phase II Report. Prepared for the State Coastal Conservancy and Coastal Ecosystems Institute of Northern California.