

COUNTY OF HUMBOLDT Planning and Building Department Current Planning Division

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Hearing Date:	May 7, 2020	
To:	Humboldt County Planning Commission	
From:	Steve Werner, Supervising Planner	
Subject:	Humboldt County Department of Public Works Coastal Develo Case Number PLN-2019-15881 Assessor Parcel Number State Highway 255 Right of Way Manila Area	pment Permit
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Please contact Trevor Estlow, Planner, at 268-3740, or by email at testlow@co.humboldt.ca.us, if you have any questions about the scheduled public hearing item.

AGENDA ITEM TRANSMITTAL

Hearing Date	Subject	Contact
May 7, 2020	Coastal Development Permit	Trevor Estlow

Project: A Coastal Development Permit application for Humboldt County Department of Public Works to develop a Class I bike path (also known as shared use path or multi-use trail) along 0.6 miles of Highway 255 corridor in the Manila area. The project includes 150 feet of concrete sidewalk along Pacific Avenue, a crosswalk near the Pacific Avenue/Peninsula Drive intersection, two light standards, and on-site wetland creation. The north end of the path would connect to a future trail on Friends of the Dunes property leading to the Humboldt Coastal Nature Center. The purpose of the project is to improve safety for non-motorized and motorized travelers in Manila and increase the use of active modes of transportation. The project would enhance coastal access, heighten driver awareness of the community, create new tsunami evacuation route, and fill the gap for non-motorized travel between the Pacific and Carlson neighborhoods. The trail is needed because Highway 255 between Eureka and Arcata is an incomplete transportation facility that was designed primarily to support motorized vehicles.

Project Location: The project is located in the Manila area, on the west side of State Route 255 starting near the Dean Street/Pacific Avenue intersection and terminating just north of the Carlson Avenue intersection.

Present Plan Designations: Residential Low Density (RL); Caltrans road right of way. Slope Stability: Relatively Stable (0).

Present Zoning: Residential Single-Family with combining zones for Manufactured Homes, Archaeological Resource Area Outside of Shelter Cove and Beach and Dune Areas (RS-5-M/A,B); Caltrans road right of way.

Case Number: PLN-2019-15881

Assessor Parcel Numbers: n/a; Caltrans road right of way

Applicant	Owner(s)	Agent
Humboldt County Dept. of Public Works	Caltrans	GHD
Hank Seeman	Jen Buck	Josh Wolf
1106 2 nd Street	1655 Union Street	718 3 rd Street
Eureka, Ca 95501	Eureka, CA 95501	Eureka, CA 95501

Environmental Review: CEQA Exemption Section: 15301, Class 1, Existing Facilities.

Major Issues: None.

State Appeal Status: Project is appealable to the California Coastal Commission.

HUMBOLDT COUNTY DEPARTMENT OF PUBLIC WORKS COASTAL DEVELOPMENT PERMIT

Case Number: PLN-2019-15881 Assessor Parcel Number State Route 255 Right of Way

Recommended Planning Commission Action

- 1. Describe the application as a public hearing
- 2. Request that staff present an overview of the project and staff's analysis.
- 3. Open the public hearing and receive testimony.
- 4. Close the public hearing and take the following action:

Find the project exempt from environmental review pursuant to Section 15301 of the State CEQA Guidelines, make all of the required findings for approval of the Coastal Development Permit, based on evidence in the staff report, and adopt the Resolution approving the County of Humboldt Department of Public Works project subject to the recommended conditions.

Executive Summary: The project is a Coastal Development Permit for the Manila Highway 255 Shared Path Project. The project is intended to provide non-motorized (primarily bike and pedestrian) transportation and recreational access in Manila via a Class I multi-use trail.

The shared use path project would provide a Class I bike path (trail) along the west side of State Route 255 (SR 255) beginning near the Dean Street/Pacific Avenue intersection (Post Mile 3.64) and terminating approximately 250 feet north of the Carlson Avenue intersection (Post Mile 4.24). The trail would provide a non-motorized alternative to SR 255, link neighborhoods and enhance access for users. The trail would be designed as a paved, 10-foot wide path with two, two-foot wide shoulders, situated at least five feet from the edge of a standard eight-foot wide shoulder along SR 255.

The project includes three interpretive signs with content that creates awareness of coastal dunes and native plants. The trail alignment would maximize separation from vehicular traffic to provide for the best user experience, and to accommodate highway operations and maintenance activities. Trail crosswalks would be provided at the Lupin Avenue and Carlson Avenue trail-road crossings.

The current project is designed for future connection to the Humboldt Coastal Nature Center managed by Friends of the Dunes (FOD). The northern terminus of the trail project is adjacent to FOD property. FOD has a preliminary trail design but wants to wait for more time to ensure compatibility with the nearby private property. Caltrans has identified an administrative process that would allow a new opening in the right-of-way fence to allow this trail connection. This connection would enhance the usage of the current project and provide a tsunami evacuation route for the community.

The trail alignment was developed to avoid wetlands and sensitive habitats to the extent practicable. However, impacts to wetlands are unavoidable, and new wetlands will need to be created to offset these impacts. Coastal Act policy 30233 (a)(8) states:

"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: (8) Nature study, aquaculture, or similar resourcedependent activities." As wetlands can be filled for limited uses, this trail would fall under nature study and will facilitate bicyclists and pedestrians and provide interpretive signs at strategic locations. The project proposes to mitigate for 0.77 acres of permanent impacts to palustrine wetlands by creating 0.92 acres of wetlands on-site, thereby achieving a 1.2:1 replacement ratio. The created wetlands will be similar in extent and function to existing wetlands within the project area and subject to a long-term management plan for their protection consistent with the Caltrans' Maintenance Manual (July 2014).

Wetlands will be established in upland areas by recontouring ground surfaces to provide hydrologic connectivity to seasonal groundwater levels. Existing upland sites within proximity to groundwater are ideal for wetland creation Wetlands impacted by the project are typically seasonally wet (wet in winter and dry in summer). Thus, wetlands created to offset impacts will also be seasonal, with higher winter groundwater (closer to the surface) and drier summer conditions.

The ultimate regional goal is for separated non-motorized trails connecting Arcata, Manila, Samoa Bridge (route to Eureka), Samoa, and Fairhaven. The specific alignments for these trail connections have not been determined and will require future alignment option evaluation. The two existing transportation corridors (Highway 255 and NCRA railroad) will be the first consideration for potential alignments.

All the reviewing agencies that have provided timely comments have either recommended approval or conditional approval of the project. Accordingly, as Lead Agency, the Department of Public Works found the project exempt from environmental review. The project consists of the addition of bicycle and pedestrian facilities to an existing highway. The 2018 amendments to the CEQA Guidelines revised 15301(c) to clarify that improvements within a public right of way that enable use by multiple modes would normally not cause significant environmental impacts. The project does not create additional automobile lanes nor meet the exceptions of 15300.2 of the State CEQA Guidelines.

Based on the on-site inspection, a review of Planning Division reference sources, and comments from all involved referral agencies, Planning staff believes that the applicant has submitted evidence in support of making all the required findings for approving the Coastal Development Permit

Alternatives: A couple alternatives may be considered: 1) The Planning Commission could elect to add or delete conditions of approval; 2) The Planning Commission could deny approval of the requested permits if the applicant is unable to make all of the required findings. Planning Division staff is confident that the required findings can be made based on the submitted evidence and subject to the recommended conditions of approval. Consequently, planning staff does not recommend further consideration of these alternatives.

RESOLUTION OF THE PLANNING COMMISSION OF THE COUNTY OF HUMBOLDT Resolution Number 20-

Case Number PLN-2019-15881 Assessor Parcel Numbers State Route 255 Right of Way

Makes the required findings for certifying compliance with the California Environmental Quality Act and conditionally approves the Humboldt County Department of Public Works Coastal Development Permit.

WHEREAS, Hank Seemann submitted an application and evidence in support of approving a Coastal Development Permit for the construction of a Class I Bike Path; and

WHEREAS, the County Planning Division has reviewed the submitted application and evidence and has referred the application and evidence to reviewing agencies for site inspections, comments and recommendations; and

WHEREAS, the Humboldt County Department of Public Works as the Lead Agency, found the project categorically exempt from environmental review pursuant to Section 15301(c), Class 1, Existing Facilities, of the California Environmental Quality Act (CEQA); and

WHEREAS, Attachment 2 in the Planning Division staff report includes evidence in support of making all of the required findings for approving the proposed Coastal Development Permit (Case Number PLN-2019-15881); and

WHEREAS, a public hearing was held on the matter before the Humboldt County Planning Commission on May 7, 2020.

NOW, THEREFORE, be it resolved, determined, and ordered by the Planning Commission that:

- 1. That the application is categorically exempt from environmental review pursuant to Section 15301, Class 1 of the CEQA Guidelines; and
- 2. Makes the findings in Attachment 2 of the Planning Division staff report for Case Number PLN-2019-15881 based on the submitted evidence; and
- 3. Approves the Coastal Development Permit applied for as recommended and conditioned for Case Number PLN-2019-15881.

Adopted after review and consideration of all the evidence on May 7, 2020.

The motion was made by Commissioner _____ and seconded by Commissioner _____.

AYES:Commissioners:NOES:Commissioners:ABSTAIN:Commissioners:ABSENT:Commissioners:DECISION:

I, John Ford, Secretary to the Planning Commission of the County of Humboldt, do hereby certify the foregoing to be a true and correct record of the action taken on the above entitled matter by said Commission at a meeting held on the date noted above.

John Ford, Director Planning and Building Department



















May 7, 2020













ATTACHMENT 1 CONDITIONS OF APPROVAL

Approval of the Coastal Development Permit is conditioned upon the following terms and requirements which must be fulfilled before the project is initiated.

- 1. Approval of this permit is based on information in the plan set and documents entitled Manila State Route 255 Shared Path Project (November 2018), Manila Highway 255 Shared Use Path Habitat Mitigation and Monitoring Plan (November 2019), Natural Environment Study (January 2019). The Habitat Mitigation and Monitoring Plan shall reflect the updated design approach described in the Department of Public Works' letter to Kasey Sirkin, US Army Corps of Engineers dated December 18, 2019. All related project activities shall be executed in accordance with these descriptions and discussion therein.
- 2. Applicant must apply for and obtain an encroachment permit from Caltrans prior to the initiation of any work within the Caltrans right of way.
- 3. All mitigation measures identified in the Manila Highway 255 Shared Use Path Habitat Mitigation and Monitoring Plan (November 2019) shall be implemented consistent with the Habitat Mitigation and Monitoring Plan, as revised. The HMMP shall incorporate the updated design approach described in the Department of Public Works' letter to Kasey Sirkin, US Army Corps of Engineers dated December 18, 2019.
- 4. A copy of the annual monitoring report for years 1 and 3, and year 5 (if needed), prepared per Section 10 of the Habitat Mitigation and Monitoring Plan shall be submitted to the Planning Division prior to December 31 of each reporting year.
- 5. The applicant shall submit for review and approval of the Planning Director a plan for temporary storage and disposal of construction debris. The plan shall demonstrate that a) no construction materials, debris, or waste shall be placed or stored during construction where it may be subject to entering wetlands; b) final disposal locations for debris from construction activities are in upland areas and not impacting ESHA; and c) that all debris from construction activities are removed within 30 days following completion of construction. The plan shall include a site plan showing all proposed locations for stockpiling construction materials, debris, or construction waste; description of the manner by which the material will be removed from the construction site and identification of all debris disposal sites that will be used; a schedule for removal of all debris. No changes to the approved plan shall occur without the consent of the Planning Director.
- 6. The applicant shall submit for review and approval of the Planning Director a plan to reduce impacts to water quality from the use and management of hazardous materials associated with construction activities on site. The plan shall be prepared by a licensed engineer with experience in hazardous material management. The plan shall provide for the following: a) equipment fueling shall occur only in designated fueling areas; b) oil absorbent pads shall be on site at all times during construction. All equipment used during construction shall be free of oil and fuel leaks at all times; c) provisions for preparing and pouring cement in a manner that will prevent discharges into wetlands; d) provisions for handling cleanup and disposal of any hazardous or non-hazardous materials used during the construction project (e.g., asphalt, equipment fuel and lubricants, etc.); e) schedule for maintance of containment measures on a regular basis for the duration of the project; f) provisions for the containment of rinsate from cleaning equipment (e.g., cement mixing equipment), and methods and

locations for disposal off-site; g) a site map detailing the location(s) for hazardous material storage, equipment fueling and maintenance, and concrete wash-out facilities; and h) reporting protocols to appropriate public and emergency services agencies in the event of a spill. No changes to the approved plan shall occur without the consent of the Planning Director.

7. This project is required to pay for permit processing on a time and material basis as set forth in the schedule of fees and charges as adopted by ordinance of the Humboldt County Board of Supervisors. Any and all outstanding Planning fees to cover the processing of the permit shall be paid to the Humboldt County Planning Division, 3015 "H" Street, Eureka.

On-going Requirements/Development Restrictions which Must be Satisfied for the Life of the Project:

- 1. The project shall be conducted in accordance with the project description and approved project site plan.
- 2. Development and construction shall minimize cut-and-fill operations and erosion and sedimentation potential through construction of temporary and permanent sediment basins, seeding. Or planting bare soil, diversion of runoff away from the grading areas and areas heavily used during construction, and, when feasible, avoidance of grading during the rainy season (November through April).
- 3. The existing and created wetlands within the highway right of way "project area" shall be protected through a long-term management plan as set forth in Section 7 and 11 of the Habitat Mitigation and Monitoring Plan, as revised.

Informational Notes:

 If cultural resources are encountered during construction activities, the contractor on site shall cease all work in the immediate area and within a 50-foot buffer of the discovery location. A qualified archaeologist as well as the appropriate Tribal Historic Preservation Officer(s) are to be contacted to evaluate the discovery and, in consultation with the applicant and lead agency, develop a treatment plan in any instance where significant impacts cannot be avoided.

The Native American Heritage Commission (NAHC) can provide information regarding the appropriate Tribal point(s) of contact for a specific area; the NAHC can be reached at 916-653-4082. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials. If human remains are found, California Health and Safety Code 7050.5 requires that the County Coroner be contacted immediately at 707-445-7242. If the Coroner determines the remains to be Native American, the NAHC will then be contacted by the Coroner to determine appropriate treatment of the remains pursuant to PRC 5097.98. Violators shall be prosecuted in accordance with PRC Section 5097.99.

The applicant is responsible for ensuring compliance with this condition.

2. The applicant is responsible for receiving all necessary permits and/or approvals from other state and local agencies.

- 3. The Coastal Development Permit shall expire and become null and void at the expiration of one (1) year after all appeal periods have lapsed (see "Effective Date"); except where construction under a valid building permit or use in reliance on the permit has commenced prior to such anniversary date. The period within which construction or use must be commenced may be extended as provided by Section 312-11.3 of the Humboldt County Code.
- 4. New Development Requires a Permit. Any new development as defined by Section 313-139.6 of the Humboldt County Code (H.C.C.) shall require a Coastal Development Permit and Special Permit or permit modification, except for Minor Deviations from the Plot Plan as provided under Section 312-11.1 of the Zoning Regulations.
- 5. The applicant is required to pay for permit processing on a time and material basis as set forth in the schedule of fees and charges as adopted by ordinance of the Humboldt County Board of Supervisors. The Department will provide a bill to the applicant after the decision. Any and all outstanding Planning fees to cover the processing of the application to decision by the Hearing Officer shall be paid to the Humboldt County Planning Division, 3015 "H" Street, Eureka.

ATTACHMENT 2

STAFF ANALYSIS OF THE EVIDENCE SUPPORTING THE REQUIRED FINDINGS

Required Findings: To approve this project, the Hearing Officer must determine that the applicant has submitted evidence in support of making all of the following required findings.

The Zoning Ordinance, Section 312-17.1 of the Humboldt County Code (Required Findings for All Discretionary Permits) specifies the findings that are required to grant a Coastal Development Permit:

- 1. The proposed development is in conformance with the County General Plan;
- 2. The proposed development is consistent with the purposes of the existing zone in which the site is located;
- 3. The proposed development conforms with all applicable standards and requirements of these regulations; and
- 4. The proposed development and conditions under which it may be operated or maintained will not be detrimental to the public health, safety, or welfare; or materially injurious to property or improvements in the vicinity.
- 5. The proposed development does not reduce the residential density for any parcel below that utilized by the Department of Housing and Community Development in determining compliance with housing element law unless the following written findings are made supported by substantial evidence: 1) the reduction is consistent with the adopted general plan including the housing element; and 2) the remaining sites identified in the housing element are adequate to accommodate the County share of the regional housing need; and 3) the property contains insurmountable physical or environmental limitations and clustering of residential units on the developable portions of the site has been maximized.
- 6. Title III, Division 1, Chapter 2 of the H.C.C. specifies that in addition to the required findings specified in Title III, Division 1, of the H.C.C., the Hearing Officer may approve or conditionally approve an application for a Special Permit and Coastal Development Permit only if the following Supplemental Findings are made.

§312-39.14 COASTAL WETLANDS

39.14.1.1 There is no less environmentally damaging feasible alternative; and

39.14.1.2 The best mitigation measures feasible have been provided to minimize adverse environmental effects; and

39.14.1.3 The required mitigation will maintain or enhance the functional capacity of the wetland or estuary.

- 7. In addition, the California Environmental Quality Act (CEQA) states that one of the following findings must be made prior to approval of any development which is subject to the regulations of CEQA. The project either:
 - A) Is categorically or statutorily exempt; or

- B) will not have a significant effect on the environment and a negative declaration has been prepared; or
- C) has had an environmental impact report (EIR) prepared and all significant environmental effects have been eliminated or substantially lessened, or the required findings in Section 15091 of the CEQA Guidelines have been made.

1. General Plan Consistency: The following table identifies the evidence which supports finding that the proposed development is in conformance with all applicable policies and standards in the Framework Plan (FP) and the Humboldt Bay Area Plan (HBAP).

Plan Section(s)	Summary of Applicable Goal, Policy or Standard	Evidence which Supports Making the General Plan Conformance Finding
Land Use §4.10 (HBAP)	Residential Low Density. Primary Use: Detached single family residences. Density: 3-7 units per acre	The section of the Manila State Route 255 Shared Use Path Project is located within the State right of way with a land use designation of Residential Low Density (RL). The RL land use designation allows public pathways (i.e. sidewalks and bike paths) as principally permitted uses. A Coastal Development Permit is required for development within the Coastal Zone
Housing §3.16 (HBAP)	New housing in the Coastal Zone shall be consistent with the standards, policies, and goals of the Humboldt County Housing Element.	The project does not include a residential component and will have no effect on the County's housing stock.
Hazards §3.17 (HBAP)	Minimize risks to life and property in areas of high geologic, flood, and fire hazard.	The project site is located in an area of relatively stable geologic instability and outside of any fire hazard severity zone. The project area is outside of any mapped Flood Zone according to FIRM Map #835. The project will implement Best Management Practices (BMPs) throughout construction to prevent erosion and the work is not expected to affect flood hazards. All referral agencies have recommended approval of the proposed project.
Biological Resource §3.30 (HBAP)	Protect designated sensitive and critical resource habitats.	A Natural Environment Study was prepared for the project by Stillwater Sciences (January 2019) that described the project, prior studies, the environmental setting, including biological conditions in the study area (BSA), biological resource impacts and mitigation, and regulatory determinations. The Study identified avoidance and minimization measures to be implemented to avoid and minimize potential impacts associated with development of the shared use pathway. Project activities will involve clearing and grubbing of vegetation within the footprint of the bike path, within paved or graveled areas, or in designated previously disturbed areas. Trail construction will involve excavation, fill to maintain trail grades, placement of agaregate base, asphaltic concrete paving for

		trail surface, and installation of appurtenances to include curbs, railings, lighting and signage. The project is designed to minimize impact on identified environmentally sensitive habitat areas (ESHA). No Upland ESHA will be impacted by the project. The project is being designed to avoid USACE and CCC jurisdictional waters and wetlands to the extent possible. According to the Wetland Delineation conducted by GHD, the trail alignment crosses through small wetland areas. As proposed, the project directly affects approximately 0.77 acres of wetlands by filling for nature study, and 0.92 acres of additional wetlands will be created at a ratio of 1.2:1 so there will be no wetland loss. Nature study is allowed under PRC Section 30233 for wetland fill and 30240 for work in ESHA where the use is resource dependent and it can be shown that the project represents the least environmentally damaging feasible alternative, includes feasible mitigation measures to minimize adverse environmental effects, and does not degrade adjacent sensitive habitat areas. These provisions are analyzed in B.5 Supplemental Findings below.
Archaeological and Paleontological Resources §3.18 (HBAP)	Protect cultural, archeological and paleontological resources.	The project is located in an area known to be highly sensitive with respect to cultural resources. The referral response from the Northwest Information Center (NWIC) recommended that a study be performed by a qualified professional archaeologist. At the request of the County Department of Public Works and Caltrans, Jamie Roscoe performed a cultural resource study (Sept. 2017) that covered the Area of Potential Effects (APE) associated with the project area. The study found no artifacts, features or historical resources within the project APE. Additionally, nearby sites were found to be outside the project APE. Furthermore, in consultation with the Bear River Band of the Rohnerville Rancheria, the Blue Lake Rancheria and the Wiyot Tribe, it was recommended that the standard inadvertent discovery condition be included in project approval. This has been added as a condition of approval.
Visual Resource Protection § 3.40 (HBAP)	Protect and conserve scenic and visual qualities of coastal areas.	The subject parcel is not located within a designated coastal view/scenic area.

2. The proposed development is consistent with the purposes of the existing zone in which the site is located; and 3. The proposed development conforms to all applicable standards and requirements of these regulations. The following table identifies the evidence which supports finding that the proposed development is in conformance with all applicable policies and standards in the Humboldt County Coastal Zoning Regulations.

Zoning Section	Summary of Applicable	Evidence that Supports the Zoning Finding
§ 313-6.1 (HCC) Residential Single Family	Public pathways (i.e. sidewalks and bike paths) are principally permitted uses.	The project is for the development of a shared path along the edge of State Route 255 within the Caltrans right of way.
§ 313-6.1 (HCC)	Development Standards	
Minimum Parcel Size and Lot Width	5,000 square feet 50 feet	No structures are proposed.
Maximum Density	3-7 dwelling units/acre, second units are permitted and are not subject to density conformance	No dwelling unit are proposed.
Maximum Lot Depth	3 x lot width = 300 feet	Project is within the Caltrans right of way.
Minimum Yard Setbacks per Zoning:	Front: 20 feet Rear: 10 feet Interior Side: 5 feet	The path is not subject to setback requirements.
Maximum Ground Coverage	Thirty-five Percent (35%)	n/a
313-109.1 Parking	Four (4) off-street parking spaces are required for the proposed residence.	n/a
Maximum Structure Height	35 feet	n/a

Combining Zones		
§313-28.1 Manufactured Homes	Development Standard modified for the sole purpose of allowing manufactured homes.	The project does not involve a manufactured home.

313-16.1 Archaeological Resource Area Outside Shelter Cove	To provide for reasonable mitigation where development would have an adverse impact upon archaeological and paleontological resources.	The project is located in an area known to be highly sensitive with respect to cultural resources. The referral response from the Northwest Information Center (NWIC) recommended that a study be performed by a qualified professional archaeologist. At the request of the County Department of Public Works and Caltrans, Jamie Roscoe performed a cultural resource study (Sept. 2017) that covered the Area of Potential Effects (APE) associated with the project area. The study found no artifacts, features or historical resources within the project APE. Additionally, nearby sites were found to be outside the project APE. Furthermore, in consultation with the Bear River Band of the Rohnerville Rancheria, the Blue Lake Rancheria and the Wiyot Tribe, it was recommended that the standard inadvertent discovery condition be included in project approval. This has been added as a condition of approval.
313-17.1 Beach and Dune Areas	The purpose of these regulations is to ensure that any development permitted in coastal beach and dune areas, as designated in the Coastal Land Use Plan Resource Protection Maps, will not detract from the area's natural resource value or their potential for providing recreational opportunity.	The location of the trail is within the existing Caltrans right of way and not within identified coastal beach and dune areas as designated in the Coastal Land Use Plan Resource Protection Maps. The project will not detract from the area's natural resource value or their potential for providing recreational opportunity. In fact, the project will provide additional recreational opportunities.

B.5 Supplemental Findings

§312-39.14 Coa	astal Wetlands			
There is no less e alternative; and	environmentally	damaging	feasible	The goal of the project is to provide safe pedestrian and bicycle access through Manila. The most logical location for the trail is within the existing Caltrans road right of way which will minimize impacts to nearby wetlands. Any location further from the existing roadway (and outside Caltrans right of way) would create additional wetland impacts. Design alternatives considered reduction of the pathway width, but would not meet project objectives as a narrower path would not meet the minimum design standard for a Class I bike path and accommodate the expected volume and diversity of users of the multi-use trail, including its potential use as a tsunami evacuation route. The design does provide for a narrower width in certain isolated areas in special situations where maintaining the standard width is not practical. This flexibility will be used to minimize impacts where feasible. Alternative materials were considered but would not meet the Caltrans Highway Design manual and other applicable standards including the 2010 Americans with Disabilities Act (ADA) Standards for Accessibility Design. Therefore, considering all design options the chosen location for the Class I bike trail minimizes impacts and is the least environmentally damaging feasible alternative.

The best mitigation measures feasible have been	Wetlands will be established in upland
provided to minimize daverse environmental effects,	provide by recomouning ground surfaces to
	seasonal aroundwater levels. The trail
	alignment has been designed to minimize
	wetland impacts to the extent feasible
	while maintaining the functional use of the
	shared use path Furthermore, avoidance
	and minimization measures have been
	incorporated into the project design to
	reduce potential impacts to wetlands: BIO-
	1 – Project activities will be restricted to the
	Project footprint. A qualified biologist will
	identify and mark all wetlands in the BSA
	adjacent to the Project footprint prior to
	any construction activities; and BIO-2 – A
	silt fence will be installed between the trail
	construction footprint and wetland
	features to reduce sediment or runoff
	leaving the Project work area and entering
	adjacent wetlands. Other measures
	contained in the Natural Environment
	Study will be implemented to avoid and
	minimize construction impacts to northern
	rea-legged frogs, including pre-
	construction surveys and restricting
	poriod botwoon July 1 and October 20 co
	as to avoid disturbance during the
	breeding season among other measures
	Compliance with all avoidance and
	minimization measures has been made a
	condition of project approval

The required mitigation will maintain or enhance the	The mitigation will create wetlands at a
functional capacity of the wetland or estuary.	1.2:1 replacement ratio. Therefore, there is
, , , , , , , , , , , , , , , , , , , ,	no net loss of wetlands. A Habitat
	Mitigation and Monitoring Plan has been
	developed to achieve the dominant
	species composition in adjacent wetland
	habitats. Protection of created wetlands
	will be maintained through implementation
	of a long-range management plan
	consistent with the Caltrans' Maintenance
	Manual with a commitment for no net
	wetland loss. Lastly, several invasive plant
	species were observed in the BSA in the
	developed landscape and nonnative
	perennial grassland habitats. The project
	will implement avoidance and
	minimization efforts to reduce the risk of
	spreading invasive plant species (e.g.,
	purple pampas arass, fennel, European
	beach arass, vellow bush lupine) to
	adiacent natural communities (BIO-3 – BIO-
	6), such as limiting around disturbance and
	vegetation clearing, utilizing weed free
	materials and native seed mixes, and
	proper disposal of soil and vegetation.
	With implementation of all avoidance and
	minimization measures detailed in the plan.
	the project will have no effect on any
	state-or federally listed species, designated
	critical habitat, or essential fish habitat.

4. Public Health, Safety and Welfare, and Environmental Impact: The following table identifies the evidence which supports finding that the proposed development will not be detrimental to the public health, safety and welfare or materially injurious to properties or improvements in the vicinity, and will not adversely impact the environment.

Code Section	Summary of Applicable	Evidence that Supports the Required Finding
	Requirement	
§312-17.1.4	Proposed development will not be detrimental to the public health, safety and welfare or materially injurious to properties or improvements in the vicinity.	All reviewing referral agencies have approved the proposed development. No detrimental effects to public health, safety and welfare were identified. The proposed development is not expected be detrimental to property values in the vicinity nor pose any kind of public health hazard.

CEQA Guidelines	Categorically ex	kempt	Class 1, Section 15301; Existing Facilities. As Lead
	from	State	Agency, the Department of Public Works found the
	environmental rev	riew.	project exempt from environmental review. The
			project consists of the addition of bicycle and
			pedestrian facilities to an existing highway. The 2018
			amendments to the CEQA Guidelines revised
			15301(c) to clarify that improvements within a public
			right of way that enable use by multiple modes
			would normally not cause significant environmental
			impacts. The project does not create additional
			automobile lanes nor meet the exceptions of 15300.2
			of the State CEQA Guidelines.

5. Residential Density Target: The following table identifies the evidence which supports finding that the proposed project will not reduce the residential density for any parcel below that utilized by the Department of Housing and Community Development in determining compliance with housing element law.

Code	Summary of Applicable	Evidence that Supports the
Section	Requirement	Required Finding
312-17.1.5 Housing Element Densities	The proposed development does not reduce the residential density for any parcel below that utilized by the Department of Housing and Community Development in determining compliance with housing element, except where: 1) the reduction is consistent with the adopted general plan including the housing element; and 2) the remaining sites identified in the housing element are adequate to accommodate the County share of the regional housing need; and 3) the property contains insurmountable physical or environmental limitations and clustering of residential units on the developable portions of the site has been maximized.	The proposed project is a shared path project within a Caltrans road right of way. Although the property is planned and zoned for residential use, this prohibitive in the road right of way. As the site consists of a road right of way, it was not included in the housing inventory. Therefore, the project is consistent with the County's housing element.

ATTACHMENT 3

APPLICANT'S EVIDENCE IN SUPPORT OF THE REQUIRED FINDINGS

Attachment 3 includes a listing of all written evidence which has been submitted by the applicant in support of making the required findings. The following materials are on file with the Planning Division:

- Application Form [in file]
- Project Description [attached]
- Habitat Mitigation and Monitoring Plan [attached]
- Updated Wetland Impact and Creation Information (letter to USACE dated 12-18-2019) [in file]
- Natural Environment Study (Caltrans January 2019) [in file]
- Wetland Delineation (Caltrans January 2019) [in file]
- Notice of Exemption [attached]





Project Description

for the Manila State Route 255 Shared Use Path Project



County of Humboldt

GHD | 718 Third Street, Eureka, California 95501 11145210 | 20 | November 28, 2018



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1. Introduction and Background

The Manila State Route (SR) 255 Shared Use Path Project (project) is a collaborative project between the Humboldt County Department of Public Works, Caltrans District 1, and the Manila Community Services District (MCSD). The project is intended to provide a Class I bike path (also known as shared use path or multi-use trail) for non-motorized use along the west side of SR 255, starting near the Dean Street/Pacific Avenue intersection (Post Mile 3.64) and terminating just north of the Carlson Avenue intersection (Post Mile 4.24). The facility would conform to the Class I bike path standard at Chapter 1000 of the Highway Design Manual. The project also includes onsite wetland creation in upland areas adjacent to the proposed path and in open space along SR 255 between Post Mile 3.45 and 3.58. The created wetlands will be similar to existing wetlands within the project area and subject to normal vegetation maintenance activities within the State right of way.

2. Purpose and Need

The purpose of the project is to improve safety for non-motorized and motorized travelers in Manila and increase the use of active modes of transportation. The project would have additional benefits including enhanced coastal access, enhanced opportunities for recreation and nature study, heightened driver awareness of the community, creating a new tsunami evacuation route, and filling the gap for non-motorized travel between the Pacific and Carlson neighborhoods. The trail is needed because SR 255 between Eureka and Arcata is an incomplete transportation facility that was designed primarily to support motorized vehicles.

3. Project Location

The project is in unincorporated Humboldt County along SR 255 (a western alternate to U.S. Highway 101 [US 101]), between the intersection with Dean Street/Pacific Avenue (Post Mile 3.64) and the intersection with Carlson Drive (Post Mile 4.14) in the community of Manila, California (Figure 1). The project is in Section 34 of Township 6 North and Section 3 of Township 5 North, Range 1 West of the Eureka U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The northern and southern boundaries of the project are located at latitude 40°51'17.76" N and longitude 124°9'44.85" W and latitude 40°50'51.90" N and longitude 124° 9'58.56" W, respectively. The elevation within the project area ranges from approximately 17 to 25 feet above mean sea level. The project can be accessed from Eureka by taking the SR 255 exit from US 101, crossing the Samoa Bridge, and heading north along SR 255 for approximately 1.6 miles. From Arcata, the project can be accessed by taking the SR 255 exit from US 101 and heading west towards Manila for 4.6 miles (Figure 1).





Figure 1 - Vicinity Map



4. **Project Description**

The Project is intended to provide non-motorized transportation and recreational access in Manila via a Class I bike path (shared use path). SR 255 has no developed facilities for bicycles or pedestrians and the drainage ditches on both sides of the highway force non-motorized users to travel on the highway shoulder. The project would link critical activity centers within the community, including schools and residential areas.

The project would provide a shared use path along the west side of SR 255 beginning near the Dean Street/Pacific Avenue intersection (Post Mile 3.64) and terminating approximately 250 feet north of the Carlson Avenue intersection (Post Mile 4.24). The path would provide a non-motorized alternative to SR 255, link neighborhoods and enhance access for users. The path would be designed as a paved, 10-foot-wide surface with two, two-foot wide shoulders, situated at least five feet from the edge of a standard eight-foot wide shoulder along SR 255. The path alignment would maximize separation from vehicular traffic to provide for the best user experience, and to accommodate highway operations and maintenance activities. Crosswalks would be provided at the Lupin Avenue and Carlson Avenue path-road crossings. The path's edge of shoulder will be at least 30 feet from the edge of traveled way along SR 255 (i.e., outside the clear recovery zone for an expressway), with the exception of near the three intersections and crosswalks.

The approximately 250-foot extension of the shared use path north of Carlson Avenue is needed to provide connectivity with the planned trail being developed by Friends of the Dunes on their property (APN 506-111-025) leading to the Humboldt Coastal Nature Center. This connection will provide a tsunami evacuation route for the Manila community and linkage to a designated parking area which will reduce the likelihood of path users attempting to park within the State right-of-way to access the path. A break in the right-of-way access control fence is proposed to connect the paved shared use path with the trail on the adjacent property. This break will require an encroachment policy exception (Project Development Procedures Manual, 17-21).

The project includes intersection and pedestrian safety improvements along Pacific Avenue, including sidewalk, curb ramps and a crosswalk. The project may include streetlight installation at the southern trail terminus at Dean Street/Pacific Avenue intersection to enhance visibility at night.

The project also includes approximately 0.75 acres of onsite wetland establishment within the highway right-of-way between Post Mile 3.45 and 3.58 (south of the intersection with Pacific Avenue) and between Post Mile 3.64 and 4.24 (areas adjacent to the proposed trail).

4.1 **Project Elements**

The project is being designed to achieve the standards of a Class I Bikeway in accordance with the Caltrans Highway Design Manual (2017). In addition, the project will be designed to conform to other applicable standards, including the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, Fourth Edition (2012); California Manual of Uniform Traffic Control Devices (CA MUTCD) (2014); the 2010 Americans with Disabilities Act (ADA) Standards for Accessibility Design; Chapter 11B of the 2016 California Building Code.



The project is being designed to accommodate the expected volume and diversity of users, which includes a range of ages, experience levels, speeds, trip purposes, and mobility modes. As described in more detail below, the project includes a multi-use trail, sidewalk and curb ramps, lighting, signage, drainage improvements, and safety barriers. Particular constraints within the trail alignment may warrant adjustments to the standards to address site specific issues.

4.1.1 Class | Multi-Use Trail

The standard trail would consist of a 10 foot wide asphalt traveled way with two 2-foot gravel shoulders on each side. A narrower trail width may be utilized in isolated areas in special situations where it is not practical to maintain the standard width. In accordance to Class I and accessibility standards, the trail would be designed with a two percent or less cross slope and a five percent or less running slope. In areas in which the project crosses tidally influenced waters, the standard trail would include a bridge for crossing as further described below.

The trail is anticipated to have a typical pavement structural section that has approximately 6 inches of aggregate base and approximately 4 inches of asphalt concrete. In areas of poor soils, the structural section may be increased to up to three-feet of aggregate/engineered fill base or other soil stabilization measures such as the use of geotextiles and increased structural section depth.

4.1.2 Sidewalk, Curb Ramps and Retaining Structures

The project includes a concrete curb, gutter and sidewalk along the north side of Pacific Avenue in addition to new curb ramps and crosswalks to the intersection of Pacific Avenue and Peninsula Drive. The sidewalk and curb ramps will be at least 6 feet wide and constructed of 4 to 6 inch thick reinforced concrete placed over 4 to 6 inches of compacted aggregate base.

Retaining structures may be used at the back of the sidewalk on Pacific Avenue in order to limit encroachment into the existing drainage ditch which is located between the roadway and fence line. Retaining structures may consist of cast-in-place concrete, gabion, or mechanically stabilized earth wall. Where required, safety railing will be installed at the top of retaining structures.

4.1.3 Lighting

The project may include streetlight installation at the southern trail terminus at Dean Street/Pacific Avenue intersection to enhance visibility at night. Lighting would be designed to protect wildlife and nighttime views, including views of the night sky. This design goal would be satisfied using a variety of means as applicable, including fixture types, cut off angles, shields, lamp arm extensions, and pole heights. Specific design preferences include directing light downward and away from other properties, avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles, and directing lighting away from sensitive habitat areas.

4.1.4 Wayfinding and Interpretive Signage

Directional/Wayfinding signage would be installed at regular intervals to inform trail users of nearby connections to surface streets and nearby destinations. Interpretive sign would be placed as specific locations and would encourage an appreciation of the environment and the socio-cultural history of the area by providing opportunities for nature and cultural study. The interpretive signs would include



information regarding local habitats and cultural/historical sites. Specific locations for wayfinding and interpretive signage will be determined later in the design process.

4.1.5 Striping, Signage and Vehicle Control

The trail may include a centerline stripe throughout or at specific locations only, such as intersections. Standard trail-related traffic-control signage would be installed in order to comply with Class E standards and MUTCD requirements. At locations where the trail intersects a vehicular roadway, bollards or similar control features would be installed to prevent motorized vehicles from entering the trail. Authorized personnel (e.g. police, emergency-responders, maintenance crews, etc.) would be able to remove the bollards and temporarily access some portions of the trail with motorized vehicles.

4.1.6 Drainage

The trail would typically have a two percent or less cross slope to allow surface water to flow off of the trail surface. In locations where the existing drainage ditch is in close proximity to the proposed trail alignment, culverts would need to be extended. Similarly, in cases where the trail's fill prism encroaches into the existing drainage ditch causing a reduction in capacity, the drainage ditch may need to be reconstructed at approximately the same grade and depth, but at a location (horizontally) offset from the original position. Cross drains under the trail will be located at low spots in the topography to convey surface drainage across the trail prism.

4.1.7 Barriers and Fencing

Safety railing and fencing may be included along retaining walls and at the edge of the trail when adjacent to steep embankments. The railing and fencing would be constructed from wood or metal material, and may include chain link, cable, or picket style fencing.

4.1.8 Wetland Creation

The project includes onsite wetland establishment within the highway right-of-way between Post Mile 3.45 and 3.58 (south of the intersection with Pacific Avenue) and between Post Mile 3.64 and 4.24 (areas adjacent to the proposed trail, Figure 2). Approximately 0.75 acres of wetland establishment is anticipated. Groundwater data will be obtained and used to inform wetland design grading depths to ensure wetland hydrology criteria are met. The criteria for meeting wetland hydrology as defined by the U.S. Army Corps of Engineers (USACE) is flooding or ponding, or a water table within 12 inches of the soil surface for 14 or more consecutive days (USACE 2010). Wetlands will be established by excavating to a target elevation. Anticipated established wetland types include palustrine emergent, palustrine scrub-shrub, and one-parameter coastal willow wetlands. Palustrine emergent wetlands would be established closest to the existing highway and proposed trail. Palustrine scrub-shrub and coastal willow wetlands would be setback at least 15 feet from the highway and trail shoulders in order to reduce the potential for vegetation encroaching on the facilities, and thus reducing the need for regular vegetation maintenance.





Figure 2 - Location of Wetland Creation Areas



4.2 Project Construction

4.2.1 Construction Schedule

Construction is anticipated to occur between April and October, with the exception of vegetation clearing, which may occur during the non-bird nesting season, between August 16th and March 14th. Work near wetlands would only occur during the dry season between May and October. Construction staging areas would be identified during the design phase of work and is expected to occur within paved or graveled areas or designated, previously disturbed areas. Spoils or construction materials may be permitted to be stored on site within previously designated staging areas only. Anticipated daytime work hours are 7:00 a.m. to 7:00 p.m., Monday through Friday with occasional work on Saturdays. Construction on Sunday or legal and county holidays is not currently anticipated except for emergencies or with prior approval from the County of Humboldt.

4.2.2 Construction Staging, Activities and Equipment

Construction staging areas would be identified during the design phase of work and are expected to occur within the project footprint, or within paved, graveled or designated, previously disturbed areas.

Construction would primarily include removal of trees and vegetation, excavation and grading, trail paving, and signage, along the project alignment. All construction activities would be accompanied by both temporary and permanent erosion and sediment control best management practices (BMPs).

Trail construction would include the following activities:

- Clearing and Grubbing To clear trees, vegetation and topsoil from the proposed trail footprint
- Excavation Primarily at shallow excavations to maintain trail grades
- Embankment Fill to maintain trail grades through low areas
- Aggregate Base For trail shoulders and to support asphalt and concrete paving
- Retaining Walls To limit encroachment into drainage ditches
- Concrete curbs, gutters, sidewalks and curb ramps
- Asphaltic Concrete Paving For trail surface
- Bollards and Railings
- Trail striping and signage.

Equipment required for trail construction would include: tracked excavators, backhoes, graders, bulldozers, dump trucks, rollers, paving machines, drill rig, water trucks, and pick-up trucks.

It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for construction.

4.2.3 Construction Access and Hauling Traffic

The anticipated haul truck routes to the project area include SR 255 from the north and south from US 101. The number of construction-related vehicles traveling to and from project area would vary on a daily basis. It is anticipated that up to 30 haul truck round trips would occur on a peak day. In addition, it is anticipated that construction crew trips would require up to eight round trips per day.



Therefore, for the purposes of analysis, on any one day during construction, up to 38 vehicle round trips could occur.

4.2.4 Traffic Control

In accordance with jurisdictional requirements, the construction contractor would be required to obtain an encroachment permit from the County of Humboldt, and Caltrans prior to beginning the work within their respective right-of-ways. As part of the encroachment permit process, the construction contractor would be required to prepare a traffic control plan for review and acceptance of planned work within the public right-of-way. The development and implementation of a traffic control plan would include, but not necessarily be limited to: temporary traffic control systems, delineators, signs, and flaggers conforming to the current California Manual of Uniform Traffic Control Devices.

4.2.5 Groundwater Dewatering

If needed, temporary groundwater dewatering would be conducted to provide a dry work area. Dewatering would involve pumping water out of a trench or excavation. Groundwater would typically be pumped to Baker tanks (or other similar type of settling tank) or into a dewatering bag. Following the settling process provided by a tank or filter, the water would be used for dust control and compaction. Discharge water from Baker tanks would not be discharged into wetlands or any water bodies.

4.2.6 Site Restoration and Demobilization

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas along the project alignment would be restored to preconstruction conditions or stabilized with a combination of grass seed (broadcast or hydroseed), straw mulch, rolled erosion control fabric, rock, and other plantings/vegetation.

4.3 Maintenance and Operation

The trail would be used for non-motorized transportation and recreation, including but not limited to walking, bicycling, running, skateboarding, roller skating, dog-walking and nature study.

Following construction, general trail operation and maintenance activities associated with the proposed trail would include annual inspections, trash/debris removal, vegetation management, repaving, and painting. In the event of storm damage, more significant repairs to the trail facilities may be needed on occasion.

5. References

USACE, 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). U.S. Army Corps of Engineers.



Manila Highway 255 Shared Use Path

Permit Number _____ Habitat Mitigation and Monitoring Plan October 2019



County of Humboldt



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Distribution List

U.S. Army Corps of Engineers North Coast Regional Water Quality Control Board Humboldt County Building and Planning Department



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1. Introduction

1.1 Project Summary

This Habitat Mitigation and Monitoring Plan (HMMP) has been prepared for the Manila Highway 255 Shared Use Path Project for the U.S. Army Corps of Engineers (USACE), the North Coast Regional Water Quality Control Board, (NCRWQCB), and Humboldt County Building and Planning Department (HCPD). This HMMP is patterned on Regulatory Program Regulation (33 CFR) guidance published by the USACE (2015) and expanded to include information identified in "procedural guidance for evaluating wetland mitigation projects in California's coastal zone" (CCC 2012).

1.2 Contacts

Questions regarding the Manila Highway 255 Shared Use Path Project Habitat Mitigation and Monitoring Plan should be directed to:

Josh Wolf GHD, Inc. 718 Third Street, Eureka, CA 95501 Tel: 707-443-8326 | Fax: 707-444-8330

General administrative questions regarding the Manila Highway 255 Shared Use Path Project should be directed to:

Hank Seemann Deputy Director - Environmental Services Humboldt County Public Works Department 1106 Second Street Eureka, CA 95501 707-445-7741

Jen Buck Project Manager California Department of Transportation, District 1 1656 Union Street Eureka, CA 95501 707-441-5877

2. Manila Highway 255 Trail Description

2.1 **Project Location**

The project is in unincorporated Humboldt County along State Route (SR) 255 (a western alternate to U.S. Highway 101 [US 101]), between the intersection with Dean Street/Pacific Avenue (Post Mile



3.64) and terminating just north of the Carlson Avenue intersection (Post Mile 4.24) in the community of Manila, California (Figure 1, Appendix A). The project is in Section 34 of Township 6 North and Section 3 of Township 5 North, Range 1 West of the Eureka U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. The northern and southern boundaries of the project are located at latitude 40°51'17.76" N and longitude 124°9'44.85" W and latitude 40°50'51.90" N and longitude 124° 9'58.56" W, respectively. The elevation within the project area ranges from approximately 15 to 25 feet above mean sea level (NAVD88). The project can be accessed from Eureka by taking the SR 255 exit from US 101, crossing the Samoa Bridge, and heading north along SR 255 for approximately 1.6 miles. From Arcata, the project can be accessed by taking the SR 255 exit from US 101 and heading west towards Manila for 4.6 miles.

2.2 **Responsible Parties**

The County of Humboldt and the California Department of Transportation (Caltrans) have executed a Cooperative Agreement (effective May 1, 2018) for delivering the project. The County of Humboldt is responsible for designing and constructing the trail project, obtaining permits, and implementing the mitigation portion of the HMMP. Caltrans will be the owner and operator of the Manila Highway 255 Bike Path following construction and will be responsible for the monitoring portion of the HMMP.

2.3 **Project and Regulatory Background**

The shared use path project is part of a larger effort to improve safety for non-motorized and motorized travelers in Manila, and increase the use of active modes of transportation. The project has been determined to be Categorically Exempt under the California Environmental Quality Act (CEQA) Section 15301(c) Existing Facility, filed January 10, 2019. The project also qualifies for a Categorical Exclusion under the National Environmental Policy Act (NEPA) under 23 CFR 771.117(c)(3). This determination was made on January 16, 2019. The project requires the permits listed in Table 1.

Permit	Agency	Status	Expected Approval Date
CWA Section 404	USACE	In preparation	1/15/2020
CWA Section 401	NCRWQCB	In preparation	1/15/2020
Coastal Development Permit	HCPD	In preparation	1/15/2020

Table 1 Summary of Required Permits

2.4 Manila SR 255 Shared Use Path Project Description

The shared use path project (Appendix B) is intended to provide non-motorized (primarily bike and pedestrian) transportation and recreational access in Manila via a Class I multi-use trail. SR 255 has no developed facilities for bicycles or pedestrians and the drainage ditches on both sides of the highway force non-motorized users to travel on the highway shoulder. The shared use path project would link critical activity centers within the community, including schools and residential areas.



The shared use path project would provide a Class I bike path (trail) along the west side of SR 255 beginning near the Dean Street/Pacific Avenue intersection (Post Mile 3.64) and terminating approximately 250 feet north of the Carlson Avenue intersection (Post Mile 4.24). The trail would provide a non-motorized alternative to SR 255, link neighborhoods and enhance access for users. The trail would be designed as a paved, 10-foot-wide path with two, two-foot wide shoulders, situated at least five feet from the edge of a standard eight-foot wide shoulder along SR 255. The trail alignment would maximize separation from vehicular traffic to provide for the best user experience, and to accommodate highway operations and maintenance activities. Trail crosswalks would be provided at the Lupin Avenue and Carson Avenue trail-road crossings.

The shared use path project includes intersection and pedestrian safety improvements along Pacific Avenue, including sidewalk, curb ramps and crosswalks. The shared use path project may include streetlight installation at the southern trail terminus at Dean Street/Pacific Avenue intersection to enhance visibility at night. The facility would conform to the Class I bike path standard at Chapter 1000 of the Highway Design Manual.

2.5 **Proposed Mitigation Project Description**

The project proposes approximately 0.80 acres of onsite wetland establishment within the highway right-of-way between Post Mile 3.45 and 3.58 (south of the intersection with Pacific Avenue) and between Post Mile 3.64 and 4.24 (areas adjacent to the proposed trail) at current upland locations. Anticipated established wetland types include palustrine emergent, palustrine scrub-shrub, and one-parameter coastal willow wetlands. See Section 3.3 for impacts.

3. **Objectives and Mitigation Credits**

The objective of this plan is to create wetlands to replace those affected through project implementation at a ratio no less than 1:1. The shared use path's prism crosses through ruderal grasses, palustrine emergent, palustrine scrub shrub, and one-parameter coastal willow wetlands. Mitigation requirements of the indicated habitats vary according to regulations that govern each agency's review process. Both USACE jurisdictional wetlands and one parameter Coastal Act willow wetlands will be impacted and created (Table 2).

USACE Jurisdictional Wetlands

- Palustrine Scrub Shrub Wetland (PSS)
- Palustrine Emergent Wetland (PEM1C)

One Parameter Coastal Act Willow Wetlands

• One Parameter Salix hookeriana Shrubland Alliance



Current Use/ Existing Habitat	Proposed Mitigation Habitat	Proposed Action	Location
Upland/Ruderal Habitat	Palustrine Emergent Wetland	Grade to activate groundwater-based wetland processes; replant with palustrine emergent wetland species	SR-255 Right of way between Post Miles 3.45 and 3.58; and Post Miles 3.64 to 4.24
Upland/Ruderal Habitat	Palustrine Scrub Shrub Habitat	Grade to activate groundwater-based scrub shrub hydrologic processes; replant with palustrine scrub shrub wetland species	SR-255 Right of way between Post Miles 3.45 and 3.58; and Post Miles 3.64 to 4.24
Upland/Ruderal Habitat	<i>Salix hookeriana</i> One Parameter Wetland	Grade as needed to support <i>S.</i> <i>hookeriana</i> shrubland plantings; replant	SR-255 Right of way between Post Miles 3.45 and 3.58; and Post Miles 3.64 to 4.24

Table 2 Summary of Aquatic Resources to be Provided

3.1 Methods of Compensation

The mitigation project proposes to establish wetlands within the state highway right of way. Groundwater data will be obtained and used to inform wetland design grading depths to ensure wetland hydrology criteria are met. The criteria for meeting wetland hydrology as defined by the U.S. Army Corps of Engineers (USACE) is flooding or ponding, or a water table within 12 inches of the soil surface for 14 or more consecutive days (USACE 2010). Wetlands will be established by excavating to a target elevation. Anticipated established wetland types include palustrine emergent, palustrine scrub-shrub, and one-parameter coastal willow wetlands.

3.2 Resource Types

3.2.1 Aquatic Resources

- Palustrine Scrub Shrub (PSS)
- Palustrine Emergent Wetland (PEM1C)

3.2.2 Non-aquatic Resources

One Parameter Coastal Act Willow Wetlands

• One Parameter Salix hookeriana Shrubland Alliance



3.3 Mitigation Ratio and Credits

Current grading calculations anticipate approximately 34,689 square feet or (0.79 acres) of impacts to wetlands will occur. Impacts to the following types of wetlands are anticipated: palustrine emergent, palustrine scrub-shrub, and one-parameter coastal willow wetlands. Impacts to 391 square feet of water (consisting of man-made ditch) are also anticipated. Areas of impact for each wetland category are shown in Table 3.

Wetland Types	Impact (sf)	Impact (Acres)
Palustrine Emergent	4,420	0.10
Palustrine Scrub-Shrub	27,236	0.63
One-Parameter Coastal Willow Wetlands	2,642	0.06
Waters	391	0.009
Total	34,689	0.79

Table 3 Wetland Impacts

The mitigation is onsite with the proposed impact project, and adjacent to the same wetland types being established. The mitigation will eventually grow into and merge with these existing patches, resulting in a more robust and resilient wetland area. The proposed hydrologic design results in a consistent and relatively simple management of natural processes, leading to a high likelihood of success.

As a result of these considerations, wetlands will be established at a ratio of 1:1. Palustrine emergent wetlands and one-parameter coastal willow wetlands will be established on site and in-kind. Palustrine scrub-shrub wetlands will be established on-site, and in-kind, but not at the same square footage as impacted. Palustrine scrub-shrub wetlands will not be established within 15 feet of the existing highway shoulder or within 15 feet of the proposed trail in order to reduce the potential for vegetation encroaching on the facilities, and thus reducing the need for regular vegetation maintenance. Due to these constraints, some of the impacted palustrine scrub-shrub wetlands will be mitigated for with establishment of palustrine emergent wetland. The area to establish for each wetland type is shown in Table 4. For impacts to "waters" an additional 391 square feet (0.009 acres) of palustrine emergent wetland will be established, and this amount has been added to the palustrine emergent category in Table 4.



Table 4 Preliminary Anticipated Established Wetlands

Wetland Types	Mitigation (SF)	Mitigation (Acres)
Palustrine Emergent	5,765	0.13
Palustrine Scrub-Shrub	26,282	0.60
One-Parameter Coastal Willow Wetlands	2,642	0.06
Total	34,689	0.79

3.4 Impact Site Baseline and Activity

The impact site is a mix of ruderal grassland, palustrine scrub-shrub, palustrine emergent, oneparameter coastal willow wetlands, and open water. The soil and habitat are described in detail in Section 4.3. The project area includes significant amounts of invasive species, including *Ammophila arenaria* (European beach grass). The dominant species throughout this habitat, sweet vernal grass (*Anthoxanthum odoratum*), is a nonnative grass from Eurasia with a moderate weed rating by California Invasive Plant Council (Cal-IPC).

The project will regrade the site, including filling localized areas of wetlands and removing existing vegetation, including invasive species. Aggregate base will be placed in the prism, and an asphalt path paved for the trail. Where necessary for drainage, culverts or short-span bridges will maintain connectivity of wetland channels and ditches.

3.5 Mitigation Site Baseline and Proposed Post-construction Condition

The mitigation sites are comprised of upland areas immediately adjacent to the proposed trail location (between Post Mile 3.45 to 4.24), within the Caltrans right of way for SR-255 and an area within the right of way to the south of Pacific Avenue, between Pebble Lane and SR-255 (between Post Mile 3.45 and 3.58). The soil and habitat are characterized in detail in Section 4.3.

Between Post Miles 3.45 and 3.58, the post construction condition will be a naturalistic palustrine wetland with topography mimicking adjacent deflation planes and undulating topography that supports the palustrine emergent, palustrine scrub-shrub, and one parameter coastal willow wetlands through variations in grading.

Between Post Miles 3.64 and 4.24, the post construction condition will be comprised of palustrine emergent wetlands running alongside the trail, with palustrine scrub-shrub and *Salix hookeriana* one-parameter wetlands further away from the trail to minimize conflicts with the trail maintenance. Native wetland vegetation planted in created wetlands will improve upon the poor quality invasive vegetation prevalent in highway adjacent areas, enhancing overall wetland quality within the project area. See



Section 6.3 (Wetland Planting Plan) for a complete list of native wetland species to be included in revegetation.

4. Site Selection Criteria

4.1 Watershed Overview

The Project site is situated within a highly developed backdune segment of the North Spit of Humboldt Bay, with Humboldt Bay to the east and the Pacific Ocean to the west. The site is relatively flat, with highly pervious soil. The site receives direct runoff generated by Highway 255, and additional runoff from adjacent residential areas. Drainage ditches and culverts connect the site hydrologically to Humboldt Bay. The Pliocene Hookton Formation, a water-bearing formation of the Eureka Plain Groundwater Basin, underlies the project site. The Project site is within the Eureka Plain Hydrologic Unit and the Eureka Plain Groundwater Basin.

4.2 Landscape Setting and Position

As noted elsewhere, the Project site is within the Caltrans SR 255 right of way. The Project site is situated within an undeveloped area of gently undulating terrain including deflation plains, ruderal grassland and mix of wetland habitats that receives drainage from the highway. This undeveloped area acts as a buffer between the road and the low density residential community of Manila. Caltrans manages the vegetation within the highway right of way to maintain road operations. Management practices include standard road maintenance including mowing and thinning of vegetation within approximately 15-20 feet of the road. Historical photographs and the NWI Wetlands Mapper suggest that the site was once part of a large wetland complex (Stillwater Sciences 2018).

4.3 Site-specific Information

A Biological Study Area (BSA) was established to evaluate existing site conditions, including reference habitats, impact areas, and potential suitable mitigation sites and was summarized in a Natural Environment Study (NES) Manila Highway 255 Shared Use Path Project Community of Manila, Humboldt County, California, 01-HUM-CA-255-3.64-4.14 RPSTPL 5904(143), January 2019 by Stillwater Sciences for Humboldt County and Caltrans (Stillwater Sciences 2019). The following descriptions of soil, hydrology and vegetation include detailed direct quotations from the NES.

4.3.1 Soil

Soil in the Project site is thus characterized in detail in the NES:

Soil mapped units in the BSA included Urban land-Anthraltic Xerorthents association, 0 to 2 percent slopes and Samoa-Clambeach complex, 0 to 50 percent slopes (U.S. Department of Agriculture Natural Resources Conservation Science [NRCS] 2018 cited in Stillwater Sciences 2019). Urban land-Anthraltic Xerorthents association (0 to 2% slopes) is comprised of 80% urban land, industrial and 20% anthralitic xerorthents and similar soils. This



association is found from 0 to 3 m (0 to 10 ft) above mean sea level with a mean annual precipitation of 104–109 cm (41–43 in), a mean annual air temperature of 50–55°F, and a frost-free period of 275–330 days (NRCS 2018 cited in Stillwater Sciences 2019). Anthraltic Xerorthents is located on backslopes of fluviomarine terraces with a parent material of coarse-loamy fluviomarine deposit or coarse-loamy dredge spoils. A typical profile consists of gravelly loamy fine sand within the upper 0–15 cm (0–6 in) with sandy loam, gravelly sand, and sand forming the horizons below. It has a drainage class of moderately well drained (NRCS 2018 cited in Stillwater Sciences 2019).

Samoa-Clambeach complex (0 to 50% slopes) is typically comprised of 65% Samoa series, 30% Clambeach series, and 5% minor components. The complex is found in areas with elevations that range from 0 to 21 m (0 to 70 ft) above mean sea level and with a mean annual precipitation of 89–203 cm (35–80 in), a mean annual air temperature of 50–55°F, and a frost-free period of 275–330 days (NRCS 2018 cited in Stillwater Sciences 2019). The Samoa series is primarily located along the shoulder, backslope, and summit of dunes. A typical profile consists of slightly decomposed plant material in the upper 0-3 cm (0-1 in) (Oi horizon) with sand forming all other horizons below. It has a drainage class of somewhat excessively drained. Samoa soils have a udic moisture regime which may develop redoximorphic features from brief and localized saturated conditions around root channels during the winter months, rather than from the presence of free water throughout the soil profile (NRCS 2016 cited in Stillwater Sciences 2019). The Clambeach series is associated with deflation basins along toeslopes and is very poorly drained. Clambeach soils have an aquic moisture regime with endosaturation typically characterized by a water table depth ranging from 0 to 10 cm (0 to 4 in) in January–March up to greater than 183 cm (72 in) in June–November and depth to redoximorphic features of 0 to 10 cm (0 to 4 in) (NRCS 2016 cited in Stillwater Sciences 2019). This series has a soil profile comprised entirely of sand in all horizons and is listed as a hydric soil in the region (NRCS 2018 cited in Stillwater Sciences 2019).

4.3.2 Habitat

Invasive plant species are prevalent within the project area, limiting existing wetland function. A complete list of observed invasive species documented in the NES can be found in Section 9.4. In addition, plant communities were described in detail in the NES and descriptions of these communities follows. Plant communities were described using the Manual of California Vegetation (Sawyer et al. 2009), and community names are used that are consistent with the Manual.

Nonnative perennial grassland/ruderal herbaceous

This habitat is a mix of nonnative perennial grasses with various forb species and most closely resembles *Anthoxanthum odoratum* (sweet vernal grass) Semi-Natural Alliance (sweet vernal grass meadows) and a dense, fairly monotypic stand of European beach grass Semi-Natural Alliance (European beach grass swards). These vegetation types cover most of the upland habitat in the ROW, immediately bordering the highway and all potential



jurisdictional waters and wetlands in the BSA ... Disturbance levels varied and included human disturbance (e.g., trails, litter/debris), widespread nonnative plant establishment, and routine clearance and maintenance activities within the County and State ROW.

The dominant species throughout this habitat, sweet vernal grass, is a nonnative grass from Eurasia with a moderate weed rating by California Invasive Plant Council (Cal-IPC). Additional grasses with low cover in this habitat include *Briza maxima* (large guaking grass), Avena barbata (slender wild oat), Bromus diandrus (ripgut grass), Bromus carinatus (California brome), Festuca bromoides (brome fescue), and Holcus lanatus (common velvet grass). Numerous forb species include natives such as Juncus patens (spreading rush), Juncus breweri (salt rush), Lupinus bicolor (miniature lupine), Epilobium ciliatum (fringed willowherb), Eschscholzia californica (California poppy), Symphyotrichum chilense (Pacific aster), Cardionema ramosissimum (sandcarpet), and Solidago spathulata (coast goldenrod); as well as nonnatives including Oenothera glazioviana (redsepal evening primrose), Hypochaeris radicata (rough cat's-ear), Leontodon saxatilis (hairy hawkbit), Trifolium repens (white clover), Plantago lanceolata (English plantain), Geranium dissectum (cutleaf geranium), Rumex crispus (curly dock), Cichorium intybus (chicory), Rumex acetosella (sheep sorrel), Daucus carota (Queen Anne's lace), Cerastium fontanum subsp. vulgare (common mouse-ear chickweed), Raphanus sativus (cultivated radish), Armeria maritima subsp. californica (thrift seapink) (sic), and Lotus corniculatus (bird's-foot trefoil). Many of these nonnative forb species are rated by Cal-IPC ... Sprouts and seedlings of Salix hookeriana (coastal willow) were observed where this grassland habitat bordered willow scrub. Sporadic patches of nonnative plant species were identified throughout this habitat and included Lupinus arboreus (yellow bush lupine), Carpobrotus edulis (freeway iceplant), and Vinca major (greater periwinkle). In one stand, four small Pinus contorta subsp. contorta (shore pine) individuals were documented.

The southernmost extent of the 2018 BSA includes a dense stand of European beach grass... Throughout this semi-natural alliance sparse cover by emergent shrubs including *Baccharis pilularis* (coyote brush), yellow bush lupine (*Lupinus arboreus*), and *Morella californica* (wax myrtle) was observed. Low cover of sweet vernal grass, large quaking grass, sheep sorrel, cultivated radish, and *Rubus ursinus* (California blackberry) was documented throughout the stand.

Coastal Scrub

Small isolated patches of coastal scrub habitat are located in the BSA ... Vegetation is best characterized by the *Rubus ursinus* Shrubland Alliance (coastal brambles); a sensitive natural community with a state rank of S3 on the California Department of Fish and Wildlife (CDFW) *California Sensitive Natural Communities List* (CDFW 2018). California blackberry is a native vine in the Rosaceae family. Coastal brambles commonly occur along coastal bluffs, headlands, exposed slopes, and gaps in forest stands (CNPS 2018b). Several mapped locations of coastal brambles in the BSA were highly disturbed and were not considered high-quality occurrences due to the presence of nonnative and Cal-IPC rated



plant species (e.g., *Hedera helix* [English ivy], greater periwinkle, *Lonicera japonica* [Japanese honeysuckle], *Acacia dealbata* [silver wattle], and *Convolvulus arvensis* [bindweed]), codominant cover by nonnative sweet vernal grass, as well as road debris and litter.

Willow Scrub

Willow scrub occurs within old deflation plains throughout the BSA that are no longer connected to an active dune complex since the historic development of the community of Manila and CA-255 ... The *Salix hookeriana* Shrubland Alliance (coastal dune willow thickets) best characterize this vegetation (CNPS 2018b). Coastal willow is a California native shrub to small tree in the Salicaceae family. This hydrophytic plant colonizes disturbed areas near the ocean with standing water that seasonally floods and the alliance is the most common willow scrub found along the northwestern coastal belt of California (CNPS 2018b cited in Stillwater Sciences 2019). Coastal dune willow thickets are a sensitive natural community with a state rank of S3 (CDFW 2018). All mapped locations are entirely within the potential jurisdictional waters and wetlands.

Additional species associated with willow scrub in the BSA include *Salix lasiandra* var. *Iasiandra* (Pacific willow), *Salix sitchensis* (Sitka willow), *Lonicera involucrata* (twinberry), California blackberry, *Rubus spectabilis* (salmon berry), *Rubus armeniacus* (Himalayan blackberry), *Scirpus microcarpus* (small-fruited bulrush), *Equisetum arvense* (field horsetail), *Polystichum munitum* (western sword fern), *Juncus lescurii* (San Francisco rush), and *Carex obnupta* (slough sedge). In addition, some shore pine individuals were interspersed within this alliance.

Dune Swales

Vegetation within dune swales of the 2017 BSA is best characterized by the *Carex obnupta* Herbaceous Alliance (slough sedge swards) and *Juncus breweri* Herbaceous Alliance (salt rush swales) (CNPS 2018b cited in Stillwater Sciences 2019). Throughout the 2017 BSA this vegetation is located adjacent to willow scrub and is associated with old deflation plains. This habitat was not observed in the 2018 BSA. Both alliances are sensitive natural communities respectively (CDFW 2018), located within the potential jurisdictional waters and wetland boundaries. Slough sedge is a native perennial rhizomatous herb in the Cyperaceae family. It occurs in seasonally flooded swales in old deflation plains and sand dune complexes, shallowly inundated woods, meadows, roadside ditches, coastal swamps, lakeshores, marshes, and riverbanks with mucky soils with high organic content (CNPS 2018b cited in Stillwater Sciences 2019). Salt rush is a native perennial rhizomatous herb in the Juncaceae family that grows in dune swales and develops on transitional or seasonally wet depressions. Additional plant species identified in this habitat included sweet vernal grass, California brome, and California blackberry.



Dune Mat

Abronia latifolia - Ambrosia chamissonis Herbaceous Alliance (dune mat) was observed from a single isolated occurrence in the 2018 BSA... It is associated with coastal dunes, coastal strand, and coastal scrub habitat (CNPS 2018b cited in Stillwater Sciences 2019). Although neither *Abronia latifolia* (yellow sand-verbena) or *Ambrosia chamissonis* (beach bur-sage) were observed at this mapped location, alliance memberships rules only require non-woody dune plants are characteristically present (CNPS 2018b cited in Stillwater Sciences 2019). This alliance included a mixture of native dune vegetation with high cover by nonnatives including *Amaryllis belladonna* (naked ladies), sweet vernal grass, large quaking grass, sheep sorrel, and yellow bush lupine. Native plant species, each with 5–15% cover, included: *Arctostaphylos uva-ursi* (kinnikinnick), *Eriogonum latifolium* (seaside wild buckwheat), coast goldenrod, sandcarpet, and *Poa douglasii* (sand dune blue grass). Although listed with a state rank of S3 (CDFW 2018), this mapped location was characterized as low quality habitat due to the high disturbance level and disconnect from an active dune complex. Furthermore, the plant composition did not conform with any of the sensitive associations included under this alliance (CDFW 2018).

Developed and Landscaped

Developed and landscaped vegetation throughout the BSA included individual or small groups of nonnative trees (e.g., silver wattle, *Eucalyptus* sp.), residential managed areas, and dense stands of escaped ornamentals including *Iris pseudacorus* (pale yellow iris), *Escallonia rubra* (red claws), naked ladies, and bindweed ...

Pinus radiata (Monterey pine), a nonnative to Humboldt County's coast, and a few individuals of native *Pinus muricata* (bishop pine), were included in this habitat type. These species were identified along the western border of the 2017 BSA, some rooted within the adjacent private parcels... Most of the plant species within this habitat type are rated by Cal-IPC.

Freshwater Marsh

Freshwater marsh vegetation occurs within several drainage ditches in the 2017 BSA ... At these locations *Oenanthe sarmentosa* (water parsley) and small-fruited bulrush are dominant in the herbaceous layer along with the less prevalent herbaceous species such as *Juncus* spp. (various rushes), *Cardamine oligosperma* (western bittercress), *Potentilla anserina* subsp. *pacifica* (Pacific silverweed), and *Ranunculus repens* (creeping buttercup). The *Oenanthe sarmentosa* Herbaceous Alliance (water parsley marsh) and *Scirpus microcarpus* Herbaceous Alliance (small-fruited bulrush marsh) (CNPS 2018b cited in Stillwater Sciences 2019) best define this vegetation. Water parsley is a branched, sprawling perennial native herb in the Apiaceae family. It occurs in wet, mucky soil or shallow, brackish or freshwater marshes (CNPS 2017 cited in Stillwater Sciences 2019). Small-fruited bulrush is a perennial native rhizomatous herb in the Cyperaceae family. It is found in seasonally flooded marshes, stream sides, and roadside ditches with soils that are poorly aerated and



have a high organic content (CNPS 2018b). Both alliances are sensitive natural communities (CDFW 2018). These alliances are entirely within the potential jurisdictional waters and wetland boundaries in the 2017 BSA. This habitat was not observed in the 2018 BSA.

Aquatic Resources

There are no waters within the BSA that contain fish habitat or could support fish. However, there is potential for common and special-status amphibians to occupy wet habitats in the BSA.

4.4 Mitigation Site Selection

Wetland creation areas selected for the project are comprised of upland ruderal areas at the southern extent of the project site within the state highway right-of-way (Figure 2, Appendix A). Wetland creation areas were selected for their proximity to the project site, to provide mitigation benefits in the immediate area of impact, enhance the project aesthetically, and facilitate management.

5. **Baseline Information**

The selected project site's baseline condition is characterized by a mix of native and non-native vegetation and was previously described in detail in Section 4.3.

5.1 Hydrology

The site receives surface runoff from SR-255, adjacent residential areas, and from precipitation that directly falls on the site. Wetland conditions develop in ditches and in some of the lower deflation planes in the topography. With municipal water provided to the low density Manila community, there are few if any known sources of groundwater pumping, ensuring that changes to groundwater are not anticipated beyond potential climate change-related impacts.

Precipitation

The Natural Resources Conservation Service (NRCS) has developed Climate Analysis for Wetlands Tables, also known as WETS Tables, to identify the normal range for monthly precipitation and growing season required to assess the climatic characteristics for a geographic area over a representative period. Table 5 presents the WETS data for the Manila area along with actual rainfall data from the Department of Water Resources for the monitoring period measured from Woodley Island weather station (EKA GHCND: USW00024213).



1 3	Monthl	y Precipitation (inches)	Cumulative Precipitation (inches)		
Month	30% Chance Less Than	Normal (Average)	30% Chance More Than	30% Chance Less Than	(Average)	30% Chance More Than
Oct	1.06	2.36	2.88	1.06	2.36	2.88
Nov	3.23	5.78	7.04	4.29	8.14	9.92
Dec	3.37	6.35	7.76	7.66	14.49	17.68
Jan	3.55	5.97	7.25	11.21	20.46	24.93
Feb	3.47	5.51	6.65	14.68	25.97	31.58
Mar	3.71	5.55	6.64	18.39	31.52	38.22
Apr	1.71	2.91	3.53	20.10	34.43	41.75
May	0.81	1.62	1.98	20.91	36.05	43.73
Jun	0.27	0.65	0.79	21.18	36.70	44.52
Jul	0.03	0.16	0.19	21.21	36.86	44.71
Aug	0.03	0.38	0.41	21.24	37.24	45.12
Sep	0.15	0.86	0.97	21.39	38.10	46.09
Total	21.39	38.10	46.09			

Table 5WETS Precipitation Data for Woodley Island weather station (EKA
GHCND: USW00024213)

Source: Actual precipitation based on data from Department of Water Resources for 2018-2019 water year.

Groundwater Monitoring

To evaluate the potential to create wetlands within the project area, field investigations were conducted in the winter of 2018 and included visual observations, test pits, soil characterization and installation of eight groundwater monitoring wells (piezometers) prior to reaching 50% annual rainfall. Water year (WY) 2018-2019 piezometer water elevations were measured over eight consecutive weeks.

Weekly measurements include the water elevation and ground surface elevation for each well¹. Groundwater elevations generally correlate to rainfall data, with groundwater elevations rising following precipitation events, and falling after and between events. Two measurements taken on February 26, 2019 at MW-1 and MW-2 were determined to likely be erroneous and therefore not utilized in the analysis. The average measured groundwater elevation for each monitoring well is show in Table 6.

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Well Location	Average Groundwater Elevation (feet) ^{1, 2}
MW-1	12.5
MW-2	13.7
MW-3	14.8
MW-4	15.9
MW-5	17.6
MW-6	15.9
MW-7	16.6
MW-8	17.8

Table 6 Average Measured Groundwater Elevations (GHD 2019)

1. Average Water Elevation is for the monitoring period of March 5, 2019 to April 4, 2019

2. All elevations measured from the NAVD 88 datum.

Hydrology and Climate Change

Locally, climate change may increase sea level by 3.2 to 5.3 feet by 2100 (ESA 2018). Using the maximum observed tide of 9.54 feet and a Mean Higher High Water of 6.51 feet, as a reference, a potential extreme high tide sea level of 14.84 feet, and a more frequently observed tide of 11.81 feet in 2100 may be expected. Saltwater intrusion into groundwater that would shift a subsurface diffuse zone of freshwater and saltwater mixing inland, effecting a change in groundwater quality and wetland vegetation.

These changes to groundwater could reach the root systems of plants in the proposed mitigation wetland, with a proposed design elevations ranging from 12.5 to 17.8 feet (NAVD88). It is expected that in such an instance, the conversion of the site to a brackish or saltwater marsh would occur over a number of years, with species naturally recruiting to the site from adjacent areas. These changes would be consistent with a shift experienced by the and other wetlands with a similar position relative to the coast on the North Spit as well.

These proposed wetlands are not hydraulically connected to the bay via surface streams or channels and therefore will not be affected by inland encroachment of surface sea water associated with sea level rise.

Determination of the wetland design elevation will be discussed in Section 6.1 below.

5.2 Soil Characteristics

The soil boring logs were installed throughout the BSA to identify optimum sites for mitigation (Figure 3, Appendix A). Test project site's soil was found to be consistent with Clambeach series soils description in Section 4.3.1 above, with generally fine sand throughout. The characterization of soils was completed based on the USDA Classification system. This classification technique is based on



inspecting representative samples and defining physical properties, such that all materials are broadly classified into sand, silts and clay using the USDA textural triangle.

The site soil characteristics by soil boring are summarized below:

- <u>Soil Boring MW-1</u>: This well was installed into fine sand from the surface to 8.0' bgs. No redoximorphic (redox) features or groundwater were observed down to the total depth of 8.0 bgs at the time of well installation.
- <u>Soil Boring MW-2</u>: This well was installed into fine sand from the surface to 8.0' bgs. No redoximorphic (redox) features or groundwater were observed down to the total depth of 8.0 bgs at the time of well installation,
- <u>Soil Boring MW-3</u>: This well was installed into fine sand from surface to 4.0' bgs. Dense vegetative matter existed at surface. No redoximorphic (redox) features were observed down to the total depth of 4' bgs at the time of well installation. Groundwater was observed at 4.0' bgs.
- <u>Soil Boring MW-4</u>: This well was installed into a mostly fine grained formation of sandy loam to sand interval from surface to 4.0' bgs. Redoximorphic (redox) features (10YR 5/8) were observed from surface to 0.5' bgs at the time of well installation. Groundwater was observed at 4.0' bgs.
- <u>Soil Boring MW-5</u>: This well was installed into fine sand from surface to 6.0' bgs. No redoximorphic (redox) features were observed down to the total depth of 6.0' bgs at the time of well installation. Groundwater was observed at 6.0' bgs.
- <u>Soil Boring MW-6</u>: This well was installed into fine sand from the surface to 6.0' bgs. No redoximorphic (redox) features were observed down to the total depth of 6.0' bgs at the time of well installation. Groundwater was observed at 6.0' bgs.
- <u>Soil Boring MW-7</u>: This well was installed into fine sand from the surface to 3.5' bgs. No redoximorphic (redox) features were observed down to the total depth of 3.5' bgs at the time of well installation. Groundwater was observed at 3.5' bgs.
- <u>Soil Boring MW-8</u>: This well was installed into fine sand from surface to 8.0' bgs. No redoximorphic (redox) features or groundwater were observed down to the total depth of 8' bgs at the time of well installation.

5.3 Other Baseline Information

5.3.1 Vegetation

The Nonnative perennial grassland/ruderal herbaceous and habitat described in Section 4.3.2 is the dominant vegetation type of the proposed mitigation site. Through wetland creation, these non-native and invasive species will be removed from uplands and replaced with appropriate native wetland species (See Section 6.3) during wetland creation to improve wetland quality and function within the project area.



6. Work Plan

Appendix B includes 60% plans for the shared use path and mitigation design. The following subsections describe critical design characteristics to achieve a successful project as well as additional measures to remove invasive species from existing wetlands. Additional information detailing groundwater, ground surface elevation, and precipitation data and analysis used to develop wetland creation design criteria can be found in Appendix C.

6.1 USACE Wetland Design Criteria

The US Army Corps of Engineers (USACE) defines the criteria for meeting wetland hydrology (USACE). The criteria requires "14 or more of consecutive days of flooding or ponding, or a water table at 12 in. (30 cm) or less below the soil surface during the growing season at a minimum frequency of 5 years in 10 (50 percent of higher probability) (National Research Council 1995) unless an alternative standard has been established for a particular region or wetland type."

The applied design criteria utilizes groundwater at the ground surface for 30 consecutive days, improving upon the USACE standard to increase the likelihood of wetland creation success. The period from March 5, 2019 to April 4, 2019 was selected as the design basis because it closely matched the Eureka, CA WETS² normal precipitation values (GHD 2019). The recommended wetland bottom elevations resulting from the analysis are presented in Table 7.

Well Location	Ground Surface Elevation (feet) ¹	Average Groundwater Elevation (feet) ²	Design Excavation Depth (feet)	Recommended Wetland Bottom Elevation (feet) ¹
MW-1	18.4	12.5	5.9	12.5
MW-2	17.1	13.7	3.4	13.7
MW-3	17.8	14.8	3.0	14.8
MW-4	18.0	15.9	2.1	15.9
MW-5	19.9	17.6	2.3	17.6
MW-6	16.9	15.9	1.0	15.9
MW-7	17.3	16.6	0.7	16.6
MW-8	19.6	17.8	1.8	17.8

Table 7 Design Excavation Depths and Elevations (GHD 2019)

1. All elevations in feet above MSL, NAVD88

2. Average Water Elevation is for the monitoring period of March 5, 2019 to April 4, 2019

² The WETS table allowed a comparison of observed cumulative rainfall values to normal cumulative rainfall values.



6.2 One-Parameter Coastal Wetland Design Criteria

One-parameter wetlands in the California Coastal Zone are those that meet one of the three indicators of wetlands: hydrophytic vegetation, hydric soils, and wetland hydrology (1976 California Coastal Act, Public Resources Code Section 30000 *et seq.*, Stillwater Sciences 2018).

In order to ensure successful design and implementation of created one-parameter wetlands, design surface elevations will be within two feet of the observed average groundwater elevations for each location, as noted in Table 7. This will provide a hydrologic connection to existing groundwater to promote hydric soils and the growth of wetland plants. In addition, native willows (*Salix hookeriana*) will be planted in one-parameter wetland creation areas. The wetland creation area will ultimately be calculated as the top extent of the excavation boundary for each created wetland, which is assumed to represent the willow drip line at the end of the five year monitoring period.

6.3 Wetland Planting Plan

The excavated areas will be planted with the following species found in Table 8 - Table 10 using a combination of container stock, and cuttings (for willow species). The edges of the two, three-parameter wetlands being established (the palustrine emergent wetland and the scrub-shrub wetlands) will be hydroseeded with the species shown in Table 11. The proposed planting list for each type of wetland was based on the dominant species composition present in adjacent wetland habitats as described in the wetland delineation report (Stillwater Sciences 2018) and supporting the goal of in-kind establishment where possible. The suggested planting lists follow along with the Wetland Indicator Status as defined by the USACE (Lichvar *et al.* 2016).

Scientific Name	Common Name	USACE Wetland Indicator Status
Scirpus microcarpus	small-fruit bulrush	Obligate Wetland Plant
Carex obnupta	slough sedge	Obligate Wetland Plant
Oenanthe sarmentosa	Pacific oenanthe	Obligate Wetland Plant
Potentilla anserina subsp. pacifica	Pacific silverweed	Obligate Wetland Plant
Juncus breweri	salt rush	Facultative Wetland Plant

Table 8 Planting List Palustrine Emergent Wetlands

Table 9 Planting List Palustrine Scrub-Shrub Wetlands

Scientific Name	Common Name	USACE Wetland Indicator Status
Salix hookeriana	coastal willow	Facultative Wetland Plant
Salix lasiandra	Pacific willow	Facultative Wetland Plant
Morella californica	California wax myrtle	Facultative Wetland Plant
Carex obnupta	slough sedge	Obligate Wetland Plant
Oenanthe sarmentosa	Pacific oenanthe	Obligate Wetland Plant

Table 10 Planting List One Parameter Coastal Willow Wetlands

Scientific Name	Common Name	USACE Wetland Indicator Status
Morella californica	California wax myrtle	Facultative Wetland Plant
Rubus ursinus	California blackberry	Facultative Plant
Salix hookeriana	coastal willow	Facultative Wetland Plant

Table 11 Wetland Edge Seed Mix

Scientific Name	Common Name	Wetland Plant Type	Lbs/acre
Symphyotrichum chilense	Pacific American-aster	Facultative Plant	10
Juncus effusus ssp. pacificus	Pacific rush	Facultative Wetland Plant	15
Scirpus microcarpus	bulrush	Obligate Wetland Plant	10
Festuca rubra	red fescue	Facultative Plant	15
Carex obnupta	slough sedge	Obligate Wetland Plant	10

6.3.1 Hydroseeding

Hydroseeding may be used in conjunction with broadcast seeding along the edges of the mitigation sites. Hydromulch should be applied in a single application at a rate of 3,000 lbs/acre after broadcasting of seed mixes. A tackifier will then be applied at a rate of 150 lbs/acre. The mulch shall consist of natural sterile fiber, be free of synthetic materials (i.e. plastic), and contain no more than seven percent ash or 250 parts per million of boron. Hydroseeding shall be done in October-November at the beginning of the rainy season for optimal seed germination.



6.4 Invasive Species Removal

Where feasible, invasive species will be removed from the project area, provided they are located in areas outside of those identified for wetland creation. Invasive species removal will include:

 Removal of non-native Himalayan blackberries in limited locations where growing adjacent to the proposed shared use path or existing wetland areas that will remain undisturbed during construction. The total treatment area is expected to be less than 0.1 acres and primarily located between the roadside margin and proposed trail alignment or approximate to the western edge of the proposed trail alignment.

7. Site Protection Instrument

The property is a right of way under the ownership of Caltrans, a state agency. For government property, long-term protection may be provided through facility management plans, integrated natural resources management plans, or similar plans in accordance with 33.C.F.R.332.7(a)(1) (USACE 2015). Long-term management of the project area is covered by Caltrans' Maintenance Manual (July 2014), which includes provisions for taking into consideration the presence of environmentally sensitive resources. Caltrans intends to take all reasonable measures to avoid grading or other activities that would reduce the area of created wetlands identified in this HMMP. The locations of the created wetlands within the highway right of way were selected to minimize the likelihood of future impacts. However, in the event that permanent impacts to a portion of the created wetlands are unavoidable in the future, Caltrans commits to providing additional mitigation for an area equivalent to the impacted area.

8. Maintenance Plan

8.1 Maintenance and Drainage

To reduce the likelihood of willow encroachment onto the highway or trail, palustrine scrub-shrub wetland will not be established within 15 feet of the shoulder of the highway, or within 15 feet of the trail. Where wetlands will be created within these locations, palustrine emergent wetlands will be established closest to the road or trail and palustrine scrub-shrub wetland will be established farther away from the road or trail. This design approach substantially decreases maintenance requirements and hazards from encroaching willows. The proposed cross sections for wetland establishment are shown in Appendix B. All cut slopes will be established at 3:1 (horz:vert) and will be covered with a biodegradable erosion control fabric, such as jute mat, to limit the potential for surface erosion.

The establishment of on-site wetlands are not anticipated to result in significant changes to Caltrans current maintenance practices. The wetlands will be self-sustaining and no watering or maintenance activities such as mowing or pruning would be needed to maintain the wetlands. The planting lists do not include any particularly aggressive species, and were chosen based on the predominant



vegetation in the adjacent wetlands (Stillwater Sciences 2018). With the exception of the two willow species, no tree species are proposed for planting and vegetative debris (branches, leaves, etc.) along the bicycle path or adjacent road should be minimal. Caltrans will be able to maintain the established willows and other vegetation along the trail and highway after the conclusion of the five-year monitoring period. Normal maintenance activity is expected to include the cutting back of willows on a regular basis using tractor-mounted cutting equipment.

Current drainage patterns at the site involve the highway runoff sheet flowing towards the west where it flows into either uplands or wetlands and infiltrates into the ground, ponds, or is conveyed to highway drainage facilities (e.g. culverts). No significant changes to drainage runoff volumes, peak flows or flow patterns are expected as a result of the project or the establishment of wetlands within Caltrans right-of-way.

8.2 Inspection Activities and Frequencies

Monitoring will occur annually for a period of a maximum of five years, and annual reports will be submitted to the requisite regulatory agencies as a condition of final permits.

Field notes will document if conditions are normal or abnormal, and the annual monitoring report. Field notes may recommend remedial adaptive management actions to address any significant issues, as deemed necessary. In addition to the annual monitoring criteria listed above, annual monitoring may also note whether the following conditions are observed:

- 1. Are planting areas exhibiting excessive water or drought stress?
- 2. Is there any presence of new or re-established populations of invasive or undesirable plants?
- 3. Is there a distinctive pattern of plant die-off?

Inspections shall be documented in a maintenance logbook as to the date, time, site conditions, general observations, type of work to be done, and equipment used or required for follow-up maintenance. Inspection frequency may be altered depending on ambient conditions or the amount of work required at the site and overall success. The logbook will be submitted on an annual basis with the annual monitoring report.

8.3 Maintenance Activities and Schedules

Maintenance will be conducted on an as-needed basis in the event that annual vegetation monitoring indicates wetland vegetation is not reestablishing as desired. Any as-needed maintenance activities will target removal of regrowing invasive species and maintenance or replanting of desirable native species identified in Section 6.3. If necessary, a lead compliance plan will be prepared and utilized throughout the maintenance period, if any planting, weeding, or site maintenance will occur in areas where aerially deposited lead has been identified.



8.4 Invasive Species Management

Non-native and invasive plant competition is a major factor to consider throughout the mitigation timeframe and extending into long-term management timeframe. In order to allow the revegetation of native species to grow and persist, invasive species management and weed control are required to compete against the vigorous, quickly germinating, high-density non-natives. The main factors to establishing the native plants are to ensure that adequate sunlight, soil moisture, and nutrients are available for the native plants to mature, some of which require two to three years to become vigorous individuals.

Invasive plant species along the proposed trail corridor are listed by the following groups:

- California Invasive Species Council (Cal-IPC)
- Humboldt County Weed Management Area (HWMA) Strategic Management List (2010)

Table 11 lists invasive plant species observed within the BSA; the list is derived from the NES. The table also describes plants that will be exempt from the mitigation success criteria. Exempt plants are plants that have naturalized in California and/or locally in Humboldt County and are not considered to impact the ecological function of the proposed restored habitats. The plants *not* listed as exempt should be controlled as target non-native invasive species so that they do not hinder the successful reestablishment of the palustrine emergent wetland, palustrine scrub shrub and one parameter coastal willow wetland habitat.

The mitigation wetland, shrub scrub and willow establishment will be controlled for target invasive plants during the mitigation timeframe. Weed management such as with a mower, weed whacker, weed wrench or extractigator (for removing woody stems in the willow restoration area), or hand pulling will be conducted coincident with ordinary Caltrans management within the project area. No herbicides are allowed during maintenance activities. Additional invasive species management may be implemented on an as-needed basis.

Scientific Name	Common Name	Cal-IPC Rating	Humboldt County Weed Mgmt Area Non-Native Invasive Ranking (2010)	Exempt from Management
Acacia dealbata	silver wattle	Moderate		
Agave sp.	agave	-		EXEMPT
Agrostis stolonifera	creeping bent	Limited		EXEMPT

Table 11 Invasive Species Observed



Scientific Name	Common Name	Cal-IPC Rating	Humboldt County Weed Mgmt Area Non-Native Invasive Ranking (2010)	Exempt from Management
Aira cryophyllea	silver hair grass	Evaluated Not Listed		EXEMPT
Aira praecox	early hair grass	Evaluated Not Listed		EXEMPT
Allium sp	onion	NA		EXEMPT
Amaryllis belladonna	naked ladies	-		EXEMPT
Ammophila arenaria	European beachgrass	High	Yes	
Anthoxanthum odoratum	sweet vernal grass	Moderate		
Avena barbata	slender wild oat	Moderate		
Briza maxima	rattlesnake grass	Limited		EXEMPT
Briza minor	annual quaking grass	-		EXEMPT
Bromus diandrus	ripgut grass	Moderate		
Bromus hordeaceus	soft chess	Limited		EXEMPT
Cerastium fontanum ssp vulgare	common mouseear chickweed	-		EXEMPT
Cichorium intybus	chicory	-		EXEMPT
Conium maculatum	poison hemlock	Moderate	Yes	
Convolvulus arvensis	bindweed	Evaluated Not Listed		EXEMPT
Cortaderia jubata	jubata grass	High	Yes	
Cynodon dactylon	Bermuda grass	Moderate		
Daucus carota	Queen Anne's lace	Evaluated Not Listed		EXEMPT
Escallonia rubra	redclaws	-		EXEMPT
Festuca arundinacea	tall fescue	Moderate		

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Scientific Name	Common Name	Cal-IPC Rating	Humboldt County Weed Mgmt Area Non-Native Invasive Ranking (2010)	Exempt from Management
Festuca bromoides	brome fescue	Evaluated Not Listed		EXEMPT
Foeniculum vulgare	fennel	High	Yes	
Fumaria capreolata	white ramping fumitory	-		EXEMPT
Geranium dissectum	cutleaf geranium	Limited		EXEMPT
Hedera helix	English ivy	High	Yes	
Holcus lanatus	common velvet grass	Moderate		
Hordeum marinum	wall barley	Moderate		
Hypochaeris radicata	rough cat's ear	Moderate		
Iris pseudacorus	paleyellow iris	Limited		EXEMPT
Lathyrus latifolius	perennial sweet pea	Nominated Not Reviewed		EXEMPT
Leontodon saxatilis	hairy hawkbit	-		EXEMPT
Ligustrum ovalifolium	California privet	NA		EXEMPT
Lonicera japonica	Japanese honeysuckle	NA		EXEMPT
Lotus corniculatus	bird's-foot trefoil	Evaluated Not Listed		EXEMPT
Lupinus arboreus	yellow bush lupine	NA	Yes	
Melilotus albus	white sweetclover	Nominated Not Reviewed		EXEMPT
Nasturtium officinale	watercress	-		EXEMPT
Oenothera glazioviana	redsepal evening primrose	-		EXEMPT
Parentucellia viscosa	yellow glandweed	Limited		EXEMPT

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Scientific Name	Common Name	Cal-IPC Rating	Humboldt County Weed Mgmt Area Non-Native Invasive Ranking (2010)	Exempt from Management
Platago lanceolata	English plantain	Limited		EXEMPT
Poa annua	annual bluegrass	Nominated Not Reviewed		EXEMPT
Pyracantha angustifolia	selnder firethorn	Limited		EXEMPT
Ranunculus repens	creeping buttercup	Limited		EXEMPT
Raphanus sativus	cultivated radish	Limited		EXEMPT
Rosa sp	rose	-		EXEMPT
Rubus armeniacus	Himalayan blackberry	High	Yes	
Rubus laciniatus	cutleaf blackberry	-		
Rumex acetosella	sheep sorrel	Moderate		
Rumex crispus	curly dock	Limited		EXEMPT
Silene gallica	small-flower catchfly	-		EXEMPT
Sonchus asper ssp asper	prickly sow thistle	Evaluated Not Listed		EXEMPT
Spergula arvensis	stickwort	-		EXEMPT
Taraxacum officinale	common dandelion	Evaluated Not Listed		EXEMPT
Trifolium arvense	rabbitfoot clover	-		EXEMPT
Trifolium dubium	little hop clover	-		EXEMPT
Trifolium repens	white clover	-		EXEMPT
Vicia hirsuta	tiny vetch	-		EXEMPT
Vicia sativa ssp nigra	narrow-leaved vetch	-		EXEMPT
Vicia sativa ssp sativa	spring vetch	-		EXEMPT
Vinca major	greater periwinkle	Moderate	Yes	

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Scientific Name	Common Name	Cal-IPC Rating	Humboldt County Weed Mgmt Area Non-Native Invasive Ranking (2010)	Exempt from Management
Zantedeschia aethiopica	calla lily	Limited		EXEMPT

9. Ecological Performance Standards

9.1 Overview

Performance standards are based upon the mitigation project's goals and objectives for habitat function and abundance, as well as areas designated by mitigation ratios (1:1). Mitigation site elevations shall be within ranges that maintain suitable groundwater-supported wetland plant species. Where wetland plant species are not present, observations of groundwater connectivity (e.g. standing or flowing surface water or hydric soils) will be evaluated. By the end of the five-year monitoring period, the 1:1 mitigation ratio must be achieved. See Section 9.3 Maintenance and Section 13 Adaptive Management for procedures to help ensure the required 1:1 mitigation ratio is ultimately reached to the satisfaction of regulatory agencies and the benefit of wetland quality and function within the project area.

Monitoring shall occur until success criteria are met. If vegetation and hydrology success criteria are met by year three, then the mitigation project shall be considered successful, and monitoring shall be considered complete.

9.2 Hydrology Criteria

Palustrine Emergent Wetland Mitigation Site

H1: Mitigation site elevations shall be within ranges that maintain suitable groundwater-supported wetland hydrology as defined by the USACE as flooding or ponding, or a water table within 12 inches of the soil surface for 14 or more consecutive days.

Palustrine Scrub Shrub Mitigation Site

H1: Mitigation site elevations shall be within ranges that maintain suitable groundwater-supported wetland hydrology as defined by the USACE as flooding or ponding, or a water table within 12 inches of the soil surface for 14 or more consecutive days.

Coastal Willow One Parameter Wetland Mitigation Site

No hydrologic success criteria are proposed for one parameter willow wetland creation areas.



9.3 Vegetation Criteria

Palustrine Emergent Wetland Mitigation Site

V1: Palustrine Emergent Wetland post-planting shall meet the following criteria described in Table 12.

Table 12 Palustrine Emergent Wetland Mitigation Site Success Criteria

Palustrine Emergent Wetland Success Criteria			
Year 1	50 percent (\geq) relative cover ¹ of native wetland species.		
Year 3	No more than 25 percent absolute cover ² of target invasive plants. 60 percent (≥) relative cover of native wetland species.		
Year 5	No more than 15 percent absolute cover of target invasive plants. 70 percent (≥) relative cover of native wetland species.		
Years 1, 3, and 5	 No more than 15 percent absolute cover of target invasive plants. Native wetland species consist of OBL/FACW/FAC species. No large non-vegetated bare spots (greater than 25 percent) or erosional area and no permanent inundation during five year monitoring period 		

¹ Relative cover refers to a proportion of absolute cover of intended vegetation category (i.e. native cover) to total vegetative cover present.

²Absolute cover is the proportion of ground surface covered by a particular category of vegetation.

Palustrine Scrub Shrub Mitigation Site

V1: Palustrine Scrub Shrub post-planting shall meet the following criteria described in Table 13.

Table 13 Palustrine Scrub Shrub Mitigation Site Success Criteria

Palustrine Scrub Shrub Success Criteria			
Year 1	50 percent (\geq) relative cover ¹ of native wetland species.		
Year 3	No more than 25 percent absolute cover ² of target invasive plants. 60 percent (≥) relative cover of native wetland species.		
Year 5	No more than 15 percent absolute cover of target invasive plants. 70 percent (≥) relative cover of native wetland species.		
Years 1, 3, and 5	 No more than 15 percent absolute cover of target invasive plants. Native wetland species consist of OBL/FACW/FAC species. No large non-vegetated bare spots (greater than 25 percent) or erosional area and no permanent inundation during five year monitoring period 		

¹ Relative cover refers to a proportion of absolute cover of intended vegetation category (i.e. native cover) to total vegetative cover present.

²Absolute cover is the proportion of ground surface covered by a particular category of vegetation.



Coastal Willow One Parameter Wetland Mitigation Site

V2: Coastal Willow One Parameter (Willow stakes) post-planting shall meet the following criteria described in Table 14. Only *Salix hookeriana* will be monitored for success in this mitigation site.

Table 14 Salix hookeriana Shrubland Alliance Plantings Success Criteria

Salix hookeriana Shrubland Alliance Planting (Willow Staking) Success Criteria			
Year 1	≥ 70 percent sprouted stakes. 5 percent absolute cover by staked willow.		
Year 3	15 percent absolute cover by staked willow.		
Year 5	40 percent absolute cover by staked willow.		

10. Monitoring Requirements

10.1 Reference Sites

The mitigation project's reference site is the adjacent landscapes of the BSA as described in Section 4.3. Baseline conditions are as described in that section and will be used for comparison with the mitigation sites.

10.2 Wetland Monitoring

The following wetland monitoring activities are applied to each of the mitigation areas in accordance with Table 15.

Table 15 Monitoring Activities by Mitigation Area

Monitoring Activity	Palustrine Emergent Wetland	Palustrine Scrub Shrub	One Parameter Coastal Willow Wetlands
Groundwater,	•	-	
Section 10.2.1			
Sample Size,	•		
Section 10.2.2			
Vegetative Cover,	•		•
Section 10.2.3			

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Monitoring Activity	Palustrine Emergent Wetland	Palustrine Scrub Shrub	One Parameter Coastal Willow Wetlands
Non-native Invasive Plant Monitoring, Section 10.2.4,	•	•	
Willow Stake Success, Section 10.2.5			•
Additional Data Collection, Section 1.1.1	•	•	•
Photo Monitoring Stations, Section 10.2.6	•	•	•

10.2.1 Groundwater Monitoring

Piezometers (a minimum of four and a maximum of eight) will be installed post-construction to continue to monitor groundwater elevations and confirm success criteria. Piezometers will be monitored once prior to 50 percent of the average annual rainfall, for eight (8) consecutive weeks. or until success criteria has been met (a minimum of three monitoring events or two weeks), after the 50 percent of average annual rainfall, and then within one month, once after the monitoring period.

10.2.2 Sample Size

After each year of vegetation sampling 90% confidence intervals will be used calculate, evaluate, and report the adequacy of the sample size to detect the true mean for relative cover of native wetland species and invasive species and for absolute cover of willow stakes.

10.2.3 Vegetative Cover

Annual monitoring of palustrine emergent wetland, palustrine scrub shrub, and one parameter coastal willow wetland will be conducted to evaluate achievement of vegetation success criteria.

10.2.3.1 Transects with Quadrats

Transects will be located randomly within the created wetland areas. The location of the first quadrat will be randomized relative to the beginning of the baseline, with quadrats at set distances thereafter. Percent absolute vegetative cover, non-wetland native cover, hydrophytic cover, and non-native or invasive cover will be estimated within each quadrat. Plant species present within each quadrat will be identified and noted.



10.2.4 Non-native Invasive Plant Monitoring

Sometime in June or July of years one, three, and five, target invasive plant cover will be calculated from the data collected, as described above. Each year of data collection, the acreage of mapped highly invasive species will be compared.

10.2.5 Willow Stake Success

In the first year, willow stakes at *S. hookeriana shrubland alliance* areas will be counted for mortality and survival. Subsequently, it is expected that willow will form dense canopies, preventing accurate counts, and that these dense thickets may cause some willow to outcompete others. Percent cover is a preferable measure of success as the willow matures.

10.2.6 Photo Monitoring Stations

Permanent photo-documentation points will be established within the project site. A minimum of one photopoint is required for each monitored created wetland unit. Photopoint locations will be included on a map that will accompany monitoring reports.

Photographs will be taken annually during the monitoring period. Photographs will be taken from each monitoring point and cardinal directions recorded for repeatability. Photos will be taken with a digital camera with a moderate wide angle lens. The make and model of camera and type and focal length of lens will be noted in monitoring documentation. Photographs will be taken from about five feet in height, ideally from a tripod with the height noted, consistent from year to year.

10.2.7 Monitoring Schedule

Some flexibility to account for annual variation in weather conditions is acceptable but monitoring should be conducted in June or July. The results will be submitted in the annual report in years 1, 3, and year 5 (if needed). If the success criteria for vegetation and hydrology are met by year three then the mitigation project will be considered successful and monitoring will be complete at year three.

11. Long-term Management Plan

Long-term management is a strategy for managing the site once the performance standards are achieved (assumed to be after five years of monitoring) to ensure the long-term post monitoring viability of the resource. While the site has been designed to restore self-sustaining ecological processes and functions, there will still be a need to make occasional inspections and if necessary, perform maintenance tasks to assure the viability of the mitigation site. Should failure of the wetlands or invasive species incursions occur, Caltrans will refer to the Adaptive Management Plan to aid in formulating an approach forward.

As noted in Section 7 Site Protection Instrument, long term management will be the responsibility of Caltrans. The schedule for ongoing management activities will be scheduled by Caltrans at that time



and is not expected to require reporting to agencies. The mitigation project is within a right of way under ownership of Caltrans, a state agency. For government property, long-term protection may be provided through facility management plans, integrated natural resources management plans, or similar plans in accordance with 33.C.F.R.332.7(a)(1) (USACE 2015). Long-term management of the project area is covered by Caltrans' Maintenance Manual (July 2014), which includes provisions for taking into consideration the presence of environmentally sensitive resources. Caltrans intends to take all reasonable measures to avoid grading or other activities that would reduce the area of created wetlands identified in this HMMP. The locations of the created wetlands within the highway right of way were selected to minimize the likelihood of future impacts. However, in the event that permanent impacts to a portion of the created wetlands are unavoidable in the future, Caltrans commits to providing additional mitigation for an area equivalent to the impacted area.

12. Adaptive Management Plan

Adaptive management is a tool used to cope with the inherent changes and instability fundamental to natural resources and the ecological processes that encompass them. It is a process derived from a collection of practical methods based in research and monitoring. As a philosophy, it holds that conservation and restoration programs should be designed in ways that accumulate knowledge as quickly and accurately as possible so that the management plan can be adapted promptly to better management efforts. This approach allows managers to learn by experience within site specific environments and apply lessons learned to remedy deficiencies using a controlled and scientific approach.

Adaptive management procedures will be recommended on a case-by-case basis, to address any issues identified at the sites during monitoring or maintenance activities. Adaptive management actions could include one or more of the following activities (not exclusive) if success criteria are not met:

- 1. Adjusted weeding method to reduce weeds around the planted wetland or upland to decrease competition from non-native grasses and forbs;
- 2. Supplemental planting for areas that have deficiencies in the seeding or planted material stock (may be in-kind, or if a particular species is not doing well at the site, a suitable replacement species can be supplemented for original plant species);
- 3. Supplemental replacement (may be in-kind, or if a particular species is not doing well at the site, a suitable replacement species can be supplemented for original plant species);
- 4. Supplemental watering (for non-performing plants that required supplemental planting);
- 5. Additional erosion control; and/or
- 6. Hydrologic modification or minor regrading.

Unpredictable natural changes could alter the mitigation area and consequently necessitate changing the goals, objectives, strategies, and actions set forth in this plan. These changed conditions include but are not limited to:



- Unusual weather patterns, such as extended drought or excessive rainfall;
- Change in species composition, such as through invasion of a new invasive plant or wildlife species to the site, or increase in spread of existing non-native plants listed as listed in Invasive Species Observed, which exhibit similar adverse characteristics of a plant ranked moderate or high and wildlife species in this particular habitat setting, or a change in the ranking of invasive plants;
- Change in the listing of species status species that could occur or have potential to occur in the habitat mitigation area; or;
- Erosion or deposition of sediments.

12.1 Initiating Procedures

Adaptive management may be implemented if the 1:1 mitigation ratio is not achieved after a period of five years, as detailed in submitted monitoring reports. If adaptive management is determined to be necessary, appropriate regulatory agencies will be consulted to propose any necessary remedial action. A meeting will then be scheduled with the appropriate resource agencies, depending on the specific issue(s), to discuss the best method(s) to address the issue.

13. Financial Assurances

Humboldt County and Caltrans are committed to ensuring the success of the mitigation project described herein, and have successfully demonstrated their commitment to environmental mitigation in prior transportation projects. The grading and re-vegetation activities for creating on-site wetlands are integrated into the construction plans for the overall project and will be performed concurrently with trail construction. Post-construction monitoring activities will be incorporated into the workload of existing programs. Based on these considerations, financial assurances (such as performance bonds, irrevocable trusts, escrow accounts, letters of credit, etc.) are not warranted.

14. Literature Cited

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HUMBOLDT COUNTY NOTICE OF EXEMPTION

To: Humboldt County Clerk/Recorder 825 5th Street, 5th Floor Eureka, CA 95501 707-445-7593



From: Humboldt County Public Works 1106 Second St. Eureka, CA 95501 707-445-7741

Project Title: Manila Highway 255 Shared Use Path Project

Project Location - Specific; West side of Highway 255, starting near the Dean Street/Pacific Avenue

intersection (Post Mile 3.64) and terminating just north of the Carlson Avenue intersection (Post Mile 4.24)

GPS Coordinates: Latitude 40°50'51.90" N

Longitude 124° 9'58.56" W

Description of Nature, Purpose, and Beneficiaries of Project:

The project will provide a Class I blke path (also known as shared use path or multi-use trail) along 0.6 miles of the Highway 255 corridor. The project includes 150 feet of concrete sidewalk along Pacific Avenue, a crosswalk near the Pacific Avenue/Peninsula Drive Intersection, two light standards, and on-site wetland creation. The north end of the path will connect to a future trail on Friends of the Dunes property leading to the Humboldt Coastal Nature Center. The purpose of the project is to improve safety for non-motorized and motorized travelers in Manila and increase the use of active modes of transportation. The project would enhance coastal access, heighten driver awareness of the community, create a new tsunami evacuation route, and fill the gap for non-motorized travel between the Pacific and Carlson neighborhoods. The trail is needed because Highway 255 between Eureka and Arcata is an incomplete transportation facility that was designed primarily to support motorized vehicles. The project will receive a Categorical Exclusion for compliance with NEPA.

Name of Public Agency Approving Project: Humboldt County - Public Works Department

Name of Person or Agency Carrying Out Project: Humboldt County - Public Works Department

Exempt Status: Categorical Exemption: Section(s) 15301(c) Type(s): Existing Facilities

Reason why project is exempt:

The project consists of the addition of bicycle facilities to an existing highway. The 2018 amendments to the CEQA Guidelines revised 15301(c) to clarify that improvements within a public right of way that enable use by multiple modes would normally not cause significant environmental impacts. The project does not create additional automobile lanes nor meet the exceptions of 15300.2.

Contact Person: Hank Seemann

Telephone: 707-445-7741

Signature of Humboldt County Representative

Hank Seemann **Printed Name**

Title Deputy-Director

Email: hseemann@co.humboldt.ca.us

FILED County of Humboldt Kelly E. Sanders County Clerk 12-2019-003

1 Through (Stamp Below)

01/10/2019

Date Signed January 9, 2019

ATTACHMENT 4

REFERRAL AGENCY COMMENTS AND RECOMMENDATIONS

The project was referred to the following agencies for review and comment. Those agencies that provided written comments are checked off.

Referral Agency	Response	Recommendation	Attached	On File
County Building Inspection Division				
Public Works Land Use Division				
Department of Environmental Health	✓	Approval		✓
Manila CSD				
Arcata Fire				
California Coastal Commission	✓	Comments		✓
NWIC	✓	Conditional		✓
		Approval		
Wiyot Tribe	\checkmark	Conditional		✓
		Approval		
Blue Lake Rancheria	\checkmark	Conditional		~
		Approval		
Bear River Band	\checkmark	Conditional		\checkmark
		Approval		