

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE

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Staff:	Melissa B. Kraemer
Staff Report:	June 26, 2009
Hearing Date:	July 10, 2009
Commission Action:	

STAFF REPORT:**PERMIT AMENDMENT**

APPLICATION NUMBER:	1-06-036-A1
APPLICANT:	City of Arcata – Environmental Services Department
PROJECT LOCATION:	Within the open wetland pasture areas adjacent to Arcata Bay south of Samoa Boulevard, on the California Department of Fish and Game's Mad River Slough Wildlife Area near the southwestern boundary of the City of Arcata in an unincorporated area of Humboldt County (APNs 501-031-005 & 506-021-003).
DESCRIPTION OF PROJECT PREVIOUSLY APPROVED:	Restore and enhance wetland function to 240 acres of reclaimed former tidal salt/brackish marsh to a combination of 205 acres of intertidal salt marsh wetlands and 35 acres of impounded freshwater and brackish wetlands by: 1) excavating the pond areas; 2) deepening approximately 5,200 lineal feet of existing slough channels within the reclaimed area; 3) constructing approximately 21,000 lineal feet of flood, eco-levee, and pond perimeter levees around the periphery of the project component areas; 4) removing a total of approximately 1,200 lineal feet of portions of portions of the existing flood control levees along the lower reaches of McDaniel Slough to form roosting islands out of the remnant portions of the levees; 5) breaching the reclamation levee

separating the project site from Arcata Bay at two locations to form muted tidal openings to provide access for anadromous salmonids, tidewater goby, and other marine fish species; 6) planting appropriate elevation-specific native salt marsh plants on the inner faces of the eco levees; and 7) developing pedestrian and bicycle trail segments along the pond perimeters and out to the reclamation levee breach site.

DESCRIPTION OF CURRENT
AMENDMENT REQUEST:

Expand the project area by (1) adding 12 acres of salt marsh habitat to the approved salt marsh restoration area by changing the approved footprint of the western flood levee; (2) creating 10 acres of brackish marsh habitat on the western side of the reconfigured levee adjacent to Arcata Bay by lowering the existing surface approximately 18-24 inches to allow for muted tidal inundation; and (3) enhancing 23 acres of existing seasonal wetlands on the western side of the reconfigured levee by lowering the existing surface approximately 12 inches to prolong the area's seasonal inundation.

LAND USE DESIGNATION:

Agricultural Exclusive (AE)

ZONING DESIGNATION:

Agricultural Exclusive – 60-acre Minimum Parcel Size with Flood Hazard and Transitional Agriculture Combining Zones (AE-60/F,T) and Natural Resources with Coastal Wetlands Combining Zone (NR/W).

OTHER APPROVALS:

- 1) U.S. Army Corps of Engineers Amendment CWA Section 404 permit (pending)
- 2) North Coast Regional Water Quality Control Board CWA Sec.401 WQC (pending)

SUBSTANTIVE FILE
DOCUMENTS:

- 1) *McDaniel Slough Wetlands Enhancement Project Final Environmental Impact Report*, SCH No. 2003022091;
- 2) Commission CDP File No. 1-06-036;
- 3) Humboldt County Local Coastal Program.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends approval of the permit amendment request with conditions.

The 240-acre McDaniel Slough Wetland Enhancement Project area is situated within the diked seasonal wetlands along and adjoining the channelized segment of the lower McDaniel Slough stream course below State Route 255 to its juncture with the Arcata Bay lobe of Humboldt Bay. The proposed amended development would occur on the Mad River Slough Wildlife Area, which is owned and managed by the California Department of Fish and Game (DFG) (Exhibit Nos. 3 and 4). This 587-acre wildlife area was formerly part of Arcata Bay's extensive intertidal salt marsh and mudflats, and old tidal sloughs still meander through the land, which is periodically flooded during periods of heavy rain. Under the current amendment request, the project area would expand from its existing 240 acres to an approximately 330-acre area.

Under the current amendment request, the City of Arcata, under a cooperative agreement with the DFG, proposes the following: (1) adding 12 acres of salt marsh habitat to the approved salt marsh restoration area by changing the approved footprint of the western flood levee; (2) creating 10 acres of brackish marsh habitat on the western side of the reconfigured levee adjacent to Arcata Bay by lowering the existing surface approximately 18-24 inches to allow for muted tidal inundation; and (3) enhancing 23 acres of existing seasonal wetlands on the western side of the reconfigured levee by lowering the existing surface approximately 12 inches to prolong the area's seasonal inundation (see Exhibit No. 5). The proposed total acreage of the expanded project area includes a 100-foot buffer along the western boundary of the brackish and seasonal wetland areas.

None of the area involved in the proposed amended development is currently in agricultural use, nor has it been for at least five years. The approximately 90 acres involved in the proposed expanded project area has been regularly inundated by salt water resulting from a leaky tidegate since 2004, which has severely decreased the land's agricultural value. According to the DFG Wildlife Habitat Supervisor for the property, due to the shallow wells on the property and the potential for their sanding in, the lands that would be involved in the proposed amended development are unable to be irrigated and contain no soils classified as "prime." According to the Management Plan for the Mad River Slough Wildlife Area, grazing for wildlife habitat management occurs on adjacent lands, which would be unaffected by the proposed amended development.

The original permit (CDP No. 1-06-036) authorized the filling of 6.5 acres of wetland habitat, with on-site compensatory mitigation of an equivalent wetland acreage (see Exhibit No. 8). The proposed amended development would result in the filling of an additional 1.2 acres of existing seasonal wetland habitat (due to the proposed meandering levee covering more area). The applicant proposes to mitigate for the total 7.69 acres of wetland impacts on site as shown on Exhibit No. 6 so that there would be no net loss of wetlands. This would include removal of levees, concretes, culverts, a parking lot, a barn, and conversion of other upland areas within the larger project area.

The proposed restoration of 12 acres of salt marsh, 10 acres of brackish marsh, and 23 acres of enhanced seasonal wetland habitats will restore the landscape processes transitioning from fresh- to brackish- to salt-water habitats that historically existed in the Humboldt Bay region prior to European settlement. The three different wetland types will serve as a combined system that replicates historical patterns of ecotone transition between the salt, brackish, and freshwater ecosystems to reestablish historic coastal geomorphic functions where the uplands gradually transitioned to the bay through seasonal freshwater and brackish wetlands. Compared to the currently degraded, monotonous, and relatively low productivity of the seasonal pasture wetlands that exist across the 45-acre amended development project site, the proposed 12 acres of salt marsh habitat, 10 acres of brackish marsh habitat, and 23 acres of enhanced seasonal wetlands, together with the additional 240 acres of salt marsh, brackish marsh, freshwater pond, and riparian areas authorized for restoration under the original permit, will provide habitats for a wide variety of estuarine, intertidal, and terrestrial organisms. The restored habitats will provide a mosaic of deep to shallow in-water and emergent shoreline areas where anadromous salmonids, tidewater goby, and a wide assortment of amphibian and other aquatic wildlife can hold, feed, rest, and rear their young. The proposed 10-acre brackish marsh will increase habitat for tidewater goby within an area that has been designated as “critical habitat” for tidewater goby by the U.S. Fish and Wildlife Service. Additionally, shorebirds such as dunlins, greater yellowlegs, least sandpipers, long-billed curlews, and marbled godwits rely on both mudflat and seasonal wetland habitats for foraging. The proposed 23-acre enhanced seasonal wetland will provide important habitat for these marine shorebirds, which rely on shallow freshwater wetlands with unobstructed views (e.g., short vegetation such as pasture grasses) for roosting and foraging.

Staff believes that proposed dredging and filling of seasonal wetlands for the restoration and enhancement of habitat for fish, waterfowl, shorebirds, and other water-associated and aquatic wildlife is permissible under Section 30233(a)(6) for “restoration purposes.” Staff further believes that there is no less environmentally damaging feasible alternative to the development as conditioned, consistent with Section 30233(a) of the Coastal Act. Staff recommends the following new special conditions, among others, to avoid or minimize all potential significant adverse impacts:

- Special Condition No. 14 would require submittal of a final monitoring plan to outline a method for measuring and documenting the improvements in habitat value and diversity at the site over the course of five years following project completion, including provisions for remediation to ensure that the goals and objectives of the wetland restoration/ enhancement project are met.
- Special Condition No. 15 would require submittal of an erosion and runoff control plan that is to include certain specified water quality best management practices for minimizing impacts to coastal waters associated with the dredging, filling, and diking activities
- Special Condition No. 16 would require submittal of a debris disposal plan detailing the methods, schedule, and confirmed final destination of any excess materials dredged from the site that cannot be reused on site as proposed.

Staff believes that the conditions of the permit will ensure that the project will not have significant adverse impacts on the water quality of any of the coastal waters in the project area and will ensure that the project construction will not adversely affect the biological productivity and functional capacity coastal waters or wetlands. Furthermore, the project's stated purpose is to restore and enhance the biological productivity of coastal wetlands and waters, and conditions of the permit will ensure that the site is monitored for achievement of these goals. Finally, staff believes that as the amended development will serve to treat stormwater runoff from surrounding agricultural lands, the project protect human health by improving the water quality of this major discharge to the bay, which is used for a variety of human recreational uses. Thus, staff believes that the amended 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 of the Coastal Act.

Aside from the amended development's habitat restoration benefits, the proposed 90-acre wetland restoration project (including 45 acres of buffer lands around the 45 acres of restored habitat) would convert agricultural land in a manner inconsistent with the provisions of Sections 30241 and 30242 of the Coastal Act. However, staff believes that to not approve the project would result in a failure to maintain and enhance marine resources and the biological productivity of coastal waters that would be inconsistent with the mandates of Sections 30230 and 30231 of the Coastal Act. Sections 30230 and 30231 mandate that marine resources shall be maintained and enhanced, and where feasible, restored. Sections 30230 and 30231 also mandate that the biological productivity of coastal waters appropriate to maintain optimum populations of marine organisms and protect human health shall be maintained and, where feasible, restored. In addition, it is the very essence of the project, not an ancillary amenity offered as a trade-off, that is both inconsistent with certain Chapter 3 policies and yet also necessary restoration. Finally, staff examined alternatives to the amended development including (1) alternative sites; (2) alternative configurations of project features; and (3) the no-project alternative. Staff believes that there is no less environmentally damaging feasible alternative to the development as conditioned, as required by Section 30233(a) of the Coastal Act.

Thus, staff believes that it is appropriate for the Commission to invoke the conflict resolution policies of Section 30007.5 of the Coastal Act. Staff believes that the impacts on coastal resources from not constructing the project would be more significant than the project's agricultural impacts and would be inconsistent with the mandates of Sections 30230 and 30231 to maintain and enhance marine resources and the biological productivity of coastal waters.

To ensure that the maintenance and enhancement of marine resources and biological productivity envisioned by the project that enables the Commission to use the balancing provision of Section 30007.5 and to characterize the development as filling and dredging for "restoration purposes" pursuant to Section 30233(a)(6) are achieved, staff recommends Special Condition No. 14 (see above).

Overall, the project would restore and enhance wetland habitat values and would produce generally beneficial environmental effects. However, depending on the manner in which the proposed project is conducted, significant adverse impacts could result, including (1) impacts to marine resources and wildlife habitat from water pollution in the form of sedimentation or debris entering coastal waters and wetlands; (2) introduction (through re-planting) of exotic invasive plants species that could compete with native vegetation and negate the habitat improvements they would provide; (3) use of certain rodenticides that could deleteriously bio-accumulate in predator bird species; (4) impacts to adjacent seasonal wetlands from construction activities; and (5) stranding of fish in the channel during reconstruction of the channel. Therefore, staff recommends Special Condition Nos. 14 through 16 to ensure that potentially significant adverse impacts are minimized. These conditions require that the applicant submit various final plans, including a final restoration and enhancement monitoring plan, a final erosion and runoff control plan, and final grading and debris disposal plans. Additionally, reimposed Special Condition No. 2 requires that the applicant carry out the project in accordance with various construction protocols to ensure the protection of coastal waters and wetlands, and modified and reimposed Special Condition No. 4 requires revegetation of the site to be carried out according to specified standards and limitations. Staff believes that without Special Condition Nos. 2, 4, and 14 through 16, the amended development could not be approved pursuant to Section 30007.5 of the Coastal Act.

Therefore, staff believes that as conditioned, the amended development is consistent with all applicable Chapter 3 policies of the Coastal Act.

The Motion to adopt the Staff Recommendation of Approval with Conditions is on Page 9.

STAFF NOTES:

1. Procedural Note

Section 13166 of the California Code of Regulations states that the Executive Director shall reject an amendment request if: (a) it lessens or avoids the intent of the approved permit; unless (b) the applicant presents newly discovered material information, which he or she could not, with reasonable diligence, have discovered and produced before the permit was granted.

On June 15, 2007 the Commission approved the City of Arcata's Coastal Development Permit Application No. 1-06-036 to the McDaniel Slough Wetlands Enhancement Project (Exhibit No. 8), which was designed to restore and enhance wetland function to 240 acres of reclaimed former tidal salt/brackish marsh to a combination of 205 acres of intertidal salt marsh wetlands and 35 acres of impounded freshwater and brackish wetlands by: 1) excavating the pond areas; 2) deepening approximately 5,200 lineal feet of existing slough channels within the reclaimed area; 3) constructing approximately 21,000 lineal

feet of flood, eco-levee, and pond perimeter levees around the periphery of the project component areas; 4) removing a total of approximately 1,200 lineal feet of portions of portions of the existing flood control levees along the lower reaches of McDaniel Slough to form roosting islands out of the remnant portions of the levees; 5) breaching the reclamation levee separating the project site from Arcata Bay at two locations to form muted tidal openings to provide access for anadromous salmonids, tidewater goby, and other marine fish species; 6) planting appropriate elevation-specific native salt marsh plants on the inner faces of the eco levees; and 7) developing pedestrian and bicycle trail segments along the pond perimeters and out to the reclamation levee breach site.

Under the current amendment request, the applicant proposes to expand the approved project area by (1) adding 12 acres of salt marsh habitat to the approved salt marsh restoration area by changing the approved footprint of the western flood levee; (2) creating 10 acres of brackish marsh habitat on the western side of the reconfigured levee adjacent to Arcata Bay by lowering the existing surface approximately 18-24 inches to allow for muted tidal inundation; and (3) enhancing 23 acres of existing seasonal wetlands on the western side of the reconfigured levee by lowering the existing surface approximately 12 inches to prolong the area's seasonal inundation. This additional development is proposed to occur on the California Department of Fish and Game's Mad River Slough Wildlife Area property under a cooperative agreement between the City and the Department.

Staff believes that with the attachment of the modified and new conditions described below, the development authorized by the amended permit would be consistent with the Commission's intent in granting the original permit with conditions to allow the City to conduct wetland restoration on the site in a manner that will ensure the success of the restoration, minimize construction impacts on wetlands and sensitive habitat, and ensure that the development will not contribute to geologic and flooding hazards:

- Add Special Condition No. 14 to require submittal of a final restoration monitoring program for the Executive Director's review and approval that outlines a method for measuring and documenting the improvements in habitat value and diversity at the site over the course of five years following project completion and includes provisions for remediation to ensure that the goals and objectives of the wetland restoration/enhancement project are met;
- Modify and reimpose Special Condition No. 4 to require specific site revegetation standards including, but not limited to, the planting of native species only and prohibit the use of certain rodenticides;
- Modify and reimpose Special Condition No. 12 to require in part that the applicant, by acceptance of the permit amendment, assume the risks of flood hazards on the site and to indemnify the Commission's approval of the project against any and all liability arising from any damage due to such hazards;
- Add Special Condition No. 15 to require submittal of an erosion and runoff control plan for the Executive Director's review and approval to ensure in part

that runoff from the project site does not increase sedimentation or pollutants in coastal waters;

- Add Special Condition No. 16 to require submittal of final grading and debris disposal plans for the Executive Director's review and approval;
- Add Special Condition No. 17 to require evidence for the Executive Director's review and approval that an appropriate licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all of the recommendations contained in the geotechnical report; and
- Add Special Condition Nos. 18 through 21 to require submittal of evidence that all other agency approvals, including the State Lands Commission, U.S. Army Corps of Engineers, North Coast Regional Water Quality Control Board, and Humboldt Bay Harbor, Recreation, and Conservation District, have been obtained either prior to permit issuance or prior to commencement of construction (as applicable).

The Executive Director has determined that the proposed amendment as conditioned would not lessen or avoid the intent of the approved permit. Therefore, the Executive Director has accepted the amendment request for processing.

2. Commission Jurisdiction and Standard of Review

The amended development will be conducted within diked former tidelands of Humboldt Bay, in areas shown on State Lands Commission maps an area over which the state retains a public trust interest. Pursuant to Section 30519 of the Coastal Act, the Coastal Commission retains jurisdiction over the review and issuance of coastal development permits in these areas even though the County of Humboldt has a certified Local Coastal Program. The standard of review for projects located in the Commission's original jurisdiction is Chapter 3 of the Coastal Act.

3. Scope

This staff report addresses only the coastal resource issues affected by the proposed permit amendment, provides recommended special conditions to reduce and mitigate significant impacts to coastal resources caused by the development as amended in order to achieve consistency with the Coastal Act, and provides findings for conditional approval of the amended development. All other analyses, findings, and conditions related to the originally permitted development, except as specifically affected by the current permit amendment request and addressed herein, remain as stated within the original permit approval adopted by the Commission on June 15, 2007 attached as Exhibit No. 8.

I. MOTION, STAFF RECOMMENDATION, & RESOLUTION:

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve the proposed amendment to Coastal Development Permit No. 1-06-036 pursuant to the staff recommendation.

Staff Recommendation of Approval:

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

Resolution to Approve with Conditions:

The Commission hereby approves the proposed permit amendment and adopts the findings set forth below, subject to the conditions below, on the grounds that the development with the proposed amendment, as conditioned, will be in conformity with the Chapter 3 policies of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because all feasible mitigation measures and alternatives have been incorporated to substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS: See Attachment A.

III. SPECIAL CONDITIONS:

Note: The original permit (CDP No. 1-06-036) contains 13 special conditions. Special Condition Nos. 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, and 13 of the original permit are reimposed as conditions of CDP Amendment No. 1-06-036-A1 without any changes and remain in full force and effect. Special Condition Nos. 4 and 12 of the original permit are modified and reimposed as conditions of CDP Amendment No. 1-06-036-A1. Special Condition Nos. 14 through 21 are additional new special conditions attached to CDP Amendment No. 1-06-036-A1. For comparison, the text of the original permit conditions is included in Exhibit No. 8.

Deleted wording within the modified special conditions is shown in ~~striketrough~~ text, and new condition language appears as **bold double-underlined** text.

4. Restoration Site Revegetation

The coastal pond and riparian corridor enhancement sites **authorized by Coastal Development Permit No. 1-06-036 and the restoration and enhancement sites**

authorized by CDP Amendment No. 1-06-036-A1 shall be revegetated as proposed and comply with the following standards and limitations:

- A. Only native plant species shall be planted. All proposed plantings shall be obtained from local genetic stocks within Humboldt County. If documentation is provided to the Executive Director that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside of the local area may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be employed or allowed to naturalize or persist on the site. No plant species listed as a 'noxious weed' by the governments of the State of California or the United States shall be utilized within the property.
- B. Only California Crop Improvement Association-certified "yellow tag" California native grass seed shall be used in the proposed soil stabilization applications.
- C. All planting will be completed within 60 days after completion of construction of the realigned and restored stream channels.
- D. All required plantings will be maintained in good growing conditions throughout the life of the project, and whenever necessary, shall be replaced with new plant materials to ensure continued compliance with the landscape plan.
- E. The use of rodenticides containing any anticoagulant compounds, including, but not limited to, Bromadiolone, Brodifacoum or Diphacinone shall not be used.
- F. Willow, alder, and spruce cuttings shall comply with the following:
 - (1) Cuttings shall be taken from nearby willow trees and planted during the period of November 1 to March 1;
 - (2) The stakes shall be obtained from long, upright branches taken off the parent plant by cutting the branch at an angle, so that it makes a point. Live stakes shall be between 18 and 24 inches long and at least three-eighths inch ($\frac{3}{8}$ ") in diameter;
 - (3) Leaves and small branches shall be removed from the stakes as soon as possible after cutting them, to keep the stakes from drying out;
 - (4) Stakes shall be planted within 24 hours of their cutting for best results. The cuttings shall be kept moist and wet by storing them in buckets or wet burlap sacks. The cuttings shall be kept in the shade until they are planted; and
 - (5) The stakes shall be inserted angle-cut end down a minimum of one foot deep into the streambank, with three to six inches of the cutting exposed above the ground surface to allow for leaf sprouting.

12. Assumption of Risk, Waiver of Liability and Indemnity Agreement

By acceptance of this permit, **as amended**, the applicant acknowledges and agrees (i) that the site may be subject to hazards from waves, storm surge, and flooding; or, erosion and

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

14. Final Restoration Monitoring Program

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-06-036-A1, the applicant shall submit for the review and approval of the Executive Director, a final detailed restoration monitoring program designed by a qualified wetland biologist for monitoring of the wetland restoration and enhancement sites. The monitoring program shall at a minimum include the following:

- 1) **Performance standards that will assure achievement of the restoration goals and objectives set forth in Coastal Development Permit Amendment Application No. 1-06-036-A1 as summarized in the Findings IV.B, "Project Description," including but not be limited to the following standards: (a) increases in salt marsh, brackish marsh, and enhanced seasonal wetland habitat by construction of the various project features, including constructing new meandering flood-levee, breaching the bay-front reclamation levee to allow for direct intertidal connection to Arcata Bay, removal of 7.71 acres of existing fill materials from wetland areas as proposed in Exhibit No. 6 to compensate for wetland impacts, and construction of the additional 12 acres of pickleweed marsh, 10 acres of brackish marsh, and 23 acres of enhanced seasonal wetland areas as proposed; (b) increased usage of the restored habitat areas by shorebirds, waterfowl, and other water-associated wildlife; (c) longer periods of inundation in the seasonal wetland area during the winter months and effective drainage of the area during the summer months; (d) maintenance of the muted tidal regime in the newly created 10-acre brackish marsh habitat; and (e) increased usage of the newly created brackish marsh habitat by tidewater goby (*Eucyclogobius newberryi*) and other marine resources;**
- 2) **Provisions for monitoring at least the following attributes: increased usage of the enhanced wetland areas by (a) shorebirds (e.g., dunlins, greater yellowlegs, least sandpipers, long-billed curlews, and marbled godwits); (b) other waterfowl and water-associated wildlife; and (c) tidewater goby;**

- 3) Provisions for submittal within 30 days of completion of the initial restoration work of (1) “as built” plans demonstrating that the initial restoration work has been completed in accordance with the approved restoration program, and (2) an assessment of the initial biological and ecological status of the “as built” enhancements. The assessment shall include an analysis of the attributes that will be monitored pursuant to the program, with a description of the methods for making that evaluation.
 - 4) Provisions to ensure that the restoration site will be remediated within one year of a determination by the permittee or the Executive Director that monitoring results indicate that the site does not meet the goals, objectives, and performance standards identified in the approved restoration program and in the approved final monitoring program.
 - 5) Provisions for monitoring and remediation of the restoration site in accordance with the approved final restoration program and the approved final monitoring program for a period of five years.
 - 6) Provisions for submission of annual reports of monitoring results to the Executive Director by December 31 each year for the duration of the required monitoring period, beginning the first year after submission of the “as-built” assessment. Each report shall include copies of all previous reports as appendices. Each report shall also include a “Performance Evaluation” section where information and results from the monitoring program are used to evaluate the status of the wetland enhancement project in relation to the performance standards.
 - 7) Provisions for submission of a final monitoring report to the Executive Director at the end of the five-year reporting period. The final report must be prepared in conjunction with a qualified wetlands biologist. The report must evaluate whether the enhancement site conforms with the goals, objectives, and performance standards set forth in the approved final restoration program. The report must address all of the monitoring data collected over the five-year period.
- B. If the final report indicates that the restoration project has been unsuccessful, in part, or in whole, based on the approved goals and objectives set forth in Coastal Development Permit Application Amendment No. 1-06-036-A1 as summarized in Findings IV.B “Project Description,” the applicant shall submit a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved goals and objectives set forth in CDP Application Amendment No. 1-06-036-A1 as summarized in Finding IV.B “Project Description.” The revised restoration program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no

amendment is legally required.

C. The permittee shall monitor and remediate the wetland enhancement site in accordance with the approved monitoring program. Any proposed changes from the approved monitoring program shall be reported to the Executive Director. No changes to the approved monitoring program shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines no amendment is legally required.

15. Erosion & Runoff Control Plan

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-06-036-A1, the applicant shall submit, for review and approval of the Executive Director, a plan for erosion and run-off control.

1) The erosion and runoff control plan shall demonstrate that:

- (a) Run-off from the project site shall not increase sedimentation in coastal waters;
- (b) Run-off from the project site shall not result in pollutants entering coastal waters;
- (c) Best Management Practices (BMPs) shall be used to prevent the entry of polluted stormwater runoff into coastal waters during the construction of the authorized structures, including but not limited to the following:
 - (i.) Stormwater runoff diversion immediately up-gradient of the excavation areas; and
 - (ii.) Use of relevant best management practices as detailed in the California Stormwater Best Management Practice Handbooks (Construction & Industrial/Commercial, see <http://www.cabmphandbooks.com>) including, but not limited to, EC-1-Scheduling, EC-2 Preservation of Existing Vegetation, EC-12-Streambank Stabilization, SE-1-Silt Fence &/or SE-9-Straw Bale Barrier, NS-9-Vehicle & Equipment Fueling, NS-10-Vehicle & Equipment Maintenance & Repair; WM-1-Material Delivery & Storage, and WM-4-Spill Prevention & Control).
- (d) An on-site spill prevention and control response program, consisting of BMPs for the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill, shall be implemented at the project to capture and clean-up any accidental releases of oil, grease, fuels, lubricants, or other hazardous materials from entering coastal waters.

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

- (a) A schedule for installation and maintenance of appropriate construction source control BMPs to prevent entry of stormwater run-off into the construction site and the entrainment of excavated materials into run-off leaving the construction site; and**
- (b) A schedule for installation, use, and maintenance of appropriate construction materials handling and storage BMPs to prevent the entry of polluted stormwater run-off from the completed development into coastal waters.**

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

16. Final Grading & Debris Disposal Plans

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-06-036-A1, the applicant shall submit, for the review and approval of the Executive Director:

- 1) Final plans for site excavation, grading, and filling, and**
- 2) Final plans for disposal of all construction debris or export fill materials that substantially conform with the requirements of Special Condition No. 2.**

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

17. Conformance of Design and Construction Plans to Geotechnical Report

A. All final design and construction plans, including foundations, grading and drainage plans, shall be consistent with all recommendations contained in Geotechnical Evaluation of McDaniel Slough Marsh Enhancement Project prepared by SHN Consulting Engineers and Geologists, Inc. and dated November 2003. PRIOR TO THE ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-06-036-A1, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriate licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is

consistent with all of the recommendations specified in the above-referenced geologic evaluation approved by the California Coastal Commission for the project site.

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

18. State Lands Commission Review

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-06-036-A1, the applicant shall submit to the Executive Director a written determination from the State Lands Commission that:

- A. No State or public trust lands are involved in the development; or
B. State or public trust lands are involved in the development and all permits required by the State Lands Commission have been obtained; or
C. State or public trust lands may be involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the approved project as conditioned by the Commission to proceed without prejudice to that determination.

19. U.S. Army Corps Of Engineers Approval

PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION AUTHORIZED BY COASTAL DEVELOPMENT PERMIT AMENDMENT NO 1-06-036-A1, the permittee shall provide to the Executive Director a copy of a permit issued by the Army Corps of Engineers, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the Army Corps of Engineers. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

20. Regional Water Quality Control Board Approval

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-06-036-A1, the applicant shall provide to the Executive Director a copy of a permit issued by the North Coast Regional Water Quality Control Board, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the Board. 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.

21. Humboldt Bay Harbor, Recreation, & Conservation District Approval

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT AMENDMENT NO. 1-06-036-A1, the applicant shall provide to the Executive Director a copy of a permit issued by the Humboldt Bay Harbor, Recreation, and Conservation District or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the District. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS & DECLARATIONS

The Commission hereby finds and declares the following:

A. Background & Project Description

(1) Environmental Setting

The 240-acre McDaniel Slough Wetland Enhancement Project area is situated within the diked seasonal wetlands along and adjoining the channelized segment of the lower McDaniel Slough stream course below State Route 255 to its juncture with the Arcata Bay lobe of Humboldt Bay, at elevations ranging from approximately -2 to +14 feet above mean sea level (msl) referenced from the 1929 National Geodetic Vertical Datum (NAVD29). The Janes Creek/McDaniel Slough watershed comprises approximately 1,800 acres and drains the northeastern industrial corridor south of State Route 299 and the western third of the city, originating as a third order stream on the lower northwest-facing slopes of Fickle Hill, the landform that forms the eastern backdrop of the City of Arcata (see Exhibit Nos. 1 and 2).

The proposed amended development would occur on the Mad River Slough Wildlife Area, which is owned and managed by the California Department of Fish and Game (DFG) (Exhibit Nos. 3 and 4). This 587-acre wildlife area was formerly part of Arcata Bay's extensive intertidal salt marsh and mudflats, and old tidal sloughs still meander through the land, which is periodically flooded during periods of heavy rain. Under the current amendment request, the project area would expand from its existing 240 acres to an approximately 330-acre area.

The project site was historically part of the extensive marsh system of Humboldt Bay. In the decades immediately following European settlement of the North Coast area in the early 1850s, efforts were undertaken to reclaim much of the intertidal fringes of Humboldt Bay primarily for construction of a regional railroad system and for agricultural purposes. The project properties were converted to agricultural use following

the construction of a levee around this portion of Humboldt Bay in 1886. After their reclamation, the former salt marsh intertidal channels became more freshwater-influenced, periodically discharging into Arcata Bay on low tides. Thus, historic habitats in the area include an integrated mix of fresh, brackish, and saltwater wetlands.

The western two-thirds of the site was farmed and grazed up until 1987 when the area was acquired by the DFG with Proposition 19 Bond funds intended specifically for the acquisition of coastal wetlands. Subsequently, the vegetation grew to be tall and rank, and a dense mat of dead vegetation developed over much of the ground surface. This dense, tall vegetation provides habitat for some wildlife at the site, but precludes use of the area by many water-associated wildlife species. In recent years the presence of water-associated wildlife on the Mad River Slough Wildlife Area portion has noticeably decreased. In 1999 the eastern one-third of the site was acquired by the City of Arcata, who continues to allow cattle grazing over approximately 67 acres of the best-drained portions of the site.

None of the area involved in the proposed amended development is currently in agricultural use, nor has it been for at least five years. The approximately 90 acres involved in the proposed expanded project area has been regularly inundated by salt water resulting from a leaky tidegate since 2004, which has severely decreased the land's agricultural value. According to the DFG Wildlife Habitat Supervisor for the property, due to the shallow wells on the property and the potential for their sanding in, the lands that would be involved in the proposed amended development are unable to be irrigated and contain no soils classified as "prime." According to the Management Plan for the Mad River Slough Wildlife Area, grazing for wildlife habitat management occurs on adjacent lands, which would be unaffected by the proposed amended development.

Arcata Bay, its feeder creeks and the surrounding agricultural, public facility, and open space lands provide habitat for a great diversity of wildlife. Numerous raptors (e.g., red-tailed hawks, red-shouldered hawks, kestrels, harriers, kites, and osprey), shorebirds (e.g., dunlin, sandpiper, dowitcher, godwit, willet, and many others), songbirds, resident and migratory waterfowl, amphibians, and mammals (e.g., foxes, mink, and weasel) all frequent the area. Several significant species of fish have been found in these coastal watercourses, including coho salmon (*Oncorhynchus kisutch*), listed as endangered federally and as a threatened species in California, steelhead (*Oncorhynchus mykiss*) a state-listed threatened species, coastal cutthroat trout (*Oncorhynchus clarki*), a California species-of-special-concern, and tidewater goby (*Eucyclogobius newberryi*), federally listed as endangered and a California species-of-special-concern.

There are no rare, threatened, endangered or special-status plants within the project area proper. Four plant species enumerated on the California Native Plants Society's "List 1B" and "List 2"¹ of rare plants are found in the general vicinity of the project area,

¹ Pursuant to the Native Plant Protection Act (NPPA) and the California Endangered Species Act (CESA), plants appearing on the California Native Plant Society's "List 1B" and "List 2" meet the definition as species eligible for state listing as a rare, threatened, or endangered plant. List 1B

including Humboldt Bay Owl's-Clover (*Castilleja ambigua* ssp. *humboldtensis*), Point Reyes Birdsbeak (*Cordylanthus maritimus* ssp. *palustris*), western sand spurrey (*Spergularia canadensis* var. *occidentalis*), and Lyngbye's sedge (*Carex lyngbyei*). However, these rare plant outcroppings are not within the immediate area where the levee reconfiguration or wetland restoration work would be performed, and care would be taken in the staging of equipment and materials to avoid impacts to these distinct and readily-identifiable rare plants.

In addition to the bird watching and wildlife viewing opportunities Mad River Slough Wildlife Area, other coastal access and recreational amenities for hiking, cycling, bird-watching, and boating in the immediate project vicinity include the Arcata Marsh and Wildlife Sanctuary, the Butcher Slough Restoration Project, and the Arcata Marsh Interpretative Center on the eastern side of the larger project area, and unpaved roadside walkways and Class III bike lanes along Samoa Boulevard to the north of the project area.

(2) Description of Originally Approved Project

On June 15, 2007, the Coastal Commission approved, with conditions, the City of Arcata's McDaniel Slough Wetland Enhancement Project under Coastal Development Permit No. 1-06-036 (see Exhibit No. 8). The permit was designed to restore and enhance wetland function to 240 acres of reclaimed former tidal salt/brackish marsh to a combination of 205 acres of intertidal salt marsh wetlands and 35 acres of impounded freshwater and brackish wetlands by: 1) excavating the pond areas; 2) deepening approximately 5,200 lineal feet of existing slough channels within the reclaimed area; 3) constructing approximately 21,000 lineal feet of flood, eco-levee, and pond perimeter levees around the periphery of the project component areas; 4) removing a total of approximately 1,200 lineal feet of portions of portions of the existing flood control levees along the lower reaches of McDaniel Slough to form roosting islands out of the remnant portions of the levees; 5) breaching the reclamation levee separating the project site from Arcata Bay at two locations to form muted tidal openings to provide access for anadromous salmonids, tidewater goby, and other marine fish species; 6) planting appropriate elevation-specific native salt marsh plants on the inner faces of the eco levees; and 7) developing pedestrian and bicycle trail segments along the pond perimeters and out to the reclamation levee breach site.

(3) Description of Amended Development Proposed

Under the current amendment request, the City of Arcata, under a cooperative agreement with the DFG, proposes to expand the existing 240-acre project area onto the DFG Mad

plants are defined as "rare plant species vulnerable under present circumstances or to have a high potential for becoming so because of its limited or vulnerable habitat, its low numbers of individuals per population (even though they may be wide ranging), or its limited number of populations." List 2 plants are defined as "plants rare, threatened, or endangered in California, but more common elsewhere." The NPPA mandates that plants so listed be considered in the preparation of all environmental analyses conducted pursuant to the California Environmental Quality Act (CEQA).

River Slough Wildlife Area to an approximately 330-acre project area (Exhibit No. 5). Specific project components include the following: (1) adding 12 acres of salt marsh habitat to the approved salt marsh restoration area by changing the approved footprint of the western flood levee; (2) creating 10 acres of brackish marsh habitat on the western side of the reconfigured levee adjacent to Arcata Bay by lowering the existing surface approximately 18-24 inches to allow for muted tidal inundation; and (3) enhancing 23 acres of existing seasonal wetlands on the western side of the reconfigured levee by lowering the existing surface approximately 12 inches to prolong the area's seasonal inundation. The proposed total acreage of the expanded project area includes a 100-foot buffer along the western boundary of the brackish and seasonal wetland areas.

The proposed reconfigured flood levee would be 3,558 feet in length, would cover a 4.4-acre area, and would involve 34,552 cubic yards of fill. The reconfigured flood levee would be meandering rather than straight (as originally approved) and would have 4-to-1 slopes on the inside (east side), which allows for a more natural gradation between the salt marsh/mudflat habitats and the levee upland areas, and 2-to-1 slopes on the outside (west side). The reconfigured levee would be constructed from fill material dredged from the proposed brackish marsh and seasonal wetland restoration/enhancement areas.

Approximately 30,020 cubic yards of material (21,942 cubic yards of dirt and 8,078 cubic yards of sod) would be excavated to a depth of 2 feet from the proposed 10-acre brackish marsh restoration area. The lowered ground surface would be affected by the muted tidal regime (created by leakage through existing tide gates) within the existing bay-front levee ditch. The muted tidal regime would be maintained by modifying the permitted tide gate through the new western levee to allow leakage into the existing bay-front levee ditch. The restored brackish marsh would have 10-to-1 side slopes. Seasonal freshwater would be directed to the newly restored brackish area from the adjacent proposed 23-acre enhanced seasonal wetland.

Approximately 49,662 cubic yards of material (31,675 cubic yards of dirt and 17,987 cubic yards of sod) would be excavated to a depth of 1 foot from the proposed 23-acre seasonal wetland enhancement area. The area currently functions as a seasonal wetland, and the proposed enhancements would prolong the seasonal inundation of the area by lowering the ground surface. The enhanced seasonal wetland would also have 10-to-1 side slopes. The sod layer from the seasonal wetland excavation area would be separately stockpiled (within a 20-foot wide temporary stockpiling area running along the perimeter of and adjacent to the enhanced wetland area) and subsequently replaced as the top layer to maintain existing vegetation and uses of the area. The area would be flooded by seasonal rainwater and would drain to the restored brackish marsh described above. A low-head (1- to 2-feet) control structure would be placed between the enhanced seasonal wetland and the restored brackish marsh to allow for management of seasonal flooding and draining of the area.

The project proposes to use all approximately 79,682 cubic yards of excavated (dredged) material either (1) to construct the reconfigured flood levee; (2) as the top sod layer in the 23-acre enhanced seasonal wetland; or (3) to raise the marsh plain elevation within the

proposed 12-acre salt marsh restoration area to elevations favorable to the formation of pickleweed (*Salicornia virginica*) salt marsh habitat (which is more favorable habitat for the rare salt marsh plant species discussed above and less susceptible to invasion by the invasive exotic dense-flowered cordgrass, *Spartina densiflora*).

A series of roosting “islands” (totaling approximately 4 acres) for waterfowl and other water-associated wildlife would be passively constructed within both the brackish and seasonal wetland areas by excavating around island areas, which would remain at the elevation of existing ground. The islands would remain wetland in nature but would be slightly higher in elevation than the surrounding restored (and lowered) wetland areas.

The original permit (CDP No. 1-06-036) authorized the filling of 6.5 acres of wetland habitat, with on-site compensatory mitigation of an equivalent wetland acreage (see Exhibit No. 8). The proposed amended development would result in the filling of an additional 1.2 acres of existing seasonal wetland habitat (due to the proposed meandering levee covering more area). The applicant proposes to mitigate for the total 7.69 acres of wetland impacts on site as shown on Exhibit No. 6 so that there would be no net loss of wetlands. This would include removal of levees, concretes, culverts, a parking lot, a barn, and conversion of other upland areas within the larger project area.

The City is proposing to implement the following mitigation measures to minimize the project’s impacts on coastal resources:

1. Construction activities will be limited to the dry season (June 15-October 31);
2. In the event of unseasonable rainfall, construction will not occur during periods when any surface runoff occurs on exposed soils;
3. Bare soil areas will be seeded and mulched with weed-free rice straw for erosion control;
4. No equipment will be operated directly within tidal waters or stream channels of flowing streams;
5. No construction materials, debris, or waste shall be placed or stored where it may be allowed to enter into coastal waters;
6. Sediment controls will be in place for any work that occurs in or near creeks and drainages. If operations are not adequately containing sediment as determined by visual observation, the activity shall cease. Turbid water shall be contained and prevented from being transported by use of silt fences or water diversion structures;
7. Areas subject to disturbance during wetland enhancement activities will be surveyed by a qualified biologist, and any sensitive plant species encountered will be flagged for avoidance before commencement of any construction;
8. City staff will be on site during final grading to assure that the area is recontoured according to approved design specifications;

9. If needed, temporary exclusionary cattle fencing will be installed to protect mulched and revegetated areas;
10. Equipment refueling and maintenance will take place only in designated areas where potential spills of fuel, lubricants, or coolants can be contained and cleaned up without impacts to aquatic habitats; and
11. Due to the potential of discovering unknown cultural resources during construction, a qualified cultural monitor will be on site during excavation activities. If any paleontological, archaeological, historical, or unique ethnic or sacred resources are found during project excavation, activities will be halted and work will not recommence until a qualified archeologist has evaluated the materials and offered recommendations for further action.

In addition, the Commission notes that the applicant has been or will be obtaining other permits and associated authorizations for the project from other agencies that have or will contain terms and conditions for avoiding or minimizing impacts to coastal resources and the environment (see “Other Approvals” listed on page 2).

B. Restoration of Marine Resources, Protection of Coastal Water Resources, and Permissible Filling, Dredging, & Diking of Wetlands

1. Applicable Coastal Act Policies and Standards

Section 30108 defines the term “feasible” as follows:

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

Coastal Act Section 30230 states as follows:

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

Coastal Act Section 30231 states as follows:

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

Coastal Act Section 30233 provides as follows, in applicable part:

- (a) *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:...*
- (6) Restoration purposes.
- ...
- (c) *In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary... [Emphasis added.]*

2. Consistency Analysis

Coastal Act Sections 30230 and 30231 require in part that marine resources and coastal wetlands be maintained and enhanced. These policies also call for restoration of marine resources, coastal waters, streams, wetlands, and estuaries where feasible. When read together as a suite of policy directives, Sections 30230, 30231, and 30233 set forth a number of different limitations on what types of projects may be allowed in coastal wetlands. For analysis purposes, the limitations applicable to the subject project can be grouped into four general categories or tests. These tests require that projects that entail the dredging, diking, or filling of wetlands demonstrate that:

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

Each category is discussed separately below.

(1) **Permissible Use for Dredging & Filling**

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 of the Coastal Act. The relevant category of use listed under Section 30233(a) that relates to the proposed project is subcategory (6), “restoration purposes.”

Neither the Coastal Act nor the Commission’s administrative regulations contain a precise definition of “restoration.” The dictionary defines “restoration” in terms of actions that result in returning an article “back to a former position or condition,” especially to “an unimpaired or improved condition.”² The particular restorative methods

² Merriam-Webster’s Collegiate Dictionary, Tenth Edition

and outcomes vary depending upon the subject being restored. For example, the Society for Ecological Restoration defines “ecological restoration” as “the process of intentionally altering a site to establish a defined indigenous, historical ecosystem. The goal of the process is to emulate the structure, function, diversity, and dynamics of the specified ecosystem.”³ However, within the field of “wetland restoration,” the term also applies to actions taken “in a converted or degraded natural wetland that result in the reestablishment of ecological processes, functions, and biotic/abiotic linkages and lead to a persistent, resilient system integrated within its landscape”⁴ that may not necessarily result in a return to historic locations or conditions within the subject wetland area.

Implicit in all of these varying definitions and distinctions is the understanding that the restoration entails returning something to a prior state. 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, most of the varying definitions of restoration imply that the reestablished conditions will persist to some degree, reflecting the homeostatic natural forces that formed and sustained the original conditions before being artificially altered or degraded.

Moreover, finding that proposed diking, filling, and dredging 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, filling, and dredging impacts of the project actually result in long term degradation of the habitat, the proposed diking, filling, and dredging would not be for “restoration purposes.” These two characteristics are particularly noteworthy to restoration grant program administrators in reviewing funding requests to ensure that the return on the funding investment is maximized and liabilities associated with unwanted side effects of the project are minimized.

Thus, to ensure that the project achieves its stated habitat enhancement objectives, and therefore be recognized as being for “restoration purposes,” the project must demonstrate that: (1) it either entails (a) a return to, or re-establishment of, former habitat conditions, or (b) entails actions taken in a converted or degraded natural wetland that will result in the reestablishment of landscape-integrated ecological processes, and/or abiotic/biotic linkages associated with wetland habitats; and (2) there is a reasonable likelihood that the identified improvements in habitat value and diversity will result; and (3) once re-established, it 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.

³ “Definitions,” *Society of Ecological Restoration News*, Society for Ecological Restoration; Fall, 1994

⁴ *Position Paper on the Definition of Wetland Restoration*, Society of Wetland Scientists, August 6, 2000

The proposed amended development involves both dredging in existing seasonal wetlands (to create the 10-acre brackish marsh and 23-acre seasonal wetland habitat areas) and filling of existing seasonal wetlands (to amend the approved straight levee footprint to a meandering levee resulting in the restoration of 12 additional acres of salt marsh habitat from the originally approved 210 acres).

As discussed above in Finding IV-A, the project site was historically part of the extensive marsh system of Humboldt Bay. In the decades immediately following European settlement of the North Coast area in the early 1850s, efforts were undertaken to reclaim much of the intertidal fringes of Humboldt Bay primarily for construction of a regional railroad system and for agricultural purposes. The project properties were converted to agricultural use following the construction of a levee around this portion of Humboldt Bay in 1886. After their reclamation, the former salt marsh intertidal channels became more freshwater-influenced, periodically discharging into Arcata Bay on low tides. Thus, historic habitats in the area include an integrated mix of fresh, brackish, and saltwater wetlands.

According to information from the U.S. Fish and Wildlife Service (FWS), in the Humboldt Bay region it is estimated that between 7,000 and 8,700 acres of salt marsh were present prior to human development. Since the mid-1800's, most of what was likely to have been historic salt marsh has been diked or filled and has been reduced to a total area of around 900 acres, a reduction of at least 87%. The FWS has indicated that restoration of salt marsh habitats around the bay is a high priority, as salt marsh restoration is important for the protection, enhancement, and restoration of native fish, wildlife, and plant communities, some of which are dependent on salt marsh for their existence. In past permit actions on wetland restoration projects around Humboldt Bay, the Commission has acknowledged that in general, restoring areas that have historically supported tidal salt marsh is preferable when the physical conditions of a site present such an opportunity.

The proposed restoration of 12 acres of salt marsh, 10 acres of brackish marsh, and 23 acres of enhanced seasonal wetland habitats will restore the landscape processes transitioning from fresh- to brackish- to salt-water habitats that historically existed in the Humboldt Bay region prior to European settlement. The three different wetland types will serve as a combined system that replicates historical patterns of ecotone transition between the salt, brackish, and freshwater ecosystems to reestablish historic coastal geomorphic functions where the uplands gradually transitioned to the bay through seasonal freshwater and brackish wetlands. Compared to the currently degraded, monotonous, and relatively low productivity of the seasonal pasture wetlands that exist across the 45-acre amended development project site, the proposed 12 acres of salt marsh habitat, 10 acres of brackish marsh habitat, and 23 acres of enhanced seasonal wetlands, together with the additional 240 acres of salt marsh, brackish marsh, freshwater pond, and riparian areas authorized for restoration under the original permit, will provide habitats for a wide variety of estuarine, intertidal, and terrestrial organisms. The restored habitats will provide a mosaic of deep to shallow in-water and emergent shoreline areas where anadromous salmonids, tidewater goby, and a wide assortment of amphibian and other

aquatic wildlife can hold, feed, rest, and rear their young. The proposed 10-acre brackish marsh will increase habitat for tidewater goby within an area that has been designated as “critical habitat” for tidewater goby by the U.S. Fish and Wildlife Service. Additionally, shorebirds such as dunlins, greater yellowlegs, least sandpipers, long-billed curlews, and marbled godwits rely on both mudflat and seasonal wetland habitats for foraging. The proposed 23-acre enhanced seasonal wetland will provide important habitat for these marine shorebirds, which rely on shallow freshwater wetlands with unobstructed views (e.g., short vegetation such as pasture grasses) for roosting and foraging.

As discussed above, this finding that the proposed project constitutes “restoration purposes” is based, in part, on the assumption that the proposed project will be successful in increasing freshwater, brackish, and saltwater wetland habitat values. Should the project be unsuccessful at increasing wetland habitat values, or worse, if the proposed dredging impacts of the project actually result in long term degradation of the habitat, the proposed diking, filling, and dredging would not be for “restoration purposes.” To ensure that the proposed wetland enhancements achieve the objectives for which the project is intended (i.e., for the restoration of 12 acres of pickleweed salt marsh habitat, 10 acres of brackish marsh habitat, and 23 acres of enhanced seasonal wetland habitat), the Commission attaches **Special Condition No. 14**. Special Condition No. 14 requires the applicant to submit a final monitoring plan for review and approval by the Executive Director prior to the issuance of the coastal development permit. The monitoring plan is required to outline a method for measuring and documenting the improvements in habitat value and diversity at the site over the course of five years following project completion. Furthermore, Special Condition No. 14 requires the monitoring plan to include provisions for remediation to ensure that the goals and objectives of the wetland restoration/enhancement project are met.

Therefore, the Commission concludes that the proposed dredging and filling of seasonal wetlands for the restoration and enhancement of habitat for fish, waterfowl, shorebirds, and other water-associated and aquatic wildlife is permissible under Section 30233(a)(6) for “restoration purposes.”

(2) Alternatives Analysis

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

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

Alternatives to the proposed project which were examined include the no-project alternative and various alternative methods. As explained below, each of these alternatives analyzed in the alternatives analysis are infeasible and/or do not result in a project that is less environmentally damaging than the proposed project:

(a) No-Project Alternative

The “no project” alternative would maintain the status quo of the site and would not enhance and restore an additional 12 acres of salt marsh, 10 acres of brackish marsh, and 23 acres of enhanced seasonal wetland habitat as proposed. Existing conditions on the project site across these 45 acres consist of unproductive agricultural land (seasonal wetlands) that has been subjected to salt water intrusion for at least five years due to a leaky tide gate. Under the “no project” alternative, the land would continue to function as low-quality, unproductive, seasonal wetland, but there would be no improved habitat for tidewater goby, shore birds, waterfowl, and other water-associated and aquatic 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.

(b) Alternative Methods

There are several alternative methods to the proposal to expand the approved project area for the restoration of 45 acres of salt marsh, brackish marsh, and enhanced seasonal wetland habitat. However, none of the alternative methods were found to be feasible less environmentally damaging alternatives than the proposed project as conditioned. Various alternative methods examined include the following:

- Expanding the flood-levee further westward than proposed to increase the size of the salt marsh restoration area: Moving the western flood-levee further westward than proposed would result in an increase in the amount of salt marsh restoration on the site, but it also would increase tidal flooding of existing habitat infrastructure owned and operated by the Department of Fish and Game at the Mad River Slough Wildlife Area (MRSWA). The intent of the MRSWA’s Management Plan is to provide the optimum diversity of habitat types to achieve the highest biological productivity. Objectives to meet this intent include protection of remnant salt marsh, enhancement of wetlands, restoration of riparian vegetation, and habitat management to benefit waterfowl, shorebirds, wading birds, and raptors. The MRSWA already devotes almost half of its 587 acres to tidal habitat protection and restoration. Pastures and seasonal wetlands provide habitat for numerous wading birds, shorebirds, waterfowl, geese, raptors, and mammals.

Moreover, restoring additional salt marsh habitat than proposed would reduce and possibly eliminate the property’s viability for short grass habitat for migrating Aleutian cackling geese. The Aleutian Cackling Goose is a developing conservation problem in the North Coast region due to the current population increase of the once endangered subspecies. Humboldt Bay serves as an important spring staging area for geese preparing for migration to their breeding grounds, and the geese impact agricultural lands around the bay by competing for forage with cattle. In recent years, hazing programs have been initiated by agricultural communities to deter the geese from certain areas (e.g., Crescent City). Public lands, such as the DFG MRSWA, are critical to helping alleviate pressure on private agricultural lands.

Finally, restoring additional salt marsh habitat than proposed would require longer levees, which would result in more wetland fill not only due to the longer levee footprint but also and the need to dredge additional wetlands areas to acquire the necessary earthen material to construct the levee.

Therefore, expanding the flood-levee further westward than proposed to increase the size of the salt marsh restoration area is not a feasible less environmentally damaging alternative.

- Construction of levees to increase inundation in the 23-acre enhanced seasonal wetland: Under the proposed method for increasing water retention in 23 acres of existing seasonal wetlands, heavy equipment will be used to excavate fill, deepen the seasonal wetland area, and allow it to retain water for extended periods of time during the winter months. An alternative method for increasing the period of inundation in the wetland area would be the construction of small levees and placement of water control structures to back-up water. However, due to the relatively flat nature of the topography in the project area, construction of a levee to back-up water may inundate a significantly larger acreage than is proposed to be inundated. The lack of existing diversity in the topography could flood an entire pasture rather than the specific depression area intended to function as the enhanced seasonal wetland.
- Locating temporary access roads, staging areas, and stockpiling areas outside of seasonal wetlands: Under the proposed work, equipment access and temporary stockpiling areas will be sited in seasonal wetland habitat. The City proposes to use an approximately 20-foot-wide area around the perimeter of the proposed excavation areas to temporarily stockpile sod and fill material. Although siting the construction access and temporary stockpiling areas outside of seasonal wetlands would help to reduce environmental effects, a feasible alternative to siting the access and stockpiling areas within seasonal wetlands does not exist, since there are no upland alternatives within the project vicinity. However, the City proposes to minimize impacts to grazed seasonal wetland habitat by restricting the construction window to the dry season when seasonal wetland soils are hardened and avoiding work during unforeseen rainfall events.
- Alternative to heavy equipment: Heavy equipment is required to complete the majority of the project activities. As work will require the excavation and removal of over 79,000 cubic yards of fill material, a feasible alternative to heavy equipment does not exist.

Thus, implementing the project using alternative methods is not a feasible less environmentally damaging alternative than the proposed project as conditioned.

Conclusion

Therefore, for all of the reasons discussed above, the Commission finds that there is no less environmentally damaging feasible alternative to the development as conditioned,

consistent with Section 30233(a) of the Coastal Act.

(3) Adequate Mitigation Measures

The third test set forth by Section 30233 is that adequate mitigation must be provided to minimize adverse environmental impacts. Potential significant adverse impacts that could result from the proposed dredging and filling within amended project area include: (1) filling of existing seasonal wetlands to construct the reconfigured flood-levee; (2) impacts to fish and wildlife habitat from water pollution in the form of sedimentation or debris entering coastal waters and wetlands; (3) introduction through re-planting of exotic invasive plants species that could compete with native vegetation and negate the habitat improvement they would provide; and (4) use of certain rodenticides that could deleteriously bio-accumulate in predator bird species. Overall, the project would enhance wetland habitat values and would produce generally only beneficial environmental effects. However, the proposed project has been conditioned to ensure that habitat enhancement results and that potentially significant adverse impacts are minimized.

(a) Filling of Existing Seasonal Wetlands

The proposed amended development will occur across an area currently consisting of fallow seasonal wetland agricultural fields and will result in the filling of 7.69 acres of wetlands for the construction of levees. The original permit authorizes the filling of 6.5 acres of wetlands, and Special Condition No. 1 of CDP No. 1-06-036 requires that wetland impacts be mitigated on site at a minimum 1-to-1 mitigation ratio. The proposed amended development will result in an additional 1.2 acres of wetland fill, resulting from the larger (more meandering) flood-levee footprint. As shown in Exhibit No. 6, the applicant is proposing to offset wetland impacts by removing a total of 7.71 acres of fill materials on site (including portions of the existing channel containment levees together with the bed of a former ranch road, paddock/corral, and barn building pad, a small parking lot on the eastern side of Mad River Slough Wildlife Area, and other superfluous and dislodged riprap debris along the reclamation levee dike face and scattered within the back-drain borrow ditching). After completion of all of the project work, there will be no net loss of wetlands in the project area. To ensure that the proposed removal of 7.71 acres of fill is accomplished to offset the approved filling of wetlands, Special Condition No. 14 requires the submittal for the review and approval of the Executive Director of a final restoration monitoring program that provides for the removal of the fill and provides for as-built plans to be subsequently submitted that demonstrate that the planned fill removal has occurred.

(b) Sedimentation Impacts to Aquatic Habitat & Water Quality

The proposed restored salt marsh, brackish marsh, and enhanced seasonal wetlands are being undertaken to provide cover, forage, and nesting opportunities to a variety of fish and wildlife species including tidewater goby and numerous marine shorebirds, wading birds, waterfowl, and other water-associated wildlife. Potential adverse impacts to both existing and to-be-restored/enhanced fish and wildlife habitat related water quality could occur in the form of sedimentation or debris from project diking and dredging (i.e., soils

disturbed during the placement and/or removal of the new and existing flood-levee and constructing the brackish marsh and enhanced seasonal wetland habitats), and filling (i.e., the materials excavated in raising the lowermost mudflat-prone areas to elevations suitable for pickleweed marsh formation). Although the project description states that such impacts would be prevented and minimized by conducting the ground-disturbing work during the dry weather season and through incorporating various other best management practices into a final erosion and sediment control plan, the application provides few details as to precisely how this fill would be placed or excavation performed relative to: (1) the potential for causing stream bank soil materials to enter into the sloughs or bay during the erection/removal of the levees; and (2) the potential for materials to become entrained into areas subject to intertidal inundation by installing the fill across the existing low lying areas and during the construction of the freshwater and brackish ponds. In addition, no information was provided as to where any excess excavated materials would ultimately be disposed.

Given the necessity of using mechanized heavy equipment for performing the fill and grading work, the project poses significant risks to the water quality of the receiving coastal waters. To ensure that adverse impacts to water quality do not occur from construction activities conducted along the immediate stream bank margins, the Commission reimposes Special Condition Nos. 2 and adds new Special Condition Nos. 15, 16, 17, and 18. **Special Condition No. 2** (reimposed from the original permit) requires the applicant to undertake the development pursuant to certain construction and debris removal performance standards. Specifically, no construction materials, debris, or waste are to be placed or stored where they may enter the coastal slough waters or Humboldt Bay. In addition, all construction debris, including fencing posts and wiring scraps, fasteners, road base, building debris, and riprap are to be removed and disposed of in an upland location outside of the coastal zone or at an approved disposal facility. **Special Condition No. 15** similarly requires the applicant to submit, for the Executive Director's review and approval, an erosion and runoff control plan that is to include certain specified water quality best management practices for minimizing impacts to coastal waters associated with the dredging, filling, and diking activities. **Special Condition No. 16** requires the applicant to submit, for the Executive Director's review and approval, a debris disposal plan detailing the methods, schedule, and confirmed final destination of any excess materials dredged from the site that cannot be reused on site as proposed.

(c) Introduction of Exotic Invasive Plants

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

The amended development proposes to re-seed disturbed areas after construction, but the amendment proposal does not further specify the source or composition of the seed mix nor preclude the planting of other plant species beyond those identified in the permit

application. To assure that the grass mixture is composed solely of native seeds, modified and reimposed **Special Condition No. 4** requires that only seed stock bearing the California Crop Improvement Association “yellow tag” certification as California native grass seed be used in the proposed soils stabilization applications. Furthermore, Special Condition No. 4 specifically prohibits the planting of any plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be employed or allowed to naturalize or persist on the site. Furthermore, no plant species listed as a “noxious weed” by the governments of the State of California or the United States are to be utilized in the revegetation portion of the project.

(d) Use of Anticoagulant-based Rodenticides

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

To avoid this potential cumulative impact to environmentally sensitive wildlife species, modified and reimposed **Special Condition No. 4** contains a prohibition on the use of such anticoagulant-based rodenticides.

Conclusion

The Commission finds that the amended wetland restoration/enhancement project is a permitted use under Section 30233 of the Coastal Act, that there are no less environmentally damaging feasible alternatives to the project as conditioned, and that as conditioned, all potential significant adverse impacts have been avoided or minimized.

(4) Maintenance & Enhancement of Biological Productivity and Functional Capacity

The fourth general limitation set by Section 30233 and 30231 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. Sections 30230 and 30231 state that marine resources shall be maintained, enhanced, and where feasible, restored. Sections 30230 and 30231 also state that the biological productivity of coastal waters appropriate to maintain optimum populations of all 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 in the project area and will ensure that the project construction will not adversely affect the biological productivity and functional capacity coastal waters or wetlands. Furthermore, the project's stated purpose is to restore and enhance the biological productivity of coastal wetlands and waters, and conditions of the permit will ensure that the site is monitored for achievement of these goals.

The proposed restoration of an additional 12 acres of salt marsh, 10 acres of brackish marsh, and 23 acres of enhanced seasonal wetland habitats will directly restore and enhance marine resources and biological productivity of coastal waters appropriate to maintain optimum populations of marine organisms including fish, waterfowl, marine shorebirds, and other water-associated wildlife. As discussed above, the proposed restoration and enhancements are needed to help restore habitat diversity within Humboldt Bay and assist in the recovery of listed marine fish, including tidewater goby. Furthermore, the proposed 23-acre enhanced seasonal wetland area will be designed to receive drainage water from the surrounding agricultural land, which will provide a better mechanism for treating stormwater runoff over the existing site conditions. More sediment and other contaminants will settle out from the runoff as it collects in the enhanced wetlands, rather than just being transported directly to the bay via the existing channels. This aspect of the project will protect human health by improving the water quality of this major discharge to the bay, which is used for a variety of human recreational uses.

Therefore, the Commission finds that the amended 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 of the Coastal Act.

D. Protection of Agricultural Lands

1. Applicable Coastal Act Policies and Standards

Coastal Act Section 30241 states as follows:

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 30250.⁵

(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.

Coastal Act Section 30242 states as follows:

All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless (1) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

2. Consistency Analysis

Coastal Act Sections 30240 and 30241 require the protection of prime agricultural lands⁶ and set limits on the conversion of all agricultural lands to non-agricultural uses.

Up until 2004, the subject property had been used for agricultural purposes, primarily animal husbandry uses, since its reclamation from Humboldt Bay in the approximately 1880s. Given the fine sediment size generally associated with fluvially deposited soil materials within bays and estuaries, the low relief of the area, the relatively shallow water table, and the limited amount of tillage and organic material or other soils component amendments made to the site over the last century since their reclamation, these

⁵ The portion of referenced Section 30250 applicable to this project type and location (sub-section (a)) requires that, “*New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.*”

⁶ Coastal Act Section 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.

seasonally waterlogged soils and their high bulk density severely limit the types and agricultural activities that may be feasibly undertaken at the site. As a result, the primary use pattern for the site had mainly been low intensity cattle grazing land and dry season fodder production in the form of hay cropping.

Since 2004 however, the agricultural productivity of the subject site has been steadily degraded by salt water intrusion resulting from a leaky tidegate along the bay. None of the area involved in the proposed amended development is currently in agricultural use, nor has it been for at least five years. The approximately 90 acres involved in the proposed expanded project area (45 acres of restored habitats plus a 100-foot buffer surrounding the restored habitats) has been regularly inundated by salt water resulting from a leaky tidegate since 2004, which has severely decreased the land's agricultural value.

(1) Maintaining Maximized Protection of Prime Agricultural Land

According to the custom soil report generated for the project by the applicant at the Natural Resources Conservation Service (NRCS) website (<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>), the subject site contains primarily Arlynda soils, 0-2 percent slopes. Arlynda soils are only classified as “prime agricultural land” if irrigated. According to the City, this was confirmed to be the case by the NRCS's area resource soil scientist for northern California. The DFG Wildlife Habitat Supervisor for the MRSWA informed the City that due to the shallow wells on the property (averaging less than 15 feet) and the potential for their sanding in, the lands involved in the proposed amended development are not and have not been irrigated, and are in fact, unsuitable for irrigation.

Additionally, under the NRCS land capability classification system, the soils at the project site do not meet the first criterion for the definition of prime agricultural soils. The Arlynda soil series consists of “very deep, very poorly drained soils on backswamps, depressions, meander scars, and low flood-plain steps on alluvial plains near the Pacific Ocean and along lower reaches of rivers and streams” (<http://www2.ftw.nrcs.usda.gov/osd/dat/A/ARLYNDA.html>). It is identified as a hydric soil and is recognized as having several impediments to extensive agricultural uses. As a result the NRCS has assigned Class V classification to the project site soils as a locale which has “severe limitations that reduce the choice of plants or require special conservation practices, or both.”

Moreover, the project area does not qualify as prime agricultural land under the second prong of the Coastal Act's definition. According to soils information obtained from the County Planning and Building Department's GIS website (<http://gis.co.humboldt.ca.us/>), which is based in part on information from “Soils of Western Humboldt County, California” (McLaughlin and Harradine 1965), the project site contains Bayside silty clay loam soils (Ba2, poorly drained), which have a Storie Index rating of 36.

The third potential qualifying definition of prime agricultural land – 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 – similarly does not apply to the project site. Based on correspondence from, Gary Markegard, County Farm Advisor for the U.C. Cooperative Extension, the low-lying, poorly drained, saltwater intruded, and flood-prone soils along the northern reclaimed fringes of Humboldt Bay typically require three acres per animal-unit.

Finally, with regard to the site's potential qualification as prime agricultural land based upon its potential for commercial fruit or nut crop production at specified minimal yields, the project area similarly fails to meet the criterion. 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 berry crops suitable for the North Coast's temperate setting are similarly restricted to areas further inland, primarily on uplifted marine terraces and within well developed river floodplain areas with improved drainage and more friable soil characteristics. As a result, 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, based upon the above discussed set of conditions at the project site, the Commission finds that the subject site does not contain prime agricultural soils or livestock and/or crop productivity potential that would otherwise qualify the subject property as prime agricultural land.

In conclusion, the Commission finds that the proposed habitat restoration and enhancement use of the site will not occur on prime agricultural land as defined by the Coastal Act.

(2) Minimizing Conflicts Between Agricultural and Urban Land Uses

Section 30241 requires that conflicts between urban and agricultural land uses be minimized through, among other things, limiting conversions of agricultural lands. Section 30241(b) limits conversions of agricultural lands to 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. Section 30241(c) permits the conversion of agricultural lands surrounded by urban uses where the conversion of the land would be consistent with Section 30250. Finally, Section 30241(d) requires the development of available lands not suited for agriculture prior to the conversion of agricultural lands.

The proposed conversion of approximately 90 acres of land formerly used for agriculture to 45 acres of restored habitat and 45 acres of land surrounding the restored habitats that would remain vegetated by pasture grasses but would be reserved for habitat buffer and not used for agricultural purposes constitutes a conversion of agricultural land. This conversion of agricultural land is in an area that is neither located around the periphery of

urban areas nor surrounded by urban uses, and the viability of existing agricultural use at the site is not limited by conflicts with urban uses. The project site is located approximately one mile south and west of the developed portions of Arcata, and all of the lands surrounding the project site are undeveloped and used primarily either for agricultural or natural resources uses. In addition, there are many areas of undeveloped land within the coastal zone around the Humboldt Bay region that are not suitable for agriculture that have yet to be developed. Moreover, the Commission finds that the cumulative loss of agricultural lands in the project vicinity through the course of various restoration projects over the past six years is significant (e.g., see CDP Nos. 1-03-031, 1-05-017, and 1-09-020).

Thus, given this location relative to adjoining land uses and the cumulative loss of agricultural lands in the project vicinity, development of the restoration project on the site's agricultural lands would not be consistent with the limitation on conversion of agricultural lands of Section 30241(b), (c), and (d) and would not serve to minimize conflicts between agricultural and urban land uses.

Thus, the Commission finds that the permanent loss of agricultural land in the project area is not consistent with the provisions of Section 30241 cited above.

(3) Conversion of "All Other Lands" Suitable for Agricultural Use

Coastal Act Section 30242 protects lands suitable for agricultural use that are not prime agricultural lands or agricultural lands on the periphery of urban areas from conversion to non-agricultural use unless continued agricultural use is not feasible, or such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. In the case of the subject parcel, although none of the land on which the proposed restoration and enhancements are proposed to occur is currently in agricultural use, the site had been used for agricultural purposes for nearly 100 years. On at least portions of the site, it would be feasible to conduct grazing again if levee or drainage improvements were put in place to protect the area from the muted tidal waters (resulting from a leaky tidegate) that currently affect the agricultural productivity of the site. Thus, continued agricultural use is feasible, and conversion of the land to non-agricultural use under the amended development would not preserve prime agricultural land or concentrate development, which the Coastal Act prescribes as the basis for allowing conversion consistent with Section 30242. For these reasons, the proposed conversion of 90 acres of agricultural lands in the project area would be inconsistent with the requirements of Coastal Act Section 30242.

E. Conflict Resolution

As noted above, the proposed restoration project would convert 90 acres of agricultural land inconsistent with the provisions of Sections 30241 and 30242. However, as also noted above, to not approve the project would result in a failure to restore marine resources and the biological productivity of coastal wetlands and waters that would be inconsistent with the mandates of Sections 30230 and 30231 of the Coastal Act. Section 30230 mandates that marine resources shall be maintained and enhanced, and where

feasible, restored. Section 30231 mandates that the biological productivity of coastal waters appropriate to maintain optimum populations of marine organisms and the protection of human health shall be maintained, and where feasible, restored.

(1) The Identification of a True Conflict is Normally a Condition Precedent to Invoking a Balancing Approach

As is indicated above, the standard of review for the Commission's decision whether to approve a coastal development permit in the Commission's retained jurisdiction is whether the project as proposed is consistent the Chapter 3 policies of the Coastal Act. In general, a proposal must be consistent with all relevant policies in order to be approved. Put differently, consistency with each individual policy is a necessary condition for approval of a proposal. Thus, if a proposal is inconsistent with one or more policies, it must normally be denied (or conditioned to make it consistent with all relevant policies).

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

(2) Identification of a Conflict

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

In order to identify a conflict, the Commission must find that, although approval of a project would be inconsistent with a Chapter 3 policy, the denial of the project based on that inconsistency would result in coastal zone effects that are inconsistent with some other Chapter 3 policy. In most cases, denial of a proposal will not lead to any coastal zone effects at all. Instead, it will simply maintain the *status quo*. The reason that denial

of a project can result in coastal zone effects that are inconsistent with a Chapter 3 policy is that some of the Chapter 3 policies, rather than prohibiting a certain type of development, affirmatively mandate the protection and enhancement of coastal resources, such as sections 30210 (“*maximum access . . . and recreational opportunities shall be provided . . .*”), 30220 (“*Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses*”), and 30230 (“*Marine resources shall be maintained, enhanced, and where feasible, restored*”). If there is ongoing degradation of one of these resources, and a proposed project would cause the cessation of that degradation, then denial would result in coastal zone effects (in the form of the continuation of the degradation) inconsistent with the applicable policy. Thus, the only way that denial of a project can have impacts inconsistent with a Chapter 3 policy, and therefore the only way that a true conflict can exist, is if: (1) the project will stop some ongoing resource degradation and (2) there is a Chapter 3 policy requiring the Commission to protect and/or enhance the resource being degraded. Only then is the denial option rendered problematic because of its failure to fulfill the Commission’s protective mandate.

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

Similarly, denial of a project is not inconsistent with Chapter 3, and thus does not present a conflict, simply because the project would be less inconsistent with a Chapter 3 policy than some alternative project would be, even if approval of the proposed project would be the only way in which the Commission could prevent the more inconsistent alternative from occurring. For denial of a project to be inconsistent with a Chapter 3 policy, the project must produce tangible, necessary enhancements in resource values over existing conditions, not over the conditions that would be created by a hypothetical alternative. In

addition, the project must be fully consistent with the Chapter 3 policy requiring resource enhancement, not simply less inconsistent with that policy than the hypothetical alternative project would be. If the Commission were to interpret the conflict resolution provisions otherwise, then any proposal, no matter how inconsistent with Chapter 3, that offered even the smallest, incremental improvement over a hypothetical alternative project would necessarily result in a conflict that would justify a balancing approach. The Commission concludes that the conflict resolution provisions were not intended to apply based on an analysis of different potential levels of compliance with individual policies or to balance a proposed project against a hypothetical alternative.

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

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

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

An example of a project that presented such a conflict is a project approved by the Commission in 1999 involving the placement of fill in a wetland in order to construct a

barn atop the fill, and the installation of water pollution control facilities, on a dairy farm in Humboldt County (CDP #1-98-103, O'Neil). In that case, one of the main objectives of the project was to create a more protective refuge for cows during the rainy season. However, another primary objective was to improve water quality by enabling the better management of cow waste. The existing, ongoing use of the site was degrading water quality, and the barn enabled consolidation and containment of manure, thus providing the first of the four necessary components of an effective waste management system. Although the project was inconsistent with Section 30233, which limits allowable fill of wetlands to eight enumerated purposes, the project also enabled the cessation of ongoing resource degradation. The project was fully consistent with Section 30231's mandate to maintain and restore coastal water quality and offered to tangibly enhance water quality over existing conditions, not just some hypothetical alternative. Thus, denial would have resulted in impacts that would have been inconsistent with Section 30231's mandate for improved water quality. Moreover, it was the very essence of the project, not an ancillary amenity offered as a trade-off, that was both inconsistent with certain Chapter 3 policies and yet also provided benefits. Finally, there were no alternatives identified that were both feasible and less environmentally damaging.

(3) The Proposed Project Presents a Conflict

The Commission finds that the proposed project presents a true conflict between Chapter 3 policies of the Coastal Act. The proposed 90-acre habitat restoration project would convert agricultural land in a manner inconsistent with the provisions of Sections 30241 and 30242 of the Coastal Act. However, to not approve the project would result in a failure to maintain and enhance marine resources and the biological productivity of coastal waters that would be inconsistent with the mandates of Sections 30230 and 30231 of the Coastal Act. Sections 30230 and 30231 mandate that marine resources shall be maintained and enhanced, and where feasible, restored. Sections 30230 and 30231 also mandate that the biological productivity of coastal waters appropriate to maintain optimum populations of marine organisms and protect human health shall be maintained and, where feasible, restored.

The proposed restoration of salt marsh, brackish marsh, and enhanced seasonal wetland will directly restore and enhance marine resources and biological productivity of coastal waters appropriate to maintain optimum populations of marine organisms including tidewater goby, marine shorebirds, wading birds, waterfowl, and other water-associated wildlife. Tidewater goby (*Eucyclogobius newberryi*) is a small fish species currently listed as "endangered" under the federal Endangered Species Act. Tidewater gobies occur in near-estuarine tidal stream bottoms with varying salinities and substrates generally of fine (*i.e.*, silty to clayey mud) materials. Virtually the entire 10-acre brackish marsh area and much of the proposed 12-acre salt marsh area currently is designated as "critical habitat" for tidewater goby by the U.S. Fish and Wildlife Service (Exhibit No. 7). Thus, the proposed restoration and enhancements are needed to help restore habitat diversity within Humboldt Bay and assist in the recovery of listed marine species including tidewater goby.

Importantly, the amended development also will protect human health and safety by helping to treat polluted agricultural runoff before it enters the bay, which is used for a variety of human recreational uses. The proposed 23-acre enhanced seasonal wetland area will be designed to receive drainage water from the surrounding agricultural land, which will provide a better mechanism for treating stormwater runoff over the existing site conditions. More sediment and other contaminants will settle out from the runoff as it collects in the enhanced wetlands, rather than just being transported directly to the bay via the existing channels.

Although the amended development is inconsistent with the requirements of Sections 30241 and 30242 that protect productive agricultural land and limit the conversion of agricultural land, denial would preclude achieving Sections 30230's and 30231's mandates for protection and maintenance of marine resources and the biological productivity of coastal waters appropriate to maintain optimum populations of all species of marine organisms and protect human health. In addition, it is the very essence of the project, not an ancillary amenity offered as a trade-off, that is both inconsistent with certain Chapter 3 policies and yet also provides benefits. Finally, as discussed below, there are no alternatives identified that were both feasible and less environmentally damaging.

(a) Alternatives Analysis

As noted above, a true conflict among Chapter 3 policies would not exist if there are feasible alternatives available that are consistent with all of the relevant Chapter 3 policies. Alternatives that have been identified include (a) alternative sites, (b) alternative methods or configurations of project features, and (c) the "no project" alternative. These various alternatives are discussed below.

Alternative Sites

Restoration of the former habitat conditions that existed on a site prior to manipulation by humans within the meaning of Sections 30230, 30231 and 30233(a) of the Coastal Act is inherently site specific. As discussed previously, implicit in the common definition of restoration is the understanding that the restoration entails returning something to a prior state. A site cannot be returned to a prior state by performing wetland enhancement or creation work at some other site. However, as also discussed previously, restoration is also defined as reestablishing ecological processes, functions, and biotic/abiotic linkages that lead to a persistent, resilient system integrated within its landscape that may not necessarily result in a return to historic locations or conditions with the subject wetland area. Thus, restoration of ecological processes, functions, and biotic/abiotic linkages at an alternative location within the landscape of the particular wetland system involved could under certain circumstances be found to be consistent with Sections 30230, 30231 and 30233(a) of the Coastal Act. However, no such feasible alternative location other than the project site exists in this case. Nearly the entirety of the project parcels are agricultural land, so there is no other location on the parcels where the restoration could be carried out that would not result in a conversion of agricultural land inconsistent with Sections 30241 and 30242 of the Coastal Act. Similarly, if restoration of another site to

restore a combination of seasonal wetland, salt marsh, and brackish marsh habitats was considered, no feasible off-site locations that would not result in conversions of agricultural land inconsistent with Sections 30241 and 30242 have been identified. Much of the land surrounding Humboldt Bay that could support the habitat types to be restored has been diked, drained, and cleared for agricultural purposes, and thus the proposed site is one of the few locations where the proposed restoration project could occur consistent with Section 30233(a)(6) as discussed above. Therefore, implementing the project at an alternative location is not a feasible alternative that is consistent with all relevant Chapter 3 policies.

Alternative Configuration of Project Features

Feasible restoration of the site is not dependent on the exact site plan or configuration of the habitat restoration proposed by the applicant. Other configurations of these features could be successful at reestablishing ecological processes, functions, and biotic/abiotic linkages that lead to a persistent, resilient system integrated within its landscape consistent with the definition of restoration for which diking, dredging, and filling is allowed pursuant to Section 30233 of the Coastal Act and which Sections 30230 and 30231 mandate to occur if feasible. However, as (1) virtually all of the larger project area except for the creeks themselves is used agriculturally, (2) the use of any portion of these areas for restoration of habitat would preclude agricultural use and convert agricultural land, and (3) simply reducing the size of the restoration project by eliminating the salt and brackish marsh restoration components of the project would not restore the biological productivity of the bay in a manner that would maintain optimum populations of the tidewater goby and marine shorebirds, no alternative configuration of the project site would avoid conversion of agricultural land inconsistent with Sections 30241 and 30242 of the Coastal Act. Therefore, none of the alternative configurations of the restoration project are a feasible alternative that is consistent with all Chapter 3 policies.

“No Project” Alternative

The “no project” alternative would maintain the status quo of the site and would not restore brackish and salt marsh habitats, along with their associated benefits to tidewater goby, as proposed. Existing conditions on the project site consist of low-quality, fallow, agricultural land (seasonal wetlands). Under the “no project” alternative, there would be no restored and improved habitat for marine resources, and the biological productivity of the coastal wetlands and waters appropriate to maintain optimum populations of marine organisms would thus not be restored. Existing habitats for tidewater goby, marine shorebirds, wading birds, waterfowl, and other water-associated wildlife would continue to be limited on the site. Therefore, the Commission finds that the “no project” alternative would have significant impacts to coastal resources that would be inconsistent with Section 30230’s mandate to, where feasible, restore marine resources and maintain and improve biological productivity. Therefore, the “no project” alternative is not a feasible alternative that is consistent with all relevant Chapter 3 policies.

(b) Conclusion

As discussed above, none of the identified alternatives to the proposed project would be both feasible and consistent with all relevant Chapter 3 policies. The Commission further finds that based on the alternatives analysis above, the proposed project as conditioned is the least environmentally damaging feasible alternative, and therefore the project is consistent with the requirements of Section 30233(a) that the proposed fill project has no feasible less environmentally damaging alternative.

(4) Conflict Resolution

After establishing a conflict among Coastal Act policies, Section 30007.5 requires the Commission to resolve the conflict in a manner that is on balance most protective of coastal resources.

In this case, the Commission finds that the impacts on coastal resources from not constructing the project would be more significant than the project's agricultural conversion impacts. Denying the project because of its inconsistency with Sections 30241 and 30242 would avoid the conversion of low quality, fallow, non-prime agricultural grazing land. The Commission further finds that as the proposed habitat enhancements will maintain and enhance marine resources and the biological productivity of coastal waters appropriate to maintain optimum populations of all species of marine organisms and protect human health, the proposed improvements are mandated by the requirements of Sections 30230 and 30231. Approving the development would restore habitats (habitat for marine shorebirds, tidewater goby, and other marine resources) around Humboldt Bay that have been tremendously reduced over the past century consistent with Sections 30230 and 30231. The proposed 90-acre restoration project will directly restore and enhance marine resources including tidewater goby, marine shorebirds, waterfowl, and other water-associated wildlife. The proposed enhancements are needed to help restore habitat diversity within Humboldt Bay and assist in the recovery of listed marine species including tidewater goby. Importantly, the proposed improvements will benefit human health and safety by treating runoff from the surrounding agricultural land, which will improve the water quality of this major discharge to the bay, which is used for a variety of human recreational uses. The Commission finds that the 90-acre restoration project which would maintain and enhance marine resources necessary to maintain the biological productivity of existing degraded wetlands, maintain optimum populations of all species of marine organisms and protect human health would be more protective of coastal resources than the impacts of the conversion of 90 acres of low quality, fallow, non-prime agricultural land.

As discussed above in Finding IV-C, to ensure that the maintenance and enhancement of marine resources and of the biological productivity of coastal waters that would enable the Commission to use the balancing provision of Section 30007.5 is achieved, the Commission attaches Special Condition Nos. 14 through 16. These conditions require that the applicant submit various final plans, including a final restoration and enhancement monitoring plan, a final erosion and runoff control plan, and final grading and debris disposal plans. Additionally, reimposed Special Condition No. 2 requires that the applicant carry out the project in accordance with various construction protocols to

ensure the protection of coastal waters and wetlands, and modified and reimposed Special Condition No. 4 requires revegetation of the site to be carried out according to specified standards and limitations. The Commission finds that without Special Condition Nos. 2, 4, and 14 through 16, the amended development could not be approved pursuant to Section 30007.5 of the Coastal Act.

(5) Mitigation for Agricultural Impacts

As stated above, the conflict resolution provisions of the Coastal Act require that the conflict be resolved in a manner that on balance is the most protective of significant coastal resources. To meet this test, in past actions where the Commission has invoked the balancing provisions of the Coastal Act, the Commission has found it necessary to mitigate adverse impacts on coastal agricultural resources to the maximum extent feasible. The applicant has not proposed any mitigation to compensate for the loss of agricultural land caused by the project.

The Commission finds that in this particular case because (1) the project proposes to re-establish prior habitat conditions and the processes that create those conditions in a converted and degraded natural wetland (agricultural land), and all of the agricultural land to be converted will be used solely for this purpose; (2) the project, as conditioned, will result in significant improvements in habitat value and diversity in a self-sustaining, persistent fashion independent of the need for repeated maintenance or manipulation to uphold the habitat function; and (3) the agricultural land being converted is low quality, available only on a seasonal basis at best, and does not possess any of the characteristics of “prime agricultural land” as defined by Section 51201(c) of the California Government Code (see Finding IV-F above), no agricultural mitigation is necessary to compensate for the conversion of agricultural land resulting from this restoration project.

F. Hazards

1. Applicable Coastal Act Policies & Standards

Coastal Act Section 30253 states, in relevant part, the following:

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...

2. Consistency Analysis

The proposed amended flood-levee is to be constructed along the western perimeter of the project site. The levee has been designed to be constructed with 1:2 to 1:10 side slopes and to an elevation of 9.0 feet NGVD29 adequate to protect the site from inundation from storm surge at a tide level of 6.5 feet NGVD29, the 100-year flood-equivalent water elevation set by FEMA, factoring in an additional 2.5 feet of height to compensate for the anticipated 0.2- to 0.9-foot of sea level rise projected over the 50-year

economic life of the structure. Therefore, the proposed project, as amended, minimizes this hazard.

To further assure the structural integrity of the levee field, especially with regard to seismic shaking, liquefaction, and long-term ongoing subsidence of the area, a geotechnical analysis was performed for the project improvements. The evaluation (SHN Consulting Engineers and Geologists, November 2003) reviewed the stability of the proposed flood- and eco-levee side slopes and set forth several construction criteria and development recommendations for assuring the structures long-term reliability. Among these recommendations, are specific grading lift-depth and material compaction standards, incorporation of clay sills within the cross-sectional composition of the levees to prevent seepage through the dike, and height over-design construction provisions to compensate for planned settlement. To ensure that these design features are incorporated into the development such that its structural stability and integrity are assured, the Commission adds **Special Condition No. 17**. Special Condition No. 17 requires the applicant to incorporate the recommendations of the geotechnical analysis into the construction of the project levees and submit evidence, for the review and approval of the Executive Director, that a professional engineer has approved the construction plans and verified incorporation of the report's recommendations.

Moreover, given that the applicant has chosen to implement the project despite the identified flooding and geologic stability risks, the applicant must assume the risks. Therefore, the Commission modifies and reimposes **Special Condition 12**. Special Condition No. 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 in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand the hazards. In addition, the condition ensures that future owners of the property will be informed of the risks and the Commission's immunity from liability. As conditioned, the Commission finds the amended development is consistent with Section 30253 of the Coastal Act.

G. Public Access & Coastal Recreation

1. Applicable Coastal Act Policies and Standards

Coastal Act Sections 30210, 30211, and 30212 require the provision of maximum public access opportunities, with limited exceptions. Coastal Act Section 30210 requires in applicable part that maximum public access and recreational opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Section 30211 requires in applicable part that development not interfere with the public's right of access to the sea where acquired through use (i.e., potential prescriptive rights or rights of implied dedication). Section 30212 requires in applicable part that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, such as when adequate access exists nearby or when the provision of public access would be inconsistent with public safety. In applying Sections 30211 and 30212, the Commission is limited by the need to show that any denial of a permit application based on these

sections or any decision to grant a permit subject to special conditions requiring public access is necessary to avoid or offset a project's adverse impact on existing or potential public access.

2. Consistency Analysis

Virtually the entire expanse of the adjacent Mad River Slough Wildlife Area (MRSWA) on which the proposed amended development is located 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. Activities that are not compatible with wildlife, such as off-road vehicle riding, are not allowed at the site. Similarly, within the exception of dusk to dawn closures, the whole of the Arcata Marsh and Wildlife Sanctuary on the eastern side of the larger project area is open for public use for hiking, birdwatching, picnicking, and other similar non-consumptive passive recreational pursuits.

The proposed amended development does not involve any changes or additional restrictions to existing public access including during project construction that would interfere with or reduce the amount of area public access and recreational opportunities. In fact, public use of the project site and the flanking state and municipal wildlife areas are expected to increase as people are drawn to the project's enhancements to the abundance and diversity of wildlife habitat. Moreover, the originally approved project will provide new, additional public access and coastal recreational opportunities through integrating with the AM&WS's trail system, with trails continuing onto the project site on the crests of the levees to be constructed around the brackish and freshwater ponds, and from the crook in South I Street out along the reclamation bay-front levee to the breach site. In addition, the City has identified and included a trail linkage out to a small parking lot on the south side of Samoa Boulevard near an existing sewer booster pump station to be improved once acquisition of the property through which the trail would pass has been completed. With construction of this new access support facility and the continued availability of similar facilities within the AM&WS and MRSWA to the east and west, respectively, sufficient parking would exist to accommodate the current level of public use as well as the anticipated increase in use following project completion. **Special Condition No. 13** of the original permit requires that prior to breaching the bay-front reclamation levee to inundate portions of the project site for saltmarsh restoration purposes, the permittee is required to construct the public access and nature trail improvements proposed within the permit application and as supplemented by the amendment to Coastal Development Permit Application No. 1-06-036, dated May 30, 2007. This condition is reimposed as a condition of CDP Amendment No. 1-06-036-A1 without any changes, and remains in full force and effect.

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

H. Public Trust Lands

The project site entails areas which were submerged, intertidal and/or overflow lands at the time of California's statehood in 1850. Notwithstanding that most of the site is currently not subject to tidal inundation, the site remains subject to public trust review by the State Lands Commission. To assure that no aspect of the project would be inconsistent with the public trust limitations as may continue to be applied to the site, the Commission adds **Special Condition No. 18**. Special Condition No. 18 requires the applicant, prior to issuance of the permit amendment to submit for the review and approval of the Executive Director, evidence that the State Lands Commission has reviewed the approved development proposal and determined what is any permits or other grants of authority may be required before the project work may commence.

I. Other Agency Approvals

The project requires review and authorization by the U.S. Army Corps of Engineers. Pursuant to the Federal Coastal Zone Management Act, any permit issued by a federal agency for activities that affect the coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the U.S. Army Corps of Engineers, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit. The project also requires authorization from the North Coast Regional Water Quality Control Board. Additionally, portions of the proposed amended development are located within the development project permitting jurisdiction of the Humboldt Bay Harbor, Recreation, and Conservation District. To ensure that the project ultimately approved by the Corps, Board, and the District is the same as the project authorized herein, the Commission attaches new **Special Condition Nos. 19, 20, and 21**, which require the City to submit to the Executive Director evidence of these agencies' approval of the project prior to the issuance of the permit amendment and prior to the commencement of construction, respectively. The conditions require that any project changes resulting from these other agency approvals not be incorporated into the project until the applicant obtains any necessary amendments to this coastal development permit.

J. California Environmental Quality Act (CEQA)

On December 20, 2006, the City of Arcata as lead agency certified the Final Environmental Impact Report (SCH No. 2003022091) for the subject McDaniel Slough Wetlands Enhancement Project. The document consisted of the Draft Environmental Impact Report, previously released on May 27, 2006, together with response to comments submitted during the subsequent 45-day public review period. The final environmental document also included supplemental technical information regarding regional agricultural production and a revised project site plan with an offsite lateral trail link into the project site redacted.

Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent

with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full, including all associated environmental review documentation and related technical evaluations incorporated-by-reference into this staff report. Those findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. As specifically discussed in these above findings, which are hereby incorporated by reference, mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts, which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act and to conform to CEQA.

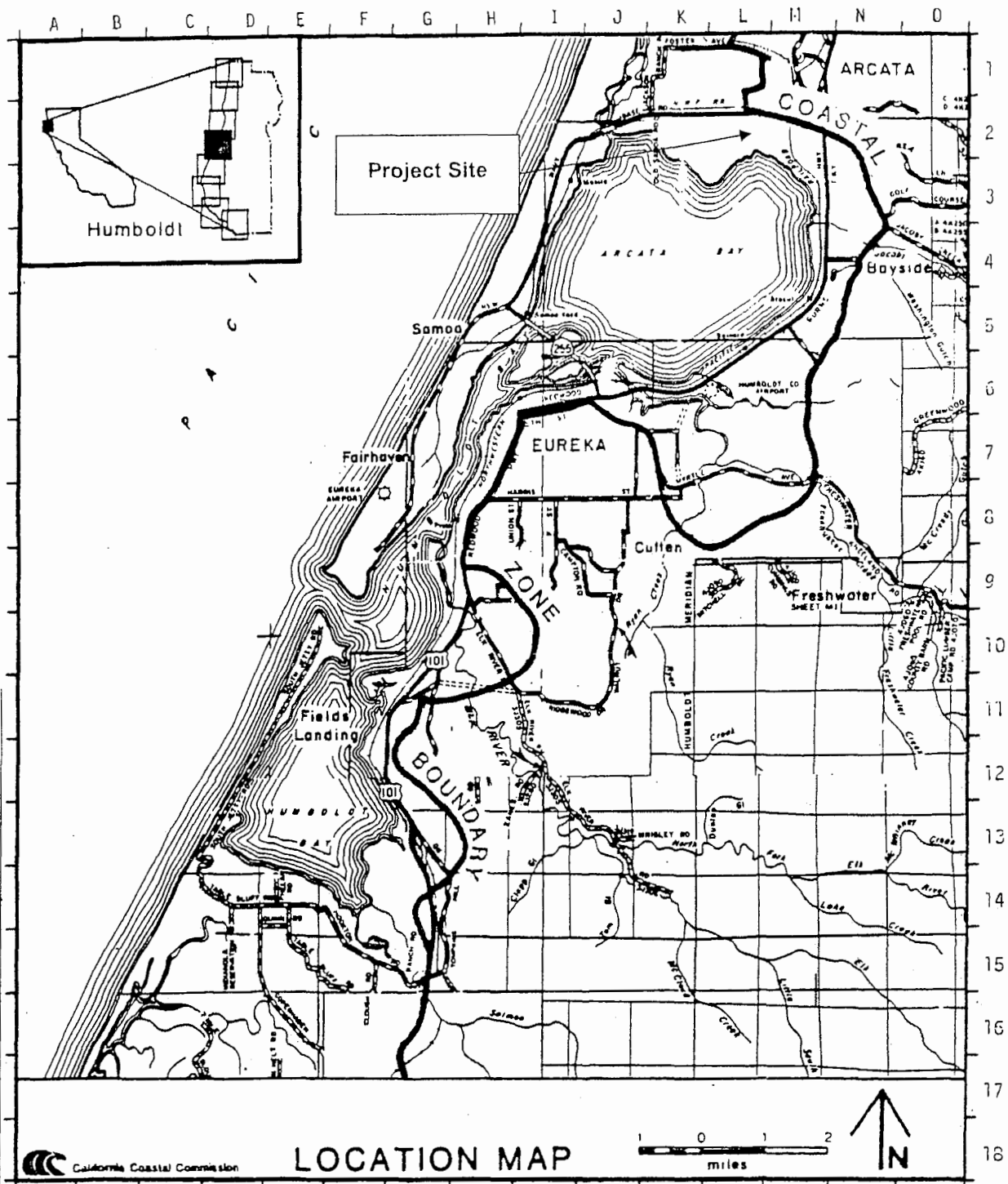
V. EXHIBITS:

1. Regional Location Map
2. Project Vicinity Map
3. Parcel Map
4. Ownership Map
5. Proposed Amended Development Plans
6. Proposed Wetland Mitigation Areas
7. Tidewater Goby Critical Habitat in Humboldt Bay
8. CDP No. 1-06-036 Adopted Findings staff report

ATTACHMENT A

Standard Conditions:

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director of the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



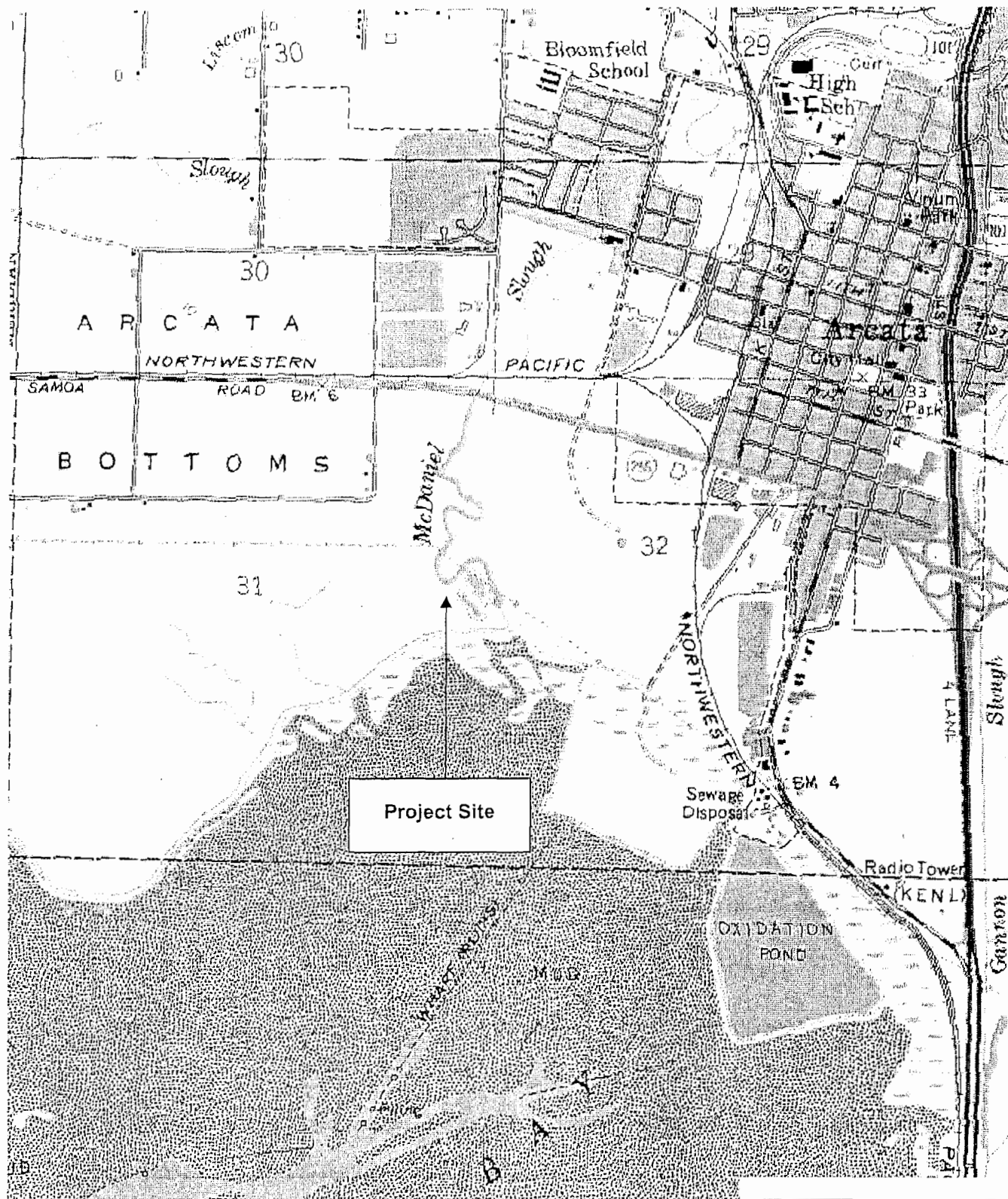
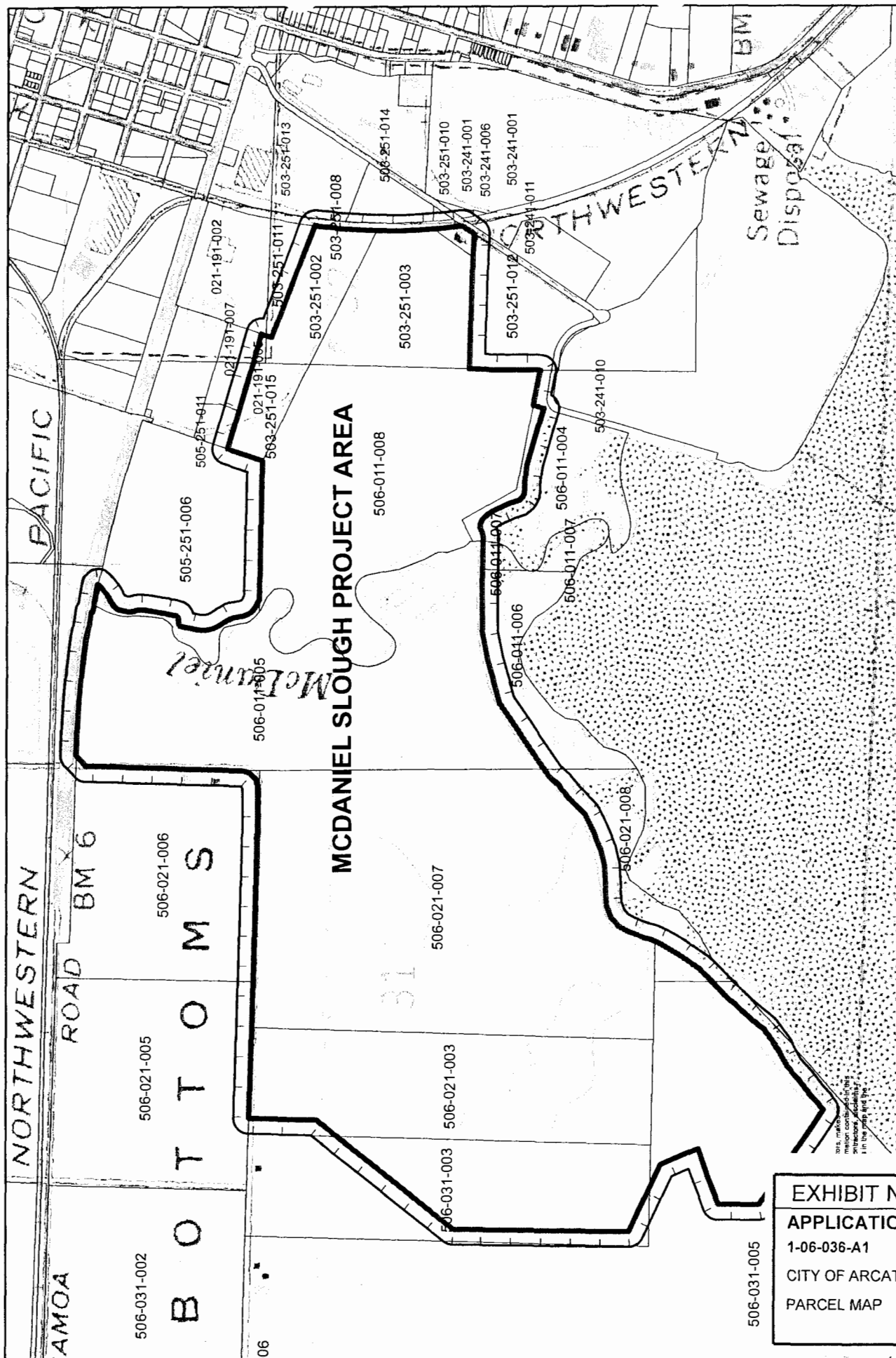


EXHIBIT NO. 2
APPLICATION NO.
1-06-036-A1
CITY OF ARCATA
VICINITY MAP



Legend

- 100' RADIUS OF PROJECT AREA
- PARCEL
- MCDANIEL SLOUGH PROJECT BOUNDARY

0 500 Feet

NORTH

**MCDANIEL SLOUGH MARSH
ENHANCEMENT PROJECT AREA
100' PARCEL NOTIFICATION MAP
6/9/2009**

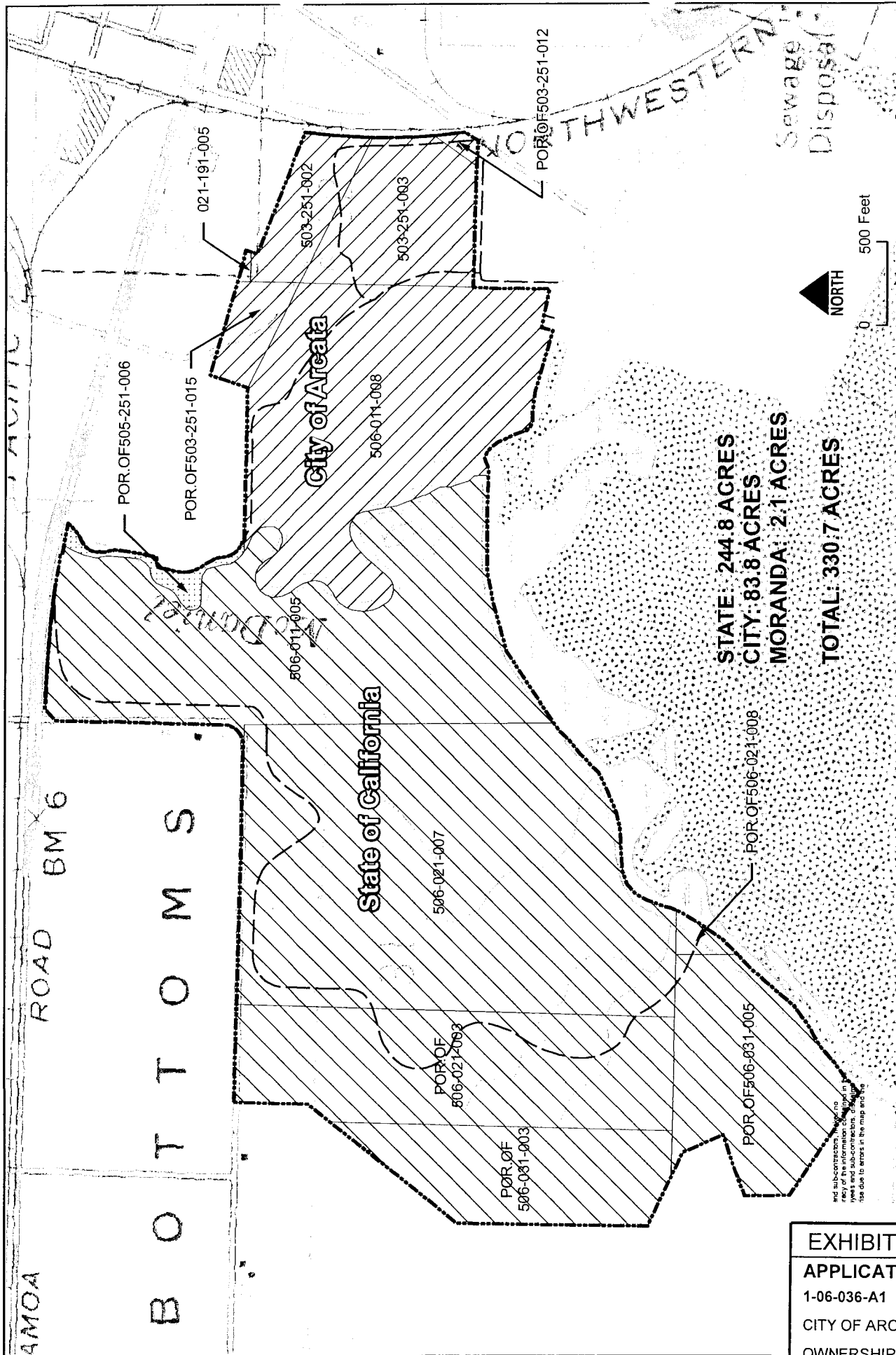
EXHIBIT NO. 3

APPLICATION NO.

1-06-036-A1

CITY OF ARCATA

PARCEL MAP



<p>MCDANIEL SLOUGH MARSH ENHANCEMENT PROJECT AREA OWNERSHIP</p> <p>6/8/2009</p>	<p>Legend</p> <ul style="list-style-type: none"> LEVEE MCDANIEL SLOUGH PROJECT BOUNDARY MCDANIEL SLOUGH MARSH ENHANCEMENT PROJECT AREA OWNERSHIP <ul style="list-style-type: none"> CALIFORNIA STATE OF PL CITY OF ARCATA EARL & ALLEN MORANDA 	<p>EXHIBIT NO. 4</p> <p>APPLICATION NO.</p> <p>1-06-036-A1</p> <p>CITY OF ARCATA</p> <p>OWNERSHIP MAP</p>
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EXHIBIT NO. 5

APPLICATION NO.

1-06-036-A1

CITY OF ARCATA

PROPOSED AMENDED
DEVELOPMENT PLANS (1 of 5)

City of Arcata MCDANIEL SLOUGH PROJECT AREA AMENDMENT

Boundaries		Recreation	
	Project Boundary		Trail
	Project Boundary Amendment Area		Bird Blind
	Arcata City Limits		Information Kiosk
			Boat Launch
Levee Types		Water Features	
	Flood Levee		Streams
	Eco-Levee		Freshwater Marsh
	Pond Perimeter Levee		Brackish Pond
	Former Flood Levee Alignment		
Transportation		Other Features	
	Access Road		Potential wastewater flow
	Railroad		Surface Water Flow
			Drainage Ditch
			Remove Culvert/Tide gate
			Drainage pipe
			PG & E Tower
			Trees
			Remove Levee
			Roosting island
			Parcel

Source: City of Arcata

DFG Freshwater Habitat, Brackish Habitat and Flood Levee Stats 6/5/2009



Pacheco Ln

Freshwater Habitat:
18' of excavation with 6" sod put back in pond

Total Cut: 49,662 cubic yards (31,675 dirt + 17,987 sod)
Total Pond Area: 22.9 acres of water + 1.7 acres of islands = 24.6 ac
Cut Area: 22.9 acres
Slope: 10:1

Old Samoa Rd

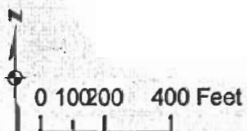
DFG Segment #3

Fill - 34,552 cubic yards
Area - 4.4 acres
Length - 3,558'
Wetland footprint: 3.2 acres
Slope: 2:1, 4:1 slopes

Brackish Habitat: 2' of excavation

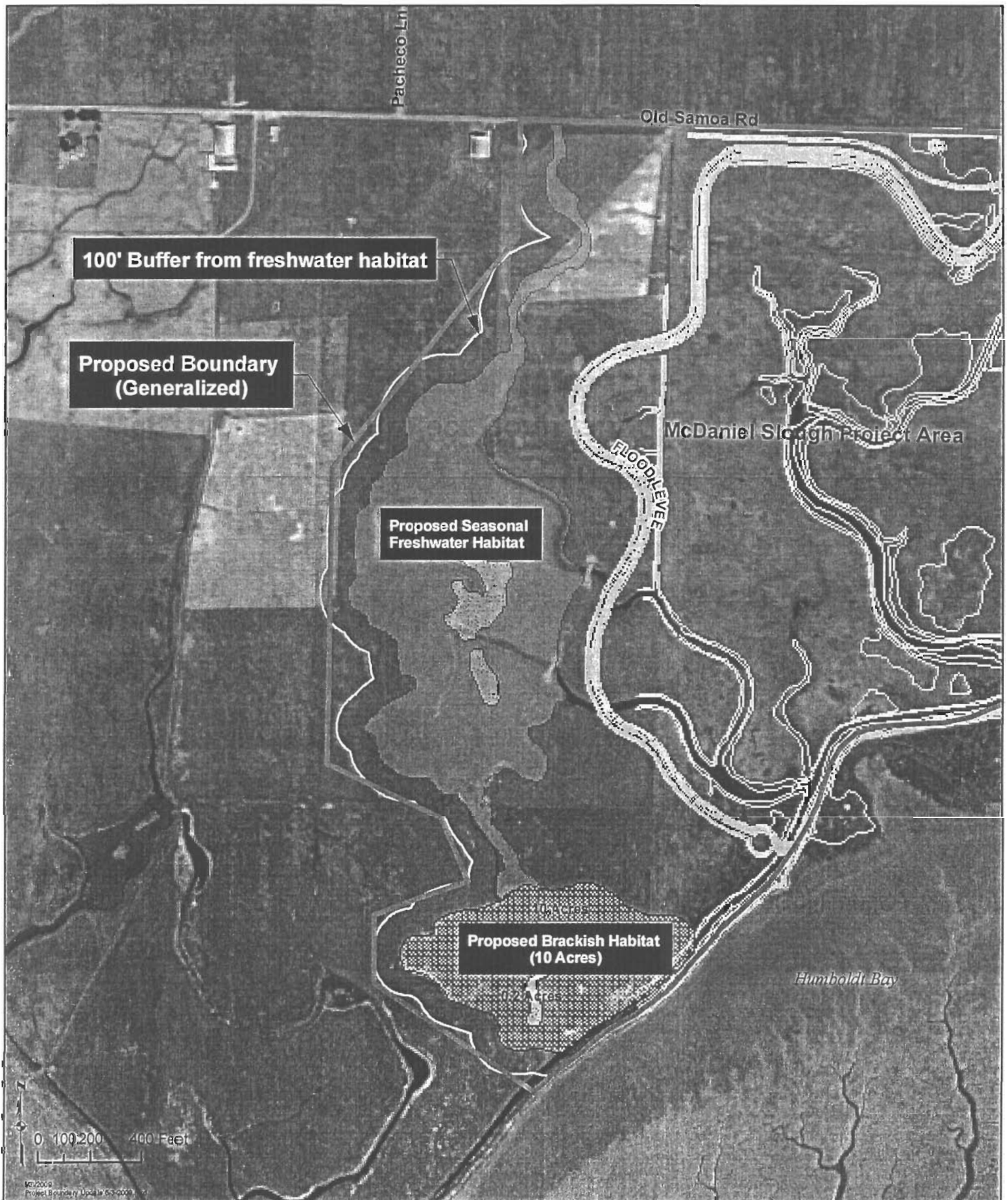
Total Cut: 30,020 cubic yards (21,942 dirt + 8,078 sod)
Total Pond Area: 10 acres water + .6 acres of islands = 10.6 ac
Cut Area: 10 acres
Slope: 10:1

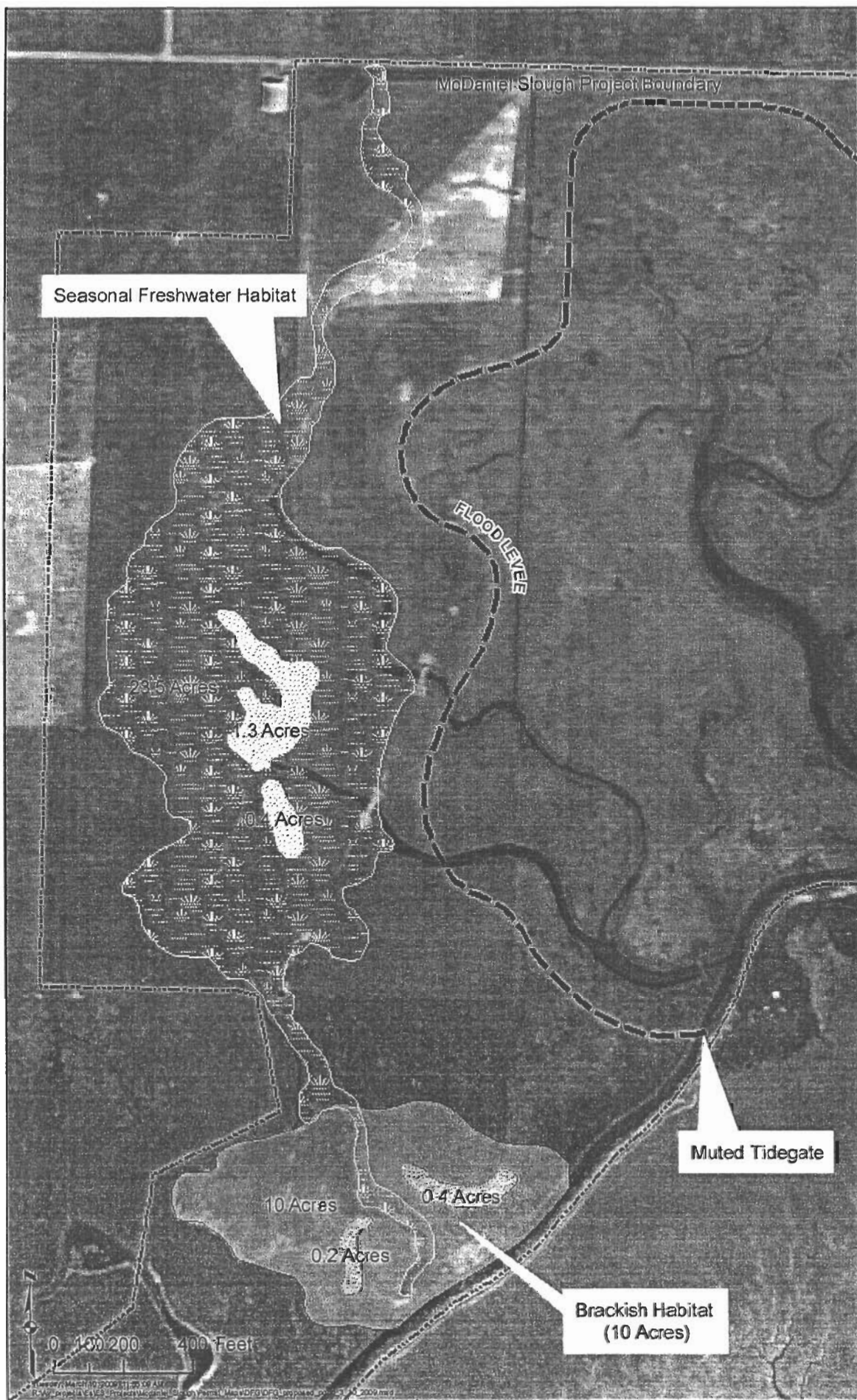
Humboldt Bay



2 of 5

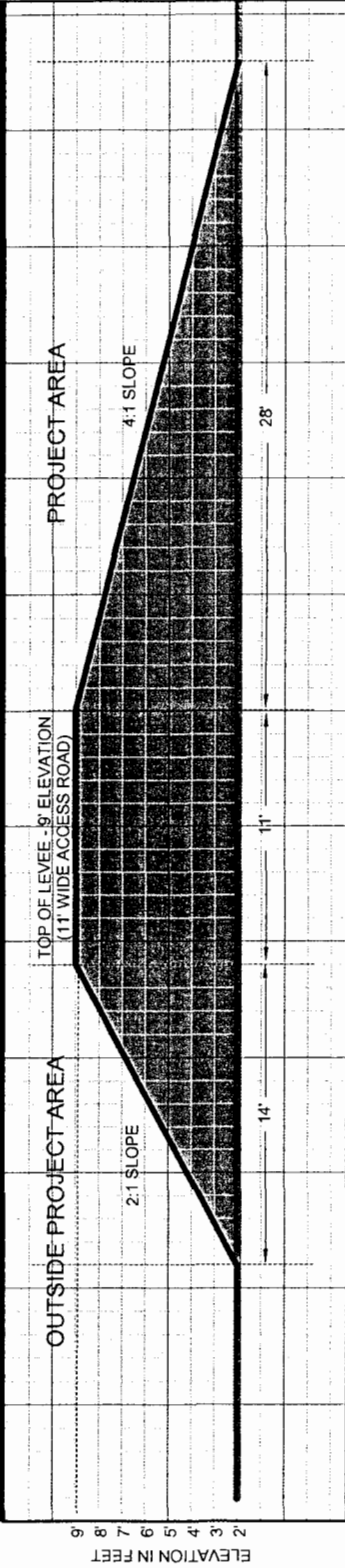
McDaniel Slough Project Boundary Update 6-3-2009



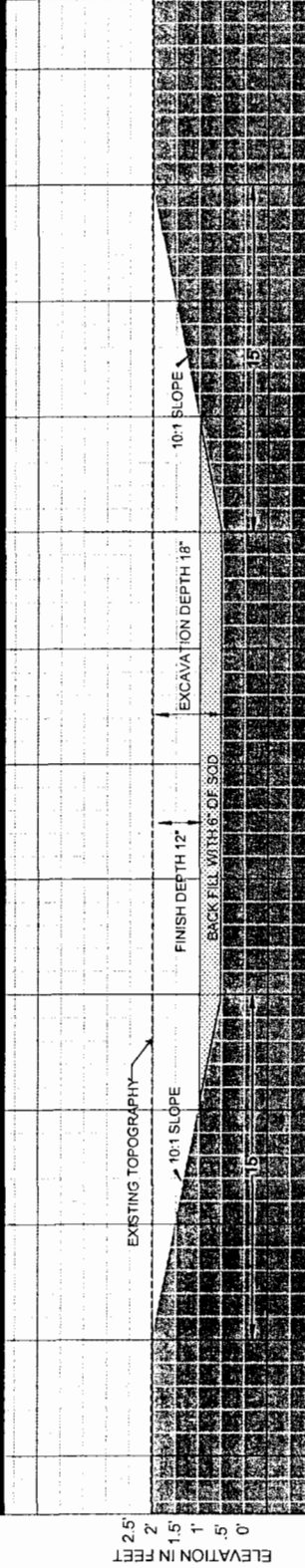


4 of 5

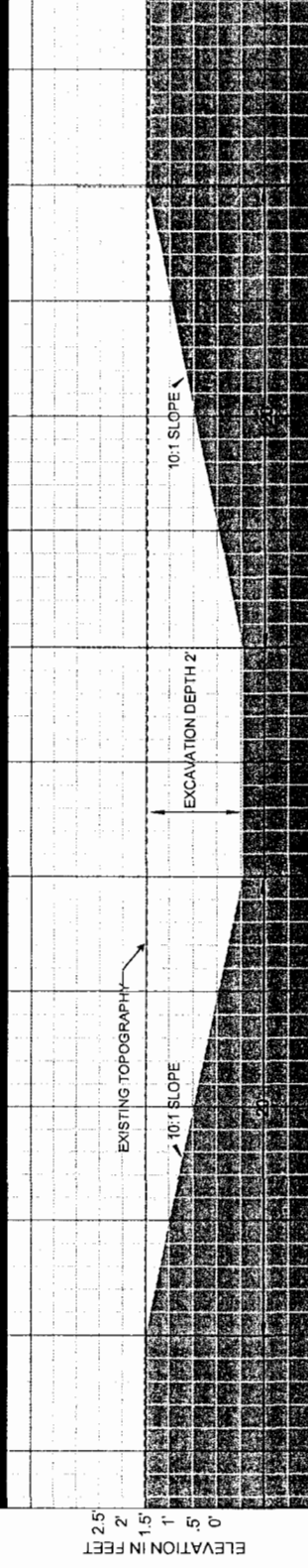
CROSS SECTION "A" FLOOD LEVEE



TYPICAL CROSS SECTION: FRESHWATER HABITAT



TYPICAL CROSS SECTION: BRACKISH HABITAT



NO.	REVISION	BY	DATE	SCALE	DATE
					6/4/2009
				JOB NO.	BID#4_CROSS_SECTIONS.APR
				SHEET	
				OF	

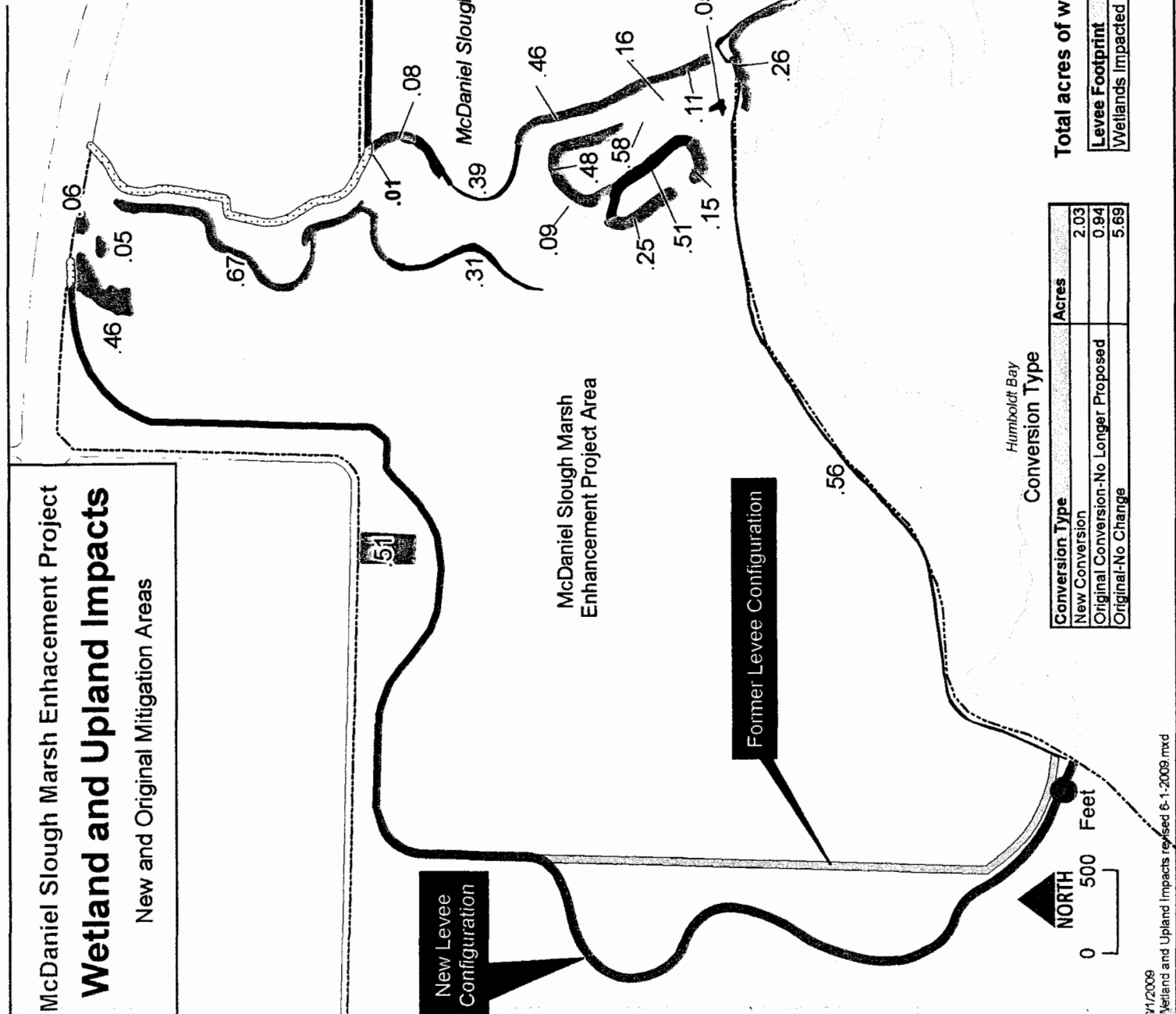
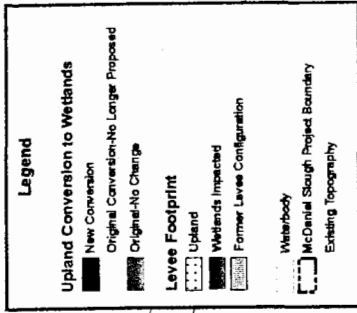
MCDANIEL SLOUGH
MARSH ENHANCEMENT PROJECT
DFG FLOOD LEVEE AND
FRESHWATER/BRACKISH HABITAT
CROSS SECTIONS

CITY OF ARCAT
Environmental Services Department
DESIGNED BY: M. ANDRE
DRAWN BY: B. KANG
CHECKED BY: D. CLASS
EXPIRES

545

McDaniel Slough Marsh Enhancement Project Wetland and Upland Impacts New and Original Mitigation Areas

EXHIBIT NO. 6
APPLICATION NO.
1-06-036-A1
CITY OF ARCATA
PROPOSED WETLAND
MITIGATION AREAS



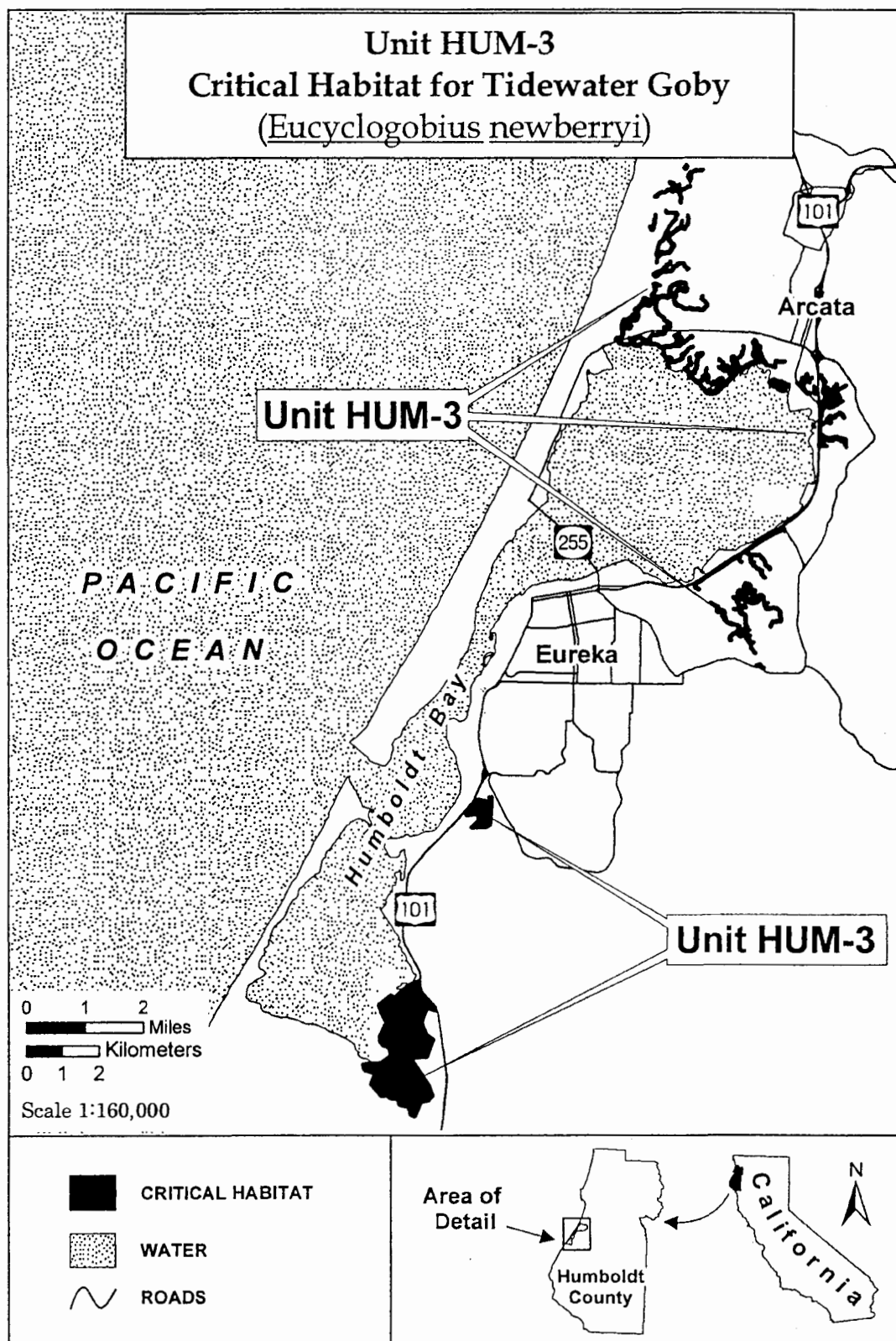
Total acres of wetlands impacted

Levee Footprint	Acres
Wetlands Impacted	7.69

Conversion Type		Acres
New Conversion		2.03
Original Conversion-No Longer Proposed		0.94
Original-No Change		5.69

Mitigation Area

New Conversion	2.03
Original Conversion	5.69
Total Mitigation Area	7.72 Acres



BILLING CODE 4310-55-C

EXHIBIT NO. 7**APPLICATION NO.**

1-06-036-A1

CITY OF ARCATA

TIDEWATER GOBY CRITICAL
HABITAT IN HUMBOLDT BAY

CALIFORNIA COASTAL COMMISSION

NORTH COAST DISTRICT OFFICE MAILING ADDRESS:
710 E STREET • SUITE 200 P. O. BOX 4908
EUREKA, CA 95501-1865 EUREKA, CA 95502-4908
VOICE (707) 445-7833
FACSIMILE (707) 445-7877



Hearing Date: May 11, 2007
Commission Action: **Approved with Conditions**
May 11, 2007

ADOPTED FINDINGS**EXHIBIT NO. 8****APPLICATION NO.**

1-06-036-A1

CITY OF ARCATA

CDP 1-06-036 ADOPTED
FINDINGS (1 of 50)APPLICATION NO.: **1-06-036**APPLICANT: **City of Arcata – Environmental Services Department**

PROJECT LOCATION: Within the open seasonal wetland pasture areas adjacent to Arcata Bay south of Samoa Boulevard, west of South I Street, and south and east of the intersection of V Street and Old Samoa Road, Arcata, Humboldt County. (APNs 21-191-05, 503-251-02, -03, -10, 505-251-10, 506-011-02, and -08)

PROJECT DESCRIPTION: Restore and enhance wetland function to 240 acres of reclaimed former tidal salt/brackish marsh to a combination of 205 acres of intertidal saltmarsh wetlands and 35 acres of impounded freshwater and brackish wetlands by: 1) excavating the pond areas; 2) deepening approximately 5,200 lineal feet of existing slough channels within the reclaimed area; 3) constructing approximately 21,000 lineal feet of flood, eco-levee, and pond perimeter levees around the periphery of the project component areas; 4) removing a total of approximately 1,200 lineal feet of portions of portions of the existing flood control levees along the lower reaches of McDaniel Slough to form roosting islands out of the remnant portions of the levees; 5) breaching the reclamation levee separating the project site from Arcata Bay at two locations to form muted tidal openings to provide access for anadromous salmonids, tidewater goby, and other marine fish species; 6) planting appropriate elevation-specific native saltmarsh plants on the inner faces of the eco levees; and 7) developing pedestrian and bicycle trail segments

along the pond perimeters and out to the reclamation levee breach site.

GENERAL PLAN DESIGNATION: Agricultural Exclusive (AE).

ZONING DESIGNATION: Coastal Agricultural Exclusive (C-AE) – City of Arcata portion; Coastal Agricultural Exclusive – Sixty Acre Minimum Parcel Size with Flood Hazard and Transitional Agriculture Combining Zones (AE60/F,T) and Natural Resources with Coastal Wetlands Combining Zone (NR/W) – County of Humboldt portion.

OTHER APPROVALS REQUIRED: California Department of Fish and Game CFGC Sec. 1603 Streambed Alteration Agreement and U.S. Army Corps of Engineers CWA Section 404 Permit No. 27434N (pending)

SUBSTANTIVE FILE DOCUMENTS:

McDaniel Slough Wetlands Enhancement Project Final Environmental Impact Report, SCH No. 2003022091;
City of Arcata LCP; and
County of Humboldt LCP

STAFF NOTES

1. Adopted Findings.

The Commission held a public hearing and approved the permit at the meeting of June 15, 2007. The adopted conditions for approval of the development differ from those contained in the written staff recommendation dated May 31, 2007. At the hearing, staff presented an addendum that revised recommended Special Condition No. 13 requiring the applicant to construct all trail improvements, including the linkage from the western freshwater pond to Samoa Boulevard, prior to breaching the bayfront reclamation levee. The special condition was subsequently replaced with a condition that, while requiring the trail improvement to be constructed prior to breaching the reclamation levee, included provisions for adaptive management periodic closures of the trail segment to minimize impacts to wildlife based upon documented observations of habitat utilization patterns on surrounding lands, subject to the review and approval of the Executive Director. The Commission adopted the changes to the staff recommendation in their entirety.

The following resolution, conditions, and findings were adopted by the Commission on June 15, 2007 upon conclusion of the public hearing.

I. RESOLUTION

Resolution to Approve the Permit:

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

II. STANDARD CONDITIONS: See Attachment A.

III. SPECIAL CONDITIONS:

1. Final Restoration Monitoring Program

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-06-036**, the applicant shall submit for review and written approval of the Executive Director, a final detailed restoration monitoring program designed by a qualified wetland biologist for monitoring of the wetland enhancement site. The monitoring program shall at a minimum include the following:

- 1) Performance standards that will assure achievement of the restoration goals and objectives set forth in Coastal Development Permit Application No. 1-06-036 as summarized in the Findings IV.B, "Project Description," and shall include but not be limited to the following standards: (a) utilization by one or more of the following species: steelhead (*Oncorhynchus mykiss*), coho salmon (*Oncorhynchus kisutch*), coastal cutthroat trout (*Oncorhynchus clarki*) and/or tidewater goby (*Eucyclogobius newberryi*); (b) increases in saltmarsh, brackish water, and freshwater aquatic habitat by construction of the various project features, including terra-forming the lower McDaniel Slough stream, tidal channels, and floodplain areas, constructing new flood- and eco-levees, breaching the bayfront reclamation levee to allow for direct intertidal connection to

Arcata Bay, removal of 6.64 acres of existing fill materials from wetland areas, and construction of the brackish water and freshwater ponds; and (c) increasing riparian vegetation by the planting of native tree and shrub species on island within the brackish pond and in areas surrounding the freshwater ponds.

- 2) Provisions for monitoring at least the following attributes: (a) presence of steelhead (*Oncorhynchus mykiss*), coho salmon (*Oncorhynchus kisutch*), coastal cutthroat trout (*Oncorhynchus clarki*), and/or tidewater goby (*Eucyclogobius newberryi*); and (b) increases in saltwater, brackish, and freshwater aquatic habitat, and saltmarsh and riparian vegetation at the following frequency: biannually for ten years using methods such as: fyke netting / electro-fishing sampling, transect sampling, photo plots, and/or direct counting of surviving tree and shrub plantings.
- 3) Provisions for submittal within 30 days of completion of the initial enhancement work of (1) “as built” plans demonstrating that the initial enhancement work has been completed in accordance with the approved enhancement program, and (2) an assessment of the initial biological and ecological status of the “as built” enhancements. The assessment shall include an analysis of the attributes that will be monitored pursuant to the program, with a description of the methods for making that evaluation.
- 4) Provisions to ensure that the enhancement site will be remediated within one year of a determination by the permittee or the Executive Director that monitoring results indicate that the site does not meet the goals, objectives, and performance standards identified in the approved enhancement program and in the approved final monitoring program.
- 5) Provisions for monitoring and remediation of the enhancement site in accordance with the approved final enhancement program and the approved final monitoring program for a period of ten years.
- 6) Provisions for submission of annual reports of monitoring results to the Executive Director by October 1 each year for the duration of the required monitoring period, beginning the first year after submission of the “as-built” assessment. Each report shall include copies of all previous reports as appendices. Each report shall also include a “Performance Evaluation” section where information and results from the monitoring program are used to evaluate the status of the wetland enhancement project in relation to the performance standards.
- 7) Provisions for submission of a final monitoring report to the Executive Director at the end of the five-year reporting period. The final report must

be prepared in conjunction with a qualified wetlands biologist. The report must evaluate whether the enhancement site conforms with the goals, objectives, and performance standards set forth in the approved final enhancement program. The report must address all of the monitoring data collected over the five-year period.

- B. If the final report indicates that the enhancement project has been unsuccessful, in part, or in whole, based on the approved goals and objectives set forth in Coastal Development Permit Application No. 1-06-036 as summarized in Findings IV.B “Project Description,” the applicant shall submit a revised or supplemental enhancement program to compensate for those portions of the original program which did not meet the approved goals and objectives set forth in Coastal Development Permit Application No. 1-06-036 as summarized in Finding IV.B “Project Description.” The revised enhancement program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.
- C. The permittee shall monitor and remediate the wetland enhancement site in accordance with the approved monitoring program. Any proposed changes from the approved monitoring program shall be reported to the Executive Director. No changes to the approved monitoring program shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines no amendment is legally required.

2. **Construction Responsibilities, Debris Removal, and Disposition of Excavated Materials**

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

- (a) No construction materials, debris, or waste shall be placed or stored where it may be subject to entering waters of McDaniel Slough, the back-drains behind the reclamation levee, or Arcata Bay or;
- (b) All construction debris, including fencing materials, gating, and demolished agricultural structures shall be removed and disposed of in an upland location outside of the coastal zone or at an approved disposal facility; and
- (c) All grading activities, including the placement of fill, dredging and diking of channels, and excavations and re-cover operations shall be conducted during the dry season period of June 1 through October 1. Additional coastal development permit authorization shall be obtained for any grading conducted during the period of October 1 through May 31.

3. **Erosion and Runoff Control Plan**

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-06-036**, the applicant shall submit, for review and approval of the Executive Director, a plan for erosion and run-off control.

- 1) The run-off, spill prevention and response plan shall demonstrate that:
 - (a) Run-off from the project site shall not increase sedimentation in coastal waters;
 - (b) Run-off from the project site shall not result in pollutants entering coastal waters;
 - (c) Best Management Practices (BMPs) shall be used to prevent the entry of polluted stormwater runoff into coastal waters during the construction of the authorized structures, including but not limited to the following:
 - (i.) Stormwater runoff diversion immediately up-gradient of the excavation for building foundations; and
 - (ii.) Use of relevant best management practices (BMPs) as detailed in the "California Storm Water Best Management (Construction and Industrial/Commercial) Handbooks, developed by Camp, Dresser & McKee, *et al.* for the Storm Water Quality Task Force (i.e., BMP Nos. EC-1 – *Scheduling*, EC-2 – *Preservation of Existing Vegetation*, EC-12 – *Streambank Stabilization*, SE-1 – *Silt Fence* and/or SE-9 – *Straw Bale Barrier*, NS-9 – *Vehicle and Equipment Fueling*, NS-5 – *Clean Water Diversion*, NS-10 – *Vehicle and Equipment Maintenance and Repair*; WM-1 – *Material Delivery and Storage*, WM-4 – *Spill Prevention and Control*; see <http://www.cabmphandbooks.com>).
 - (d) An on-site spill prevention and control response program, consisting of best management practices (BMPs) for the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill, shall be implemented at the project to capture and clean-up any accidental releases of oil, grease, fuels, lubricants, or other hazardous materials from entering coastal waters.
- 2) The plan shall include, at a minimum, the following components:
 - (a) A schedule for installation and maintenance of appropriate construction source control best management practices (BMPs) to

prevent entry of stormwater run-off into the construction site and the entrainment of excavated materials into run-off leaving the construction site; and

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

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

4. Restoration Site Revegetation

The coastal pond and riparian corridor enhancement sites shall be revegetated as proposed and comply with the following standards and limitations:

- a. Only native plant species shall be planted. All proposed plantings shall be obtained from local genetic stocks within Humboldt County. If documentation is provided to the Executive Director that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside of the local area may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be employed or allowed to naturalize or persist on the site. No plant species listed as a 'noxious weed' by the governments of the State of California or the United States shall be utilized within the property.
- b. Only California Crop Improvement Association-certified "yellow tag" California native grass seed shall be used in the proposed soil stabilization applications.
- c. All planting will be completed within 60 days after completion of construction of the realigned and restored stream channels.
- d. All required plantings will be maintained in good growing conditions throughout the life of the project, and whenever necessary, shall be replaced with new plant materials to ensure continued compliance with the landscape plan.

- e. The use of rodenticides containing any anticoagulant compounds, including, but not limited to, Bromadiolone, Brodifacoum or Diphacinone shall not be used.
- f. Willow, alder, and spruce cuttings shall comply with the following:
 - (1) Cuttings shall be taken from nearby willow trees and planted during the period of November 1 to March 1;
 - (2) The stakes shall be obtained from long, upright branches taken off the parent plant by cutting the branch at an angle, so that it makes a point. Live stakes shall be between 18 and 24 inches long and at least three-eighths inch ($\frac{3}{8}$ ") in diameter;
 - (3) Leaves and small branches shall be removed from the stakes as soon as possible after cutting them, to keep the stakes from drying out;
 - (4) Stakes shall be planted within 24 hours of their cutting for best results. The cuttings shall be kept moist and wet by storing them in buckets or wet burlap sacks. The cuttings shall be kept in the shade until they are planted; and
 - (5) The stakes shall be inserted angle-cut end down a minimum of one foot deep into the streambank, with three to six inches of the cutting exposed above the ground surface to allow for leaf sprouting.

5. Final Grading and Debris Disposal Plans

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-06-036, the applicant shall submit, for review and [written] approval of the Executive Director:

- 1. Final plans for site excavation, grading, and filling that substantially conform with the plans submitted to the Commission, titled McDaniel Slough Wetland Enhancement Project – Project Summary dated August 9, 2006, and
- 2. Final plans for disposal of all construction debris or export fill materials that substantially conform with the plans submitted to the Commission, titled McDaniel Slough Wetland Enhancement Project – Project Summary dated August 9, 2006, and the requirements of Special Condition No. 2.

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

**6. Conformance of Design and Construction Plans to Geotechnical Report
Geologic and Flood Hazards**

- A. All final design and construction plans, including foundations, grading and drainage plans, shall be consistent with all recommendations contained in Geotechnical Evaluation of McDaniel Slough Marsh Enhancement Project prepared by SHN Consulting Engineers and Geologists, Inc. and dated November 2003. **PRIOR TO THE ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-06-036**, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriate licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all of the recommendations specified in the above-referenced geologic evaluation approved by the California Coastal Commission for the project site.
- B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

7. Demonstration of Adequate Property Rights

PRIOR TO COMMENCEMENT OF DEVELOPMENT OF ANY PUBLIC ACCESS/NATURE TRAIL AND SUPPORT FACILITIES ON APNs 505-251-06, AND -13, the permittee shall submit, for the review and approval of the Executive Director, copies of all grant deeds and access easement conveyances for the above-listed properties clearly demonstrating that: (a) fee-title has been secured to the “Moranda parcel” on which development of public access trail and support facilities have been authorized; and (b) rights of ingress and egress across the adjoining “Industrial Electric Company parcel” have been expanded and/or perfected to allow for public access across the subject property to the adjoining trail and parking lot improvements.

8. State Lands Commission Review

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT NO. 1-06-036, the applicant shall submit to the Executive Director a written determination from the State Lands Commission that:

- a. No State or public trust lands are involved in the development; or
- b. State or public trust lands are involved in the development and all permits required by the State Lands Commission have been obtained; or
- c. State or public trust lands may be involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the approved project as conditioned by the Commission to proceed without prejudice to that determination.

9. California Department of Fish and Game Approval

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT NO. 1-06-036, the applicant shall provide to the Executive Director a copy of a permit issued by the California Department of Fish and Game (CDFG), or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the CDFG. 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.

10. U.S. Army Corps of Engineers Approval

PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, the permittee shall provide to the Executive Director a copy of a permit issued by the Army Corps of Engineers, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the Army Corps of Engineers. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

11. Humboldt Bay Harbor, Recreation, and Conservation District Approval

PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-06-036, applicant shall provide to the Executive Director a copy of a permit issued by the Humboldt Bay Harbor, Recreation, and Conservation District (HBHRCD) or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the HBHRCD. 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.

12. Assumption of Risk, Waiver of Liability and Indemnity Agreement

By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from waves, storm surge, and flooding; or, erosion and earth movement; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

13. Trail Linkage to Samoa Boulevard

PRIOR TO BREACHING THE BAYFRONT RECLAMATION LEVEE TO INUNDATE PORTIONS OF THE PROJECT SITE FOR SALTMARSH RESTORATION PURPOSES, the permittee shall construct the public access and nature trail improvements proposed within the permit application and as supplemented by the amendment to Coastal Development Permit Application No. 1-06-036, dated May 30, 2007. An adaptive management approach shall be used, entailing documented observation of wildlife habitat use patterns of areas adjacent to the Samoa Boulevard trail linkage, for determining appropriate management of public use of the trail such that impacts to wildlife from human activities are minimized, subject to review and concurrence of the Executive Director.

III. FINDINGS AND DECLARATIONS.

The Commission hereby finds and declares as follows:

A. Site Description.

The City of Arcata proposes to restore and enhance riparian wetlands within the reclaimed lower reaches of the McDaniel Slough to provide greater habitat value and diversity for water-associated wildlife. The Janes Creek / McDaniel Slough watershed comprises approximately 1,800 acres and drains the northeastern industrial corridor south of State Route 299 and the western third the city, originating as a third order stream on the lower northwest-facing slopes of Fickle Hill, the landform that forms the eastern backdrop of the City of Arcata (see Exhibit Nos. 1 and 2).

The 240-acre restoration/enhancement site is situated within the diked seasonal wetlands along and adjoining the channelized segment of the lower McDaniel Slough stream course below State Route 255 to its juncture with the Arcata Bay lobe of Humboldt Bay, at elevations ranging from approximately -2 to +14 feet above mean sea level (msl) referenced from the 1929 National Geodetic Vertical Datum (NAVD₂₉).

The project site was historically part of the extensive tidal marshes of Humboldt Bay. In the decades immediately following European settlement of the North Coast area in the early 1850s, efforts were undertaken to reclaim much of the intertidal fringes of Humboldt Bay primarily for construction of a regional railroad system and for agricultural purposes. The project properties were converted to agricultural use following the construction of a levee around this portion of Humboldt Bay in 1886. The western 2/3s of the site was farmed and grazed up until 1987 when the area was acquired by the California Department of Fish and Game (DFG) with Proposition 19 Bond funds intended specifically for the acquisition of coastal wetlands. Subsequently, the vegetation grew to be tall and rank, and a dense mat of dead vegetation developed over much of the ground surface. This dense, tall vegetation provides habitat for some wildlife at the site, but precludes use of the area by many water-associated wildlife species. In recent years the presence of water-associated wildlife on the Mad River Slough Wildlife Area portion has noticeably decreased. Later, in 1999, the eastern 1/3 of the site was acquired by the City of Arcata who continues to allow cattle grazing over approximately 67 acres of the best-drained portions of the site.

After passing through a tidegate beneath Samoa Boulevard (State Route 255) and entering the project site, McDaniel Slough assumes a meandering slough pattern, a remnant of its former intertidal character, before passing through a malfunctioning tidegate and entering Arcata Bay. Laterally beyond the levee-confined portions of the slough channel, the site consists of a mosaic of seasonal emergent, scrub-shrub wetlands, and seasonal agricultural wetlands in the form of cropped grazing pastures incised by several tide-gated remnant tidal channels radiating landward off of Arcata Bay. Borrow ditches paralleling and outboard of the confinement berms along the slough channel and a back-drain channel along the base of the bayfront reclamation levee add to the aquatic diversity of the site. Non-wetland areas within the project bounds are limited to the existing containment levees flanking the slough channel, and filled farm road, barn, and paddock areas in the northeastern quadrant of the project site (see Exhibit No. 3).

Arcata Bay, its feeder creeks and the surrounding agricultural, public facility, and open space lands provide habitat for a diversity of wildlife. The project area is habitat for a wide variety of resident and migratory waterfowl, shorebirds, wading birds, songbirds, and raptors. A smaller number of mammals, amphibians and reptiles also inhabit the area. Several significant species of fish have been found in these coastal watercourses, including *coho* salmon (*Oncorhynchus kisutch*), listed as endangered federally and as a threatened species in California, steelhead (*Oncorhynchus mykiss*) a state-listed

threatened species, coastal cutthroat trout (*Oncorhynchus clarki*), a California species-of-special-concern, and tidewater goby (*Eucyclogobius newberryi*), federally listed as endangered and a California species-of-special-concern. Numerous avian species are also known to commonly forage at the site include the northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), Great blue heron (*Ardea herodias*), and Snowy egret (*Egretta thula*).

The subject intertidal and seasonal wetlands and peripheral uplands are situated on former tidelands that made up the northern third of the Arcata Bay lobe of Humboldt Bay prior to its reclamation in the late 1800s. After their reclamation, the former salt marsh intertidal channel comprising the delta of Janes Creek became more of a freshwater stream, periodically discharging into Arcata Bay on low tides. Due to malfunctioning of the tidegate and general subsidence of the area, the lower McDaniel Slough basin contains and convey a mixture fresh, brackish, and/or saltwater. As a result of this dynamic hydrology, past and current cattle grazing, eight distinct, but intergrading vegetative communities can be identified on the site: (1) ruderal/upland; (2) agricultural field; (3) perennial grassland; (4) freshwater marsh; (5) brackish marsh; (6) willow riparian; (7) aquatic bed; and (8) denuded/landscaped developed areas. Table A below, summarizes the size, typical vegetative cover, and wildlife habitat offered by each area:

Table A: McDaniel Slough Enhancement Project – Existing Habitat Areas

Habitat Type	Size (acres)	Predominate Vegetation	Common Wildlife Species	Defining Characteristics
Ruderal/Upland	9.6	Coyote brush Himalayan blackberry Sitka spruce Wild radish Velvet grass Bird's foot trefoil Aster English plantain	House mouse Black rat Deer mouse Striped skunk Raccoon Opossum Feral cat European starling Song sparrow White-crowned sparrow American goldfinch Pacific tree frog Rough skinned newt Northern alligator lizard	Dike faces, slough banks, perimeter pasturelands
Agricultural Fields	76	Perennial rye Fescue Velvet grass Canada thistle Bird's foot trefoil Curly dock Salt grass (along slough channels)	California vole Vagrant shrew Coast mole Barn swallow Common raven Long-billed curlew Killdeer Northern harrier White-tailed kite Turkey vulture Western garter snake	Portions exhibit wetland characteristics typical of seasonally grazed agricultural lands with level topography and heavy-textured soils. Observed evidence of wetland hydrology includes sediment cracks and algal mat formation in

Habitat Type	Size (acres)	Predominate Vegetation	Common Wildlife Species	Defining Characteristics
			Grebes Cormorants Various shorebirds	depressions, and vegetation associated with saturated soils.
Perennial Grassland	141.9	Fescue Velvet grass Facultative sedges Yarrow Curly dock Salt grass Slough sedge Water parsley Himalaya berry	California vole Western harvest mouse Deer mouse Vagrant shrew Gray fox Long-tailed weasel White-tailed kite Northern harrier Red-shouldered hawk Barn owl Western meadowlark Savannah sparrow California quail Dark-eyed junco White-crowned sparrow Western garter snake Western toad	Floristic composition the result of 16-year fallow field management wherein seasonal saturation has led to domination by mature water-tolerant forbs and grasses and scattered patches of berry thickets affording roosting habitat for raptors.
Freshwater Marsh	5.7	Cattail Bullrush Slough sedge Soft rush Tufted hairgrass Pacific silverweed Water foxtail Water parsley	American bittern Red-winged blackbird Marsh wren Pied-billed Grebe American coot Great-blue heron Great egret Snowy egret Cinnamon teal River otter Red-legged frog Northwestern salamander	Comprises the upper McDaniel Slough channel, small borrow ditch east of the slough and at a former stock pond on southern project site margins.
Brackish Marsh	0.8	Alkali bullrush Arrow grass Salt rush Soft rush Lyngby's sedge	(see Ruderal/Upland and Freshwater Marsh species lists)	Limited to inside Of bayfront levee and along the two remnant slough channels in southwest portion of project area, providing foraging habitat for herons and egrets, and dabbling ducks.
Willow Riparian	1.0	Arroyo willow Sitka willow Himalayan blackberry California blackberry	Anna's hummingbird American goldfinch Black phoebe Bewick's wren Green heron American kestrel White-crowned sparrow Chestnut-backed chickadee Ruby-crowned kinglet	Limited to four small patches along the edges of McDaniel Slough, providing high quality riparian habitat for diversity of passerine avian species.

Habitat Type	Size (acres)	Predominate Vegetation	Common Wildlife Species	Defining Characteristics
			Winter wren Rufous hummingbird Yellow warbler Yellow-rumped warbler Orange-crowned warbler Wilson's warbler Pacific-slope flycatcher Cassin's vireo Cedar waxwing Brush rabbit Striped skunk	
Aquatic Bed	4.3	Canary reedgrass	Mallard Green-winged teal Canvasback Bufflehead Ruddy duck American coot Pied-billed grebe Striped skunk Feral cat Coastal cutthroat trout Three-spine stickleback	Comprising McDaniel Slough main channel, former tidal channels, and borrow ditch; vacillating between saltwater, brackish, and freshwater conditions diurnally and seasonally.
Developed	0.3	Largely denuded with fringing patches of ruderal grasses and forbs	Limited surface and subsurface terrestrial arthropod habitat	Mad River Slough Wildlife Area access parking lot.
Total Acreage	239.6			

There are no rare, threatened, endangered or special-status plants within the McDaniel Slough Enhancement Project area proper. Three plant species enumerated on the California Native Plants Society's "List 1B" and "List 2"¹ of rare native plants, Humboldt Bay Owl's Clover (*Castilleja ambigua* ssp. *humboldtensis*), Point Reyes Birdsbeak (*Cordylanthus maritimus* ssp. *palustris*), and Lyngbye's sedge (*Carex lyngbyei*), are found in the general vicinity of the project area. However, these rare plant outcroppings are not within the immediate area where the levee construction would be performed and

¹ Pursuant to the Native Plant Protection Act (NPPA) and the California Endangered Species Act (CESA), plants appearing on the California Native Plant Society's "List 1B" and "List 2" meet the definition as species eligible for state listing as a rare, threatened, or endangered plant. List 1B plants are defined as "rare plant species vulnerable under present circumstances or to have a high potential for becoming so because of its limited or vulnerable habitat, its low numbers of individuals per population (even though they may be wide ranging), or its limited number of populations." List 2 plants are defined as "plants rare, threatened, or endangered in California, but more common elsewhere." The NPPA mandates that plants so listed be considered in the preparation of all environmental analyses conducted pursuant to the California Environmental Quality Act (CEQA).

care would be taken in the staging of equipment and materials to avoid impacts to these distinct and readily-identifiable rare plants.

The project site is surrounded by a mixture of open space, agricultural, public facility, commercial-industrial, and residential uses, taking the form of the open water areas of Humboldt Bay, grazing pastures and paddocks, the Mad River Slough Wildlife Area, the Arcata Marsh and Wildlife Sanctuary, state highway and railroad corridors, electrical control componentry, forest products processing, and pipe manufacturing concerns, and the *Windsong Village* and *Villa Way* residential subdivisions across Samoa Boulevard to the north. The portions of the project site within the City of Arcata's municipal boundary are designated Coastal Agricultural Exclusive (C-AE), with the parts within the unincorporated area designated Coastal Agricultural Exclusive – Sixty Acre Minimum Parcel Size with Flood Hazard and Transitional Agriculture Combining Zones (AE60/F,T) and Natural Resources with Coastal Wetlands Combining Zone (NR/W) under the City of Arcata and County of Humboldt's LCPs, respectively.

In addition to the unpaved roadside walkways and Class III bike lanes along Samoa Boulevard, there are numerous coastal access and recreational amenities for hiking, cycling, bird-watching, and boating in the immediate project vicinity. These facilities include the Arcata Marsh and Wildlife Sanctuary, the Butcher Slough Restoration Project, the Arcata Marsh Interpretative Center, and the Department of Fish and Game's Mad River Slough Restoration Area to the west of the project parcels.

The portions of the project site east of V Street are identified in Arcata's LCP as part of the "Samoa Boulevard scenic route" entry to the City. In addition all land on the western Arcata plain designated Agricultural Exclusive is identified in the certified LCP as a "coastal scenic area."

B. Project Description.

The City of Arcata proposes to restore and enhance the lower reaches of the McDaniel Slough watercourse. The lower reaches of Janes Creek/McDaniel Slough consist of a Class II, first-order coastal stream that has been significantly culverted, and channelized along its approximately 3½-mile lower length over the last century. As a result, much of the original streamside riparian canopy has been removed and major portions of the creek lie in closed culverts beneath the mixed single- and multi-family residential neighborhoods of west-central Arcata. Similarly, the formerly unconstrained tidewater portions of the watercourse have been confined within berms with the surrounding overflow areas reclaimed chiefly for agricultural grazing and forage crop production through the erection of a levee complex along the margins of Arcata Bay commencing in the 1880s (see Exhibit Nos. 3 and 4).

Past Regional Coastal Stream Habitat Restoration and Enhancement Efforts

Despite this history of impacts, the habitat potential of the Janes Creek/McDaniel Slough watershed, along with that of the other urban creeks within the northern Humboldt Bay region, has been recognized by numerous public resource agencies and non-government organizations alike that have expressed a common interest to restore the creek. In 1981, the City created the Arcata Marsh and Wildlife Sanctuary, comprising a 75-acre area including 30 acres of freshwater wetlands for use as both open space parkland and for tertiary bio-filtration of the City's sewerage, establishing the City as a leader in the fields of wetland restoration and innovative wastewater treatment technology. In 1986, under a City-issued coastal development permit, previously culverted, channelized, and denuded sections of the creek above the project site on the other side of the Highway 101 – Samoa Boulevard interchange were significantly re-contoured and revegetated as part of the City's community park and sports complex project. Similar efforts to restore or "daylight" other sub-surfaced urban creeks within the City have been ongoing since the mid-1980's. In addition, pursuant to Coastal Development Permit No. 1-03-031, approved by the Commission on November 6, 2003, the City has constructed cattle exclusion fencing to enclose an 8.7-acre area along a 2,537-foot reach between the currently proposed Campbell Creek realignment and Gannon Slough tidegate replacement sites, and has re-vegetated the enclosed area with native plants, as the first phase of the *Arcata Baylands Wetlands Restoration and Enhancement Project*. More recently under Coastal Development Permit and Amendment Nos. 1-05-017 and 1-05-017-A1, an additional 3,200 lineal feet of the lower reaches of Campbell and Beith Creeks/Gannon Slough were further enhanced through construction of a meandering channel, planted riparian corridor, and laying back bankside confinement levees to improve the connectivity between the watercourses' incised channel and floodplain.

Evolution of Project Design

The inclusion of the development's non-marine freshwater pond was the result of initial public input on the project's design and potential effects received during the environmental review scoping and impact report comment processes. As originally presented, the project envisioned full restoration of all 240 acres to saltmarsh habitat, either by removing the reclamation levee along its full bay frontage with the project site, or through a series of muted openings as is presently proposed. However, numerous comments were received urging that the project be modified to provide other habitat opportunities besides saltmarsh. As rationale for the requested revision, the commenters cited the need for the project to: (1) offset the loss of the existing freshwater marsh habitat that had developed on the site since its reclamation from the bay; (2) provide transitional habitat linkage between the project's saltmarsh and brackish marine components and upland terrestrial areas further inland for better utilization by species with broad ecological tolerances and anadromous lifecycles; (3) increase the project's overall biological diversity, especially for more freshwater-oriented waterfowl such as ducks, passerine songbirds, and raptors; and (4) interface more directly with the freshwater-based recreational and tertiary wastewater treatment facility in the adjoining Arcata Marsh and Wildlife Sanctuary. The tenor of these public meetings was portrayed by one participant as follows:

At a public meeting in May 2000, the City of Arcata prepared a list of objectives, opportunities, and constraints associated with the project. Local ranchers, other concerned community members, wildlife and botany professionals, and city staff discussed proposals by a consulting firm, Philip Williams and Associates. Public comments varied from those strongly supporting the plan (largely for botanical, ichthyological, or recreational reasons) to those in strong opposition (largely for bird and other wildlife reasons). In February 2001, another meeting was held in which similar concerns were voiced, with some tension among opposing viewpoints. Dr. Stan Harris (2001) in a letter to the Arcata Eye argued against the salt marsh plan and encouraged considering an additional freshwater habitat in the project area by expanding the Arcata Marsh & Wildlife Sanctuary. This was followed by a rebuttal from the local chapter of the California Native Plant Society (CNPS 2001). A third public meeting was held in November 2001, during which CDFG and the City of Arcata described their most favored option, called "Alternative 4," which includes the creation of both fresh and salt marsh habitats.²

In the subsequent design document prepared for the development, the project consultant further chronicalized these scoping session exchanges as follows:

Philip Williams & Associates, Ltd. (PWA) with their subconsultants H.T. Harvey and Associates, and Winzler and Kelly, were retained by the City to develop a restoration plan for the 240-acre site, that would not increase and if possible reduce flood hazards upstream, comparing a no-action alternative with two full tidal alternatives. As part of the study process the City solicited community input on the formulation of the alternatives. Many interested members of the public expressed strong concerns that restoring the eastern portion of the site to tidal marsh would preclude the opportunity for using freshwater discharges from adjacent Arcata Marsh and Wildlife Sanctuary wastewater treatment wetlands to expand the adjacent managed wetland habitat. As a result, a fourth alternative was developed by the City that set aside 35 acres in the eastern portion of the site for expansion of managed freshwater ponds that will allow discharges of treated wastewater into the tidally restored site. This alternative also has the advantage of providing an on-site resource of fill material to construct perimeter flood control levees.

² Modeling Wildlife Responses to a Proposed Marsh Enhancement for the McDaniel Slough Project Area Arcata, California, Matthew Johnson and the Upland Wildlife Habitat Ecology Class, Humboldt State University – Department of Wildlife, June 1, 2002, pp. 2-3.

The City has adopted Alternative 4 as the selected alternative.³

In response to these public comments, the City directed the project consultants to redesign the development proposal to include the pond features to better integrate with the existing adjoining constructed freshwater pond public recreational/tertiary wastewater treatment facility.

Project's Habitat Restoration and Enhancement Objectives

As part of its ongoing efforts to preserve and protect fish and wildlife habitat, with assistance and funding from the North American Wetlands Conservation Council, the State Coastal Conservancy, and the California Department of Fish and Game's (CDFG) Wildlife Conservation Board, the City of Arcata together with the CDFG has acquired and began to actively manage the streamside and grassland portions of the 240-acre area through which the waters of lower McDaniel Slough flow. The environmental document for the *McDaniel Slough Wetland Enhancement Project* states the primary and secondary goals of the development as follows:

Primary Objectives

- Maximize opportunities for restoring a large area of pickleweed (*Salicornia virginica*) dominated by intertidal saltmarsh habitat;
- Provide unimpeded access for anadromous fish migration between Humboldt Bay and McDaniel Slough/ Janes Creek;
- Create a tidal channel system that maximizes the estuarine fisheries habitat in the larger high-order subtidal channels;
- Provide connectivity of habitats using "eco-levees" to create a gradation between the saltmarsh/mudflat habitats and uplands;
- Provide connectivity with existing adjacent habitats (i.e., freshwater meadows, riparian, fresh and brackish marsh) within adjoining Arcata Marsh and Wildlife Sanctuary and the Mad River Slough Wildlife Area;
- Achieve desired wetland ecologic function as rapidly as possible for the freshwater and brackish water ponds and within a period of a few decades for the establishment of saltmarsh habitat; and
- Alleviate rural and urban area flooding due to existing tide gate restrictions.

Secondary Objectives

- Create a visually appealing landscape;
- Provide increased opportunities for public access, education and recreation;

³ *A Restoration Plan for the McDaniel Slough Tidal Marsh*, Phillip Williams and Associate, Ltd. (PWA), October 25, 2002, p. 1.

- Create to the greatest extent possible a passively managed system that minimizes the need for maintenance activities on the site; and
- Breach the bayfront levee to achieve reduced flooding upstream of Samoa Boulevard and increase tidal scour in lower Janes Creek.

Project Component Areas

The proposed project site consists of three sub-area segments: (1) the reclaimed lower McDaniel Slough floodplain slated for saltmarsh restoration; (2) transitional open areas between the seasonal agricultural wetlands to the north and west, and the City's South I Street commercial-industrial corridor to be bermed and excavated for creation of the 14-acre brackish pond; and (3) the northeastern, roughly six-acre grazed pasturelands proposed for excavated freshwater ponds (see Exhibit No. 4).

The proposed **McDaniel Slough Saltmarsh Restoration Area** (MSSRA) is situated at the southwestern entry to Arcata in the grazing lands lying along the southern side of State Route 255 east and southeast of V Street and Old Samoa Road, respectively (see Exhibit No. 4). The McDaniel Slough Saltmarsh project area comprises the western 205 acres of a 166-acre portion of land held by the California Department of Fish and Game comprising the eastern half of the Mad River Slough Wildlife Area, together with 88 acres of pastureland tract recently purchased by the City for restoration purposes extending southward from State Route 255, immediately adjacent to the South I Street commercial-industrial area.

Project work within the MSSA would entail the removal of portions of the confinement berms along the lower channel of McDaniel Slough and other fill materials associated with past agricultural uses and structures, deepening historic bay tidal channels, raising the lowest portions of the floodplain to elevations favorable to the formation of pickleweed (*Salicornia virginica*) marsh, removal of problematic culverts, constructing an elevated boardwalk accessway to one of the PG&E electrical transmission line towers, constructing 21,000 lineal feet of new perimeter flood- and eco-levees, breaching the bayfront levee at two locales to allow for muted intertidal flow into the project area, and constructing coastal access trail improvements along the bayfront levee.

The proposed **Brackish Pond Restoration Area** (BPRA), comprises a roughly 20-acre area extending westerly across from the Northwestern Pacific Railroad line onto the project property, bordered by the Arcata Marsh and Wildlife Sanctuary on the southern side, the proposed Freshwater Pond Enhancement Area situated to the north, and an existing 1.2-acre freshwater pond created by the City in 2005 to the east across the rail line.

The approximately 17-acre brackish pond will be excavated to appropriate elevations for mixing bay water with treated wastewater to create the brackish marsh habitat. The treated wastewater meets Humboldt Bay discharge standards and is an expansion of the City's beneficial reuse of wastewater. Approximately 1-6 cubic feet per second (cfs) of treated wastewater will be gravity fed to the new brackish marsh. Flow volumes will be

managed to mimic natural seasonal fluctuations in other Humboldt Bay tributaries. This flow is in addition to the existing surface runoff that will continue to be directed to the brackish pond from an upland area of approximately 20 acres. Approximately 3,200 lineal feet of perimeter eco-levee would be constructed to impound the waterbody. In addition, four ½- to one-acre islands would be formed and planted with native riparian shrubbery and trees as waterfowl habitat areas.

The proposed **Freshwater Ponds Enhancement Area (FPEA)** is located on the transitional margins of the reclaimed lower McDaniel Slough basin, immediately south of the Industrial Electric Company-owned parcels abutting the southern side of State Route 255 partially within the city limits of Arcata. The roughly ten-acre freshwater pond complex and adjoining riparian vegetation planting area occupies the highest elevation within the project site and together with the adjoining Brackish Pond Restoration Area, is currently leased for cattle grazing use.

Project work within the FPEA would entail the excavation of two ponds totaling 5.5 acres in size to depths of between six and ten feet below existing grade. The estimated 71,000 cubic yards excavated to form the ponds would be immediately utilized in constructing the flood- and eco-levees around the MSSRA perimeter. Conifer snags, nesting ledges, and “bat-boxes” would also be installed on and along the pond islands to enhance roosting bird and flying mammal habitat. In addition, a combination of willow (*Salix* sp.), alder (*Alnus* sp.), Sitka spruce (*Picea sitchensis*), and shore pine (*Pinus contorta contorta*) would be planted within the surrounding 1½ acre area around the periphery of the ponds as riparian corridor enhancement.

Development Sequence and Phasing

Because of the necessity of obtaining fill for constructing the proposed flood and eco-levees from on-site sources, the need for the completion of certain portions of the development to precede and be completed prior to undertaking other portions of the development, and the inundated end-point condition of major portions of the site, the McDaniel Slough Wetlands Enhancement Project work is proposed to be conducted in a particular sequence of phases. Table B below summarizes the project’s various development phases:

Table B: McDaniel Slough Wetland Enhancement Project Development Phases

Phase	Work Tasks to be Performed	Project Area(s) Affected
I 6/07-11/07	Excavate to form freshwater ponds; stockpile dredged soils for levee construction	FPEA; MSSRA
	Enhance 1,440 lineal feet of eastern side historic tidal slough channels through deepening to increase aquatic habitat diversity	MSSRA

Phase	Work Tasks to be Performed	Project Area(s) Affected
	Remove 1,200 lineal feet east bank levee of McDaniel Slough to form isolated roosting islands	MSSRA
	Construct 9,800 lineal feet of eco-levees along eastern side of slough floodplain and around brackish pond and 7,300 lineal feet of flood- and eco-levees along Samoa Boulevard and V Street frontages	MSSRA BPRA FPEA
	Excavate and contour brackish pond, bottom ridges, and islands, install riparian plants in pond and on islands	BPRA
	Fill Brackish Pond with treated wastewater and initially utilize as freshwater pond habitat	BPRA
	Build elevated access boardwalk and structurally reinforce PG&E electrical transmission tower bases	MSSRA
	Construct trails and viewing structures, install kiosks and interpretive panels	MSSRA BPRA FPEA
II 12/07-4/08	Mute open culvert outfall to Arcata Bay to allow for partial dewatering of western project area while sustaining tidal channel flows on eastern side	MSSRA
	Construct and revegetate 3,900 lineal feet of flood-levee along Old Samoa Road frontage and southwestern project site perimeter	MSSRA
	Isolate and dewater borrow ditching, install tide-gated culvert and connect to existing levee	MSSRA
	Modify western tidal channel remnants to maintain and enhance tidewater goby habitat	MSSRA
	Remove tide gates and breach 50-foot-wide segment of reclamation levee	MSSRA
III 4/08-10/08	Install saltmarsh vegetation plantings on inboard eco-levee faces	MSSRA
	Remove remaining project site cross-culverting	MSSRA
	Install rock slope protection at breached opening of reclamation levee	MSSRA
	Install intertidal culvert connection to brackish pond, manage pond for brackish water habitat	BPRA

C. Conversion of Agricultural Lands.

1. Applicable Coastal Act Policies and Standards

Coastal Act 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 30250.⁴

(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.

Coastal Act Section 30242 states:

All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless (l) continued or renewed agricultural use is

⁴ The portion of referenced Section 30250 applicable to this project type and location (sub-section (a)) requires that, "New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources."

not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

2. Consistency Analysis

The Coastal Act sets forth policies that relate to the protection of prime agricultural lands⁵ and sets limits on the conversion of all agricultural lands to non-agricultural uses. 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.

Maintaining Maximized Production of Prime Agricultural Land

Prior to acquisition of the project site by the CDFG and the City, the property comprised parts of several ranches continually used for agricultural purposes, primarily animal husbandry uses, since their reclamation from Humboldt Bay in the 1880s. Given the fine sediment size generally associated with fluvially deposited soil materials within bays and estuaries, the low relief of the area, the relatively shallow water table, and the limited amount of tillage and organic material or other soils component amendments made to the site over the last century since their reclamation, these seasonally waterlogged soils and their high bulk density severely limit the types and agricultural activities that may be feasibly undertaken at the site. As a result the primary use pattern for the site has mainly been low intensity cattle grazing land and dry season fodder production in the form of hay cropping.

Based on information derived from the Natural Resources Conservation Service (NRCS), the project site is comprised of three distinct soil mapping units: Arlynda, 0-2 percent slopes, Arlynda, 0-9 percent slopes, and Occidental, 0-2 percent slopes. The Arlynda series consists of very deep, very poorly drained soils on back swamps, depressions, meander scars, and low flood-plain steps on alluvial plains near the Pacific Ocean and along lower reaches of rivers and streams. These soils formed in alluvium derived from mixed sources. The Occidental series consists of very deep, very poorly drained soils on

⁵ Coastal Act Section 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.

reclaimed salt marshes and tidal marshes on alluvial plains. Both of these soils units are identified as hydric soils and are recognized as having several impediments to extensive agricultural uses. As a result the NRCS has assigned Class III through VII classifications to the project site soils as a locale which has “severe limitations that reduce the choice of plants or require special conservation practices, or both.” Thus, under the NRCS land capability classification system, the soils at the project site do not meet the first criterion for the definition of prime agricultural soils.

According to information submitted by the City, based on Soils of Western Humboldt County, California (McLaughlin and Harradine, 1965), the project site contains Class 2 and 3 Bayside silty clay loam (Ba₂ and Ba₃) and Class 3 Loleta loam (Lo₃), which are all poorly or imperfectly drained soils with 0-3% slopes. The Ba₂ soils have a Storie Index rating of 36 and Ba₃ soils have a Storie Index rating of 49. The Storie Index for Lo₃ soils is 52; thus, the project area does not qualify as prime agricultural land under the second prong of the Coastal Act’s definition.

The third potential qualifying definition of prime agricultural land —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— similarly does not apply to the project site. Based on correspondence regarding the *Arcata Baylands* development, a related restoration and enhancement project site with soils similar to those on the McDaniel Slough project site, Gary Markegard, County Farm Advisor for the US Cooperative Extension, indicates that the low-lying, poorly drained, saltwater intruded, and flood-prone soils along the northern reclaimed fringes of Humboldt Bay typically require three acres per animal-unit.

Finally, with regard to the site’s potential qualification as prime agricultural land based upon its potential for commercial fruit or nut crop production at specified minimal yields, the project area similarly fails to meet the criterion. 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 berry crops suitable for the North Coast’s temperate setting are similarly restricted to areas further inland, primarily on uplifted marine terraces and within well developed river floodplain areas with improved drainage and more friable soil characteristics. As a result, 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, based upon the above discussed set of conditions at the project site, 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 therefore not applicable to the project site.

Minimizing Conflicts Between Agricultural and Urban Land Uses

Currently, seasonal livestock grazing occurs on approximately 67 acres of the northeastern quarter of the project site (see Exhibit No. 5). The proposed project would entail alterations in site hydrology and the coverage of portions of the project site with permanent structures that would prevent future agricultural use of the property. The construction of the flood- and eco-levees and associated breaching of the reclamation levee to allow intertidal flows of bay water into the site, and the brackish and freshwater impoundments would exclude grazing from the whole of the currently grazed area. Section 30241 requires that conflicts between urban and agricultural land uses be minimized through all of the following:

- (a) Establish stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses;
- (b) Limit 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) Permit the conversion of agricultural land surrounded by urban uses only where the conversion of the land would be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources;
- (d) Develop available lands not suited for agriculture prior to the conversion of agricultural lands;
- (e) Assure 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; and
- (f) Assure that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all development adjacent to prime agricultural lands does not diminish the productivity of such prime agricultural lands.

The Commission finds that the conversion of grazing lands to the proposed habitat restoration and enhancement use would occur around the periphery of an urban area and is consistent with the above criteria on Section 30241 for minimizing conflicts between urban and agricultural use for the following reasons:

(a) Establishing Stable Boundaries Between Urban and Rural Uses

The project parcels are situated at the City of Arcata's western entry along State Route 255. The project parcels are juxtaposed between public facility, commercial-light industrial, heavy industrial, and residential uses to the southeast, east and north (i.e., Arcata Marsh and Wildlife Sanctuary /Municipal Wastewater Treatment Facility, Little Lake Industrial Park, Johnson Industries, and Industrial Electric Company, Humboldt County Waste Management Authority Transfer Station, *Villa Way* and *Windsong Village* subdivisions) and large tracts of agricultural and natural resource lands further to the west and south (i.e., Dias, DeMello, Moranda, Santos, and Lambert ranch holdings, CDFG Mad River Slough Wildlife Area, open waters of Humboldt Bay).

Given this location relative to adjoining land uses, development of the restoration and enhancement project on the currently grazed portions of the site would serve to minimize conflicts between agricultural and urban land uses by establishing a stable boundary separating urban and rural areas, thereby providing a clearly defined buffer between potentially incompatible uses.

(b) 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 urban areas where the viability of existing agricultural use is already severely limited by conflicts with urban uses, namely light, noise, and human activity, and stormwater runoff associated with the industrial and commercial areas to the east and northeast. Given this location relative to adjoining land uses, development of the restoration and enhancement project on the currently grazed portions of the site would serve to minimize conflicts between agricultural and urban land uses by establishing a stable boundary separating urban and rural areas, providing a clearly defined buffer between potentially incompatible uses.

Furthermore, , the proposed conversion of agricultural lands would contribute to the creation of a two-mile wide continuous band of fish and wildlife refuge area spanning from the eastern side of the Arcata Marsh and Wildlife Sanctuary at mouth of Jolly Giant Creek/Butcher's Slough westerly to the far side of the CDFG's Mad River Slough Wildlife Area. Such a significant land area would effectively preclude further westward expansion of the City of Arcata into the agricultural and open space lands of the southern Arcata Bottom significantly reducing pressures for conversion of the agricultural lands to nonagricultural uses. Moreover, the conversion of these grazing lands would complete a logical and viable neighborhood by expanding the current bayfront natural conservation

lands comprising the Arcata Marsh and Wildlife Sanctuary, the Butcher's Slough Restoration Area, and South I Street Freshwater Pond Enhancement Site around the southwest periphery of the City, establishing a stable limit on the encroachment of urban development into the agricultural areas comprising the Arcata Bottom.

(c) Limiting Conversions Around Urban Periphery to Areas with Adequate Service Availability

As noted above, the site of the proposed conversion of the 67 acres of grazing agricultural land is surrounded by, and contiguous with urban uses on one side and additional agricultural and fish and wildlife refuge areas on the other side. The predominant open space nature of the proposed use would not result in land use conflicts by introducing a potentially incompatible use (e.g., residential development) in close proximity to the industrial and public facility areas along the Samoa Boulevard corridor. Furthermore, with respect to the project's effect on other agricultural operations in the surrounding area, the proposed extinguishment of cattle grazing from the subject 67 acres would eliminate grazing for approximately 22 animal-units, which, based on the analysis by the County's Farm Advisor discussed above, would represent a relatively insignificant amount from a regional perspective. In addition, considering the continued side-by-side coexistence of similar agricultural operations with the numerous other wetland restoration and enhancement work undertaken by the City in the surrounding area, the project is not likely to contribute to cumulative significant adverse effects on the viability of existing agricultural grazing lands or operations within the North Bay / Arcata Bottom area. Accordingly, conversion of the grazing area to fish and wildlife habitat area would not have significant adverse impacts, either individually or cumulatively, on coastal resources.

(d) Develop Lands Not Suitable for Agriculture First Before Converting Agricultural Lands

The proposed conversion of the 67 acres of grazing land around the periphery of an urban area would occur on land not particularly suited for agriculture use and whose development would avoid conversion of productive agricultural lands. A combination of deferred maintenance of the reclamation levee's tidegates and ongoing subsidence of the area has caused substantial saltwater intrusion into portions of the grazing lands, resulting in saline soil levels toxic to many of the established crop cover within the agricultural lands and further limiting the seasonal use of these lands for open grazing. With the listing of the tidewater goby as an endangered species and the identification of the borrow ditching and tidal sloughs within the draft recovery plan, the U.S. Fish and Wildlife Service has indicated that the Service would not support the replacement of the malfunctioning tidegates on Arcata Bay as habitat utilization has been established in the area and cutting off the tidal flux to the area would constitute a form of "take" prohibited by the federal Endangered Species Act. Accordingly, given the mandated allowance for continued intrusion of saltwater onto the subject property, 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 over time and possibly be completely extinguished by these forces within a decade.

(e) Avoid Public Service Facility Expansion That Would Impair Viability of Agricultural Lands

Although the project is a public facility, the development does not involve an extension of utility lines or other public services on the site or to adjacent agricultural lands. Therefore, the proposed conversion of grazing lands would 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, as part of the proposed habitat restoration and enhancement project as conditioned, would not result in emissions or discharges that would degrade air and water quality and thereby impact agricultural viability of the surrounding agricultural lands.

(f) Avoid Diminishment in Productivity Associated with Divisions of Prime Agricultural Land

This particular land use conflict minimization measure is not applicable as the proposed conversion of grazing lands does not entail a subdivision of prime agricultural lands.

The Commission also notes that, with respect to planned land use objectives, the subject grazing land portion of the site is planned and zoned for Agriculture Exclusive uses within the City of Arcata's certified LCP. Section 1-0207.1(a) of the City's Land Use and Development Guide recognizes "wildlife habitat management — including fisheries... and related temporary structures" as one of the "rural uses" allowed by-right within the A-E zoning district. However, the grazing lands and the entire project site are within the Commission's retained jurisdiction and therefore, the standard of review is the Coastal Act rather than the LCP. Nonetheless, as the above-stated analysis concludes, the Commission finds that the proposed conversion of grazing lands is consistent with Section 30241 of the Coastal Act as the proposed discontinuation of agricultural uses would not occur on prime agricultural land as defined by the Coastal Act and would occur on agricultural lands that: (1) are located around the periphery of an urban area; (2) are declining in quality due to continuing subsidence and saltwater intrusion; (3) represent a minor conversion of agricultural land from a regional perspective; (4) would not adversely affect the viability of agricultural uses on adjoining areas; (5) would establish a stable boundary separating urban and rural areas; and (6) would serve to minimize urban-rural land use conflicts.

D. Restoration of Marine Resources, Protection of Coastal Water Resources, and Permissible Filling, Dredging, and Diking of Wetlands.

1. Applicable Coastal Act Policies and Standards

Section 30108 defines the term “feasible” as follows:

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

Coastal Act Section 30230 states as follows:

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

Coastal Act Section 30231 states as follows:

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. [Emphases added.]

Coastal Act Section 30233 provides as follows, in applicable part:

- (a) *The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: ...*
- (4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines...

- (6) Restoration purposes.
- (7) Nature study, aquaculture, or similar resource dependent activities...
- (c) *In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary...*
[Emphasis added.]

2. Consistency Analysis

Coastal Act sections 30230 and 30231 require in part, that marine resources and coastal wetlands be maintained and enhanced. These policies also call for restoration of marine resources, coastal waters, streams, wetlands, and estuaries where feasible. Restoration in the strictest sense generally refers to the *in situ* reestablishment of biophysical functions and characteristics of the resource that existed prior to human disturbance. Section 30233 of the Coastal Act states that the diking, filling, or dredging of wetlands shall be permitted only when: (a) it is only for one of more of a limited set of enumerated uses; (b) there is no feasible less environmentally damaging alternative to the proposed development; (b) all feasible mitigation measures have been provided to minimize adverse environmental effects; and (d) the functional capacity existing wetlands or estuaries would be maintained.

When read together as a suite of policy directives, Sections 30230, 30231, and 30233 set forth a number of different limitations on what types of projects may be allowed in coastal wetlands. For analysis purposes, the limitations applicable to the subject project can be grouped into four general categories or tests. These tests require that projects that entail the dredging, diking, or filling of wetlands demonstrate that:

- (1) Oceanic, open shoreline, estuarine, intertidal, riverine, wetland, and impounded waterbody aquatic resources, and the functional capacity of the habitat therein would be maintained and enhanced where feasible, and that the development has been designed in such a manner to sustain the biological productivity of coastal waters so that healthy populations of all species of marine organisms are maintained adequate for long-term commercial, recreational, scientific, and educational purposes;
- (2) The purpose of the filling, diking, or dredging is for one of the eight uses allowed under Section 30233;
- (3) Feasible mitigation measures have been provided to minimize adverse environmental effects; and

(4) The project has no feasible less environmentally damaging alternative.

(1) Maintenance and Enhancement of Biological Productivity and Functional Capacity

The first general requirement set forth by Sections 30230, 30231, and 30233 is that any proposed development, particularly as may include the dredging, diking, or filling in coastal wetlands, must maintain, and enhance where feasible, the biological productivity and functional capacity of the habitat.

The proposed restoration of the lower McDaniel Slough watercourse and related non-marine improvements in surrounding areas would enhance the biological productivity and functional capacity of estuarine, intertidal saltmarsh, and nearshore habitats. Although the project would result in only a very small net increase in wetland area (.12-acre), the 205 acres of potentially highly-productive saltmarsh proposed to be restored from the currently degraded and relatively low productivity riverine, emergent, and seasonal agricultural grazing wetlands, together with the additional 35 acres of brackish and freshwater pond and planted riparian area would provide substrates that could support significant biomass production by a wide variety of estuarine, intertidal, and terrestrial organisms. The restored saltmarsh, brackish water, and intertidal streambanks would provide a mosaic of deep to shallow in-water and emergent shoreline areas where anadromous salmonids, tidewater goby, and a wide assortment of other amphibian and aquatic wildlife could hold, feed, rest, and rear their young. The native planting of the detached roosting islands, brackish pond islands, and areas surrounding the ponds would restore a riparian character to the site periphery, providing additional shade and cover for fish, and tree- and shrub-covered habitat for other terrestrial organisms.

In addition to the direct benefits to coastal biological resources associated with the project's proposed habitat restoration and enhancement aspects, the increased connectivity between the Janes Creek / McDaniel Slough watercourse, the intertidal marsh plain, and the open waters of Arcata Bay would serve to increase sequestration and flow of carbon in and through the margins of northern Humboldt Bay. With the increase in hydraulic exchange between these water bodies that the project would furnish, dissolved and suspended carbon materials, and other nutrients, would be more readily transported through the fluvial system and into estuarine and coastal areas, fostering greater overall productivity throughout the watershed. In addition, fixation of carbonaceous organic compounds in the forms of vegetation biomass with high carbon-to-nitrogen ratios typical of intertidal marsh plain settings, and/or as buried peat sediments, would also help reduce the amount of gaseous carbon dioxide entering the atmosphere, a major factor in global warming.⁶

⁶ For a more in-depth discussion of the role of coastal areas in carbon sequestration, please refer to *Carbon Sinks in Nearshore Marine Vegetated Ecosystems*, Thom, Blanton,

Furthermore, as discussed below in the section of this finding on mitigation, the conditions of the permit would ensure that the project would not have significant adverse individual or cumulative impacts on existing wetland habitats or on the water quality of McDaniel Slough or Arcata Bay. Thus, the proposed project would maintain and enhance the diversity, sustainability, and productivity of wetland habitats historically and currently existing on the site. For all of the above reasons, the proposed project will maintain and enhance the biological productivity and functional capacity of the wetlands consistent with the requirements of Sections 30230, 30231, and 30233(c) of the Coastal Act.

(2) Allowable Use for Dredging and Filling of Coastal Waters

The second test set forth above is that any proposed filling, diking or dredging must be for an allowable purpose as specified under Section 30233 of the Coastal Act. Among the allowable purposes for diking, filling, or dredging, under Section 30233(a) are “incidental public service purposes,” “restoration purposes,” and “nature study... or similar resource dependent activities.” As discussed in detail above, the proposed project intends to restore and enhance approximately 1,600 lineal feet freshwater/saltmarsh transitional wetlands along the lower reaches of Campbell Creek / Gannon Slough.

Development of Saltmarsh and Brackish Pond

The Commission finds that the saltmarsh and brackish pond portions of this wetland enhancement project, where the sole purpose is restoring historical intertidal wetland habitat values, constitutes allowable fill, dredging, and diking for “restoration purposes” pursuant to Section 30233(a)(6) and is, therefore, an allowable use for the diking, dredging, and filling of wetlands under Section 30233.

Since being reclaimed behind the dikes built along the bay margins in the late 1880s, the subject site now functions as a combination of brackish-freshwater, riparian, scrub-shrub, and emergent (grazing-dominated seasonal agricultural) wetlands. However, prior to its reclamation, the whole of the subject site historically consisted of intertidal saltmarsh off of Humboldt Bay with the exception of a small, roughly 1.8-acre area along the northeasternmost fringes of the property (see Exhibit Nos. 7 and 8). Thus, with regard to the directed restoration of the various enumerated coastal aquatic resources, where deemed feasible, re-establishment of intertidal mesosaline saltmarsh, including diurnal and seasonally fluctuating, transitional oligohaline “brackish” water areas, would be the resource type applicable to the project site.⁷

Woodruff, *et al.*, Pacific Northwest National Laboratory, Paper published in *Proceedings of the First National Conference on Carbon Sequestration*, Washington, DC, May 14-17, 2001

⁷ For a further in-depth discussion of the distinctions and habitat implications between “marine,” “estuarine,” and “freshwater” wetlands with respect to salinity concentration,

According to information from the U.S. Fish and Wildlife Service (USFWS), in the Humboldt Bay region it is estimated that between 7,000 and 8,700 acres of salt marsh were present prior to human development. Since the mid-1800's, most of what was likely to have been historic salt marsh has been diked or filled and has been reduced to a total area of around 900 acres, a reduction of at least 87%. In general, restoring areas that have historically supported tidal salt marsh is preferable when the physical conditions of a site present such an opportunity. The USFWS for example, has indicated that restoration of salt marsh habitats around the Bay is a high priority, as salt marsh restoration is important for the protection, enhancement, and restoration of native fish, wildlife, and plant communities, some of which are dependent on salt marsh for their existence.

The project proposes to reestablish intertidal saltmarsh and brackish water habitat over approximately 222 acres of the 240-acre project, or over 92 percent, while enhancing the freshwater and vegetated riparian character of the remaining 18 acres, resulting in the enhancement of a diverse variety of aquatic habitats and intervening ecotonal transitional areas.

This finding that the portion of proposed diking, filling, and dredging that will reestablish saltmarsh and brackish water habitat constitutes "restoration purposes" is based, in part, on the assumption that the proposed project will be successful in increasing wetland habitat values. Should the project be unsuccessful at increasing wetland habitat values, or worse, if the proposed filling impacts of the project actually result in long term degradation of the habitat, the proposed diking, filling, and dredging would not actually be for "restoration purposes." To ensure that the restored saltmarsh and brackish pond components of the project achieve the wetland restoration/enhancement objectives for which the project is intended, the Commission attaches Special Condition No. 1. Special Condition No. 1 requires the applicant to submit a final monitoring plan for review and approval by the Executive Director prior to the issuance of the coastal development permit. The monitoring plan is required to outline a method for measuring and documenting the improvements in habitat value and diversity at the site, including wildlife species and abundance, over the course of ten years following project completion. Furthermore, Special Condition No. 1 requires the monitoring plan to include provisions for remediation to ensure that the goals and objectives of the wetland enhancement project are met. Special Condition No. 1 further requires the applicant to repair and maintain the revegetated areas. Should any of the scheduled restoration plants die or otherwise be removed, the plants shall be replaced at a 1:1 ratio.

Development of Freshwater Pond

please refer to *Classification of Wetlands and Deepwater Habitats of the United States*, Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. December 1979, U.S. Fish and Wildlife Service Office of Biological Service, Washington, D.C.

As described within Project Description Findings Section IV.B and the preceding analysis regarding maintenance and enhancement of marine resources, the freshwater pond component of the project was included in the interest of better integrating the project with the adjacent Arcata Marsh and Wildlife Sanctuary (AM&WS) to expand public access and natural resource-based recreational opportunities and to facilitate the reuse of treated wastewater. Constructed in 1981 and interlinked with the adjacent municipal wastewater treatment plant in 1986, the 38-acre AW&WS serves multiple purposes including providing a visitor destination-level public trail system for hiking, cycling, bird-watching and other similar natural resource related recreational pursuits, affording wildlife habitat to a diverse assortment of resident and migratory waterfowl, fish, and other wildlife species, fostering environmental education in the form of an outdoor laboratory utilized by numerous local primary, secondary, and university students, and research-based, salmon-rearing aquaculture, as well as tertiary wastewater treatment. The new freshwater pond will include a trail system that extends along the west side of the pond and will provide additional opportunities for wildlife viewing and natural resource education.

In addition, the freshwater component of the project would provide opportunities for the bio-filtration of area stormwater runoff from an adjoining roughly 20-acre area along Samoa Boulevard and South I Street developed with a variety of general commercial to light industrial/manufacturing uses whose drainage is currently flowing untreated into the project area wetlands through the City's roadside ditching and road culvert under-crossings. As proposed, runoff from the adjoining commercial-industrial area would be conveyed first into the easterly freshwater pond to detain the runoff and allow entrained sediments and other pollutants to decant and degrade. This pond would be connected in turn to the Brackish Pond where additional soluble contaminants, such as soil nutrients could be filtered by the pond's vegetation. Accordingly, the bio-treatment of area drainage by the City routing existing stormwater runoff through the freshwater pond is incidental to the City's existing stormwater drainage system use and is for the public service purpose of protecting state waters.

Therefore, the Commission concludes that the dredging of seasonal wetlands for the excavation of the freshwater pond and the placement of fill for erection of the portion of eco-levee that would segregate the pond area from the saltmarsh restoration site and provide the base for the access/nature trail, represent permissible diking, filling, or dredging of wetlands under Sections 30233(a)(4) and (a)(7) for "nature study... or similar resource dependent activities" or for "incidental public service purposes."

Electrical Powerline Tower Boardwalks and Stanchion Enhancements

The project also includes a proposal for placing a relatively minor amount of fill for construction of narrow elevated boardwalk walkways out to two of the five PG&E electrical powerline towers that traverse the project site. A boardwalk of 500 lineal feet would be constructed leading south from Old Samoa Road to the PG&E power tower in the northwest corner of the site. Another 300-lineal-foot boardwalk access would be

erected from the existing bayfront reclamation levee east of the breach site. The boardwalks would be constructed with redwood joists and beams and/or recycled plastic lumber planking. In addition, a third tower located in the middle of the site would be reinforced through extending the tower bases of cylindrical concrete sleeves to fortify the stanchions against corrosion in submerged conditions. PG&E will access that tower for maintenance by boat or helicopter as needed. The total wetland fill for these improvements is estimated to cover approximate 50 square-feet of wetlands. As the PG&E powerline corridor through the site is an existing public utility facility and the purpose for the proposed fill would be for continued maintenance access and structural integrity, the Commission finds this portion of the development is incidental to the existing powerline use and is for a public service purpose. Therefore, the proposed boardwalks and powerline tower base extensions comprise “incidental public service purposes” that are a permissible use for the filling, dredging, and diking of wetlands pursuant to Coastal Act Section 30233(a)(4).

Conclusion

The Commission finds that as conditioned, the proposed filling in coastal wetlands for the proposed restoration and enhancement of coastal stream, riparian, and tidal slough habitats and to place fill for an access boardwalk to and structural reinforcement of the electrical powerline stanchions are allowable uses pursuant to Sections 30233(a)(4), (6), and (7) of the Coastal Act.

(3) Adequate Mitigation Measures

The third test set forth by Section 30233 is that adequate mitigation must be provided for adverse environmental impacts. Potential significant adverse impacts that could result from the proposed dredging or filling within the lower McDaniel Slough floodplain include: (a) modification of freshwater and brackish marsh, and willow riparian habitat to saltmarsh; (b) filling of agricultural field seasonal wetlands to construct the new flood-and eco-levees; (c) impacts to fish and wildlife habitat from water pollution in the form of sedimentation or debris entering coastal waters and wetlands; (d) introduction through re-planting of exotic invasive plants species that could compete with native vegetation and negate the habitat improvement they would provide; and (e) use of certain rodenticides that could deleteriously bio-accumulate in predator bird species. Overall, the project would enhance wetland habitat values and would produce generally only beneficial environmental effects. However, the proposed project has been conditioned to ensure that habitat enhancement results and that potentially significant adverse impacts are minimized.

(a) Modification of Existing Freshwater and Brackish Marsh, and Willow Riparian Habitats to Saltmarsh

A potential significant adverse impact resulting from the dredging, diking and filling in wetlands is the conversion of habitat from one type to another. In many cases the

consequences of wetland development will be a combination of the direct loss to habitat area, and reductions in biological productivity and/or species diversity. As discussed in Project Description Findings Section IV.B, the proposed project would involve the erection and breaching of levees, and the grading of low elevation sites within and adjacent to the lower McDaniel Slough water channel and floodplain to facilitate intertidal flow into the 205-acre western three-quarters of the project site. As a result of this land alteration, a combined 7.5-acre area of freshwater and brackish marshes, and willow riparian area will be converted to pickleweed (*Salicornia virginica*) dominated salt marsh.

The freshwater and brackish marsh and riparian vegetation along and within the portion of McDaniel that would be either inundated, filled, or otherwise converted, is currently comprised of a mixture of ruderal species that are generally found along disturbed streams and adjoining bankside areas, including range from obligate wetland plants such as arrow grass (*Triglochin maritima*), cattail (*Typha latifolia*), bullrushes, (*Scripus* sp.) sedges, (*Carex* sp.), rushes (*Juncus* sp.) to more mesic willow thickets (*Salix* sp.) and blackberry brambles (*Rubus* sp.). Given the scant numbers of fish and wildlife species normally found along coastal streams of this size, the significant presence of numerous invasive pioneering plant species and the reduced habitat expression of tidewater habitat due in part to the vacillating water regime, subsidence, and nutrient inputs from adjacent agricultural grazing uses, the existing habitat can be considered to be degraded. Notwithstanding these deficiencies, the area nonetheless provides some open water and riparian habitat diversity in an area dominated by seasonal wetland agricultural fields.

The direct loss of the 7.5-acre area comprising the Freshwater and brackish marshes and willow riparian thickets would be off-set by the excavation and revegetation of the 35-acre area comprising the Brackish Pond Restoration Area and Freshwater Pond Enhancement Area on the eastern side of the project site. The newly created brackish, freshwater and riparian replacement wetlands would provide increased habitat area for water-associated fish and wildlife including, salmonid fish species, shorebirds, wading birds, perching songbirds, and raptors, and small mammals such as striped skunk and raccoons.

(b) Filling of Agricultural Fields Seasonal Wetlands

The construction of the new 21,000-lineal-foot levee field to contain the intertidal flow that would be allowed through the proposed breach in the bayfront reclamation levee would entail the placement of approximately 80,000 cubic yards of earthen materials excavated in creating the project's freshwater and brackish water pond components, comprising a roughly 6.5-acre area currently consisting of a mixture of fallow and grazed seasonal wetland agricultural fields. To offset the filling of these wetlands, approximately 6.64 acres of fill materials comprising portions of the existing channel containment levees together with the bed of a former ranch road, paddock/corral, and barn building pad, a small parking lot on the eastern side of Mad River Slough Wildlife

Area, and other superfluous and dislodged riprap debris along the reclamation levee dike face and scattered within the back-drain borrow ditching. After completion of all of the project work, the total amount of wetland within the project area would be slightly increased by approximately $\frac{1}{8}$ acre. To ensure that the proposed removal of 6.64 acres of fill is accomplished to offset the approved filling of wetlands, Special Condition No. 1 requires the submittal for the review and approval of the Executive Director of a final restoration monitoring program that provides for the removal of the fill and provides for as-built plans to be subsequently submitted that demonstrate that the planned fill removal has occurred.

(c) Sedimentation Impacts to Aquatic Habitat and Water Quality

The proposed restored saltmarsh and created freshwater and brackish pond wetlands modified by the levee construction and breaching are being undertaken to provide cover, forage, and nesting opportunities to a variety of fish and wildlife species including listed salmonids such as the *coho* salmon, steelhead, and coastal cutthroat trout, and the muted tidal slough inhabiting tidewater goby. The seasonal wetlands provide habitat to a wide assortment of terrestrial organisms, most notably several environmentally sensitive avian species, including the northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), Great blue heron (*Ardea herodias*), and Snowy egret (*Egretta thula*).

Potential adverse impacts to both existing and to-be-restored/enhanced fish and wildlife habitat related water quality could occur in the form of sedimentation or debris from project diking and dredging (i.e., soils disturbed during the placement and/or removal of the new and existing flood- and eco-levees and constructing the freshwater and brackish ponds), and filling (i.e., the materials excavated in raising the lowermost mudflat-prone areas to elevations suitable for pickleweed marsh formation). Although the project description states that such impacts would be prevented and minimized by conducting the ground-disturbing work during the dry weather season and through incorporating various other best management practices into a final erosion and sediment control plan, the application provides few details as to precisely how this fill would be placed or excavation performed relative to: (1) the potential for causing stream bank soil materials to enter into the slough during the erection/removal of the levees; and (2) the potential for materials to become entrained into areas subject to intertidal inundation by installing the fill across the existing low lying areas and during the construction of the freshwater and brackish ponds. In addition, although a net surplus of material beyond that needed for levee construction and marsh plain terra-forming (135,219 yd³), would be excavated in forming the ponds and in removing the existing channel confinement levees ($\pm 120,000$ yd³) no information was provided as to where the excess excavated materials would ultimately be disposed.

Given the necessity of using mechanized heavy equipment for performing the fill and grading work, the project poses significant risks to the water quality of the receiving coastal waters. To ensure that adverse impacts to water quality do not occur from

construction activities conducted along the immediate stream bank margins, the Commission attaches Special Condition Nos. 2, 3, 4, and 5. Special Condition No. 2 requires the applicant to undertake the development pursuant to certain construction and debris removal performance standards. Specifically, no construction materials, debris, or waste are to be placed or stored where they may enter the coastal waters of McDaniel Slough or Humboldt Bay. In addition, all construction debris, including fencing posts and wiring scraps, fasteners, road base, building debris, and riprap are to be removed and disposed of in an upland location outside of the coastal zone or at an approved disposal facility. Special Condition No. 3 similarly requires the applicant to submit, for the Executive Director's review and approval, an erosion and runoff control plan that is to include certain specified water quality best management practices for minimizing impacts to coastal waters associated with the dredging, filling, and diking of McDaniel Slough. To maximize the success of the soil-binding revegetation proposed to be planted. Special Condition No. 6 requires that the willow planting be performed during a late autumn to mid-winter timeframe. During this period (\pm November 1 to March 1), auxin production in most temperate plants is suppressed to the point where the growth of root tissue occurs at higher rates than foliage from apical and lateral buds. Planting cuttings during this period will allow adequate time for the stem tissue to undergo adventitious differentiation into root tissue and for the new roots to become established prior to the onset of budding in the early spring, when, if adequate roots have not developed, the plants could desiccate and expire. Special Condition No. 5 requires the applicant to submit, for the Executive Director's review and approval, a debris disposal plan detailing the methods, schedule and confirmed final destination of the materials dredged from the site.

c) Introduction of Exotic Invasive Plants

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

The project identifies the planting of a variety of native tree- and shrub-layer species and the use of a "native annual grass" mixture to stabilize ground-disturbed areas. However, the proposed project does not further specify the source or composition of the seed mix nor precludes the planting of other plant species beyond those identified in the permit application.

To assure that the grass mixture is composed solely of native annual grass seeds, Special Condition No. 6 requires that only seed stock bearing the California Crop Improvement Association "yellow tag" certification as California native grass seed be used in the proposed soils stabilization applications. Furthermore, Special Condition No. 6 specifically prohibits the planting of any plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be identified from time to time by the State of California, shall be employed or

allowed to naturalize or persist on the site. Furthermore, no plant species listed as a 'noxious weed' by the governments of the State of California or the United States are to be utilized in the revegetation portion of the project.

d) Use of Anticoagulant-based Rodenticides

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

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

The Commission finds that the proposed wetland restoration/enhancement project is a permitted use under Section 30233 of the Coastal Act, and that as conditioned, all potential adverse impacts have been avoided or minimized to the maximum extent feasible.

(5) Alternatives Analysis

The final test set forth by Section 30233 is that the proposed fill project must have no feasible less environmentally damaging alternative. In this case, the Commission has considered the various alternatives presented by the applicant and determines that there is no feasible less environmentally damaging alternative to the project as conditioned by Special Conditions No. 1-13. A total of four possible alternatives to the proposed project have been identified including: (a) the "no project" alternative; (b) restoration of the entire project site as muted saltmarsh; (c) full site restoration of open intertidal saltmarsh; and (d) full site reclamation for freshwater habitat (see Exhibit No. 9).

(a) No Project

The "no project" alternative would leave the lower channel reaches and floodplain of McDaniel Slough in their current condition with no restoration or enhancement actions being taken. The "no project" alternative would eliminate the opportunity for increased habitat diversity and increased species abundance within a degraded anadromous fish-bearing coastal stream. Therefore, the no project alternative is not a less environmentally damaging feasible alternative as it would not

accomplish the project objectives of enhancing wetland habitat values within City creeks.

(b) Full Site Restoration of Muted Saltmarsh Habitat Only

The levee breach alternative would allow tidal action to be reintroduced to the site by removing the existing tidegates and excavating a breach in the levee sufficient to convey tidal and flood flows on Janes Creek/McDaniel Slough. Estimates of breach sizing indicate that a breach of 100 feet or more may be required. A new levee system composed of eco-levees and flood control levees would be reconstructed inboard around the perimeter of the site. The levees would be designed to be constructed to elevation 8.0 feet NGVD₂₉ to protect against the 100-year tide level of 6.5 feet NGVD₂₉ documented by the Federal Emergency Management Agency (FEMA).

The loss of 7.5 acres of brackish and freshwater marsh and riparian willow thicket would not be mitigated for, as no similar habitat types would be included within the overall site plan. As discussed further in Public Access and Recreational Opportunities Findings Section IV.G below, this alternative would also preclude any feasible future use of the bayfront reclamation levee as a regional trail link. For these reasons, the restoration of the whole of the project site to intertidal area is not a feasible less environmentally damaging alternative.

(c) Full Site Restoration of Open Intertidal Saltmarsh

The open saltmarsh restoration alternative would involve the complete removal of the 4,237 lineal-foot segment of reclamation levee along the site's bay frontage together with selective filling of the levee back-drain borrow ditch to allow for direct, unimpeded exchange of tidal waters across its 240-acre entirety. Complete hydrologic and ecologic connectivity would be established between Arcata Bay and the restored marsh plain. Tidal connector channels and additional levee breaches would be designed according to the respective drainage areas. The impetus for the alternative is based on restoring, where possible, the tidal drainage system as shown on the 1870 U.S. Coast Survey of Humboldt Bay. Removing the levee would allow for the formation of a woody debris wrackline during spring tides that creates natural disturbance and colonization opportunities for rare plants. This alternative would limit trail access to the northeastern flank of the new flood control levees to minimize human disturbance to wetland wildlife use.

Although this alternative results in the greatest amount of future restored saltmarsh habitat area and places stringent limits on human activity within the project area, the overall quality of the habitat, in terms of biomass, direct and secondary productivity, and species richness may not necessarily be similarly maximized. For example, by not placing fill on the marsh plain to raise it to an elevation suitable for pickleweed growth and by limiting the floodplain grading

work to the erection of the new levee field, removal of the reclamation levee front, and restoration of the tidal channels, there is an increased likelihood that the site would either take the end form of an unvegetated mud flat and/or be colonized by the adjoining mat of exotic/invasive cordgrass (*Spartina densiflora*). Either condition would offer less forage, cover, holding, and nesting than the pickleweed marsh plain to be sought under the proposed project. In addition, the free unimpeded tidal flux over the whole of the project site would dramatically alter the flow and salinity regimes within the lower tidal channels and borrow ditching, effectively removing habitat conditions favorable to slackwater species such as the tidewater goby. Moreover, the loss of 7.5 acres of brackish and freshwater marsh and riparian willow thicket would not be mitigated for, as no similar habitat types would be included within the overall site plan. As discussed further in Public Access and Recreational Opportunities Findings Section IV.G below, this alternative would also preclude any feasible future use of the bayfront reclamation levee as a regional trail link. For these reasons, the restoration of the whole of the project site to intertidal area is not a feasible less environmentally damaging alternative.

(d) Full Site Freshwater Habitat Reclamation

Developing the whole of the project site for freshwater habitat would involve repairing and upgrading the bayfront levee tidegates to allow for increased seasonal riverine overflow inundation within the lower McDaniel Slough floodplain behind the reclamation levee such that seasonal freshwater wetlands would predominate the area. The bayfront levee would be raised to a level of 6.5 feet NGVD₂₉ to protect against the 100-year tide level. In addition, the McDaniel Slough area waterfowl habitat would be enhanced with two shallow freshwater seasonal ponds fed by groundwater. Fill excavated during pond construction would be used to improve the bayfront levee, however, no grading of the

While this alternative would maintain most of the existing freshwater/agricultural wetlands, the continued utilization of tidegate barriers between the bay and the McDaniel Slough / Janes Creek watershed would not optimize access for anadromous fish species. Moreover, questions have surfaced as to the feasibility of this option: In response to the identification of conditions favorable to the tidewater goby within the lower slough channels and borrow ditching, and the inclusion of these water features within Unit "HUM-3" of the revised designated critical habitat areas for the species (for which enhanced protections are imposed in the interim until a final rulemaking is completed for such designation), the U.S. Fish and Wildlife Service has recently determined that the Reclamation District No 768 proposal to recover and reinstall the detached McDaniel Slough tidegate, disconnected from the reclamation levee culvert during the 2006-07 News Year Day Storm, would be inconsistent with the protections afforded the species by federal endangered species law. Therefore, the Commission finds full

freshwater restoration of the site is not a feasible less environmentally damaging alternative.

Based on the alternatives analysis above, the Commission concludes that, when compared to the other identified project alternatives, the proposed development would result in numerous significant benefits to the physical and biological resource base of the area by, among other measures: (1) removing accumulated silt material from existing channels to deepen or enhance drainage and flood capacity; (2) facilitating the enhanced channels and surrounding areas to function as estuarine wetlands; (3) improving conditions for downstream migrant juvenile salmonids; (4) increasing avian and amphibian species habitat opportunities by including construction of diverse habitat types including saltmarsh, freshwater ponds, and brackish wetlands; (5) enhancing conditions to allow for further natural propagation of sensitive and rare Point Reyes birds'-beak and Humboldt Bay owl's clover; and (6) improving overall drainage from McDaniel Slough into Humboldt Bay with a corresponding reduction in flood hazards on Janes Creek. Therefore the Commission finds that the proposed project is the least environmentally damaging feasible alternative for protecting and enhancing wetland habitat values at the site and is consistent with Section 30233.

(6) Conclusion

The Commission thus finds that the proposed fill is for an allowable use, that there is no feasible less environmentally damaging alternative, that feasible mitigation is required for potential impacts associated with the dredging and filling of coastal wetlands, and that the biological productivity and functional capacity of the wetland habitat affected by the dredging and filling will be maintained and enhanced. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Sections 30230, 30231 and 30233 of the Coastal Act.

F. Geologic Stability.

1. Applicable Coastal Act Policies and Standards

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

New development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction

of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. (Emphases added.)

2. Consistency Analysis

The project's new levee system is composed of a series of flood control diking and eco-levees to be constructed inboard around the landward perimeter of the site. The levees have been designed to be constructed with 1:2 to 1:10 side slopes and to an elevation of 8.0 feet NGVD₂₉ adequate to protect the site from inundation from storm surge at a tide level of 6.5 feet NGVD₂₉, the 100-year flood-equivalent water elevation set by FEMA, factoring in an additional 1.5 feet of height to compensate for the anticipated 0.2- to 0.9-foot of sea level rise projected over the 50-year economic life of the structure. Therefore, the proposed project minimizes this hazard. In addition, the toe of the bayfront reclamation levee would be armored with quarry stone rock slope protection around the breach, similar to that in place along the whole of the dike face, to prevent scour related erosion from the flux of tides through the opening.

To further assure the structural integrity of the levee field, especially with regard to seismic shaking, liquefaction, and long-term ongoing subsidence of the area, a geotechnical analysis was performed for the project improvements. The evaluation (SHN Consulting Engineers and Geologists, November 2003) reviewed the stability of the proposed flood- and eco-levee side slopes and set forth several construction criteria and development recommendations for assuring the structures long-term reliability. Among these recommendations, are specific grading lift-depth and material compaction standards, incorporation of clay sills within the cross-sectional composition of the levees to prevent seepage through the dike, and height over-design construction provisions to compensate for planned settlement. To ensure that these design features are incorporated into the development such that its structural stability and integrity are assured, the Commission attaches Special Condition No. 6. Special Condition No. 6 requires the applicant to incorporate the recommendations of the geotechnical analysis into the construction of the project levees and submit evidence, for the review and approval of the Executive Director, that a professional engineer has approved the construction plans and verified incorporation of the report's recommendations.

Moreover, given that the applicant has chosen to implement the project despite the identified flooding and geologic stability risks, the applicant must assume the risks. Therefore, the Commission imposes Special Condition 12. Special Condition No. 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 in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand the hazards. In addition, the condition ensures that future owners of the property will be informed of the

risks and the Commission's immunity from liability. As conditioned, the Commission finds the proposed project is consistent with Section 30253 of the Coastal Act.

G. Visual Resources.

1. Applicable Coastal Act Policies and Standards

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

2. Consistency Analysis

The viewshed of the project area primarily comprises the open pasture fields, roadside hedgerows, coastal streams, and scattered tree and shrub thickets visible from the south side of Samoa Boulevard / State Route 255, along lower V Street and the eastern end of Old Samoa Road, along portions of South I Street and from the trails within the Arcata Marsh and Wildlife Sanctuary (AM&WS). Low-angle oblique views of Humboldt Bay across the project site from northern vantage points are obstructed by the presence of the intervening bayfront reclamation levee. Notwithstanding these impediments to direct shoreline viewing, the project area east of the intersection of V Street and Samoa Boulevard is designated as a scenic route entry to Arcata within the City's LCP.

The project will introduce two new visual elements into the southern Arcata Bottom landscape: (1) a five- to eight-foot above-grade levee field running over three and one-half miles along the perimeter of the site, the majority of which will be visible from various adjoining public vantage points, including Samoa Boulevard / State Route 255, from the eastern margins of the Mad River Slough Wildlife Area, and from the westernmost trails within the Arcata Marsh and Wildlife Sanctuary; and (2) the appearance of open intertidal waters in areas currently comprising reclaimed agricultural pastureland.

Notwithstanding their significant bulk and scale, when viewed from the similarly elevated roadway and levee tail locales, the new flood- and eco-levees would be relatively low-profile visual elements. As depicted on the three-dimension visual simulation prepared for the project, although these new horizontal components would be directly visible, their low relief together with a backdrop of the bayfront reclamation levee, trees and shrubs within the AM&WS, and the silhouetted outlines of the commercial industrial buildings along Samoa Boulevard and South I Street would serve to mute the visual expression of the new levees, rendering them similar to other raised topography breaks in the area (see Exhibit No. 10). In addition, the earthen materials from which the outboard faces of the levees would be constructed are expected to rapidly

colonize with grasses and forbs from the surrounding area further softening their contrast with surrounding open sod-covered pasturelands.

As regards the introduction of views of open intertidal waters into the areas surrounding the project site, the Commission observes that such a visual element would be similar to the flooded field conditions that currently occur seasonally in the area during the wet winter and spring months, and especially during high tide periods, when stormwater runoff and creek discharges pool within the fields behind the various reclamation and flood control levees and berms of the area. Moreover, the Commission notes that the project would also enhance views to and along the shoreline by increasing the amount of viewable shoreline from vista points currently located well inland from the bay.

Therefore, the Commission finds that the proposed development, as designed and conditioned, will protect views to and along the ocean and scenic coastal areas, minimize the alteration of landforms, and be compatible with the character of the surrounding area consistent with Section 30251 of the Coastal Act.

H. Public Access and Coastal Recreational Opportunities.

1. Applicable Coastal Act Policies and Standards

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

Coastal Act Section 30210 requires in applicable part that maximum public access and recreational opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Section 30211 requires in applicable part that development not interfere with the public's right of access to the sea where acquired through use (i.e., potential prescriptive rights or rights of implied dedication). Section 30212 requires in applicable part that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, such as when adequate access exists nearby or when the provision of public access would be inconsistent with public safety.

In applying Sections 30211 and 30212, the Commission is limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential public access.

2. Consistency Analysis

The entire expanse of the adjacent Mad River Slough Wildlife Area (MRSWA) is open to the public with the exception of the bayfront reclamation levee and the five former agricultural residential and accessory structures on the site. The MRSWA 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. Activities that are not compatible with wildlife, such as off-road vehicle riding, are not allowed at the site. Similarly, within the exception of dusk to dawn closures, the whole of the Arcata Marsh and Wildlife Sanctuary is open for public use for hiking, birdwatching, picnicking, and other similar non-consumptive passive recreational pursuits.

The proposed project does not involve any changes or additional restrictions to existing public access including during project construction that would interfere with or reduce the amount of area public access and recreational opportunities. In fact, public use of the project site and the flanking state and municipal wildlife areas are expected to increase as people are drawn to the project's enhancements to the abundance and diversity of wildlife habitat.

Moreover, the project proposes to provide new, additional public access and coastal recreational opportunities through integrating with the AM&WS's trail system, with trails continuing onto the project site on the crests of the levees to be constructed around the brackish and freshwater ponds, and from the crook in South I Street out along the reclamation bayfront levee to the breach site. In addition, the City has identified and included a trail linkage out to a small parking lot on the south side of Samoa Boulevard near an existing sewer booster pump station to be improved once acquisition of the property through which the trail would pass has been completed. With construction of this new access support facility and the continued availability of similar facilities within the AM&WS and MRSWA to the east and west, respectively, sufficient parking would exist to accommodate the current level of public use as well as the anticipated increase in use following project completion.

To assure that the proposed access improvements are incorporated into the restoration/enhancement project, the Commission attaches Special Condition No. 13. Special Condition No. 13 requires the permittee to construct the proposed trail and support amenities identified in the project application materials prior to commencement of the use of the project site as a public fish and wildlife habitat restoration /enhancement facility.

Therefore, the Commission finds that the proposed project would not have an adverse effect on public access, and that the project as proposed with new public access and conditioned to construct the proposed access and support facilities, is consistent with the requirements of Coastal Act Sections 30210, 30211, and 30212.

H. State Waters.

The project site entails areas which were submerged, intertidal and/or overflow lands at the time of California's statehood in 1850. Notwithstanding that most of the site is currently not subject to tidal inundation, the site remains subject to public trust review by

the State Lands Commission. To assure that no aspect of the project would be inconsistent with the public trust limitations as may continue to be applied to the site, the Commission attaches Special Condition No. 8. Special Condition No. 8 requires the applicant, prior to issuance of the permit to submit for the review and approval of the Executive Director, evidence that the State Lands Commission has reviewed the approved development proposal and determined what is any permits or other grants of authority may be required before the project work may commence.

I. Other Agency Approvals.

The project requires review and authorization by the U.S. Army Corps of Engineers. Pursuant to the Federal Coastal Zone Management Act, any permit issued by a federal agency for activities that affect the coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the U.S. Army Corps of Engineers, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit. The project also requires a Section 1600 Streambed Alteration Agreement from the California Department of Fish and Game (CDFG). Additionally, the proposed breach to be excavated in the bayfront reclamation levee is located within the development project permitting jurisdiction of the Humboldt Bay Harbor, Recreation, and Conservation District. To ensure that the project ultimately approved by the Corps, CDFG, and the Harbor District is the same as the project authorized herein, the Commission attaches Special Condition Nos. 9, 10, and 11, which require the City to submit to the Executive Director evidence of these agencies' approval of the project prior to the issuance of the permit and prior to the commencement of construction, respectively. The conditions require that any project changes resulting from these other agency approvals not be incorporated into the project until the applicant obtains any necessary amendments to this coastal development permit.

I. California Environmental Quality Act.

On December 20, 2006, the City of Arcata as lead agency certified the Final Environmental Impact Report (SCH No. 2003022091) for the subject *McDaniel Slough Wetlands Enhancement Project*. The document consisted of the Draft Environmental Impact Report, previously released on May 27, 2006, together with response to comments submitted during the subsequent 45-day public review period. The final environmental document also included supplemental technical information regarding regional agricultural production and a revised project site plan with an offsite lateral trail link into the project site redacted.

Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA).

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

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

IV. EXHIBITS:

1. Regional Location Map
2. Vicinity Map
3. State:Local Government Coastal Development Permitting Jurisdictional Map
4. Project Site Aerial
5. Project Description Narrative, Site and Vegetation Plans, and Levee Structural Cross-sectionals
6. Existing Habitat Conditions
7. Existing Grazing Lands
8. Zoning of Site and Surrounding Land Uses
9. Wetland and Upland Impacts Map
10. Extent of Historic Saltmarsh in Northern Humboldt Bay circa 1870-1890
11. Comparison of Mad River Delta and Coastal Stream Morphology 1854-1862 with 1995-1997
12. Project Alternatives
13. Three-Dimensional Prospective View Rendition of Project Site and Surroundings
14. Applicant Correspondence

APPENDIX A

STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable amount of time. Application for extension of the permit must be made prior to the expiration date.
3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director of the Commission.
4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.