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W25a

MEMORANDUM

Date: **May 9, 2016**

To: Commissioners and Interested Persons

From: Alison Dettmer, Deputy Director
Bob Merrill, District Manager
Cristin Kenyon, Coastal Planner

Subject: **Addendum to Commission Meeting for Wednesday, May 11, 2016**
North Coast District Item W25a, CDP Application 1-15-2054 (City of Eureka)

This addendum presents certain clarifying revisions to the staff recommendation for approval of the project with conditions mailed on April 29, 2016, including changes to **Special Condition Nos. 17, 18, and 19** and associated findings. The revisions were made in response to requests by City staff after publication of the staff recommendation. The revisions relate only to the manner that the protections set forth in the special conditions are implemented and the addendum does not otherwise alter staff's recommendation of approval with conditions. The applicant agrees with the staff recommendation, and staff is recommending that the application be moved to, and then approved on, the Commission's consent calendar.

Text to be deleted is shown in ~~**bold strikethrough**~~, text to be added appears in **bold double-underline.**

Modifications to Special Conditions.

- *Special Condition Nos. 17& 18 on pages 13-14 of the staff recommendation are modified as follows:*

17. Open Space Restriction on Mitigation Properties

A. No development, as defined in Section 30106 of the Coastal Act, shall occur within the 1.28-acre tidal salt marsh mitigation area on APN 002-231-004 **that is bordered to the west by the approved coastal trail, to the south by the 1st Street right-of-way, to the east by salt marsh adjacent to the main channel of Eureka Slough, and to the north by a secondary tidal channel that connects to the main channel of Eureka Slough and extends east to west approximately 250 feet north of the**

1st Street right-of-way as generally depicted on **the site plan and grading and planting plan on pages 2 and 5** ~~**Figure 3**~~ of Exhibit 7 ~~**(Exhibit 7, pg. 2)**~~, or within the 0.08 acre willow shrubland mitigation area on APN 007-071-014 **that borders the approved trail as it turns north on Parcel 4 west of the Bayshore Mall** as generally depicted on **the site plan and details on pages 3 and 4** ~~**Figure 4**~~ of Exhibit 7 ~~**(Exhibit 7, pg. 3)**~~, **except for:**

i. The authorized development that is approved by this permit as specifically identified in Finding IV-A, "Project Description and Setting," and

ii. The following development, if approved by the California Coastal Commission as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required**:** (a) vegetation clearance if required by the California Department of Forestry and Fire Protection to meet fire safety standards; (b) maintenance of existing utilities and community services infrastructure; and (c) other allowable uses for the diking, filling, or dredging of wetlands pursuant to Section 30233(a) of the Coastal Act.

~~B. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit for the review and approval of the Executive Director, and upon such approval, for attachment as an Exhibit to the CDP, formal metes and bounds legal descriptions and graphic depictions, prepared by a licensed surveyor, of the portions of APN 002-231-004 and APN 007-071-014 affected by this condition, as generally described above and shown on Exhibit 7 attached to this staff report.**~~

18. Agreement to Record a Deed Restriction if the Mitigation Properties are to be Conveyed

A. PRIOR TO ANY CONVEYANCE OF APN 002-231-004 (the APN containing the estuarine saltmarsh mitigation site as generally depicted on **the site plan and grading and planting plan on pages 2 and 5** ~~**Figure 3**~~ of Exhibit 7**)** ~~**(Exhibit 7, pg. 2)**~~, the City of Eureka shall submit to the Executive Director for review and approval, documentation demonstrating that they as landowner have executed and recorded against APN 002-231-004 a deed restriction, in a form and content acceptable to the Executive Director which reflects the restrictions on development of the subject parcel contained in Special Condition 17 above. The deed restriction shall run with the land binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

B. PRIOR TO ANY CONVEYANCE OF APN 002-231-004 AND PRIOR TO SUBMITTAL TO THE EXECUTIVE DIRECTOR OF THE DEED RESTRICTION REQUIRED IN PART A ABOVE, the applicant shall submit for the review and approval of the Executive Director, and upon such approval, for attachment as an Exhibit to the deed restriction, a formal metes and bounds legal description and graphic depiction, prepared by a licensed surveyor, of the portions of APN 002-231-004 affected by this condition, as generally described above and shown on Exhibit 7 attached to this staff report.

~~B.~~**C.** PRIOR TO ANY CONVEYANCE OF APN 007-071-014 (the APN containing the willow shrubland mitigation site as generally depicted on **the site plan and details on pages 3 and 4** ~~**Figure 4**~~ of Exhibit 7~~)~~ ~~(Exhibit 7, pg. 3)~~, the City of Eureka shall submit to the Executive Director for review and approval, documentation demonstrating that they as landowner have executed and recorded against APN 007-071-014 a deed restriction, in a form and content acceptable to the Executive Director, which reflects the above restrictions on development of the subject parcel contained in Special Condition 17 above. The deed restriction shall run with the land binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

D. PRIOR TO ANY CONVEYANCE OF APN 007-071-014 AND PRIOR TO SUBMITTAL TO THE EXECUTIVE DIRECTOR OF THE DEED RESTRICTION REQUIRED IN PART C ABOVE, the applicant shall submit for the review and approval of the Executive Director, and upon such approval, for attachment as an Exhibit to the deed restriction, a formal metes and bounds legal description and graphic depiction, prepared by a licensed surveyor, of the portions of APN 007-071-014 affected by this condition, as generally described above and shown on Exhibit 7 attached to this staff report.

~~D.~~**E.** PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit a written agreement, in a form and content acceptable to the Executive Director, acknowledging and agreeing to implementation of all of the above terms of this condition.

Reasons for recommended changes: The City is mitigating for the wetland fill impacts of the trail by reestablishing tidal salt marsh habitat in a 1.28-acre location on APN 002-231-004 and planting 0.08 acres of willow shrubland habitat on APN 007-071-014. To ensure that the mitigation areas are preserved as open space in perpetuity as mitigation for the permanent wetland fill impacts of the trail, Special Condition 17 restricts future development within the mitigation areas and utilizes a metes and bounds legal description to define the areas restricted from future development.

In response to a request by the City to expedite CDP issuance in order to begin construction of the trail this summer, the requirement that formal metes and bounds legal descriptions and graphic depictions of the mitigation areas be submitted as the mechanism to define the restricted areas has been replaced with a geographic description and demarcation of the areas to be restricted. Because the deed restrictions on the mitigation properties are not required unless and until the properties are conveyed to another owner, the formal metes and bounds legal descriptions and graphic depictions of the mitigation areas to be attached to the deed restrictions are instead required prior to any conveyance of the mitigation properties. Special Conditions 17 and 18 have also been revised to provide more specific geographic description and demarcations of the mitigation sites so that the areas to be protected are evident.

- *Special Condition No. 19 on page 14 of the staff recommendation is modified as follows:*

19. Use, Maintenance, Modification, and Abandonment of Trail.

A. The trail authorized by this coastal development permit shall comply with the following:

i. The trail shall be a Class I multi-use trail available for shared public use ~~**by non-motorized users including pedestrians, bicyclists, wheelchair users, strollers, joggers, and other non-motorized vehicle users**~~ 24 hours a day daily;

ii. The permittee shall be responsible for maintenance of the multi-modal trail and motorized vehicles shall be permitted access by the City and its agents for construction, maintenance and emergency purposes;

iii. Trail segments (Phases A, B, and C), as identified in Exhibit 2, shall not be open for public use until completion of the trail improvements in that segment;

iv. The City shall maintain continuously all trail improvements in good order and repair and shall allow no nuisances to exist or be maintained therein;

v. No portion of the trail owned by the City of Eureka in fee or by grant of easement may be abandoned by the City until a grant of easement is transferred to another entity, approved by the Executive Director, who can operate that portion of the trail in conformance with all terms and conditions of this coastal development permit;

vi. Any proposed changes, including any proposed change in the above-identified scope and manner of use or any proposed relocation or abandonment of any portion of the multi-modal trail, shall require an amendment to Coastal Development Permit No. 1-15-2054 approved by the California Coastal Commission unless the Executive Director determines that no amendment is legally required.

B. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall enter into a written agreement with the Commission, in a form and content acceptable to the Executive Director, acknowledging and agreeing to implementation of all of the above terms of this condition.

Reasons for recommended changes: A partial list of allowable trail user types has been deleted from Special Condition No. 19 to ensure the condition is not interpreted in a way that would preclude user types that are not enumerated in the list.

Modifications to Findings

- *On pages 44-45 of the staff recommendation, the eighth paragraph of Finding H, "Public Access & Recreation," shall be modified as follows:*

As stated above, the trail will be developed as a continuum of individual segments. To avoid the potential for incomplete or inconsistent trail segments and to ensure that the trail safely functions as a coordinated and integrated continuous public access system, the Commission attaches Special Condition 19. **Special Condition 19** identifies the fundamental provisions of the scope of trail use, most of which are already contained in the license agreement between the North Coast Railroad Authority and the Applicant. ~~.~~ Special Condition 19 includes the following requirements: (a) the entire trail shall be a Class 1 multi-use trail available for shared public use ~~**by non-motorized users including pedestrians, bicyclists, wheelchair users, strollers, joggers, and other non-motorized vehicle users**~~ 24 hours a day daily; (b) the Permittee shall be responsible for maintenance of the multi-modal trail and motorized vehicles shall be permitted access by the City and its agents for construction, maintenance and emergency purposes; (c) trail segments (Phases A, B, and C), as identified in **Exhibit 2**, shall not be open for public use until completion of the trail improvements in that segment; (d) the City shall maintain continuously all trail improvements in good order and repair and shall allow no nuisances to exist or be maintained therein; (e) no portion of the trail owned by the City of Eureka in fee or by grant of easement may be abandoned by the City until a grant of easement is transferred to another entity, approved by the Executive Director, who can operate that portion of the trail in conformance with all terms and conditions of this coastal development permit; and (f) any proposed changes, including any proposed change in the above-identified scope and manner of use or any proposed relocation or abandonment of any portion of the multi-modal trail, shall require an amendment to Coastal Development Permit No. 1-15-2054 approved by the California Coastal Commission unless the Executive Director determines that no amendment is legally required. As conditioned, the trail will more safely function as a coordinated and integrated continuous public access system, consistent with the access provisions of Coastal Act sections 30210-30214.

Reasons for recommended changes: The changes reflect the change to Special Condition No. 19 described above.

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W25a

Filed:	02/01/16
180th Day:	07/30/16
Staff:	C. Kenyon-A
Staff Report:	04/29/16
Hearing Date:	05/11/16

STAFF REPORT: REGULAR CALENDAR

Application No.:	**1-15-2054**
Applicant:	**City of Eureka**
Location:	Along the eastern shore of Humboldt Bay and the western bank of Eureka Slough from Truesdale Street to Tydd Street (APNs 001-011-010; 001-013-01; 001-014-002; 001-014-003; 002-191-025; 002-191-032; 002-191-035; 002-201-008; 002-231-002; 002-231-004; 002-231-008; 002-231-009; 002-231-010; 002-231-012; 002-231-013; 002-231-021; 002-252-028; 003-021-008; 003-021-009; 003-031-002; 003-031-006; 003-041-007; 003-051-001; 003-062-024; 003-072-003; 003-082-006; 003-082-021; 003-082-022; 007-031-002; 007-031-003; 007-031-004; 007-051-002; 007-051-009; 007-061-002; 007-071-003; & 007-071-014).
Project Description:	Construct 3.75 miles of Class 1 multi-use trail as part of the California Coastal Trail including a boardwalk, seven bridges, interpretive signs, playgrounds, outdoor workout equipment, landscaping, street crossings, fencing, and drainage improvements; and mitigate for wetland fill impacts at a 4:1 ratio by reestablishing 1.28-acres of tidal salt marsh habitat.
Staff Recommendation:	Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

Commission staff recommends approval of CDP Application 1-15-2054 with conditions.

The City of Eureka proposes to construct 3.75 miles of Class 1 multi-use trail from Truesdale Street (southern terminus) to Tydd Street (northeastern terminus) as part of the California Coastal Trail, and install related facilities and amenities including seven bridges, a boardwalk, signage, viewing platforms, benches, public art, bollards, barriers, three playgrounds/outdoor workout equipment areas, a restroom, drainage improvements, landscaping, trash receptacles, bike racks, and roadway improvements including street crossings and one streetlight. The proposed trail will connect to a network of existing trail segments to create a continuous 6.3-mile-long waterfront trail route spanning the extent of City limits from southern Eureka to northeastern Eureka, paralleling the shoreline of Humboldt Bay and the west bank of Eureka Slough. The project passes through public and private properties, but it is mainly within City property and the North Coast Railroad Authority (NCRA) railroad corridor. The primary objectives of the proposed coastal trail are to enhance public coastal access, recreational, and nature study opportunities in the Eureka Area.

The City has designed the project to minimize wetland fill impacts by aligning the trail predominately in upland areas along the railroad right-of-way and existing paths and streets; narrowing the trail width from 10 feet to 8 feet in areas of wetland impacts; lengthening bridges to bring abutments outside of wetlands; raising bridges and boardwalks to avoid shading impacts; and using two-inch-diameter helical piers for the boardwalk in-lieu of larger impact-driven piers. The City proposes to mitigate for 0.32 acres of permanent wetland fill impacts at a 4:1 mitigation ratio by removing historic fill in a 1.28-acre upland area to expand a tidally influenced salt marsh habitat between the trail and Eureka Slough. In addition, the City proposes to mitigate for 0.04 acres of permanent impacts to willow shrubland habitat at a 2:1 mitigation ratio by planting 0.08 acres area of this habitat type along the trail.

Staff recommends conditions ensuring that project implementation, mitigation, and monitoring is undertaken as proposed and in a manner protective of coastal resources. Staff also recommends conditions to ensure that the trail functions as a coordinated and integrated continuous public access system along the Eureka waterfront. Finally, staff recommends conditions to ensure that the Applicant has the legal ability to undertake development on property owned by others and comply with all conditions of approval.

Staff believes that the proposed project, as conditioned, is consistent with all applicable Chapter 3 policies of the Coastal Act.

The motion to adopt the staff recommendation of **approval** of Coastal Development Permit (CDP) 1-15-2054 with special conditions is found on page 4.

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APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 1-15-2054 subject to the conditions set forth in the staff recommendation.*

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

Resolution:

The Commission hereby approves Coastal Development Permit 1-15-2054 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

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

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

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

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

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

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. Final Site and Construction Plans

A. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF EACH PHASE OF THE COASTAL TRAIL PROJECT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-15-2054 on Exhibit 2, the permittee shall submit for the review and written approval of the Executive Director, final site and construction plans that are consistent with the project description and plans submitted to the Commission and attached as Exhibits 3 and 5, and consistent with all special conditions of Coastal Development Permit 1-15-2054.

i. The plans shall include, at a minimum, plan and profile architectural drawings for all segments of the trail including bridges, boardwalk, trailheads, and railway, roadway, and driveway crossings.

ii. The final project plans shall also identify the specific location of all construction areas, all staging areas, and all construction access corridors in site plan view.

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

2. Final Landscaping Plans

A. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF EACH PHASE OF THE COASTAL TRAIL PROJECT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-15-2054 on Exhibit 2, the permittee shall submit for the review and written approval of the Executive Director, final landscaping plans that are consistent with the project description and plans submitted to the Commission and attached as Exhibits 3 and 5, and consistent with all special conditions of Coastal Development Permit 1-15-2054.

i. The plans shall demonstrate, at a minimum, all of the following:

a. Only native and/or non-invasive plant species shall be planted. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted or allowed to naturalize or persist in landscaped areas. No plant species listed as a “noxious weed” by the State of California or the U.S. Federal Government shall be planted; and

b. Rodenticides containing any anticoagulant compounds, including, but not limited to, Bromadiolone, Brodifacoum, or Diphacinone, shall not be used.

ii. The plan shall include, at a minimum, the following components:

a. A final landscape site plan map depicting the proposed species, type (e.g., 1-gallon, 5-gallon, bare-root, etc.), and location of all plant materials to be planted; and

b. A schedule for the planting of the proposed landscaping.

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

3. Final Design Plans for All Signage and Trail Amenities

A. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF SIGNAGE AND TRAIL AMENITIES AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-15-2054, the permittee shall submit for the review and written approval of the Executive Director, final design plans for all signage and trail amenities that are consistent with the project description and plans submitted to the Commission and attached as Exhibits 3 and 5, and consistent with all special conditions of Coastal Development Permit 1-15-2054.

i. The plans shall demonstrate that the signage, viewing platforms, fencing, seating, public art, bike racks, restrooms, trash receptacles, playground/ exercise equipment areas, and other site improvements to be erected at the project site:

a. Are visually compatible with the character of surrounding areas with respect to height and bulk, including signs that are no larger than those currently installed on the adjacent Hikshari Trail, and do not significantly obstruct views from public vantage points; and

b. Conform in architectural style, construction materials, surface treatments, and physical appearance with other similar public improvements along the Eureka waterfront.

ii. The plan shall contain at a minimum:

a. Site plan locations of all signage, lighting, viewing platforms, fencing, seating, public art, bike racks, restrooms, trash receptacles, and playground/ exercise equipment areas;

b. Design specifications for the one new light on Waterfront Drive;

c. To-scale, dimensioned elevation plan depictions of the signage, including clear representation of sign verbiage, symbology, and size;

d. To-scale, dimensioned elevation plan depictions of the Del Norte Street parking area restroom, and the playground and exercise equipment areas; and

e. A description of the materials and colors of the sign elements, fencing, seating, bike racks, restrooms, trash receptacles, and playground and exercise equipment.

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

4. State Lands Commission Review. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall provide to the Executive Director a written determination from the State Lands Commission that:

A. No State or public trust lands are involved in the development; or

B. State or public trust lands are involved in the development and all permits required by the State Lands Commission have been obtained; or

C. State or public trust lands may be involved in the development, but pending a final determination, an agreement has been made with the State Lands Commission for the approved project as conditioned by the Commission to proceed without prejudice to that determination.

5. California Public Utilities Commission (CPUC) Approval. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall provide to the Executive Director a copy of a final permit, license, review-approval, or other authorization issued by the CPUC for all new trail crossings of the North Coast Railroad Authority rail corridor, or evidence that no permit or grant of authority is required. The applicant shall inform the Executive Director of any changes to the project required by the CPUC. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

6. California Department of Transportation (Caltrans) Encroachment Permit. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit to the Executive Director for review and written approval, evidence of an encroachment permit from Caltrans. The encroachment permit or exemption shall evidence the ability of the applicant to develop within State properties, including the U.S. Highway 101 public right-of-way. The applicant shall inform the Executive Director of any changes to the project required by Caltrans. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

7. Final Mitigation and Monitoring Plan. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit, for the review and written approval of the Executive Director, a revised final compensatory wetland mitigation and monitoring plan for the tidal salt marsh mitigation and the willow shrubland mitigation that conforms to the plan entitled "Mitigation and Monitoring Plan" dated February 2016 and prepared by GHD, except the revised final plan shall include the following requirements:

A. "As built" plans: Within 30 days of establishment of the mitigation sites (both the tidal salt marsh mitigation and willow shrubland mitigation), documentation shall be

provided to the Executive Director assessing the initial biological and ecological status of the "as built" mitigation sites in accordance with the February 2016 Mitigation and Monitoring Plan and the conditions of this coastal development permit;

B. Annual monitoring reports: Monitoring reports shall be submitted to the Executive Director by December 31st of each year for the duration of the five-year monitoring period, beginning the first year after the submission of the "as-built" assessment. Each report shall include a "Performance Evaluation" section where information and results from the monitoring program are used to evaluate the status of the wetland mitigation projects in relation to the goals and performance standards outlined in the February 2016 Mitigation and Monitoring Plan;

C. Final monitoring report: A final monitoring report shall be submitted for the review and approval of the Executive Director by December 31st of the last year of annual monitoring. The final report shall be prepared in conjunction with a qualified wetlands biologist. The report shall evaluate whether the mitigation sites conforms to the goals and performance standards outlined in the February 2016 Mitigation and Monitoring Plan. The report shall address all of the monitoring data collected over the five-year period;

D. Remediation: If the final monitoring report indicates that the mitigation project has been unsuccessful, in part, or in whole, based on the approved performance standards, the permittee shall submit a revised or supplemental restoration program to compensate for those portions of the original program which did not meet the approved goals and objectives. The revised restoration program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required; and

E. Monitoring and mitigation of anticipated temporary wetland impacts: The salt marsh habitat under and adjacent to the boardwalk totaling 0.35 acres to be temporarily impacted by project construction shall be monitored one year following boardwalk construction and a monitoring report shall be submitted to the Executive Director by December 31st of that year. If the monitoring report indicates that the salt marsh vegetation in the 0.35 acre area does not have a similar vegetative density and cover to the surrounding marsh, the City shall submit a revised or supplemental restoration program to mitigate for salt marsh impacts in kind and in place. The revised restoration program shall be processed as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

8. Protection of Special Status Salt Marsh Plants. The City shall avoid and minimize impacts to special-status salt marsh plants during project construction through the follow measures:

A. During the final design of the proposed project, the known populations of special-status plants within 100 feet of the project footprint, including, but not limited to Point Reyes bird's-beak, Humboldt Bay owl's-clover, Lyngbye's sedge, and western sand-spurrey, shall be included in the engineering drawings, and all construction

activities shall be designed and conducted to avoid impacts to the populations to the maximum extent feasible;

B. As special-status plant locations may vary from year to year, a targeted seasonally appropriate botanical survey of the proposed project footprint and an area within 100 feet of the project footprint shall be conducted prior to the start of ground disturbing activities during each year of construction;

C. Prior to the start of construction activities in the proposed project area, exclusionary fencing or temporary flagging shall be erected around the special-status plant populations to ensure avoidance of these areas. If necessary, a qualified botanist shall be present to assist with locating the populations. The exclusionary fencing or flagging shall be periodically inspected throughout each period of construction and be repaired as necessary; and

D. If impacts to special-status plant individuals occur, the special-status plants shall be conserved through translocation and/or re-planting or re-seeding (by hand by a qualified biologist) into appropriate habitat in the immediate project area so that there is no net loss of the species.

9. Protection of Bird Nesting Habitat. No more than 14 days prior to the commencement of construction, a survey for nesting birds in and adjacent to the project construction area shall be conducted by a qualified biologist, unless the project will occur between September 1 and January 31, outside of the avian breeding/nesting season. If any active nesting habitat is identified during preconstruction surveys within 300 feet of the limits of work, construction shall be delayed until after the young have fledged, as determined by additional surveys conducted by a qualified biologist.

10. Protection of Northern red-legged frogs (*Rana aurora*). To avoid impacts to Northern red-legged frogs, a pre-construction survey for the northern red-legged frog shall be performed by a qualified biologist immediately prior to construction within 50 feet of all suitable habitat in the construction area. Surveys shall be conducted each day in those areas where frogs could potentially be impacted. If a northern red-legged frog is found, the biologist shall move it to suitable habitat in a safe location outside of the construction zone. In the event that a frog is observed in an active construction zone, the contractor shall immediately halt construction activities until a biologist has moved the frog to a safe location in similar habitat outside of the construction zone.

11. Construction Responsibilities. The permittee shall comply with the following construction-related requirements:

A. All ground disturbing activity and asphaltic-concrete paving operations shall be performed during dry-weather periods only, when the National Weather Service's Northwestern California forecast for the Eureka area predicts a less than 50 percent chance of precipitation for the timeframe in which the work is to be conducted. If rainfall is forecast after construction has commenced and before construction is complete, any exposed soil areas shall be promptly mulched with weed-free straw or covered with sheeting and secured with sand bagging or other appropriate materials before the onset of precipitation. Adequate and effective erosion and sediment control

measures shall be used to prevent sediment-laden water from entering coastal waters and wetlands;

B. All construction activities on, over, or adjoining salt marsh and other coastal wetlands and waters, except for the mitigation work outlined in the final Mitigation and Monitoring Plan detailed in Special Condition 7 above, shall occur between May 15th and October 31st of each year of construction;

C. Construction activities authorized by this permit that occur within or adjacent to tidal wetlands and waters shall be conducted during periods of low tides only;

D. No construction materials, debris, or waste shall be placed or stored where it may be subject to entering coastal waters or wetlands;

E. Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs shall be removed before BMP removal to avoid any accumulated sediments from being mobilized post-construction;

F. To minimize wildlife entanglement and plastic debris pollution, the use of temporary rolled erosion and sediment control products with plastic netting (such as polypropylene, nylon, polyethylene, polyester, or other synthetic fibers used in fiber rolls, erosion control blankets, and mulch control netting) is prohibited. Any erosion-control associated netting shall be made of natural fibers and constructed in a loose-weave design with movable joints between the horizontal and vertical twines;

G. Any excess excavated material and other construction debris resulting from construction activities shall be removed immediately upon completion of component construction, and shall be disposed of at a disposal site outside the coastal zone or within the coastal zone pursuant to a valid coastal development permit. Any potentially hazardous waste materials would be disposed of at an approved Class II landfill that is equipped to handle hazardous waste;

H. On-site native vegetation shall be maintained to the maximum extent possible during construction activities. To ensure construction occurs in the designated areas and does not impact environmentally sensitive areas, the boundaries of the work area shall be fenced or marked with flagging;

I. No uncured concrete or runoff from uncured concrete shall be allowed to enter coastal waters. Concrete paving and grinding operations, and storm drain inlet protection best management practices shall be employed to prevent concrete grindings, cutting slurry, and paving rinsate from entering drop inlets or sheet-flowing into coastal waters. Concrete delivery vehicle wash-out maintenance at the project site is prohibited;

J. If treated wood is used in trail facilities and amenities such as the viewing platforms and signage, the following additional BMPs shall be implemented: (i) no creosote-treated wood shall be utilized; (ii) whenever possible, cutting or drilling of treated wood shall occur at least 100 feet away from coastal waters and wetlands, and any sawdust, drill shavings, and wood scraps shall be contained and collected to prevent the discharge of treated wood to the marine environment; and (iii) treated wood

materials shall be stored during construction in a contained, covered area to minimize exposure to precipitation.

K. Equipment when not in use shall be stored in upland areas at least 50 feet away from surface water features, including Humboldt Bay, PALCO Marsh, and Eureka Slough;

L. Any fueling, maintenance, and washing of construction equipment shall occur in confined upland areas specifically designed to control runoff and located more than 100 feet away from coastal waters; and

M. Fuels, lubricants, and solvents shall not be allowed to enter coastal waters or wetlands. Hazardous materials management equipment including oil containment booms and absorbent pads shall be available immediately on-hand at the project site. Any accidental spill shall be rapidly contained and cleaned up.

12. Avoidance of Soil and Groundwater Contamination. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF PHASE C OF THE TRAIL AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-15-2054 on Exhibit 2, as recommended by the Hazardous Materials Corridor Study, Eureka Waterfront Trail Phase C Tydd Street Project (GHD, 2014), the permittee shall:

A. Complete pre-construction soil borings to characterize soil and groundwater, and submit the results of soil and groundwater sample analysis for the review and approval of the Executive Director; and

B. Prepare and submit a Construction Soil and Groundwater Management Plan for the review and approval of the Executive Director.

i. The plan shall demonstrate that all contaminated soil and groundwater encountered during construction shall be contained, handled, and properly disposed of in a manner that prevents discharge of contaminated soil and groundwater to the surrounding environment;

ii. The plan shall provide for field screening during construction activities, and sampling of any impacted soils and groundwater encountered with characterization for off-site disposal; and

iii. The plan shall include proposed containment, handling, and disposal methods that require special handling of impacted groundwater, impacted soil segregation, and manifested disposal if necessary.

13. Assumption of Risk. By acceptance of this permit, the City of Eureka as applicant acknowledges and agrees: (a) that the site may be subject to hazards from earthquakes, liquefaction, tsunami run-up, flooding, and erosion; (b) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (c) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (d) to indemnify and hold harmless the Commission, its officers, agents and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

14. Protection of Archeological Resources

A. If an area of cultural deposits or human remains is discovered during the course of the project, all construction shall cease and shall not re-commence until a qualified cultural resource specialist, in consultation with the Tribal Historical Preservation Officers (THPOs) of the Wiyot Tribe, the Bear River Band of Rohnerville Rancheria, and the Blue Lake Rancheria, analyzes the significance of the find and prepares a supplementary archaeological plan for the review and approval of the Executive Director, and either: (a) the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are *de minimis* in nature and scope, or (b) the Executive Director reviews the Supplementary Archaeological Plan, determines that the changes proposed therein are not *de minimis*, and the permittee has thereafter obtained an amendment to coastal development permit 1-15-2054.

B. If ground disturbing activities greater than twelve inches in depth are required during project construction, than AT LEAST TWO WEEKS PRIOR TO COMMENCEMENT OF SAID GROUND-DISTURBING ACTIVITIES AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-15-2054, the permittee shall notify the THPOs from the Wiyot Tribe, the Bear River Band of Rohnerville Rancheria, and the Blue Lake Rancheria of the construction schedule and arrange for tribal representative(s) to be present to observe ground-disturbing activities if deemed necessary by the THPOs.

C. A cultural resources monitor approved by the Wiyot Tribe, the Bear River Band of Rohnerville Rancheria, and the Blue Lake Rancheria shall be present to oversee all ground disturbing activities greater than 12 inches in depth authorized by Coastal Development Permit 1-15-2054 unless evidence has been submitted for the review and approval of the Executive Director that the THPOs of these three entities have agreed that a cultural resources monitor need not be present.

15. Liability for Costs and Attorney's Fees. The Permittee shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorney's fees (including but not limited to such costs/fees that are: (1) charged by the Office of the Attorney General; and (2) required by a court) that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Permittee against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit, the interpretation and/or enforcement of permit conditions, or any other matter related to this permit. The Permittee shall reimburse the Coastal Commission within 60 days of being informed by the Executive Director of the amount of such costs/fees. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission.

16. Evidence of Sufficient Property Interest to Develop the Tidal Salt Marsh Mitigation Site and Comply with Conditions of Approval. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit, for the review and approval of the Executive Director, evidence of their legal ability to develop the mitigation site as conditioned herein. Such evidence shall demonstrate that the Applicant is the legal

owner of the salt marsh mitigation site (APN 002-231-04 as generally depicted on Exhibit 7, pg.5).

17. Open Space Restriction on Mitigation Properties

A. No development, as defined in Section 30106 of the Coastal Act, shall occur within the 1.28-acre tidal salt marsh mitigation area on APN 002-231-004 as generally depicted on Figure 3 of Exhibit 7 (Exhibit 7, pg. 2), or within the 0.08 acre willow shrubland mitigation area on APN 007-071-014 as generally depicted on Figure 4 of Exhibit 7 (Exhibit 7, pg. 3), **except for:**

i. The authorized development that is approved by this permit as specifically identified in Finding IV-A, "Project Description and Setting," and

ii. The following development, if approved by the California Coastal Commission as an amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required**:** (a) vegetation clearance if required by the California Department of Forestry and Fire Protection to meet fire safety standards; (b) maintenance of existing utilities and community services infrastructure; and (c) other allowable uses for the diking, filling, or dredging of wetlands pursuant to Section 30233(a) of the Coastal Act.

B. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit for the review and approval of the Executive Director, and upon such approval, for attachment as an Exhibit to the CDP, formal metes and bounds legal descriptions and graphic depictions, prepared by a licensed surveyor, of the portions of APN 002-231-004 and APN 007-071-014 affected by this condition, as generally described above and shown on Exhibit 7 attached to this staff report.

18. Agreement to Record a Deed Restriction if the Mitigation Properties are to be Conveyed

A. PRIOR TO ANY CONVEYANCE OF APN 002-231-004 (the APN containing the estuarine saltmarsh mitigation site as generally depicted on Figure 3 of Exhibit 7 (Exhibit 7, pg. 2), the City of Eureka shall submit to the Executive Director for review and approval, documentation demonstrating that they as landowner have executed and recorded against APN 002-231-004 a deed restriction, in a form and content acceptable to the Executive Director which reflects the restrictions on development of the subject parcel contained in Special Condition 17above. The deed restriction shall run with the land binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

B. PRIOR TO ANY CONVEYANCE OF APN 007-071-014 (the APN containing the willow shrubland mitigation site as generally depicted on Figure 4 of Exhibit 7 (Exhibit 7, pg. 3), the City of Eureka shall submit to the Executive Director for review and approval, documentation demonstrating that they as landowner have executed and recorded against APN 007-071-014 a deed restriction, in a form and content acceptable to the Executive Director, which reflects the above restrictions on development of the subject parcel contained in Special Condition 17 above. The deed

restriction shall run with the land binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

C. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit a written agreement, in a form and content acceptable to the Executive Director, acknowledging and agreeing to implementation of all of the above terms of this condition.

19. Use, Maintenance, Modification, and Abandonment of Trail.

A. The trail authorized by this coastal development permit shall comply with the following:

i. The trail shall be a Class I multi-use trail available for shared public use by non-motorized users including pedestrians, bicyclists, wheelchair users, strollers, joggers, and other non-motorized vehicle users 24 hours a day daily;

ii. The permittee shall be responsible for maintenance of the multi-modal trail and motorized vehicles shall be permitted access by the City and its agents for construction, maintenance and emergency purposes;

iii. Trail segments (Phases A, B, and C), as identified in Exhibit 2, shall not be open for public use until completion of the trail improvements in that segment;

iv. The City shall maintain continuously all trail improvements in good order and repair and shall allow no nuisances to exist or be maintained therein;

v. No portion of the trail owned by the City of Eureka in fee or by grant of easement may be abandoned by the City until a grant of easement is transferred to another entity, approved by the Executive Director, who can operate that portion of the trail in conformance with all terms and conditions of this coastal development permit;

vi. Any proposed changes, including any proposed change in the above-identified scope and manner of use or any proposed relocation or abandonment of any portion of the multi-modal trail, shall require an amendment to Coastal Development Permit No. 1-15-2054 approved by the California Coastal Commission unless the Executive Director determines that no amendment is legally required.

B. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall enter into a written agreement with the Commission, in a form and content acceptable to the Executive Director, acknowledging and agreeing to implementation of all of the above terms of this condition.

20. Evidence of Legal Ability of Applicant to Undertake Development on Property Owned by Others and Comply with Conditions of Approval

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit, for the review and approval of the Executive Director, evidence that clearly demonstrates that the North Coast Railroad Authority or the Northwestern Pacific Railroad Company is the legal owner of APNs 001-013-011;

002-231-002; 003-082-021; 003-082-022; 007-031-002; 007-051-002; 007-061-002; and 007-071-003, as generally depicted on Exhibit 12, and as such has formally agreed in writing that the applicant may undertake development on their respective properties pursuant to Coastal Development Permit 1-15-2054 and as conditioned by the Commission herein.

B. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit, for the review and approval of the Executive Director, evidence that clearly demonstrates that all private property owners of APNs 002-201-008, 002-252-028, 002-191-035, 002-191-025, 002-231-008, 002-231-009, 002-231-013, 001-014-002, 003-021-009, 003-031-006, 003-041-007, 003-051-001, and 003-072-003, as generally depicted on Exhibit 12, are the legal owners of such properties and have formally agreed in writing that the applicant may undertake development on their respective properties pursuant to Coastal Development Permit 1-15-2054 and as conditioned by the Commission herein.

21. Scope of Use for Trail and Easements

A. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF PHASE "A" OF THE COASTAL TRAIL PROJECT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-15-2054 AND GENERALLY DEPICTED ON EXHIBIT 2, the permittee shall submit, for the review and approval of the Executive Director, Grants of Easement that have been executed and recorded over all private property located within Phase A as generally depicted on Exhibit 12. All of the recorded Grants of Easement to the City of Eureka shall permanently authorize use of the Trail as approved by Coastal Development Permit 1-15-2054 with conditions, including Special Condition 19.

B. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF PHASE "B" OF THE COASTAL TRAIL PROJECT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-15-2054 AND GENERALLY DEPICTED ON EXHIBIT 2, the permittee shall submit, for the review and approval of the Executive Director, Grants of Easement that have been executed and recorded over all private property located within Phase B as generally depicted on Exhibit 12. All of the recorded Grants of Easement to the City of Eureka shall permanently authorize use of the Trail as approved by Coastal Development Permit 1-15-2054 with conditions, including Special Condition 19.

C. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF PHASE "C" OF THE COASTAL TRAIL PROJECT AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-15-2054 AND GENERALLY DEPICTED ON EXHIBIT 2, the permittee shall submit, for the review and approval of the Executive Director, Grants of Easement that have been executed and recorded over all private property located within Phase C as generally depicted on Exhibit 12. All of the recorded Grants of Easement to the City of Eureka shall permanently authorize use of the Trail as approved by Coastal Development Permit 1-15-2054 with conditions, including Special Condition 19.

D. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit a written agreement, in a form and content acceptable to the

Executive Director, acknowledging and agreeing to implementation all of the above terms of this condition.

22. Agreement To Record Deed Restriction if Coastal Trail Property Owned by the City of Eureka is to be Conveyed.

A. PRIOR TO ANY CONVEYANCE OF ANY COASTAL TRAIL PROPERTIES OWNED BY THE CITY OF EUREKA (APNs 001-011-010; 001-014-003; 002-191-032; 003-031-002; 003-082-006; 002-231-021; 007-031-003; 007-031-004; 007-051-009; 007-071-014; 002-231-010; 002-231-012; and 003-021-008, as generally depicted on Exhibit 12), the permittee shall submit to the Executive Director for review and approval, documentation demonstrating that the permittee as landowner has executed and recorded against the property to be conveyed a deed restriction, in a form and content acceptable to the Executive Director, which authorizes the Coastal Trail in the scope and manner set forth in Special Condition 19 above. The deed restriction shall run with the land binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

B. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-15-2054, the applicant shall submit a written agreement, in a form and content acceptable to the Executive Director, acknowledging and agreeing to implementation of all of the above terms of this condition.

IV. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION & SETTING

The City of Eureka is proposing to construct 3.75 miles of Class 1 multi-use trail along the Eureka waterfront as part of the California Coastal Trail (**Exhibit 1**). The trail runs from Truesdale Street (southern terminus) to Tydd Street (northeastern terminus), and connects to a network of existing trail segments to create a continuous 6.3-mile-long waterfront trail route spanning the extent of City limits from the southern end of Eureka along the shoreline of Humboldt Bay to and along portions of Eureka Slough in northeastern Eureka. The project uses a "rail-with-trail" design for significant portions of the trail that run within the right-of-way of the North Coast Railroad Authority (NCRA) railroad, on either side of the railroad tracks.[1] Improvements proposed as part of the trail project include 7 bridges, a boardwalk, 3 playgrounds/ outdoor workout equipment areas, signage, viewing platforms, benches, public art, bollards, fencing, retaining walls, trailheads, a restroom, drainage improvements, landscaping, trash receptacles, bike racks, and roadway improvements including street crossings and one new streetlight (See **Exhibit 3** for a complete description of project improvements). The City also

[1] The NCRA railroad corridor is currently inactive but is being preserved for potential future use. The proposed trail alignment therefore avoids the tracks to the greatest extent possible, maintaining minimum setbacks from the centerline of the tracks in conformance with NCRA Policy 0907 – Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines (North Coast Railroad Authority, 2009).

proposes to mitigate for 0.32 acres of permanent wetland fill impacts that would result from development of the trail at a 4:1 mitigation ratio by removing historic fill in a 1.28-acre upland area to expand a tidally influenced salt marsh habitat between the trail and Eureka Slough. In addition, the City proposes to mitigate for 0.04 acres of permanent impacts to willow shrubland habitat at a 2:1 mitigation ratio by planting 0.08 acres area of this habitat type along the trail (See **Exhibit 7** for maps and site plans of the mitigation sites).

Project Setting

The city of Eureka is located on the inner shoreline of Humboldt Bay, buffered from the Pacific Ocean by the bay and the Samoa Peninsula. Most of the Eureka waterfront has long been the site of commercial and industrial development, much of which is now gone, leaving only traces of the waterfront's past as an area dominated by lumber mills, warehouses, and railroads. The proposed trail would pass through a number of undeveloped, abandoned, and underutilized areas that are currently degraded due to transient activity, dumping, and the invasion of exotic plants. Despite this degradation, the project area is biologically rich, including a number of tidal sloughs and extensive coastal salt marsh that provides habitat for a wide range of wildlife, including shorebirds, waterfowl, raptors, intertidal invertebrates, small terrestrial mammals, and juvenile fish, including salmonids. For more information on the project's setting, see Appendix B.

Trail Alignment

The City has organized the construction of the new trail into three phases (See **Exhibit 2, pg. 1**). Starting from the southern end of the trail, Phase A would extend approximately 1.2 miles between Truesdale Street and Del Norte Street (See **Exhibit 2, pg. 2**). The Phase A section of the trail would begin at the existing Truesdale Vista Point public parking lot, which is the northern trailhead of the Hikshari' Trail, an existing 1.2-mile-long segment of the California Coastal Trail that runs between Pound Road and Truesdale Street (CDP 1-11-037). The trail would continue across Truesdale Street and run within the NCRA railroad corridor between the Chevron Terminal property and the Bayshore Mall. Past the northern boundary of the Chevron parcel the trail would leave the railroad right-of-way and head west following an existing unpaved road that loops around the ruins of an old mill building on the former Pacific Lumber Company (PALCO) property referred to as "Parcel 4," now owned by the City. Prior to construction of this trail segment, the old mill building and three other abandoned remnant industrial structures on Parcel 4 would be demolished to their foundations. At the northern end of Parcel 4, the trail would reenter the railroad corridor and follow an existing gravel pathway that runs behind the Bayshore Mall into PALCO marsh. Within PALCO Marsh the trail would cross a tidally influenced drainage ditch and leave the NCRA right-of-way to follow the existing Palco Marsh California Coastal Trail segment 850 feet north to Del Norte Street. The existing public parking lot at the foot of Del Norte Street would be improved with a restroom, and an outdoor exercise equipment and playground area would be installed in the upland grass area south of the lot. The City also proposes an outdoor exercise equipment and playground area on the inland side of the trail just south of Vigo Street (on the City-owned "Poleshed Property"), and another playground area on Parcel 4. See **Exhibit 3, pgs. 5-7** for a full description of Phase A, and **Exhibit 5, pgs. 1-7** for site maps of the alignment.

The Phase B section of the trail would extend approximately 1.38 miles along Railroad Avenue and Waterfront Drive between Del Norte Street and C Street (See **Exhibit 2, pg. 3**). After the

trail crosses Del Norte Street, it would follow the NRCA corridor on the west side of Railroad Avenue between Railroad Avenue and private industrial properties that line the waterfront. After heading north in the NRCA right-of-way approximately 2,300 feet, the trail would transition to an out-of-service railroad spur for approximately 300 feet. In this area, the adjacent City street transitions from Railroad Avenue to Waterfront Drive. Shortly after crossing the rail spur, the trail would turn to the east and cross both lanes of Waterfront Drive. A 10-foot-wide pedestrian refuge island would be installed between the lanes. On the east side of the street crossing, the trail would continue north along Waterfront Drive parallel to the railroad tracks, within the NCRA right-of-way. For most of the route on the east side of Waterfront Drive, the trail would be following the edge of the Balloon Track, a 43-acre vacant former railroad yard bounded by Waterfront Drive to the north and west, Washington Street to the south, and Highway 101 to the east. The existing sidewalk would be removed on the east side of Waterfront Drive and a two-to-five-foot-wide landscaped area would be planted between the curb and the trail with intermittent pavers to provide trail access from on-street parking. A chain link fence would be installed between the trail and the railroad tracks. The trail would continue in this alignment with crossings at Washington Street and Commercial Street, except for one short segment across from Marina Way and the Wharfinger Building. In this location the trail would temporarily transition onto the railroad tracks to avoid Clark Slough, a remnant muted tidal channel which has a surface connection to the bay via a large culvert under Waterfront Drive. Past Clark Slough, a short secondary trail would deviate from the primary trail and lead to a crosswalk across Waterfront Drive to allow trail users to safely access the Eureka Marina and Warfinger Building. At the northern end of Phase B, after the proposed trail crosses Commercial Street and the northernmost driveway of the Balloon Track, the trail surfacing would transition to a stamped concrete pattern to match the theme of the existing Eureka Boardwalk as the trail enters Old Town. At C Street the trail would cross Waterfront Drive, connecting to the C Street Pedestrian Plaza which is the eastern end of the Eureka Boardwalk Promenade. See **Exhibit 3, pgs. 7-11** for a full description of Phase B, and **Exhibit 5, pgs. 8-15** for site maps of the alignment.

The Phase C section of the trail extends approximately 1.17 miles between Front Street and Tydd Street (See **Exhibit 2, pg. 4**). A new trailhead would be installed on the north side of Front Street. The Phase C trail alignment would begin at the existing Adorni Trail in Halvorsen Park east of the Samoa Bridge (CA Highway 255). The new trail would bridge over a tidally influenced drainage ditch and Wedge Slough and follow the Humboldt Bay shoreline northeast. The trail would wrap around the northern edge of the shoreline at the confluence of Humboldt Bay and Eureka Slough, and then follow Eureka Slough southeast. A boardwalk would be constructed for a 599-foot-segment of the trail that would bridge over a tidally influenced salt marsh adjacent to Eureka Slough. After the boardwalk, the trail would head south towards Y Street and the NCRA right-of-way. Two trail spurs would be constructed to connect the trail to the foots of X and Y Street which would be redeveloped as trailheads with trash receptacle clusters, kiosks, and re-configured parking. After crossing the NCRA railroad tracks, the trail would head east on the east side of the tracks to the edge of Eureka Slough. The trail would then turn south to bridge over Target Slough and connect with the existing public trail segment that runs behind the Target store. Beyond the Target trail, the new trail would bridge over a 10-foot-wide drainage channel, pass under the Highway 101 north and southbound bridges, and then bridge over First Slough to the Shoreline RV Park. At this point, the trail would follow a City pedestrian access easement that runs south along the eastern boundary of the Shoreline RV Park.

The trail would then bridge over another drainage ditch and run through a City sewage lift station property, and then would extend along the south side of the parking lots and buildings associated with the Eureka Community Health and Wellness Center and an adjacent residence, terminating at 2200 Tydd Street. See **Exhibit 3, pgs. 11-17** for a full description of Phase C, and **Exhibit 5, pgs. 16-24** for site maps of the alignment.

The willow shrubland habitat mitigation area would be located within the Phase A section of the trail on Parcel 4, while the estuarine salt marsh habitat mitigation area would be located within the Phase C section of the trail southeast of the proposed boardwalk (See **Exhibit 7, pg. 1**).

Structural Components of the Trail (Trail Design)

The standard trail width would be 10 feet of asphalt with two-foot-gravel shoulders (for a 14-foot-wide project footprint). In areas with wetlands or other constraints, the trail width would be reduced to 8 feet with two-foot shoulders (for a 12-foot-wide project footprint). The paved width of the trail would have a typical structural section that has approximately 6 inches of aggregate base and approximately three inches of asphalt concrete. In compliance with Federal Highway Administration (FHWA) and CalTrans standards for a Class I bikeway and American's with Disability Act (ADA) accessibility standards, the trail, including bridges and boardwalks, would not exceed a slope of 5% grade. See **Exhibit 3, pgs. 2-4** for a detailed description of the trail design.

The proposed trail would include six roadway crossings (Truesdale Street, Del Norte Street, Washington Street, Commercial Street, and Waterfront Drive at C Street and midblock between 14th Street and Washington Street) and five driveway crossings. The project would also include an improved crossing of Waterfront Drive outside of the main trail alignment which would be sited midblock at the public parking lot for the Eureka Boat Basin public launching facility. In addition, the proposed trail alignment would cross the NCRA railroad tracks five times. Roadway, railway, and driveway crossings would be ADA accessible and include warning signage and markings both on the trail and the approaching vehicular way. Areas where the trail crosses roadways would be improved with continental crosswalks and ADA accessible curb ramps that meet current design standards. Trail approaches to intersections would include stop signs and stop bar (limit line) striping to stop trail users before they cross the intersection. In addition, at these locations, pedestrian crossing signage and "no motor vehicle" signage would be installed. Bollards would be installed at trail intersections and entrances to prevent vehicles from entering the trail.

In areas of the project where the trail alignment intersects tidally influenced waters, the trail would cross these waters via a bridge or a boardwalk. The proposed trail alignment includes bridges over Wedge Slough, Target Slough, First Slough, three drainage ditches, and one tidally influenced drainage channel (See **Exhibit 5, pgs. 6, 17, 21, 22, and 23)**. The seven proposed bridges would be premanufactured aluminum, truss-style structures supported on concrete footings (See **Exhibit 4**). The bridges would have an 8-foot-wide clear width and 54-inch-tall railings designed to comply with Class I and ADA standards.

A 559-foot-long boardwalk would be constructed for a portion of the trail in Phase C that crosses a tidally influenced salt marsh habitat (See **Exhibit 4** and **Exhibit 5, pg. 19**). This trail segment

would parallel Eureka Slough approximately 300 feet inland of mean sea level and was designed as the most direct route between two upland areas avoiding the adjacent private property.[2] The boardwalk would be approximately 8 feet wide between railings and would be comprised of pre-manufactured aluminum. The boardwalk would be supported by concrete footings at its upland terminal ends with a series of two-inch-diameter aluminum helical piers positioned every 20 feet along the length of the structure. Helical piles were chosen to support the boardwalk because they are screwed into the ground and do not require pile driving. The boardwalk would be positioned at a minimum height of four feet above salt marsh vegetation to allow tidal waters to pass under the trail without impeding tidal flow and avoid shading impacts on the vegetation.[3] For safety purposes, the boardwalk would include 54-inch-tall railings designed to comply with Class I and ADA standards.

The proposed project includes trailheads at Truesdale (existing), W. Del Norte Street, Waterfront Drive at the Eureka Marina, C Street, Front Street, Y Street, First Street, and Tydd Street. The trailheads would include existing or refurbished parking spaces, interpretive signage, gateway signage, kiosks, benches, restrooms, playgrounds, outdoor workout equipment, landscaping, and/or trash receptacle clusters with trash, recycling, and pet waste stations.

The 13 proposed viewing platforms and interpretive sign areas installed along the trail would consist of raised deck platforms filled with crushed gravel. Each viewing/sign area would include interpretive signs, benches, and/or landscaping. In addition, directional/wayfinding signage would be installed at regular intervals along the trail to inform trail users of nearby connections to surface streets and nearby destinations. Directional/ wayfinding signage would also be installed along Highway 101 and City streets to inform people of the nearby trail. One new cobra head street light fixture is proposed along Waterfront Drive at a new mid-block crossing. No other new lighting is proposed as part of this project. A maximum of eight artistically designed bike racks and eight benches would also be installed along uplands on the trail.

The City proposes to mitigate for 0.32 acres of permanent wetland fill impacts occurring primarily in Phase C by reestablishing tidal salt marsh habitat in a 1.28-acre location along Eureka Slough adjacent to the Phase C trail segment at a 4:1 mitigation ratio. The site in its current condition consists of historic fill over former salt marsh. A 0.08 acre area of willow shrubland habitat will also be planted along the trail to mitigate for impacts to 0.04 acres of this type of habitat (for a 2:1 mitigation ratio). See **Exhibit 7** for maps and site plans of the mitigation site and **Exhibit 8** for the City's proposed Mitigation and Monitoring Plan.

Staging and Access

All construction staging would be located in upland areas. For Phase A, staging would occur at the north end of the paved Bayshore Mall parking lot which is owned by the City. A temporary fenced perimeter would be established around the staging area to prevent vandalism and public liability. Access points for construction equipment would also be located near the Chevron gas terminal and the foot of Vigo Street during Phase A construction. All access points would

[2] This adjacent private parcel is associated with the Blue Ox Mill Works and is known to be an archaeologically sensitive site.

[3] The trail was designed using a predicted maximum tide of 8.5 feet.

provide entry to the project site utilizing existing maintenance roads and thus avoiding any ESHA or wetland impacts.

For Phase B, staging would occur at the foot of Del Norte Street and at a City-owned property across from the Balloon Track. Existing roads would remain open throughout Phase B construction; however, temporary lane shifts may be required for the areas where the trail crosses existing roadways and where ADA ramps would be installed.

During Phase C construction, temporary traffic control would be limited to a few areas where the proposed trail alignment connects to surface streets and within the shoreline RV Park. The proposed trail connects to X Street, Y Street and Tydd Street, each of which would require temporary lane and sidewalk closures. These closures would not close the entire street or prohibit emergency vehicle access. Staging for Phase C would occur along Front Street; near the NRCA Railroad and the northern end of Y Street; at the northeastern corner of the Target property; and at the City's sewage lift station. Roadways that would be utilized for construction access include Front Street, T Street, X Street, Y Street, 6th Street and Tydd Street.

During all phases of construction, equipment access would be limited to the proposed trail footprint except for construction of the boardwalk which would require equipment on the salt marsh plain resulting in 0.35 acres of temporary wetland impacts (See **Exhibit 7, pg. 2**). To ensure that the project is implemented as proposed, including all proposed staging and access, the Commission attaches **Special Condition 1** requiring final site and construction plans.

B. STANDARD OF REVIEW

The proposed trail alignment includes areas within the retained coastal development permit (CDP) jurisdiction of the Commission and the CDP jurisdiction delegated to the City of Eureka by the Commission through the City's certified local coastal program (LCP).

Section 30601.3 of the Coastal Act authorizes the Commission to process a consolidated CDP application when requested by the local government and the applicant and approved by the Executive Director for projects that would otherwise require CDPs from both the Commission and a local government with a certified LCP. In this case, the City of Eureka's Parks and Recreation Department requested a consolidated permit process and the City of Eureka's Development Services Director agreed to the request on behalf of the City Council on November 25, 2015. The Executive Director also agreed to the consolidated permit processing request.

The policies of Chapter 3 of the Coastal Act provide the legal standard of review for a consolidated CDP application submitted pursuant to Section 30601.3. The local government's certified LCP may be used as guidance.

C. OTHER AGENCY APPROVALS

The City of Eureka

The City of Eureka's Planning Commission approved a condition use permit for the Eureka Waterfront Trail on April 11, 2016 (C-16-0002).

Humboldt Bay Harbor, Recreation, and Conservation District

The Harbor District has permit jurisdiction over all the tidelands and submerged lands of Humboldt Bay. The Board of Commissioners of the Harbor District approved Permit No. 15-06 for the Eureka Waterfront Trail project on February 25, 2016 (Resolution No. 2016-03).

State Lands Commission (SLC)

The project site is located in an area subject to the public trust. To ensure that the applicant has the necessary authority to undertake all aspects of the project on these public lands, the Commission attached **Special Condition 4**, which requires that the project be reviewed and where necessary approved by SLC prior to permit issuance.

California Public Utilities Commission (CPUC)

The proposed project entails three new grade crossings of the North Coast Railroad Authority's rail corridor (in Phase A adjacent to the Chevron parcel and north of Parcel 4; and in Phase C at Y Street). Pursuant to its delegated federal and state statutory authority, the CPUC must approve and license the trail's grade crossings of an established railroad corridor. The City has filed applications for the three crossings with the CPUC which have been reviewed by CPUC staff and are awaiting final approval by the Public Utilities Commission. The Coastal Commission attaches **Special Condition 5** requiring the City to submit evidence that the City has obtained the necessary authorizations from the CPUC for the new railroad crossings prior to permit issuance.

California Department of Transportation (Caltrans)

The proposed project enters Caltrans right-of-way where the trail passes under the north- and southbound spans of US Highway 101 over Eureka Slough in north Eureka. The City submitted an application dated March 15, 2016 for an encroachment permit to construct a trail segment in the State Route 101 right-of-way, and the Encroachment Permits Office conditionally accepted the application, pending further review by the Office Permits Engineer to make a final determination. The Commission attaches **Special Condition 6** requiring the City to show evidence that the City has obtained the necessary encroachment permit from Caltrans prior to permit issuance.

California Department of Fish and Wildlife (CDFW)

The applicant consulted with CDFW on the project. Crossings for this project will free span all potentially jurisdictional watercourses. As the project will not substantially alter the bed, bank, or channel of any stream, CDFW determined that no 1600 Agreement is required.

North Coast Regional Water Quality Control Board (Regional Board)

The Regional Board requires a water quality certification (WQC) for projects involving dredging and/or filling activities under Section 401 of the Clean Water Act. The Regional Board certified the Eureka Waterfront Trail Project on April 20, 2016 (WDID No. 1B15156WNHU).

U.S. Army Corps of Engineers

Under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, the US Army Corps of Engineers has regulatory authority over the proposed project. The Army Corps has authorized the Eureka Waterfront Trail project under Department of the Army

Nationwide Permit (NWP) 14 *Linear Transportation Projects*, 77 Fed. Reg.10,184, February 21, 2012 (File No. 2015-00265N).

D. MARINE RESOURCES, WATER QUALITY, & WETLAND FILL

Section 30230 of the Coastal Act states:

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

Section 30231 of the Coastal Act states:

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

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

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> …
>
> *(7) Nature study, aquaculture, or similar resource dependent activities*
>
> …
>
> *(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary…*
>
> …

Coastal Act Section 30108.2 defines "fill" as "*earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area*." SHN Consulting Engineers and Geologists, Inc. (SHN) conducted a wetland delineation for Phase A of the trail in April and May 2014,[4] Winzler and Kelly (now GHD) conducted a

[4] The 2014 report is an update to previous wetland delineations conducted within Phase A (SHN 2003; Gedik 2005).

wetland delineation for Phase B of the project in May 2012,[5] and GHD conducted a wetland delineation for Phase C of the trail in December 2013 and January 2014. These delineations indicate that the proposed trail alignment intersects a range of wetland habitats, totaling 0.364 acres of permanent wetland fill impacts (this estimate of impacts includes 0.04 acres of willow shrubland habitat). In addition, the construction of the proposed boardwalk over estuarine salt marsh and estuarine subtidal areas will require heavy equipment on the salt marsh plain which will result in an additional 0.35 acres of temporary wetland impacts.

The Commission may authorize a project that includes wetland fill if the project meets the three tests of Coastal Act Section 30233. The first test requires that the proposed activity fit within one of seven use categories described in Coastal Act Section 30233(a)(1)-(7). The second test requires that no feasible less environmentally damaging alternative exists. The third test mandates that feasible mitigation measures are provided to minimize any of the project's adverse environmental effects.

Allowable use

The first test set forth above is that any proposed filling, diking, or dredging in wetlands must be for an allowable purpose as specified under Section 30233 of the Coastal Act. The relevant category of use listed under Section 30233(a) that relates to the proposed project is subcategory (7), *nature study…or similar resource dependent activities*. The Commission has considered the development of new recreational trail segments through wetlands and other environmentally sensitive resource areas to be a form of "nature study… or similar resource dependent activities" in cases where design efforts have been made to minimize such intrusions to the smallest feasible area or least impacting routes, and where the trail segment functions as a nature trail [e.g., see findings for LCP Amendment Nos. STB-MAJ-3-02 (Toro Canyon Planning Area), HUM-MAJ-1-03 (Riparian Corridor Trails) and CDP Nos. 3-11-074 (City of Santa Cruz, Arana Gulch Master Plan) and 1-11-037 (City of Eureka, Elk River Access Area/Hiksari′ Trail Project)].

By providing venues for incidental exploration of the physical and biological world, trails in natural settings generally are recognized as one of the best ways to ensure continued public support for protecting environmentally significant natural areas and to encourage visitation. This perspective is at the core of the many public outreach and grant-funding efforts undertaken by natural resource conservation-oriented public agencies and other organizations, from the Coastal Conservancy to many of the numerous land trusts involved in public access acquisition and development. Regardless of their age, people in general are more likely to develop a stewardship ethic toward the natural environment if they are educated about the importance of the overall ecosystem, especially if provided the opportunity to experience the physical, mental, and spiritual benefits of these areas first-hand. Providing for the development of trails into the outer fringes of marshes and wetlands can be an ideal setting for such activities, as they offer a safe, convenient and unique perspective of the rich and diverse biological resources associated with watercourses, estuaries, and the natural coastline.

[5] The 2012 report also incorporated wetland delineation data from previous surveys (Winzler and Kelly 2007; Huffman-Broadway Group 2008).

The areas where the proposed trail has wetland fill impacts, including the areas where the boardwalk and bridges are located, all have expansive views of Humboldt Bay/Eureka Slough and further the nature study use of the trail. Thirteen viewing platforms and a multitude of interpretive signage along the trail will encourage an understanding and appreciation of the environment and the socio-cultural history of the area. The opportunities include providing up-close views of local vegetation/habitats, midrange views of Eureka Slough/Humboldt Bay, long-range views of the surrounding ridge lines, and interpretive signs that include information regarding local habitats and cultural/historical sites. Interpretive displays, seating and scenic overlooks have been sited in upland locations that minimize impacts to sensitive habitats.

Thus, the proposed development within coastal wetlands is a form of "*nature study… or similar resource-dependent activities,*" as it is: (1) a development type integral to the appreciation and comprehension of biophysical elements that comprise wetland areas; and (2) dependent upon the presence of the natural area resource through which the trails pass to provide a nature study experience. As such, the Commission finds that the proposed wetland fill is inherently for the purpose of nature study, a use consistent with Section 30233(a) of the Coastal Act.

Alternatives

The second test set forth by the Commission's dredging and fill policies is that the proposed project must have no less environmentally damaging feasible alternative. Coastal Act Section 30108 defines "feasible" as …c*apable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors*. In this case, alternatives to extending the proposed trail into coastal wetlands include the no-project alternative, alternative trail design and alignment, and alternative bridge and boardwalk design and alignment.

a. No project alternative

The no project alternative means that no fully accessible, Class I pedestrian/bicycle trail would be constructed along 3.75 miles of the Eureka waterfront. Under this alternative, the objective of the proposed project—to provide grade-separate Class I pedestrian, bicycling, and nature trail facilities through the urban periphery of Eureka would not be met. Access along the waterfront would continue to involve ill-defined, uneven, redundant, and fragmented paths and narrow sidewalks and shoulders on City streets that can pose safety issues for bicyclists, pedestrians, and other potential trail users. Therefore, the proposed trail has the potential to have an overall beneficial impact on coastal resources compared to the no-project alternative as the dedicated trail and day-use areas channel public access from multiple volunteer trails to one developed trail designed to minimize impacts. The trail will also help restore and enhance native habitats through the removal of invasive species. Accordingly, the no project alternative is not a feasible less environmentally damaging alternative to the proposed development as conditioned.

b. Alternative trail design and alignment

The trail has been aligned to avoid wetland fill to the maximum extent feasible given a number of alignment constraints, including minimum required distances from adjacent railroad tracks and City roads; and locations of City easements and right-of-way. The Phase A trail alignment, despite being surrounded by abundant wetlands, would be

located in upland areas along the railroad right-of-way and existing paved or compacted gravel paths, except for one 328-square-foot area in PALCO Marsh where the trail would veer from previously disturbed ground along the railway to bridge over a drainage ditch to an existing foot trail. The proposed construction footprint for Phase B would occur entirely within developed urban streets and sidewalks and on ruderal upland habitat adjacent to the NCRA railroad tracks, with the exception of one 692-square-foot area of the trail by C Street that would impact a wetland (an urban ditch with hydrophytic vegetation). The Phase C alignment would result in the majority of the project's wetland fill impacts, predominately from the installation of six bridges and one boardwalk (alternatives to the bridges and boardwalk design and alignment are described in the next subsection).

The City could avoid the wetland impacts of the project by moving more portions of the trail inland along City streets rather than along the undeveloped edge of Humboldt Bay/ Eureka Slough. However, such an alternative would not facilitate the location of resource-dependent nature study amenities in close proximity to the shoreline. As a coastal trail meant to provide access to and along the shoreline and nature study opportunities, proximity to the bay and associated wetlands is integral to fulfilling the purpose of the project.

In areas where wetland fill cannot be avoided, to minimize impacts, the width of the trail will be reduced from 10 feet of asphalt with two-foot shoulders to 8 feet of asphalt with two-foot shoulders. Although developing a pathway narrower than eight feet in width would be possible, such a further reduced-width trail would not meet the City's objectives of affording fully-accessible, safe, two-way nature trail facilities for simultaneous use by non-motorized users including pedestrians, bicyclists, wheelchair users, and strollers. An eight-foot asphalt trail with two-foot shoulders is the established minimum width standard for a Class 1 path/bikeway facility as set forth by the California Department of Transportation. [6] A trail narrower than 8 feet would also cause increased hazards to bicyclists contrary to Class I bike standards[7] by placing cyclists in correspondingly closer proximity to roadside obstructions. In this case, the Commission finds that the proposed eight-foot-wide paved path width thus assures adequate path utility at this location while avoiding unnecessary wetland fill. Thus realigning or further narrowing the trail at this location to avoid additional wetland fill impacts is not a feasible, less environmentally damaging alternative to the proposed development as conditioned.

c. Alternative bridge and boardwalk design and alignment

Alternative designs and alignments for the bridges and boardwalk were considered to reduce wetland fill impacts. However, the project as designed minimizes wetland fill and no alternative designs and alignments were identified that would be feasible and less

[6] See Chapter 1000, Section 1003.1(1) "Widths," *Highway Design Manual*, California Department of Transportation, Division of Design for Project Delivery, September 1, 2006.

[7] See Chapter 1000, Section 1003.1(2) "Clearance to Obstructions," Highway Design Manual, California Department of Transportation, Division of Design for Project Delivery, September 1, 2006.

environmentally damaging. Where the trail alignment intersects tidally influenced waters, the trail will consist of a bridge or a boardwalk to allow tidal waters to pass under the trail without blocking tidal flows. The bridges and boardwalk will have an 8-foot-wide clear width, the minimum width for a Class 1 multi-modal trail, to minimize any potential shading impacts. Bridge lengths were designed to span the shortest distance between upland areas with abutments placed above the mean high water line in order to avoid, to the maximum extent practicable, permanent wetland fill impacts. Only the bridges over Target and First Sloughs could not fully avoid wetland fill impacts at bridge abutments due to locational constraints. In addition, bridges were designed to span wetlands at high enough elevations to avoid shading impacts where feasible. For two of the narrower drainage ditches, trail design standards for vertical curves prevent raising the structures high enough to avoid all shading impacts; and for two of the other bridges, avoiding shading impacts would require additional fill at bridge abutments to raise the bridge structures, increasing overall impacts on wetlands.

The 559-foot-long boardwalk segment of the trail was designed to be the shortest path between upland areas while avoiding the neighboring property. The boardwalk crosses over a tidally influenced salt marsh area that ranges from approximately 5 feet to 14 feet in elevation. The boardwalk will be constructed of relatively lightweight aluminum and will be positioned at as low a height as possible while still minimizing shading impacts to minimize the size of the supports necessary for the structures and thus the wetland fill impacts of those structural supports. The boardwalk will have 2-inch-diameter helical piles which are installed by screwing the piles into the earth. Helical piles were chosen because they have a smaller diameter than driven piles (and thus result in less wetland fill) and because they avoid the noise-related impacts on marine life of impact pile-driving. The boardwalk is designed to be positioned at least four feet above the salt marsh plain, which allows adequate light for salt marsh vegetation to recover and persist beneath the structure.

To avoid compaction and damage to the estuarine saltmarsh by heavy equipment during boardwalk helical pile installation, the City will utilize wetland mats, planks, timbers, or a comparable method to distribute the load of equipment while operating within the saltmarsh. It is anticipated that while some plants will be disturbed by the movement of construction equipment during this installation phase, the root systems will remain intact and plants will recover. Thus use of alternative designs and alignments for the seven bridges and one boardwalk is not a feasible, less environmentally damaging alternative.

For all of the reasons discussed above, the Commission finds that there is no feasible less environmentally damaging alternative to the proposed development as conditioned, as required by Section 30233(a).

Feasible Mitigation Measures

The third test set forth by Section 30233 is whether feasible mitigation measures have been provided to minimize adverse environmental impacts. The proposed development would be located in part within and adjacent to coastal wetlands. The potential significant adverse impacts of the project on wetlands include a loss of wetland habitat, impacts to special-status salt marsh

species, impacts to migratory birds, impacts to red-legged frogs, and impacts to water quality and aquatic species and habitats. The potential impacts and their mitigation are discussed below.

a. Wetland fill impacts

The trail project's prism crosses through a range of wetland and riparian habitat types, including palustrine emergent wetlands, estuarine salt marsh, estuarine sloughs and ditches, palustrine emergent ditches, and *Salix hookeriana* Shrubland Alliance.

GHD produced a Mitigation and Monitoring Plan for the trail project dated February 2016 (See **Exhibit 8** for plan excerpts). According to the plan, the City will mitigate for 0.32 acres of permanent wetland fill impacts to a variety of wetland habitat types (including palustrine emergent wetlands, estuarine salt marsh, estuarine sloughs and ditches, and palustrine emergent ditches) at a 4:1 mitigation ratio by reestablishing tidal salt marsh habitat in a 1.28-acre location adjacent to the Phase C reach of the trail. The City will also mitigate for 0.04 acres of permanent impacts to willow shrubland habitat at a 2:1 mitigation ratio by planting 0.08 acres area of this habitat type along the Phase A reach of the trail at Parcel 4 (See **Exhibit 7** for maps and site plans of the mitigation sites).

Land use activities over the past 130 years have resulted in an estimated loss of 90 percent of the historic extent of coastal salt marsh habitat along the Humboldt Bay coastline which currently exists as a narrow fringe along much of the Eureka waterfront. Recognizing the rarity and importance of coastal salt marsh in Humboldt Bay, the City proposes to mitigate for a number of wetland habitat types by creating salt marsh habitat. Recognizing the ecological benefit and improved chances of success of performing mitigation at one large site rather than a number of smaller disconnected sites, the City proposes to aggregate the mitigation areas and provide a focused wetland re-establishment of estuarine salt marsh in one 1.28-acre area of fill that juts into a plain of salt marsh along Eureka Slough (**Exhibit 7, pg. 2**). By locating the mitigation in an area currently surrounded by salt marsh on three sides, the proposed mitigation will also increase the size, integrity, and interior habitat of existing salt marsh in the mitigation project area.

The fill at the proposed mitigation site currently achieves elevations ranging from 8 to 12 feet, approximately 2 to 6 feet higher than the adjacent salt marsh habitat. Non-native and native upland trees and shrubs ring the fill area, with ruderal grasses and herbs constituting the majority of site vegetation. The mitigation will focus on removal of fill material to match grades of the existing adjacent salt marsh plain, and replanting or reseeding of salt marsh vegetation. The trees currently growing at the mitigation site will have to be removed along with the fill. Although no nesting osprey or other birds have been identified in these trees, the City proposes to mitigate for the loss of the trees by installing an osprey platform in uplands adjacent to the mitigation site consisting of a 12-inch diameter wood pole and supports with a wood platform on top, approximately 15-30 feet above the existing grade.

Species, quantities, and spacing for the proposed planting of salt marsh vegetation at the mitigation site are based on a nearby reference site, and include pickleweed (*Sarcocornia pacifica),* salt grass (*Distichlis spicata*), jaumea (*Jaumea carnosa*), western marsh-rosemary (*Limonium californicum*), and common arrow-grass (*Triglochin maritima*).To prevent tides from entering the site prematurely, and to prevent any sedimentation entering the bay, excavation will begin in the center of the site and work towards the edges, creating a temporary berm of the unremoved fill. When the interior of the site is graded, this berm will be breached, and equipment will begin to remove fill from this perimeter working towards the access roads. Planting and seeding will follow decompaction and will be performed by hand using hand-held equipment. Erosion control (coir logs) will be installed around the mitigation site and only removed when salt marsh vegetation achieves over 70% site coverage.

The project also proposes to mitigate for the loss of willow shrubland habitat by replanting Hooker's willow (*Salix hookeriana*) and related understory species in locations that enhance the buffer around existing palustrine wetlands, improve habitat interspersion and heterogeneity, and act as dispersal corridors for wildlife between existing patches of woody vegetation. The proposed mitigation site is currently characterized by ruderal herbaceous annuals and perennials, shrubs, and disturbed fill soils. Reference characteristics for replanting of the *Salix hookeriana* Shrubland Alliance are drawn from *A Manual of California Vegetation* (Sawyer et al 2009). A combination of Hooker's willow, California blackberry (*Rubus ursinus),* salal (*Gaultheria shallon),* and silk tassel (*Garrya elliptica)*] will be planted.

Phase A of the trail will be constructed first, currently scheduled for April through October 2016, with Phases B and C construction slated from April through October 2017 and 2018. The willow and estuarine salt marsh mitigation sites will be constructed during the first year of project construction, currently slated for August and November 2016, respectively. This schedule will result in the mitigation sites being constructed prior to most wetland fill impacts, as the vast majority of wetland impacts occur from the construction of Phase C of the trail project. Constructing the mitigation sites prior to impacts will reduce temporal loss.

The City proposes to monitor both the willow and estuarine salt marsh mitigation sites for five-years following mitigation site construction and produce annual monitoring reports. According to the proposed February 2016 Mitigation and Monitoring Plan, inspections will occur quarterly throughout the mitigation monitoring timeframe, or less as needed after year one if plant success exceeds targets; and maintenance will be conducted including supplemental irrigation, supplemental planting, invasive plant control, and herbivory control as necessary. Target invasive plant removal will include manual and mechanical methods to the extent practicable and will not involve the use of herbicides.[8] Proposed performance standards for the salt marsh mitigation site include: (1)

[8] The most likely invader of the high salt marsh habitat in Humboldt Bay is dense-flowered cordgrass (*Spartina densiflora).* The salt marsh reference site near the mitigation site has 30 percent cover of *Spartina*.

establishing site elevations that maintain salt marsh habitat;[9] (2) establishing 50% relative cover of native wetland species by Year 1 and 70% by Year 5 (with at least 15% relative cover of both pickleweed and saltgrass during Year 1 and 25% by Year 5); maintaining no more than 10 percent absolute cover of target invasives during the five year monitoring period; and avoiding large non-vegetated bare spots, erosional areas, or permanent inundation. Proposed performance standards for the willow mitigation site include over 70% sprouted stakes during Year 1 and 60% cover by staked willow and 35% relative cover by related understory plantings by Year 5.

As the City is consolidating mitigation in one area that historically supported salt marsh habitat and is currently surrounded on three sides by functioning salt marsh, the proposed restoration of tidal salt marsh habitat is likely to successfully create high value wetland habitat that adequately compensates for the proposed wetland fill impacts of the trail. In addition, the proposed 4:1 mitigation ratio and the construction of the mitigation area in the first year of the project prior to the majority of wetland fill impacts will address temporal loss during the establishment of mitigation area.

To further ensure that the wetland impacts of the development will be successfully mitigated, the Commission attaches **Special Condition 7**, which requires that the tidal salt marsh and willow shrubland mitigations are performed consistent with the proposed February 2016 Mitigation and Monitoring Plan with certain additional requirements. These additional requirements include, among other provisions, requirements that: (1) documentation shall be submitted to the Executive Director within 30 days of establishment of the mitigation sites assessing the initial biological and ecological status of the "as built" mitigation sites; (2) annual monitoring reports shall be submitted to the Executive Director during the 5 years of monitoring that include an evaluation of the status of the wetland mitigation project in relation to the performance standards; and (3) a supplemental restoration program shall be submitted if the final monitoring reports indicates that the mitigation project has been unsuccessful, in part, or in whole, based on the approved performance standards.

In addition, to ensure future development does not encroach into the tidal salt marsh mitigation area or the willow shrubland habitat mitigation area resulting in the loss or degradation of created wetlands, the Commission attaches Special Conditions 17 and 18. **Special Condition 17** prohibits all development within the mitigation areas except for (i) the authorized development that is approved by this permit, and (ii) the following development if approved by an amendment to the coastal development permit, including: (a) vegetation clearance if required by the California Department of Forestry and Fire Protection to meet fire safety standards; (b) maintenance of existing utilities and community services infrastructure; and (c) other allowable uses for the diking, filling, or dredging of wetlands pursuant to Section 30233(a) of the Coastal Act. **Special Condition 18** requires that, prior to any conveyance of the properties on which salt marsh and willow shrubland mitigation is proposed, the permittee will execute and record a deed

[9] An observed target range is between the Mean Highest High Water (MHHW) of 6.62 feet (NAVD88) and High Tide Line (HTL) of 8.51 feet (NAVD88), plus or minus six inches.

restriction that imposes restrictions on the use of the property to ensure that future purchasers of the property are notified of the prohibitions on development within the wetland mitigation area. Such notification of future purchasers will eliminate expectations on the part of the purchasers that they may be able to develop other improvements or uses within the mitigation area.

Installation of a boardwalk will require equipment on the salt marsh plain and thus will result in an additional 0.35 acres of temporary wetland fill impacts. In order to reduce compaction, tracked vehicles that distribute their weight over a larger area will be used to install the helical anchors for the boardwalk's structure. While salt marsh vegetation will be disturbed by the movement of construction equipment during this installation phase, it is anticipated that the root systems will remain intact and plants will recover. The area beneath the boardwalk is also not included as a permanent impact as the boardwalk is designed to be high enough (four feet) above the salt marsh plain to avoid shading of salt marsh vegetation. The City proposes to conduct invasive species management at the temporarily impacted boardwalk area in conjunction with quarterly inspections and management activities during the five year post-construction monitoring period for the adjacent salt marsh mitigation site. To ensure that impacts to salt marsh habitat under and adjacent to the boardwalk are in fact temporary, the Commission attaches **Special Condition 7(E)** requiring the City to mitigate in kind and in place if the salt marsh vegetation under and/or adjacent to the boardwalk fails to reestablish to a similar density and cover as surrounding salt marsh vegetation within a year of boardwalk construction.

Therefore, the Commission finds that the project as conditioned provides feasible mitigation measures to minimize the project's wetland habitat impacts consistent with Section 30233 of the Coastal Act.

b. Impacts to special-status salt marsh plant species

The project area supports a number of rare plants associated with coastal salt marsh habitat. Special-status botanical surveys were conducted for Phases A and B of the trail by North State Resources (NSR) in 2014,[10] and for Phase C of the trail by GHD in June 2014. In the Phase A project area, three rare plant species, Humboldt Bay owl's-clover (*Castilleja ambigua* ssp. *humboldtiensis*), Lyngbye's sedge (*Carex lyngbyei*), and Point Reyes bird's-beak (*Chloropyron maritimum* ssp. *palustre*), were detected in salt marsh habitat, mostly west of the project footprint along the edge of Humboldt Bay (See **Exhibit 6, pg. 1**). [11] Based on the habitat requirements for dwarf alkali grass (*Puccinellia pumila*) and western sand-spurrey (*Spergularia canadensis var. occidentalis*), there is potential for these species to occur in Phase A of the project area as well; however, none

[10] NSR also conducted a wildlife habitat assessment for a previous proposed project (Waterfront Drive Extension Project) which included most of the current Phase A portion of the project area, and Mad River Biologists conducted additional botanical surveys within Phase A of the project area in June 2002.

[11] Humboldt Bay owl's-clover and Point Reyes bird's-beak are listed in the CDFW's CNDDB as species of special concern with state rankings of S2 and a California Rare Plant Rank of 1B.2. Lyngbye's sedge has a state rank of S3 and a California Rare Plant Rank of 2B.2.

of the previous surveys detected these species.[12] The closest known occurrence of a special-status plant (Point Reyes bird's-beak) in Phase A is in the northeast corner of PALCO Marsh, approximately 40 feet west of the proposed trail alignment. No rare plants have been detected in the vicinity of Phase B of the project. Point Reyes bird's-beak, Humboldt Bay owl's-clover, and western sand-spurrey have been detected in tidal salt marsh habitat in the vicinity of Phase C of the project (See **Exhibit 6, pgs. 3-10**). A total of 172 square feet of mapped habitat where Point Reyes bird's-beak was identified is located within the proposed trail alignment, under the boardwalk and the Wedge Slough bridge. It is anticipated that the City can avoid impacts to these rare plant specimen as the bridge was designed to span areas of salt marsh, and both the bridge and the boardwalk were designed at elevations to avoid shading impacts to the underlying salt marsh vegetation.

The Natural Environmental Study (NES) prepared for Phases A and B of the project in August 2014 includes a number of mitigation measures to avoid and minimize impacts to special-status plant species that have been attached to this CDP as **Special Condition 8**. Special Condition 8 includes the following requirements: (1) the known populations of special-status plants within 100 feet of the project footprint, including, but not limited to Point Reyes bird's-beak, Humboldt Bay owl's-clover, Lyngbye's sedge, and western sand-spurrey, shall be included in the engineering drawings; (2) a targeted, seasonally appropriate botanical survey of the proposed project footprint and an area within 100 feet of the project footprint shall be conducted prior to the start of ground disturbing activities during each year of construction; (3) exclusionary fencing or temporary flagging shall be erected around the special-status plant populations prior to the start of construction activities in the proposed project area; and (4) if impacts to special-status plant individuals occur, the special-status plants shall be conserved through translocation and/or re-planting or re-seeding (by hand by a qualified biologist) into appropriate habitat in the immediate project area so that there is no net loss of the species. With the addition of Special Condition 8, the Commission finds that the project as conditioned provides feasible mitigation measures to minimize the project's impacts on special status salt marsh plants consistent with Section 30233 of the Coastal Act.

c. Impacts to migratory bird species

According to the NES prepared for Phases A and B of the project in August 2014, the project area provides habitat for numerous migratory birds including waterfowl, shorebirds, and songbirds. For avian species potentially nesting in the project area, including special status raptors [Northern harrier (*Circus* cyaneus), white-tailed kite (*Elanus leucurus*), and short-eared owl (*Asio flammeus*)] and songbirds [Little willow flycatcher (*Empidonax traillii brewsteri*), Yellow-breasted chat (*Icteria virens*), and California Yellow warbler (*Setophaga Petechial brewsteri*)], construction disturbance (e.g., site grading) during the breeding season could result in loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. In addition, vegetation management proposed along portions of the trail could slightly decrease the amount of suitable nesting

[12] Dwarf alkali grass has a state rank of SH and a California Rare Plant Rank of 2B.2. Western sand-spurrey has a state rank of S1 and a California Rare Plant Rank of 2B.1.

and roosting habitat and could also result in a reduction in prey species for raptors (e.g., voles). In addition, pruning of some willows could result in a very small reduction of foraging and roosting habitat for special status bird species including the Bald Eagle (*Haliaeetus* leucocephalus), American peregrine falcon, purple martin (*Progne subi*), Loggerhead shrike (*Lanius ludovicianus*), and vaux's swift (*Chaetura vauxi*).

To ensure protection of special status bird species, the Commission attaches **Special Condition 9**, which requires a qualified biologist to conduct pre-construction surveys for nesting birds no more than 14 days prior to the commencement of work, unless the project will occur between September 1 and January 31, outside the avian breeding/nesting season. If any active nesting habitat is identified within 300 feet of the limits of work, the condition requires that construction must be delayed until after the young have fledged, as determined during surveys by a qualified biologist. With the addition of Special Condition 9, the Commission finds that the project as conditioned provides feasible mitigation measures to minimize the project's impacts on nesting birds consistent with Section 30233 of the Coastal Act.

d. Impacts to Northern red-legged frogs

According to the NES prepared for Phases A and B of the project in August 2014, Northern red-legged frogs (*Rana aurora*) were not observed during reconnaissance surveys of the site, but may occur in the fresh emergent wetlands in the project area.[13] If present, they would likely disperse into adjacent riparian scrub during the non-breeding season. Northern redlegged frogs have been recorded in the project vicinity approximately 6-7 miles to the south and to the east in the Little Freshwater and Ryan Creek drainages; along the South Fork Elk River; and near an unnamed tributary to Willow Brook. During construction, activities in or near occupied habitat could result in the direct loss of the species. The species may also be indirectly affected if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. To avoid impacts to red-legged frogs during project construction, the Commission attaches **Special Condition 10**, which requires preconstruction surveys for the species, and relocation of any observed frogs to a safe location outside of the construction zone (consistent with Mitigation Measure Bio-4 in the NES for Phases A and B). With the addition of Special Condition 10 and Special Condition 11 (discussed in the next subsection), the Commission finds that the project as conditioned provides feasible mitigation measures to minimize the project's impacts on Northern red-legged frogs consistent with Section 30233 of the Coastal Act.

e. Impacts to water quality and aquatic species and habitats

A significant portion of the proposed trail facilities will be constructed within and adjacent to coastal wetlands associated with Humboldt Bay. Humboldt Bay is habitat for federally threatened green sturgeon (*Acipenser medirostris*), federally threatened California Coast Evolutionary Significant Unit (ESU) chinook salmon (*Oncorhynchus tshawytscha*), federally threatened Southern Oregon and Northern California Coast ESU

[13] According to the NES for Phase C (August 2014), high salinity precludes the presence of Northern red-legged frog in most of the Phase C project area.

coho salmon (*Oncorhynchus kisutch*), Northern California ESU steelhead (*Oncorhynchus mykiss*), federally endangered tidewater goby (*Eucyclogobius newberryi*), and state listed longfin smelt (*Spirinchus thalyichthys*). The proposed project will not require any "in-water" work, but there is the potential for indirect effects to aquatic species related to water contamination during construction as a result of sediment, construction debris, or hazardous materials entering coastal waters. A Storm Water Pollution Prevention Plan (SWPPP) has been prepared for the project which proposes a number of best management practices to be implemented during construction for erosion and sediment control and prevention of accidental spills (**Exhibit 9**). To ensure these and additional BMPs are implemented during project construction, the Commission attaches **Special Condition 11** requiring adherence to various construction-related responsibilities so that no construction materials, debris, or waste shall be allowed to enter coastal waters or be placed where it may be washed by rainfall or runoff into coastal waters.

While the City proposes to construct the bridges and boardwalk out of aluminum, other minor trail facilities and amenities such as the proposed viewing platforms and signage may include wooden components. The use of pressure-treated wood near coastal waters and wetlands could lead to the leaching of contaminants into the marine environment. The Commission attaches **Special Condition 11(J)** to require the implementation of additional BMPs during construction if treated wood is utilized. These BMPs include a ban on the use of creosote-treated wood, and requirements for (i) cutting/drilling treated wood at least 100 feet away from coastal waters and wetlands, (ii) containing/collecting any sawdust, drill shavings, and wood scraps in order to prevent the discharge of treated wood to the marine environment, and (iii) storing treated wood materials in a contained, covered area to minimize exposure to precipitation.

Because the trail traverses land impacted by current and historic industrial use, there is the potential for soil and/or groundwater contamination along the project alignment that could pose a risk to coastal waters and the health of construction workers if exposed during construction and not contained and properly handled and disposed of. A Hazardous Materials Corridor Study, Phase I Environmental Site Assessment was prepared for Phase A of the trail project by Lawrence & Associates in June 2014, Phase B by Winzler & Kelly in 2011, and Phase C by GHD in January 2013. The purpose of these studies was to identify areas of potentially impacted soil and/or groundwater along the project alignment that may require special handling and disposal during construction or could pose a health exposure risk to construction workers. The investigations did not identify any (Hazard Rank 1) sites along the project alignment where contamination of soils and/or groundwater is confirmed to exist and where contamination will likely affect project construction. The investigations did find that the proposed trail alignment runs near several listed hazardous waste sites. These sites have the potential to affect the project in those locations where significant soil excavation is proposed, either because of the presence of contamination in nearby areas that may likely migrate into the project area or because the extent of contamination is unknown.

For Phases A and B of the trail, the vast majority of the trail alignment is on existing volunteer trails and access roads. In these areas, there will be no excavation since trail

construction will consist of installing approximately 6 inches of aggregate base and approximately three inches of asphalt concrete on top of the existing surface. In the limited areas where construction will involve minor excavation, trail construction will not exceed 6 inches in depth. In areas where it is determined that excavation activities must exceed 12 inches (e.g., trail bollards, signs, and fencing), the City proposes to only excavate in areas that have little or no potential for contamination based on the environmental site assessments.

In contrast to Phases A and B, soil disturbance is planned for several areas in Phase C of the trail alignment. A number of potentially impacted sites were identified in the vicinity of the Phase C project area.[14] None of the sites were identified as being Hazard Rank 1 sites where contamination is confirmed in the trail alignment and will likely affect project construction. Although there is no evidence to indicate that contaminated soils or hazardous materials are present in the project footprint, there is the potential that impacted soil and groundwater could be encountered in areas of soil disturbance that would require containment, removal and proper disposal. To address this potential hazard, the Hazardous Materials Corridor Study prepared for Phase C of the project recommends that the City collect pre-construction soil borings to characterize soil, and utilize the laboratory analytical results of these soil and groundwater samples to ascertain whether health and safety concerns are present for construction workers and determine potential soil and/or groundwater handling and disposal options. The study also recommends that that a Soil and Groundwater Management Plan (SGMP) be prepared prior to construction activities, and that field screening occur during construction to identify potentially impacted soil. To further prevent the release of any soil and groundwater contamination that might be encountered in areas of soil disturbance, the Commission attaches **Special Condition 12**, requiring the City to complete pre-construction soil borings as recommended by the Hazardous Materials Corridor Study for Phase C of the study, and to submit results of soil and groundwater sample analysis to the Executive Director for review and approval. Special Condition 12 also requires the City to submit a Construction Soil and Groundwater Management Plan that (a) demonstrates that all contaminated soil and groundwater encountered during construction shall be contained, handled, and properly disposed of in a manner that prevents discharge of contaminated soil and groundwater to the surrounding environment; (b) provides for field screening during construction activities, and sampling of any impacted soils and groundwater encountered with characterization for off-site disposal; and (c) includes proposed containment, handling, and disposal methods that require special handling of impacted groundwater, impacted soil segregation, and manifested disposal if necessary

[14] The listed sites in the vicinity of Phase C consist of Former Shell Bulk Terminal (Hazard Rank 2); Pepsi Cola Bottling Company (Hazard Rank 2); Target (Hazard Rank 2); Former Dolbeer Carson Lumber Company (Hazard Rank 3); and APN 002-231-012 (Hazard Rank 3). Hazard Rank 2 indicates that the site has the potential to affect the project, either because of the presence of contamination that may migrate into the project area or because the extent of contamination is unknown. Hazard Rank 3 indicates that the site is not known to be contaminated but due to current or historical use could possibly have contamination that could affect project construction.

Therefore, the Commission finds that the project as conditioned provides feasible mitigation measures to minimize the project's potential impacts on the biological productivity and quality of coastal waters consistent with Sections 30230,30231, and 30233 of the Coastal Act.

E. COASTAL HAZARDS

Section 30253 of the Coastal Act states, in applicable part, as follows:

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

Section 30253 requires in part that new development minimize risk to life and property in areas of high flood hazard, assure structural integrity and stability, and neither create nor contribute significantly to erosion or engender the need for protective devices that would alter natural landforms. The project entails development in an area subject to significant exposure to geologic and flood hazards including strong earthquake shaking, liquefaction, tsunami inundation, flooding, and erosion.

Earthquake shaking

Humboldt County is a very active tectonic region subject to frequent, and sometimes large, earthquakes due in part to its close proximity to the Cascadian Subduction Zone and the Mendocino triple junction fault zone where several tectonic plates meet offshore. However, the proposed trail alignment does not occur on any fault zones, and the only project components that could present a hazard in the event of a seismic incident are the proposed boardwalk and bridges. All constructed features of the boardwalk and bridges will comply with the 2007 California Building Code (CBC), including the requirements of the special Seismic Design Category zones (SDC). In addition, a geotechnical investigation was conducted by Crawford and Associates Engineering in December 2014 and January 2015 for the bridges and boardwalk. The City will incorporate the recommendations made in the geotechnical study, including recommendations for grading, ground improvement, and foundation support, into the final plans and specifications for the trail project and implement the recommendations during construction.

Liquefaction

The project is within an area of historical fill over bay muds and may be subject to some degree of ground liquefaction during strong seismic shaking. However, the trail alignment is mapped within an area of "Relative Stability" by the County (Humboldt County GIS Portal) and the project will comply with CBC's seismic requirements. Since the proposed project area and vicinity are flat, there is no potential for landslides.

Tsunami Inundation

Due to the known seismic activity in the Pacific Rim, there is the potential for a tsunami to occur that could impact Humboldt Bay. If the region were to suffer a major earthquake along the Cascadia Subduction Zone, a local tsunami could hit the Humboldt Bay shoreline within minutes. The entire trail alignment is shown as being within the zone of potential inundation by a tsunami by the Tsunami Inundation Map for Emergency Planning for the Eureka Quadrangle published in 2009 by the California Emergency Management Agency, California Geologic Survey, and University of Southern California. In the event of a tsunami, the City of Eureka Emergency Operations would broadcast an emergency tsunami warning and provide direction to the public on the actions they should take. To help inform trail users of tsunami hazards and evacuation procedures, the proposed project would include signage at each trailhead to notify the public of tsunami hazards and evacuation routes. The City will post the signage prior to the trail being open to the general public.

Flooding and Sea Level Rise

The proposed project is in a relatively low-lying waterfront area of the City of Eureka, a portion of which is in the mapped 100-year floodplain. However, the project will not place structures that could redirect or impede flood flows within the FEMA-designated 100-year floodplain. Although the proposed project includes installation of 3.75 miles of an eight-to-ten-foot-wide impervious asphalt surface, the trail is not expected to have a significant impact on flood capacity. The existing substrate in the proposed location of the trail is predominantly compacted imported fill associated with the railroad grade. Although the project would add a paved surface to the compacted material, there would be a negligible change in the volume and path of runoff. Any water falling on the paved trail will flow downhill to surrounding areas (including the two-foot-wide gravel shoulders) where percolation will occur. In addition, the proposed trail is not expected to be subject to significant damage as a result of inundation and is not an essential facility required to be operational in the event of a flood.

Under sea level rise, the proposed trail may be exposed to an increased level of periodic inundation as a result of high tide and flood events. The City submitted a sea level rise analysis for the trail project on January 21, 2016 (**Exhibit 10**). The City utilized Northern Hydrology and Engineer's data to estimate the anticipated sea level rise of Humboldt Bay[15]. Within the study area, the predicted mean monthly maximum tide in 2013 and 2014 is 8.5 feet (NAVD 88). With 0.5 meters (20 inches/1.6 feet) of sea level rise, the relative tide level would be 9.6 feet. The entire length of the trail is at or above a 10 foot (NAVD88) tide, including the boardwalk and bridges. The low projection for sea level rise to reach the 0.5 meter increase is 2088, the medium projection is 2066, and the high projection is 2045.

[15] In 2015, Northern Hydrology and Engineering prepared a study for the State Coastal Conservancy and Coastal Ecosystems Institute of Northern California entitled, "Humboldt Bay: Sea Level Rise, Hydrodynamic Modeling, and Inundation Vulnerability Mapping." The study includes projections for relative sea level rise in Humboldt Bay that takes into account the combined effects of regional eustatic sea level rise and vertical land motion (tectonic uplift and subsidence). The projections of relative sea level rise for Humboldt Bay range from 2 feet (0.6 meters) to 5.25 feet (1.6 meters) by 2100.

To evaluate the flooding risk of the project resulting from sea level rise, it is useful to examine the expected design life of the trail. Temporary structures, ancillary development, amenity structures, or moveable or expendable construction are generally expected to have a relatively short expected life such as 25 years or less. Residential or commercial structures will likely be around for some time, so a time frame of 75 to 100 may be appropriate. As a trail is closer to an ancillary development than a commercial development, the life expectancy is closer to 25 years than 75 years. In addition, the City has secured a 25 year license through 2040 with NCRA for use of NCRA right-of-way. As a significant portion of the proposed trail is located on the NCRA right-of-way, it is logical to use 25 years as the project's design life.

As described above, Northern Hydrology and Engineer's most conservative estimate for sea levels to reach 9.6 feet, just below the level of any portion of the project (the entire length of the trail is at or above 10 feet), would provide a minimum life expectancy of 28 years, which is consistent with the design life of the trail. In addition, if sea level does rise past 10 feet, the City has considered how to adapt those portions of the trail most closely bordering the projected inundation area. The lowest levels of development for the project occur in Phase C alongside the boardwalk across the salt marsh and in Phase B adjacent to Clark Slough on the Balloon Track. When sea level rise becomes an issue in these locations, the City can relocate the alignment of the trail over a variety of city streets as shown on the Exhibit 10 map (realignment in red). Similarly, if the City does not in the future secure an additional license from NCRA for continued use of the NCRA right-of-way for the trail, the trail may need to be rerouted onto City streets or other property the City obtains rights to use for a public trail.

The potential future modification, relocation and reconstruction of the trail are forms of development as defined by Section 30106 of the Coastal Act requiring coastal development permit authorization. The City would need to obtain a coastal development permit amendment or a new coastal development permit prior to making such changes to the trail. In the review of an application for future trail changes, the Commission or its successor agency would consider the flooding risk from sea level rise and other flood and geologic hazards in evaluating the consistency of the development with Section 30253 of the Coastal Act. To ensure that the applicant and the owners of the trail right of way are notified of the need to obtain additional coastal development permit authorization for any changes to the trail, Special Condition 19 requires that any proposed relocation, abandonment or modifications to the trail shall require a permit amendment. In addition, Special Conditions 21 and 22 require that grants of easement be recorded on all private property that permanently authorizes use of trail as proposed by CDP 1-15-2054 with conditions, including Special Condition 19.

Despite the fact that the trail is not predicted to be continually inundated by sea level rise over its design life, as sea levels rise the lower lying portions of the trail may be subject to more frequent flooding from high tides, storm surge, and extreme wave events and could suffer from shoreline erosion. In addition, along much of its alignment, the trail will be located at a high point on the landscape along the railroad berm and to avoid wetlands, so while the trail itself is not predicted to be inundated, it may be surrounded by water and difficult to access. The trail, however, can withstand periodic inundation without incurring structural damage or posing a hazard to coastal

resources. In addition, no critical facilities are linked to the trail project and construction of the trail will not put habitable structures and businesses at risk.

In light of the aforementioned hazards, the Commission attaches **Special Condition 13**, which requires the City to assume the risks of flooding and geologic hazards to the property and waive any claim of liability on the part of the Commission. Given that the applicant has chosen to implement the project despite flooding and geologic risks, the applicant must assume the risks. Special Condition 13 notifies the applicant that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand the hazards.

Further, Coastal Act section 30620(c)(1) authorizes the Commission to require applicants to reimburse the Commission for expenses incurred in processing CDP applications. See also 14 C.C.R. § 13055(g). Thus, the Commission is authorized to require reimbursement for expenses incurred in defending its action on the pending CDP application. Therefore, consistent with Section 30620(c), the Commission imposes **Special Condition 15** requiring reimbursement of any costs and attorneys' fees the Commission incurs in connection with the defense of any action brought by a party other than the Applicants/Permittees challenging the approval or issuance of this permit.

As discussed above, the project as conditioned will not eliminate all risk to life and property from geologic and flood hazards. However, all feasible mitigation measures necessary to minimize the flood and geologic risks have been incorporated into the project as conditioned. Therefore, the Commission finds that the proposed project, as conditioned, will minimize risk to life and property from hazards, consistent with Section 30253 of the Coastal Act.

F. ARCHAEOLOGICAL RESOURCES

Section 30244 of the Coastal Act states:

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

The project area lies within the traditional territory of the Wiki division of the Wiyot tribe. Wiyot occupied the lands adjacent to Humboldt Bay and typically lived in villages that were close to water and wetlands where they had ample access to food and traveled by water. Given ethnographic evidence of Wiyot habitations along Humboldt Bay and the project's location along the Eureka shoreline, it is likely cultural resources are present in the project area.

Roscoe & Associates conducted an Archaeological Survey Report for Phases A and B in June 2014, and a separate Archaeological Survey Report for Phase C in March 2014, with a supplemental Phase C report in August 2015 to address changes to the project footprint. The archaeological surveys conducted by Roscoe & Associates involved a records search, review of previous archaeological investigations in the project vicinity, consultation with the Tribal

Historical Preservation Officers (THPOs) of the Wiyot Tribe, the Bear River Band of Rohnerville Rancheria, and the Blue Lake Rancheria, field surveys of the entire project area, and review of historic maps, aerial photographs, and ethnographic materials.

The archaeological investigation for Phases A and B of the trail project concluded that four sites within the Phases A and B project area should be considered sensitive for buried archaeological deposits, including the Historic Bucksport Townsite and the Historic Wiyot Community at Bucksport. Consultation with THPOs on Phases A and B of the trail project occurred in 2004, 2005, 2011, and 2014, and pedestrian field surveys of Phases A and B occurred in September-December 2004, January 2005, January-February 2011, and April 2014. The field surveys revealed that none of the identified archaeological sites are apparent on the present ground surface; however, each site location has potential subsurface deposits that may be significant. As the project is proposed, no ground disturbing activities during trail construction would exceed six inches in depth in known cultural resource sites. However, if it is determined that excavation activities must exceed 12 inches near known cultural resource sites, the City proposes to contact the relevant THPOs so that a cultural monitor may be present to observe for the presence of buried archaeological materials during construction.

The archaeological investigation for Phase C concluded that two Wiyot habitation sites have been recorded in close proximity to the Phase C project area. Systematic pedestrian field surveys of the Phase C project area were conducted by Roscoe & Associates in November and December 2013, February 2014, and spring of 2015 and no cultural resources were identified. Consultation with THPOs on Phase C of the trail project occurred in 2013, 2014, and 2015. The THPOs requested that a cultural monitor by present during construction if project related excavation greater than 12 inches in depth will take place near the southern terminus of the Phase C project area from Tydd Street to the Highway 101 Bridge or in the locations of the proposed bridge crossings at Target Slough and First Slough.

To ensure protection of any archaeological resources that may be discovered at the site during construction of the proposed project, the Commission attaches **Special Condition 14**. This special condition requires that if an area of cultural deposits is discovered during the course of the project, all construction must cease and a qualified cultural resource specialist, in conjunction with the Wiyot Tribe, the Bear River Band of Rohnerville Rancheria, and the Blue Lake Rancheria THPOs, must analyze the significance of the find. To recommence construction following discovery of cultural deposits, the permittee is required to submit a supplementary archaeological plan for the review and approval of the Executive Director, who determines whether the changes are de minimis in nature and scope, or whether an amendment to this permit is required. Also, based on recommendations from the local THPOs, Special Condition 14 requires that the THPOs be notified at least two weeks prior to any ground disturbing activities greater than twelve inches in depth, and that a cultural resources monitor approved by the Wiyot Tribe, the Bear River Band of Rohnerville Rancheria, and the Blue Lake Rancheria be present to oversee all ground disturbing activities greater than 12 inches in depth authorized by CDP 1-15-2054 unless evidence has been submitted for the review and approval of the Executive Director that the THPOs of these three entities have agreed that a cultural resources monitor need not be present.

Therefore, the Commission finds that the proposed project is consistent with Coastal Act Section 30244, as the proposed development includes reasonable mitigation measures to ensure that construction activities within the project area will not result in significant adverse impacts to archaeological resources.

G. VISUAL RESOURCES

Section 30251 of the Coastal Act states in applicable part:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality of visually degraded areas.*

The proposed project will create new viewing opportunities of Humboldt Bay and surrounding marshes, sloughs, and tidal flats by creating a designated bike and pedestrian route along the City's waterfront. The City proposes to further enhance Bay views by installing a number of viewing platforms and interpretive sign areas along the trail in key locations, including sites on Parcel 4, at the approximate confluence of Humboldt Bay and Eureka Slough, on either side of the proposed boardwalk, and adjacent to Wedge Slough, Target Slough, and First Slough. The viewing platforms will consist of raised deck platforms, and will include interpretive signs, benches, and/or landscaping. The platforms will provide up-close views of local vegetation/habitats, mid-range views of Eureka Slough/Humboldt Bay, and long-range views of the surrounding ridge lines.

The project is also expected to improve the scenic quality of the area through (a) the removal of invasive plants (including plants such as Pampas Grass that block views), (b) the clean-up of debris and garbage, (c) the improvement of surfacing and drainage along existing paths that will become part of the trail alignment, (d) the installation of native landscaping along Waterfront Drive, and (e) the removal of derelict structures on Parcel 4. The project will also attract more people to the Eureka shoreline which may deter illicit dumping and unauthorized camping which are currently pervasive along the waterfront. The habitat restoration proposed as mitigation for the trail's wetland fill impacts will also improve the visual character of the shoreline.

The proposed trail is an at-grade facility, so it will have a minimal effect on views to and along the bay. The proposed project does however include a number of above-grade elements that would be visible from both publicly accessible roadsides and within the project area itself. These improvements include 7 bridges, a boardwalk, 3 playgrounds/ outdoor workout equipment areas, a bathroom, interpretive signage, fencing, benches, public art, bike racks, and one new streetlight. As preliminarily described and depicted by the City, the height, bulk, location, and design of these structures are similar in size to those typically in use at other coastal access facilities in the area and will not adversely affect views to and along the coast or the visual character of the area. To promote visual continuity along the Eureka waterfront, the City proposes to design trail features to be consistent with similar features on existing trail segments

with which the proposed trail will connect, including the Hikshari' Trail, Eureka Boardwalk, Adorni Trail, and Target trail. For example, the City proposes to utilize the Eureka Boardwalk style stamped concrete from Commercial Street to the northern terminus of Phase B, so that the new trail segment is visually consistent with the character of the adjacent C Street Plaza. In addition, the City proposes that the benches, bike racks, and playground equipment installed along the trail have a nature-theme to help the development be compatible with the natural, scenic character of the surrounding area.

The City has not submitted final design plans for trail signage and amenities. To ensure new features will be constructed to be unobtrusive on the landscape and visually compatible with the character of the surrounding area, the Commission attaches **Special Condition 3**. Special Condition 3 requires the permittee, prior to implementation of project amenities, to submit final plans, for the review and approval of the Executive Director, that include: the location of all signage, lighting, viewing platforms, fencing, seating, public art, bike racks, restrooms, trash receptacles, and playground/ exercise equipment areas; design specifications for the one new light on Waterfront Drive; the content and size of signage; and the dimensions, materials, and colors of trail amenities. The final plans must demonstrate how trail signage and amenities will be visually compatible with the character of surrounding areas.

The Commission therefore finds that the project, as conditioned, will be consistent with Section 30251 of the Coastal Act.

H. PUBLIC ACCESS & RECREATION

Section 30210 of the Coastal Act requires that maximum public access shall be provided consistent with public safety needs and the need to protect natural resource areas from overuse. Section 30212 of the Coastal Act requires that access from the nearest public roadway to the shoreline be provided in new development projects, except where it is inconsistent with public safety, military security, or protection of fragile coastal resources, or where adequate access exists nearby. Section 30211 of the Coastal Act requires that development not interfere with the public's right to access gained by use or legislative authorization. Section 30214 of the Coastal Act provides that the public access policies of the Coastal Act shall be implemented in a manner that takes into account the capacity of the site and the fragility of natural resources in the area. Section 30221 of the Coastal Act require that oceanfront land suitable for recreational use shall be protected for recreational use and development unless already adequately provided for in the area. In applying Sections 30210, 30211, 30212, 30214, and 30221, the Commission is also limited by the need to show that any denial of a permit application based on these sections or any decision to grant a permit subject to special conditions requiring public access is necessary to avoid or offset a project's adverse impact on existing or potential access.

The City of Eureka is proposing to construct 3.75 miles of Class 1 multi-use trail along the Eureka waterfront from Truesdale Street (southern terminus) to Tydd Street (northeastern terminus). The primary objectives of the proposed coastal trail are to enhance public coastal access, recreational, and nature study opportunities in the Eureka Area. The proposed project is also part of a larger effort to encourage local and regional multi-modal connectivity in the Humboldt Bay area, and is an important part of the statewide initiative to complete the California Coastal Trail, that, when complete, will stretch from Oregon to Mexico. The proposed trail will

connect to a network of existing trail segments to create a continuous 6.3-mile-long waterfront trail route spanning the extent of City limits from south Eureka to northeastern Eureka along Humboldt Bay's eastern shoreline and Eureka Slough. The construction of the proposed trail will be a significant step in reintegrating the City with its waterfront that has historically been dedicated primarily to commercial and industrial development and is currently underutilized.

There are a number of existing public access and recreational facilities in the project area. These include, but are not limited to (from south to north): the 1.2 mile long Hikshari' Trail and its four trailheads in southern Eureka; the PALCO Marsh with its PALCO Marsh Trail; the Del Norte Street Fishing Pier, picnicking area, and parking lot; the City's Wharfinger Building / Eureka Small Boat Basin complex; the Eureka Boardwalk through Old Town; the City's Adorni Recreational Center; the Adorni Trail through Halvorsen Park; and the public trail and boat launch behind Target. By linking these existing trail segments and recreational facilities together, the proposed project will promote their increased usage and the overall revitalization of the waterfront.

Table 1. Existing Segments of Trail Connected by Proposed Project	
Hiksari' Trail	1.2 miles of Class 1 asphalt trail from the foot of Truesdale Street south to the Pound Road Park and Ride lot.
PALCO Marsh Trail	0.5 mile of compacted gravel and native surface trail between Del Norte Street and the Pole Shed parking area north of the Bayshore Mall
Old Town Boardwalk	0.25 mile of concrete boardwalk between the foot of G and C Streets
Adorni Trail	0.4 mile of asphalt trail between the Adorni Center and the foot of T Street
Target Trail	0.15 mile of asphalt trail adjacent to Target Corporation

As designed to meet Caltrans Class I multi-use trail design standards (Caltrans Highway Design Manual, Chapter 1000) and Americans with Disabilities Act (ADA) design standards, the proposed trail will expand shoreline access across 3.75 miles of shoreline to a variety of users including pedestrians, bicyclists, and persons in wheelchairs. Currently bicycle access along the Bay is poor, and safety issues deter some bicyclists from utilizing Highway 101 and city streets. While there are a number of walking paths along the shoreline within the project area, they are disconnected. By creating a separated, continuous, ADA-compliant path parallel to Highway 101 for nonmotorized access through the City of Eureka, the project will encourage non-motorized travel, increasing opportunities for active living to improve public health, and decreasing transportation related carbon dioxide (CO2) output. The trail will not only create a separated, continuous, nonmotorized route parallel to Highway 101 for pedestrian and bike traffic traveling in the urbanized Eureka area, but it will also include the only path for bikes and pedestrians to travel from the Myrtle Avenue area of Eureka to the Old Town area without having to interact with vehicular traffic on Highway 101 (the trail will pass under Highway 101 at Eureka Slough).

The trail has also been designed to avoid conflicts among trail users and between trail users and motor vehicles, trains, and nearby commercial and industrial uses. The propose trail includes striping, signage, and unpaved shoulders which will help avoid substantial safety related conflicts among trail users including bicyclists, birdwatchers, and parents pushing strollers. A significant portion of the trail is routed inland to avoid conflicts with coastal-dependent and

related commercial and industrial development along the waterfront consistent with public safety needs. To avoid conflicts between non-motorized trail users and motorized traffic, roadway, railway, and driveway crossings will include warning signage and markings both on the trail and the approaching vehicular way. Areas where the trail crosses roadways will be improved with continental crosswalks, and trail approaches to intersections will include stop signs and stop bar (limit line) striping to stop trail users before they cross the intersection. In addition, at these locations, pedestrian crossing signage and "no motor vehicle" signage will be installed. Bollards will also be installed at trail intersections and entrances to prevent vehicles from entering a trail. To avoid any substantial conflicts between the rail line (which is currently inactive) and trail users, the City will maintain minimum setbacks from the railroad centerline as specified by NCRA Policy 0907 (North Coast Railroad Authority, 2009), install railroad crossing pavement markings and signage at all crossing locations, and establish a minimum 45 degree angle for all trail / railroad crossings. The City will also work with NCRA to install additional controls at crossing as required if the railroad becomes active.

The proposed project includes restriping of an existing public parking lot at Del Norte Street and reconfiguration of street parking at the foots of Y and X Streets, but the project does not include any additional new vehicular parking, and current informal use of the rail corridor as a parking lot will be displaced along approximately 200 feet of Waterfront Drive. However, the lack of new access parking will not create an issue as adequate parking/trailhead facilities exist nearby at the Truesdale Street/Howell Street intersection, the north end of the *Bayshore Mall* over-flow parking lot, the foot of Del Norte Street, along Waterfront Drive, at the Eureka Marina and Wharfinger Building, at the foot of C Street, along Front Street, behind the Target store, at the foots of X and Y Streets, and along Tydd Street. City of Eureka staff conducted a count at the Truesdale Trailhead of the City's Hiskshari Trail on two consecutive Tuesdays in mid-January 2014. Those counts found that approximately 10 vehicles drove to the parking lot each day to access the trail system. It is anticipated that the number of vehicle-trips generated at each of the project's proposed trailheads would be equal to or less than those generated at the Truesdale Trailhead. The Truesdale Trailhead is a primary parking lot and trailhead for the City's overall "Waterfront Trail" and therefore is expected to generate more vehicle-trips than the much smaller and less formal trailheads associated with the proposed project. As there is a large number of parking options at various locations along the proposed trail that have significant unused capacity, and the trail is not expected to result in a concentrated increase in demand at any one of the many parking locations, the proposed project is served by adequate parking.

Construction of the project will have minor temporary impacts on public access in the area as described in Subsection IV-A (Project Description: Staging and Access) of this report. However, impacts on access are only temporary in duration, not exceeding more than a week in length at any one locale, and thus will not have any long-term impact on access.

As stated above, the trail will be developed as a continuum of individual segments. To avoid the potential for incomplete or inconsistent trail segments and to ensure that the trail safely functions as a coordinated and integrated continuous public access system, the Commission attaches Special Condition 19. **Special Condition 19** identifies the fundamental provisions of the scope of trail use, most of which are already contained in the license agreement between the North Coast Railroad Authority and the Applicant. . Special Condition 19 includes the following

requirements: (a) the entire trail shall be a Class 1 multi-use trail available for shared public use by non-motorized users including pedestrians, bicyclists, wheelchair users, strollers, joggers, and other non-motorized vehicle users 24 hours a day daily; (b) the Permittee shall be responsible for maintenance of the multi-modal trail and motorized vehicles shall be permitted access by the City and its agents for construction, maintenance and emergency purposes; (c) trail segments (Phases A, B, and C), as identified in **Exhibit 2**, shall not be open for public use until completion of the trail improvements in that segment; (d) the City shall maintain continuously all trail improvements in good order and repair and shall allow no nuisances to exist or be maintained therein; (e) no portion of the trail owned by the City of Eureka in fee or by grant of easement may be abandoned by the City until a grant of easement is transferred to another entity, approved by the Executive Director, who can operate that portion of the trail in conformance with all terms and conditions of this coastal development permit; and (f) any proposed changes, including any proposed change in the above-identified scope and manner of use or any proposed relocation or abandonment of any portion of the multi-modal trail, shall require an amendment to Coastal Development Permit No. 1-15-2054 approved by the California Coastal Commission unless the Executive Director determines that no amendment is legally required. As conditioned, the trail will more safely function as a coordinated and integrated continuous public access system, consistent with the access provisions of Coastal Act sections 30210-30214.

Finally, **Special Condition 22** requires that, prior to any conveyance of the properties owned by the City of Eureka on which multi-use trail is proposed, the permittee will execute and record a deed restriction that assures both protection of the scope and manner of public use along the trail and that future purchasers of the property are notified of the scope and manner of public use along the trail. Such notification of future purchasers will eliminate expectations on the part of the purchasers that they may be able to exclude the public from the multi-use trail property.

Therefore, the Commission finds that the proposed project as conditioned, which includes substantial new public access and fosters expanded use of existing coastal access and recreational facilities, is consistent with the public access and recreation policies of the Coastal Act.

I. APPLICANT'S LEGAL INTEREST IN THE PROPERTIES

Under Section 30601.5 of the Coastal Act, an applicant for a CDP does not need to be the owner of a fee interest in the property on which the proposed development is located as long as the applicant can demonstrate a legal right, interest, or other entitlement to use the property for the proposed development, and as long as all holders or owners of any other interests of record in the affected property are notified in writing of the permit application and invited to join as coapplicants. In addition, Section 30601.5 of the Coastal Act requires that the applicant demonstrate authority to comply with all conditions of approval prior to issuance of a CDP. The proposed project is located within NCRA right-of-way, City-owned properties, Waterfront Drive right-of-way, Caltrans right-of-way (under Highway 101), and a number of private properties. **Exhibit 12** lists and maps project APNs by property owner and trail segment (i.e., Phases A, B, and C).

The City has signed a license agreement with NCRA, dated September 11, 2015, for the use of the rail corridor throughout the trail alignment from Truesdale Avenue to just south of the Eureka Slough railroad bridge for a Rails-with-Trails path. The term of the agreement is 25 years

until September 11, 2040. To ensure that the City has the authority to comply with all conditions of approval of CDP 1-15-2054 on properties owned by the North Coast Railroad Authority or the Northwestern Pacific Railroad Company (APNs 001-013-011; 002-231-002; 003-082-021; 003-082-022; 007-031-002; 007-051-002; 007-061-002; and 007-071-003), the Commission attaches **Special Condition 20(A)**, requiring that the City, prior to permit issuance, show evidence that the railroad has agreed in writing that the applicant may undertake development on its properties pursuant to CDP 1-15-2054 as conditioned.

For the segment of the trail that passes under Highway 101 at Eureka Slough, the City will need to secure an encroachment permit from Caltrans. As discussed in Subsection IV-C (Other Agency Approvals), the Commission attaches **Special Condition 6**, requiring the City to show evidence of the necessary encroachment permit from Caltrans prior to permit issuance.

For those segments of the trail within private property, the City has been acquiring right-of-way easements from property owners. The subject properties include parcels owned by Target Corporation (APN 002-201-008), Travis Schneider (APN 002-252-028), Open Door Community Health Centers (APN 002-191-035), the Salvation Army (APN 002-191-025), Security National Commercial LLC (APNs 002-231-008, 002-231-009, and 002-231-013), and CUE VI LLC (APNs 001-014-002, 003-021-009, 003-031-006, 003-041-007, 003-051-001, and 003-072-003). To ensure that the City has the authority to comply with all conditions of approval of CDP 1-15-2054 on the aforementioned private properties, the Commission attaches **Special Condition 20(B)**, requiring that the City, prior to permit issuance, show evidence that the legal owners of these properties have agreed in writing that the applicant may undertake development on their properties pursuant to CDP 1-15-2054 as conditioned.

The recorded easement deeds over private property that have been submitted to date do not clearly allow for the use of all trail segments as proposed by the applicant and as conditioned by this permit, including Special Condition 19. As discussed above, to avoid the potential for incomplete or inconsistent trail segments and to ensure that the trail safely functions as a coordinated and integrated continuous public access system, **Special Condition 19** identifies the fundamental provisions of the scope of trail use, most of which are already contained in the license agreement between the North Coast Railroad Authority and the Applicant. Such fundamental provisions include that the trail be a Class 1 multi-use trail open 24 hours a day and available not just to pedestrians but bicyclists and other non-motorized vehicle users. To ensure that the City has the authority to use easement areas located within privately owned property as they are proposing and in a manner that complies with all conditions of approval of CDP 1-15-2054, the Commission attaches Special Condition 21. **Special Condition 21** requires the City to submit, prior to commencement of development and for the review and approval of the Executive Director, Granted Easements for those segments of the trail within private property that permanently authorize use of the trail as approved by CDP 1-15-2054, including Special Condition 19.

The proposed 1.28-acre tidal salt marsh mitigation is located on a property currently owned by CUE VI LLC (APN 002-231-004). The City and CUE VI LLC signed a purchase agreement dated March 29, 2016 for the transfer of fee title of the mitigation site property to the City. To ensure that the City owns the mitigation site in fee title and has the authority to undertake

development pursuant to all conditions of approval of CDP 1-15-2054, including, but not limited to, the proposed mitigation as conditioned, the Commission attaches **Special Condition 16**. The special condition requires the City to submit, prior to issuance of CDP 1-15-2054, a copy of the recorded deed transferring ownership of the salt marsh mitigation site (APN 002-231-04) to the City of Eureka.

The Commission finds that as conditioned, the development is consistent with the requirements of Section 30601.5 of the Coastal Act.

J. CALIFORNIA ENVIRONMENTAL QUALITY ACT

The City of Eureka served as the lead agency for the purposes of CEQA review. The City evaluated the three phases of the trail in separate environmental documents. A Mitigated Negative Declaration (MND) was adopted for Phase A in October 2014 (State Clearinghouse Number 2014092033), Phase B in June 2012 (State Clearinghouse Number 2012052053), and Phase C in March 2014 (State Clearinghouse Number 2014022050). In addition, the Federal Highway Administrated designated Caltrans to act as the National Environmental Policy Act (NEPA) lead agency on its behalf. Caltrans determined that all phases of the project qualify for a Categorical Exclusion (CE) under 23 CFR 771.117(c)(3) [Caltrans issued one CE for Phase C in September 2014 and a separate CE for Phases A and B in November 2014].

Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of CDP applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

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

APPENDIX A
SUBSTANTIVE FILE DOCUMENTS

Application File for Coastal Development Permit (CDP) No. 1-15-2054

Application File for CDP No. 1-11-037 (City of Eureka, Hikshari' Trail).

Application File for CDP No. A-1-EUK-02-166 (Target Corporation).

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Natural Resources Services Division of RCAA.(2005, September). Eureka Trails Committee Waterfront Trail & Promenade Recommendations. Prepared for the City of Eureka Trails Committee.

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Roscoe, James and William Rich. (2014, March). An Archaeological Survey Report for the Eureka Waterfront Trail Phase C-Tydd Street to Adorni, City of Eureka, Humboldt County, California.

Roscoe, James and William Rich. (2015, August). Supplemental Archaeological Survey Report for the Eureka Waterfront Trail Phase C-Tydd Street to Adorni, City of Eureka, Humboldt County, California.

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SHN Consulting Engineers and Geologists, Inc. (2014, May). Wetland Delineation Report 2014 Update. Prepared for North State Resources, Inc.

APPENDIX B
PROJECT SETTING

Phase A

Phase A of the trail would be located behind the Bayshore Mall and along the western edge of PALCO Marsh adjacent to the Humboldt Bay shoreline from Truesdale Street to Del Norte Street in southern Eureka (**Exhibit 2, pg. 2**). The trail alignment would run within the NCRA right-of-way, with the exception of two short segments of trail that would temporarily leave the NCRA alignment – one that would follow an existing unpaved road through the City-owned vacant Parcel 4 behind the Bayshore Mall, and one that would follow an existing foot trail through PALCO Marsh for approximately 850 feet to Del Norte Street.

Palustrine emergent wetland and estuarine emergent wetlands are abundant in the Phase A project vicinity and share a number of dominant plants including salt grass (*Distichlis spicata*), pickleweed (*Salicornia virginiana*), and seaside arrow-grass. Three sensitive plant species, Point Reyes bird's-beak (*Chloropyron maritimus* ssp. *palustre*), Humboldt Bay owl's-clover (*Castilleja ambigua* ssp. *humboldtiensis*), and Lyngbye's sedge (*Carex lyngbyei*) have been identified in tidal salt marsh habitat in the vicinity of the Phase A project area, mostly to the west of the project footprint along the edge of Humboldt Bay (See **Exhibit 6, pg. 1**). The project area also includes patches of riparian scrub community dominated by willows (*Salix sp.*), red alders (*Alnus rubra*), and Pacific wax myrtle (*Myrica californica*), much of which is associated with freshwater wetlands that are not truly "riparian" from a strict wetland definition (i.e., near a flowing channel or large body of water), but rather are best characterized by this structural habitat type. In addition, in the PALCO marsh the trail passes by a tidal slough where eelgrass (*Zostera marina*) has been documented to occur. Despite being surrounded by abundant wetlands and a number of special-status plant species, the Phase A trail alignment would avoid sensitive-plant species and would be located in upland areas along the railroad right-of-way and existing paved or compacted gravel paths, except in one area approximately 800 feet south of Del Norte Street where the trail would veer from previously disturbed ground along the railway to cross a tidally influenced drainage ditch to an existing foot trail (**Exhibit 5, pgs. 1-7**).

The Phase A project area once consisted of more extensive freshwater and salt marshes that were first diked to create agricultural pastureland in the 1870s. In the early 1900s the dikes were improved to support the railroad grade, and a lumber mill was established in the area. Pacific Lumber Company (PALCO) purchased the mill in 1959 and began to close facilities and remove buildings in the early 1960s. General Growth, Inc. acquired the eastern portion of the mill property and received a CDP in 1985 to construct the Bayshore mall at the site (CDP 1-85-83). The City of Eureka purchased the western portion of the mill property in 1985 from north of the Chevron Terminal to Del Norte Street, including the areas known as Parcel 4, the Poleshed Property, and PALCO marsh. Most mill buildings and infrastructure in the project area and vicinity have long since been removed, and primarily ruderal vegetation has taken over in these areas. However Parcel 4 contains a number of relic concrete mill structures,[16] and the Poleshed Property is covered by fractured pavement where lumber used to be dried and stored.

[16] The City proposes to demolish four abandoned structures to their foundations as part of the trail project.

As part of the 1985 CDP for the Bayshore Mall, a narrow willow swamp was created between the western mall perimeter and the railroad corridor adjacent to Parcel 4. Also as part of the mall development permit, both freshwater marsh and tidally influenced brackish marsh were enhanced and created in "Restoration Area A," an approximately 7 acre area between the railroad corridor and mall parking lots north of Parcel 4. In addition, since the early 1990s, the City has invested in the restoration of PALCO marsh, enhancing the connection between the marsh and the bay through actions such as culvert replacement, marsh channel clearing and construction, and tidal slough dredging (under CDP 1-90-104 and a number of amendments). Despite this significant public and private investment in restoration and enhancement activities in the area, currently the Phase A project vicinity is the site of the largest congregation of transient and homeless encampments in Humboldt County and suffers from significant accumulations of garbage and other dumped debris.

Phase B

Phase B of the trail would run along the edge of the unused NCRA railroad corridor directly adjacent to Railroad Avenue and Waterfront Drive from Del Norte Street to the foot of C Street, connecting to the C Street Plaza and Eureka Boardwalk in Eureka's Old Town District (**Exhibit 2, pg. 3**). Railroad Avenue and Waterfront Drive parallel the City's western industrial waterfront, separated from Humboldt Bay by a row of private and City-owned properties. The surrounding landscape includes developed and abandoned industrial and commercial lands, as well as the Eureka Public Marina and Wharfinger Building. With the exception of one 692-square-foot area of the trail by C Street that would impact a wetland (an urban ditch with hydrophytic vegetation), the proposed construction footprint for Phase B would occur entirely within developed urban streets and sidewalks and on ruderal upland habitat adjacent to the NCRA railroad tracks (**Exhibit 5, pgs. 8-15**).

Although the Phase B alignment mostly avoids direct impacts to wetlands, the alignment would be located within 100 feet of a number of wetlands. The alignment begins on the west side of Railroad Avenue parallel to a previously remediated linear wetland ditch which was contaminated by the former Eureka Plywood Mill, and then passes by two more freshwater wetland features before crossing to the east side of the road corridor (shortly after the road transitions from Railroad Avenue to Waterfront Drive). Then, north of Washington Street on the edge of the abandoned Balloon Track property, the trail alignment would pass directly adjacent to Clark Slough and would come within 100 feet of a number of pocket wetlands associated with Clark Slough and nontidal ditches and within depression areas created by former development of the Balloon Track property.

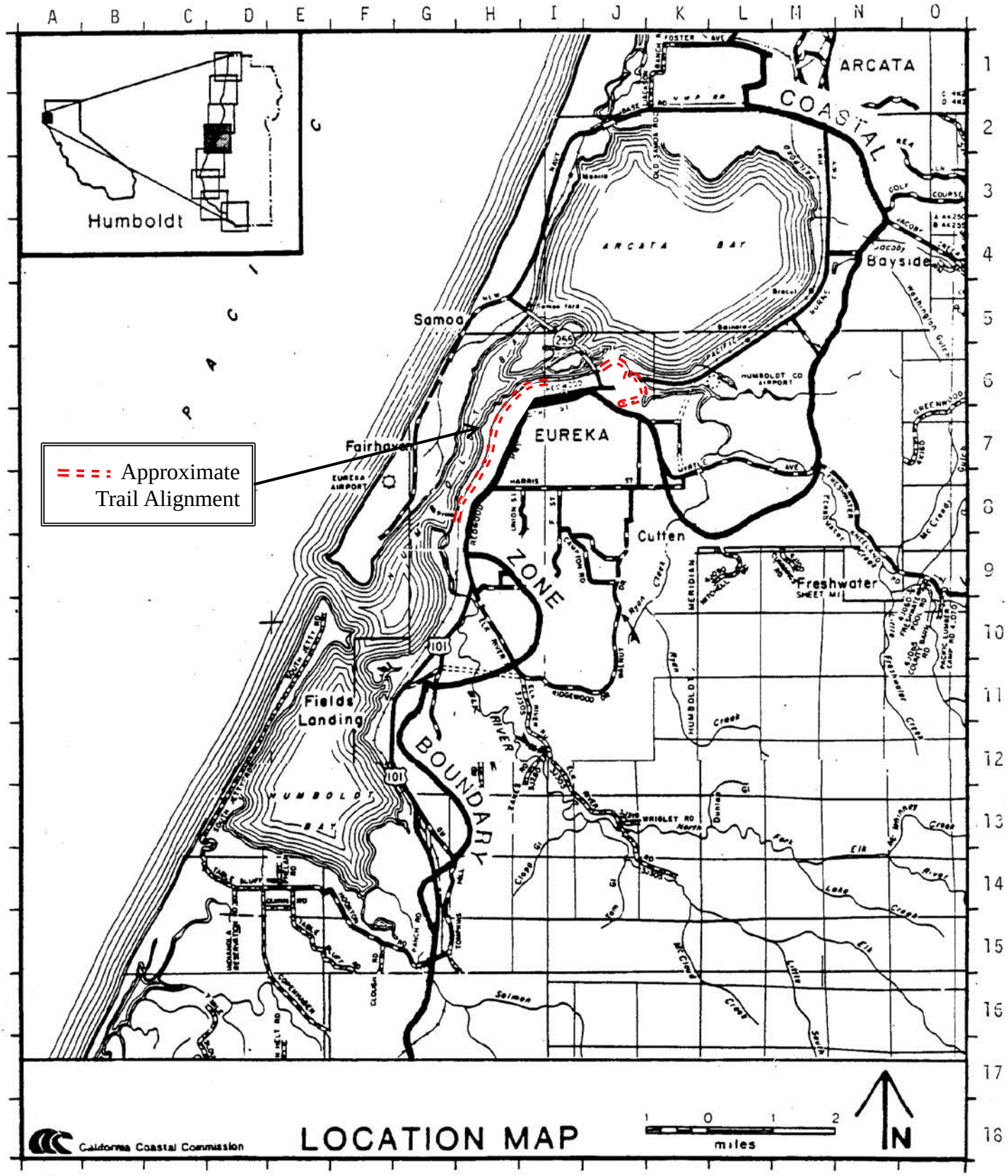
Phase C

The Phase C trail alignment would begin in north Eureka at the existing Adorni Trail (east of the CA Highway 255 Bridge) and continue around the edge of Humboldt Bay and Eureka Slough, eventually terminating at Tydd Street (**Exhibit 2, pg. 4**). The Phase C alignment would pass through vacant fields (once the site of industrial and commercial uses including lumber milling and storage, foundry, and petroleum storage), through a tidally influenced salt marsh, along NCRA right-of-way, along an existing trail behind the Target Store, through an RV park and a City lift station, and finally behind the new Eureka Community Health and Wellness Center. The

trail alignment would also bridge over three slough channels (First Slough, Target Slough and Wedge Slough) and three drainage ditches (Front Street drainage ditch, an estuarine ditch just north of the Highway 101 crossing, and a freshwater emergent ditch between the RV park and City lift station). Point Reyes bird's-beak, Humboldt Bay owl's-clover, and western sand-spurrey (*Spergularia canadensis var. occidentalis*) have been detected in the vicinity of Phase C of the project (See **Exhibit 6, pgs. 3-10**). A total of 172 square feet of mapped habitat where Point Reyes bird beak was identified is located within the proposed trail alignment, under the boardwalk and the Wedge Slough bridge.

The Phase C project alignment would result in the majority of the project's wetland fill impacts (**Exhibit 5, pgs. 16-24**). The Wedge Slough crossing and nearby crossing of the Front Street drainage ditch would completely avoid any permanent fill or shading impacts to wetlands, but the other crossing would result in impacts to estuarine salt marsh habitat from bridge abutments and/or shading impacts to the slough channels and drainage ditches from the bridge decks. In addition, the proposed boardwalk would result in fill impacts to estuarine salt marsh habitat from the installation of the boardwalk's piles, and the trail through the RV park would result in impacts to willow thickets and estuarine salt marsh habitat.

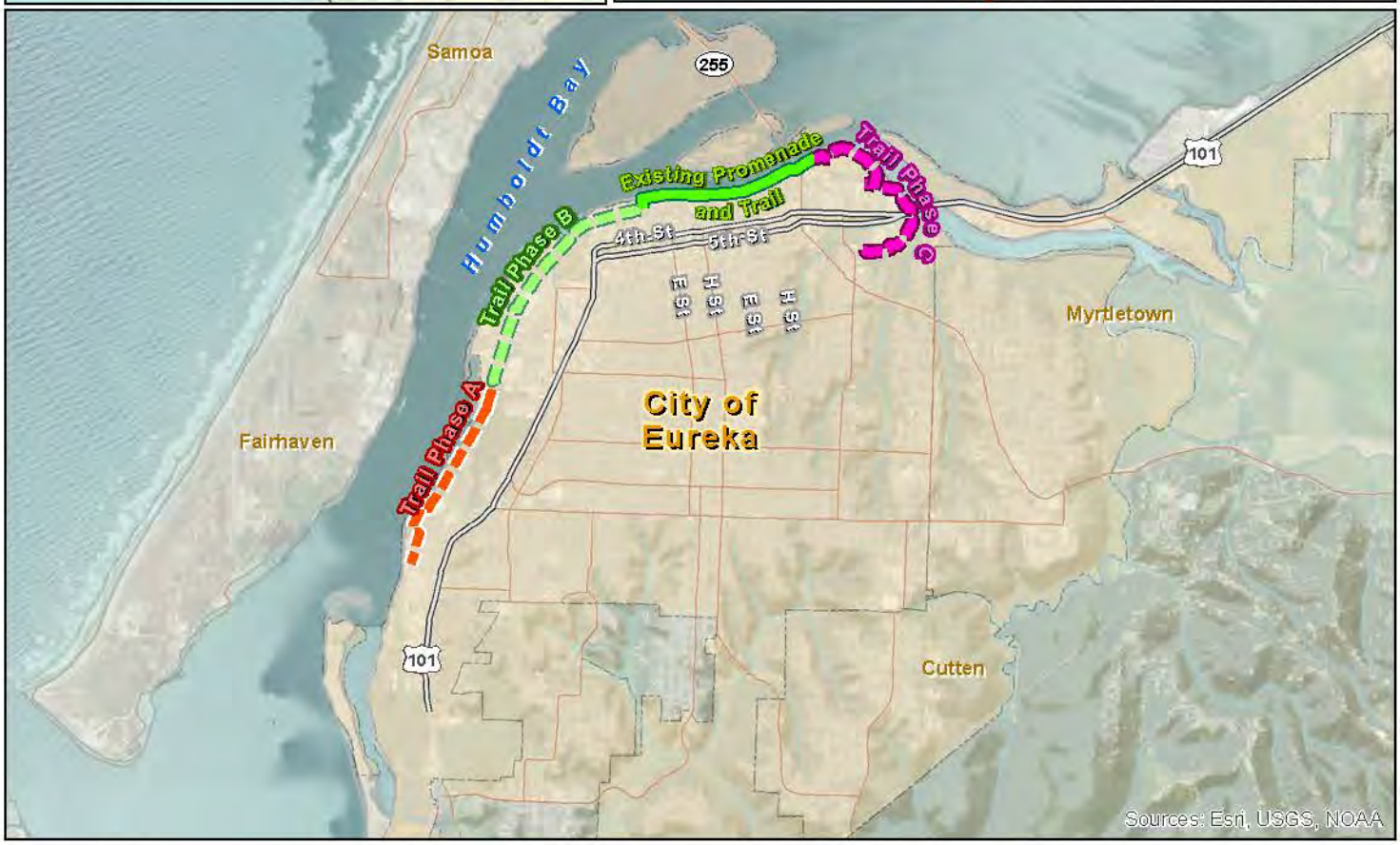
Most of the Phase C project area consists of human-altered soils from dredge spoils, railroad development, berm/dike installation and manipulation, urban and industrial development, and wastewater treatment infrastructure. Much of the vegetation has been altered through long-term urban and industrial land use practices. Extensive areas of invasive Chilean cordgrass (*Spartina densiflora*) are found throughout the salt marsh habitat in the project vicinity. Additionally, pampass grass (*Cortadeira jubata*) was noted along bluff edges, highway base, and other disturbed upland areas along the urban/natural interface. Transient encampments have been observed in the vacant fields at the northern end of the project, within vegetation by the NCRA railroad corridor, under the north- and southbound spans of US Highway 101, and south of the existing gravel trail behind the Eureka Community Health and Wellness Center. Household trash and other debris is located along the proposed trail alignment and within adjacent salt marsh habitat, sloughs, and drainage ditches.



County of Humboldt

EXHIBIT NO. 1

Application No. 1-15-2054
City of Eureka
REGIONAL LOCATION MAP



Proposed Trails

- Waterfront Trail (A)
- Waterfront Trail (B)
- Waterfront Trail (C)
- Existing Promenade and Trail
- Highway
- Major Road
- Streams
- City Limits
- Humboldt County
- Counties

1: 72,000 @ 8.5' X 11' (ANSI A)

0 2,000 4,000 6,000 8,000

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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N

City of Eureka
Eureka Waterfront

Vicinity and Location

Figure 1

EXHIBIT NO. 2

Application No. 1-15-2054
City of Eureka
TRAIL ALIGNMENT PHASES A, B, & C
Page 1 of 4

G:\01081 HumboldtCounty DPW\8410593 HumBayConceptDesignTechStudies\08-GIS\Maps\Figures\F1_Vicinity_RwT_rev_1.mxd 718 Third Street Eureka, CA 95501 T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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Data source: ESRI: Street Map USA. Created by: gldavidson

PHASE A ALIGNMENT

G:\Projects\50169 Waterfront Dr Ext\GIS\50169 Figure 2a Proposed Project Features.mxd

North State Resources, Inc.

Eureka Waterfront Trail Project Phase A and B

Figure 2a

PHASE B ALIGNMENT

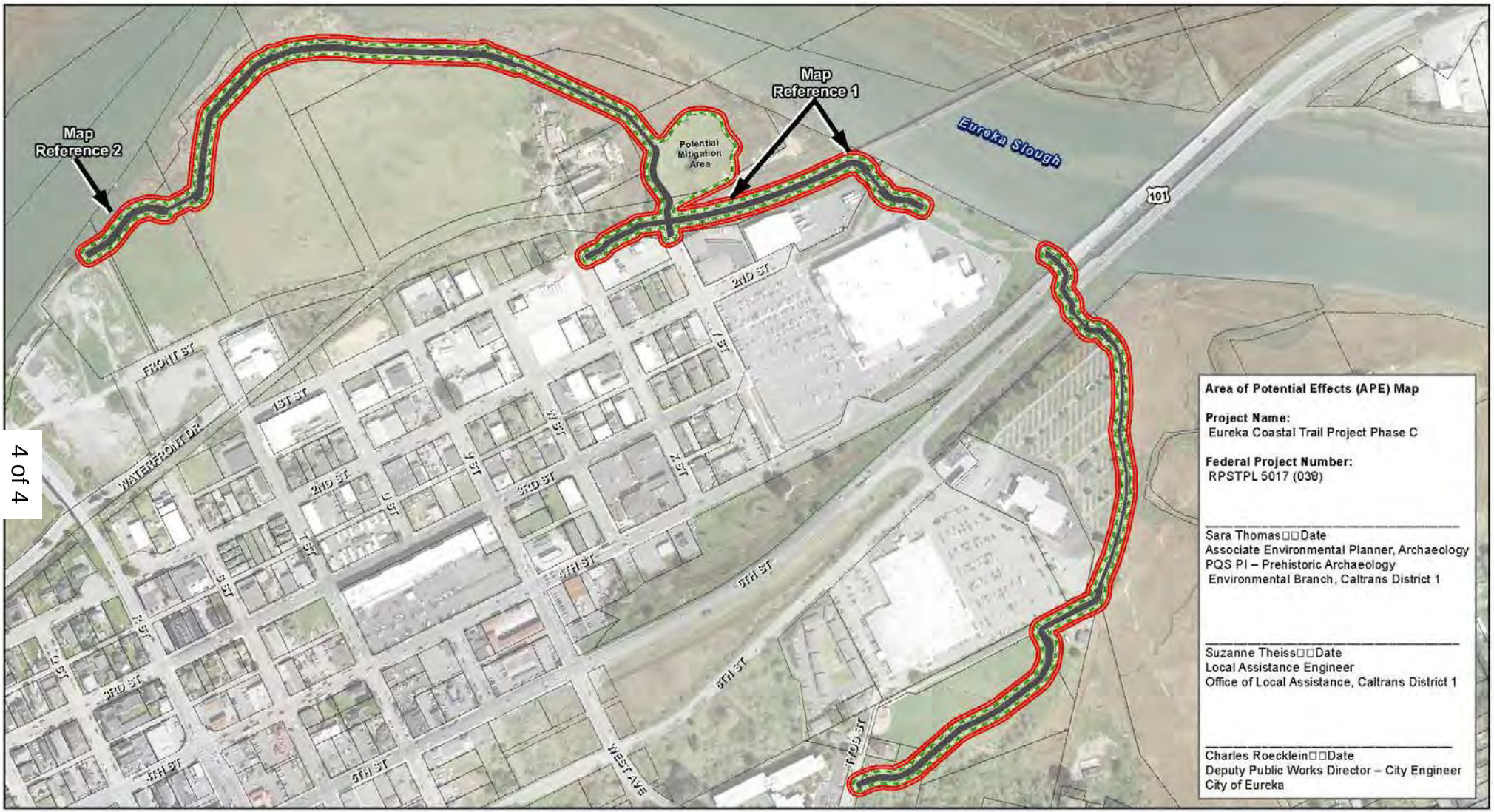
G:\Projects\150169 Waterfront Dr. Ext\GIS\150169 Figure 2b Proposed Project Features.mxd

North State Resources, Inc.

Eureka Waterfront Trail Project Phase A and B

Figure 2b

PHASE C ALIGNMENT



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Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Approximate Parcel Boundary
Trail Footprint
Architectural Study Boundary (25 ft buffer of trail footprint and potential mitigation area)
Archaeological Area of Potential Effect (10 ft buffer from trail footprint and potential mitigation area)

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.
Job Number 8410915
Revision E
Date 08 Aug 2014

Overview Map
Area of Potential Effect
Figure 1

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Data source: City of Eureka GIS: parcel boundaries, streets, and aerial, 0.5 ft resolution. Created by rcholmlund

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PROJECT TITLE: Eureka Waterfront Trail

PROJECT APPLICANT: City of Eureka Parks and Recreation Department

PROJECT LOCATION: The Eureka Waterfront Trail (project) spans from south Eureka to northeastern Eureka paralleling the coast of Humboldt Bay and the west bank of Eureka Slough. The project runs from Truesdale Street (southern terminus) to Tydd Street (northeastern terminus). The project passes through public and private properties, but it is mainly within City property, City right-of-way (ROW) and the North Coast Railroad Authority (NCRA) railroad corridor.

The project alignment would pass through Assessor's Parcel Numbers (APN) 007-031-004, 007-031-003, 007-031-002, 007-051-002, 007-051-009, 007-061-002, 007-071-003, 007-071-014, 003-062-024; 003-072-006; 001-011-010; 001-013-011; 001-014-003; 003-021-008; 003-031-002; 003-062-024; 003-072-003; 003-072-006; 003-082-006; 003-082-021; 003-082-022; 007-031-002; 007-031-003; and 007-031-004, 002-231-010; 002-231-002; 002-231-009; 002-231-012; 002-231-004; 002-231-021; 002-201-008; 002-252-028; 002-191-032; 002-191-035; 002-191-028; 002-231-008, 002-191-020, 002-191-025 and 002-191-026. And would cross through sections 33, 28, 21, 22, and 23 in Township 5 North, Range 1 West on the Eureka, California 7.5-minute U.S. Geological Survey quadrangle, Humboldt Base and Meridian.

ZONING & GENERAL PLAN DESIGNATION:
Zoning – Public (P); Coastal-Dependent Industrial (MC); Natural Resources (NR); Limited Industrial (ML); Waterfront Commercial (CW); Service Commercial (CS); Multi-Family Residential (RM-1000).
Land Use – Coastal Dependent Industrial (CDI); Community Commercial (CC); Natural Resources (NR); Core Coastal Dependent Industrial (C-CDI); Light Industrial (LI), Core Retail Commercial (C-RC); Public/Quasi-Public (PQP); General Industrial (GI); Waterfront Commercial (WFC); General Service Commercial (GSC); High Density Residential (HDR).

PROJECT DESCRIPTION:
The City of Eureka (City) is proposing to construct 3.75 miles of Class 1 multi-use trail (project) that will follow the Humboldt Bay coastline along the Eureka Waterfront. The project purpose is to provide substantial nature study opportunities, further enhance non-motorized transportation/commuter corridor access, increase pedestrian connectivity, and increase public access to and along Eureka's Waterfront on Humboldt Bay. The project is intended to encourage nature study, appreciation of the environment and historic uses of the area, increase opportunities for active living to improve public health, increase the safety of non-motorized transportation, improve public safety, decrease transportation related carbon dioxide (CO_2) output, and recover native vegetation community values where possible. A formalized public access will channel the public into designated trail areas with the intention of decreasing environmental damage caused by illegal/unauthorized trespassing, camping, squatting, littering and dumping. This project seeks to initiate a transition of uses along the Waterfront Drive corridor and to improve safety and cleanliness. It also seeks to reclaim areas frequented by transients and the local homeless population.

The project is an important piece of the statewide initiative to complete the California Coastal Trail (CCT). The Eureka Waterfront Trail System and associated coastal access improvements are key elements in the City's General Plan and Eureka City Council's Strategic Plan 2013-2018.

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The project would generally consist of a paved section designed to accommodate emergency vehicle access and two unpaved shoulders. Project-specific improvements include the Class I multi-use trail, boardwalk, six bridges, construction of trailheads, installation of interpretive signs, playgrounds, outdoor workout equipment, parking, landscaping, street crossing(s), roadway/sidewalks, lighting, fencing, drainage improvements, invasive plant removal and revegetation, and landscaping to buffer environmentally sensitive habitats (ESHA). Design standards are further described below under specific headings for Segments 1-23. Improved safety elements are integrated within the information below and would include improved trail surfaces (as deemed appropriate), American's with Disability Act (ADA) access, and signage.

Staging areas for Phase C of the project are shown in Attachment 3. These areas were chosen to avoid any potential impacts to special status species, riparian areas, and other sensitive habitats. These areas have direct access to the project site slignment utilizing existing roads, existing graded maintenance roads, and ROW that will serve as the route of travel for heavy equipment and operators. Temporary fencing around the perimeter of each staging area will be established around the staging area to prevent vandalism and public liability.

TRAIL DESIGN

The project has been designed to meet the operational needs of adjacent and intersecting roadways, the railway system, area businesses, and a variety of potential trail users. Planning, design, and implementation standards were derived from the following sources:

- North Coast Railroad Authority: Policy & Procedures Manual Section 0907: Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines, 2009
- Public Utilities Commission of the State of California: General Order No. 26-D: Regulations Governing Clearances on Railroad and Street Railroads with Reference to Side and Overhead Structures, Parallel Tracks, Crossings of Public Roads, Highways and Streets
- Caltrans: Highway Design Manual (Chapter 1000: Bikeway Planning and Design), 2006
- American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, 2004
- AASHTO, Guide for the Development of Bicycle Facilities, 1999
- U.S. Department of Transportation (USDOT), Federal Highway Administration (FHA), Manual of Uniform Traffic Control Devices (MUTCD), 2003
- California Manual of Uniform Traffic Control Devices (CAMUTCD), 2006 (FHWA's MUTCD 2003 edition as amended for use in California)
- Institute of Transportation Engineers (ITE), Design and Safety of Pedestrian Facilities, 1998
- U.S. Department of Transportation Federal Highway Administration: Evaluation of Safety, Design, and Operation of Shared-Use Paths Final Report 2006
- Rails-with-Trails: Lessons learned, U.S. Department of Transportation, August 2002
- Rails-to-Trails Conservancy, Rails-With-Trails, Sharing Corridors for Transportation and Recreation, 1996

The following General Design Characteristics would be used:

- Minimum tread width: 8 feet, but trail is primarily 10 feet wide
- Minimum shoulder width: 2 feet on each side of trail tread surface where space allows
- Minimum setback from edge of roadway to edge of tread: 5 feet (without a barrier)
- Minimum setback from edge of roadway to edge of tread: 2 feet (with barrier)
- Minimum setback from railroad track centerline to obstructions or edge of trail tread: 8.5 feet on tangent sections of tracks and 9.5 feet on curved sections of tracks
- Minimum setback from edge of tread to obstructions and buildings: 2 feet

- Minimum vertical clearance: 8 feet (10 feet if emergency vehicles use trail)
- Maximumdesign speed: 20 miles per hour
- Maximum gradient: 5 percent
- Minimum curve radius: 90 feet
- Maximum fence height : 48 inches
- Minimum fence height: 36 inches
- Minimum angle at which Trail can cross railroad tracks: 45 degrees
- ADA Accessibility: It is the intention to make all portions of the trail ADA accessible

Additional project design specifications include:

- **Structural Pavement Sections**: The trail will have a typical structural section that has approximately 6 inches of aggregate base and approximately 3 inches of asphalt concrete.
- **Segments Adjacent to Roadways:** In compliance with Federal Highway Administration (FHWA) and CalTrans standards for a Class I Bikeway, segments of the trail adjacent to roadways will be separated by 5 feet and include a physical barrier (concrete barrier or fence).
- **Roadway and Driveway Crossings:** Will be ADA accessible and include warning signage and markings both on the trail and the approaching vehicular way.
- **Signage and Striping:** Trail will include yellow centerline striping and additional warning signage and striping approaching intersections with existing roads and railroad crossings. In addition, signage would be added along the trail warning users of curves, bends, and other hazardous situations.
- **Speed Control:** Speed control can only be maintained through signage and striping; speed bumps and other surface irregularities are not permitted to control the speed of bicycles and other non-motorized vehicles.
- **Bollards:** Bollards will be installed at trail intersections and entrances to prevent vehicles from entering a trail, with a maximum separation of 5-feet between bollards. Bollards will be located adjacent to the trail with a removable center bollard for emergency and maintenance access. Bollards will not be located in travel lanes. Bollards will be visible to bicyclists and others, especially at night time, with reflective materials and appropriate striping guiding bicyclists around the center bollards.
- **Intersection Crossings:** Intersections will be improved with crosswalks with striping and ADA accessible curb ramps that meet current design standards. Trail approaches to intersections will include stop signs and stop bar (limit line) striping to stop trail users (particularly bicyclists) before they cross the intersection. In addition, at these locations, pedestrian crossing signage and “no motor vehicle” signage will be installed. Bollards will be installed at the mouths to the trail to inhibit vehicles from accessing the trail.
- **Drainage:** Design standards for the project require a 2 percent cross slope, except along cut sections where uphill water must be collected in a ditch and directed to a catch basin, in which case water will be directed under the trail in a drainage pipe of suitable dimensions.
- **Bridge Structures:** the seven bridges associated with the project will consist of pre-manufactured bridge structures comprised of aluminum. Bridges were designed to span the shortest distance between upland areas and at a length to avoid, to the maximum extent practicable, permanent wetland and ESHA impacts. The bridges will be supported on spread concrete footings. The bridges will include railings designed to comply with Class I and ADA standards. The slope of bridges will not exceed 5% grade in the direction of travel.
- **Boardwalk Structure:** a boardwalk structure will be constructed for a portion of the trail that crosses tidally influenced waters to allow tidal waters to pass under the trail without blocking tidal flows. The boardwalk will be approximately 8 feet wide between railings and will be comprised of pre-manufactured aluminum supported by 2-inch diameter helical piles. Helical piles were chosen to avoid noise related impacts as they are installed by screwing them into the earth as opposed to pounding. The boardwalk will be a minimum of 4 feet above salt marsh vegetation to avoid shading impacts. The boardwalk is designed to be the shortest path from each upland area around an archeologically sensitive adjacent parcel. For safety purposes the

boardwalk will include railings that are designed to comply with Class I and ADA standards. The slope of the boardwalk will not exceed 5% grade in the direction of travel.

- **Retaining Structures:** Where retaining structures are required adjacent to the bridge structures, they will consist of cast-in-place concrete walls. Along certain segments of the trail, welded-wire walls will be installed. Retaining structures will not exceed 5 feet in height.
- **Viewing Platforms and Interpretive Signage –** The viewing platforms and interpretive sign areas of the project will consist of raised deck platforms comprised of rail tie borders filled with crushed gravel. Each platform/sign area will include interpretive signs, benches, and/or landscaping. These areas will encourage an appreciation of the environment and the socio-cultural history of the area by providing opportunities for nature study. The opportunities include providing up-close views of local vegetation/habitats, mid-range views of Eureka Slough/Humboldt Bay, long-range views of the surrounding ridge lines, and interpretive signs that include information regarding local habitats and cultural/historical sites.
- **Directional/Wayfinding Signage –** Directional/Wayfinding Signage will be installed along Route 101 and along City streets to inform people of nearby Waterfront Trail. Directional/Wayfinding Signage will be installed at regular intervals to inform trail users of nearby connections to surface streets and nearby destinations.
- **Trailheads –** the trailheads associated with the project will include new or refurbished parking spaces, interpretive signs, gateway signage, kiosks, benches, restrooms, playgrounds, outdoor workout equipment and/or landscaping. Locations of the trailheads are identified in the segment-by-segment descriptions below.
- **Lighting –** There is only one new cobra head street light fixture included in this project along Waterfront Drive at a new mid-block crossing.
- **Habitat Mitigation –** Impacts to wetland and other habitats created by trail construction will be mitigated onsite. Impacts were avoided to the furthest degree possible, including reducing the trail width to minimum standards, by using long span bridges over sensitive habitat and installing helical piles rather than driven piles to support the boardwalk section.

Segment 1: Truesdale Street to Chevron Terminal

From the Truesdale Vista Point parking lot and Hikshari' Trailhead southwest of the Truesdale Street/Howell Street intersection, the trail will begin northward via sidewalk to a crossing that has been designed at Truesdale Street. North of the crossing, the trail will continue within the NCRA railroad corridor on the east side of the railroad tracks up to the south Chevron property line. See Figure 2.1.

Signage Safety-related signage associated with crossing of street intersection.

Segment 2: Chevron Terminal

This 450-lineal-foot trail section will start northward on the east side of the railroad tracks. At the Chevron access driveway the trail will cross to the west side of the railroad tracks and continue north until the northern edge of the Chevron property. The driveway/trail intersection has been designed to reduce conflicts between trail users and vehicles. See Figure 2.1.

Signage Safety-related signage associated with crossing of driveway and street intersection.

Segment 3: North Boundary of Chevron to Parcel 4

The trail will continue north parallel to the NCRA railroad tracks on the west side of the railroad corridor. This 250-foot long section of trail will be narrowed to an 8-foot paved section with two 2-foot unpaved shoulders to minimize impacts to the adjacent wetlands and willows located on the west side of the tracks. An existing culvert will be extended to maintain drainage. See Figure 2.2.

Segment 4: Parcel 4 Trail Construction

This segment transitions from the NCRA ROW to an existing unpaved road that extends westward from the railroad tracks and then turns to continue moving northward through City of Eureka owned parcel 4. In the northern portion of parcel 4 the trail will turn east until it crosses back to the east side of the railroad tracks. This section of trail would be approximately 1,150 feet in length. The playground will be nature based with rock climbing wall, rope equipment, etc. See Figure 2.2-2.4.

Signage Historical and nature study interpretive signage.

Trail Amenities Viewing platforms and playground.

Segment 4 (continued) Parcel 4 Trail Concrete Remnant Removal and Recycling

Prior to construction of the trail in this segment, existing abandoned industrial concrete remnants will be removed and recycled. There are currently four onsite structures identified for removal (see Site Plan below). The four buildings are as follows, the Machine Shop, the Boiler House, the Steam Dry Kilns and the Concrete Reservoir. The walls of all buildings will be demolished and the concrete material will be ground down in the upland area adjacent to the buildings where it is clear of trees, shrubs, ESHA and wetlands (see Site Plan below). The foundations will remain in place in order to avoid impacts to adjacent wetlands and ESHAs. Once the concrete material is ground down, the resulting material will be applied as a base layer along the alignment for trail development.

Access points for construction equipment will be located near the Chevron gas terminal, the north eastern most corner of the Bayshore Mall parking lot and the foot of Vigo Street. All access points provide entry to the project site avoiding any ESHA or wetland impacts utilizing existing maintenance roads.

Staging will occur at the north end of the Bayshore Mall parking lot. The City owns that portion of the parking lot. This location was chosen because it is paved and secure. Any spills can be responded to and addressed immediately without any potential effects to adjacent ESHAs or wetlands. The area has direct access to the site utilizing existing graded maintenance roads that will serve as the route of travel for heavy equipment and operators. A temporary fenced perimeter will be established around the staging area to prevent vandalism and public liability.

Segment 5: Parcel 4 to Del Norte Street

In this section the trail reenters the NCRA right-of-way (ROW) where it will be constructed along an existing gravel pathway within the railroad corridor. The trail will consist of a 10-foot paved section and two 2-foot unpaved shoulders on each side. In those areas where there is wetland or ESHA impacts, the trail would narrow to 8-feet wide with two 2-foot unpaved shoulders. As the trail moves north it will cross a drainage ditch via a 20 foot pedestrian foot bridge and leave the NRCA ROW. The span of the bridge was chosen to avoid any wetland or ESHA impacts. From the bridge the trail will continue 850 feet north to Del Norte Street. See Figure 2.4-2.10.

Signage Historical and nature study interpretive signage.

Trail Amenities A cluster of outdoor gym equipment would be installed just east of the trail in the open upland area approximately 2,100 feet south of Del Norte Street, near Vigo Street. The footprint would be approximately 30 feet in diameter. There will also be two interpretive signs installed and two benches.

Segment 6: Del Norte Street Public Use Area & Fishing Pier

In this area, the trail would cross W. Del Norte Street, connecting both the Palco Marsh and the W. Del Norte Street Pier and day use area. See Figure 2.10.

Lighting None

Multi-Use Trail Improvements to Palco Marsh Trail access would include removal of existing gate and installation of an accessible trail ramp and motor vehicle access control features.

Parking Overlay of existing parking area.

Railroad Crossing Crossing of Railroad at Del Norte Street.

Roadway Crossing Crossing of Del Norte Street.

Signage Signage to indicate the start of each segment of trail will be located on either side of Del Norte Street, including a CCT insignia. Safety-related signage associated with crossing of Del Norte Street and Railroad; stop sign and stop bar (limit line) at crossing of Del Norte Street.

Trail Amenities A restroom will be installed in the upland grass area at the western edge of the existing parking lot. Outdoor exercise equipment and a nautical themed playground will be installed in the upland grass area south of the existing parking lot. One trash receptical cluster will be installed on the south side of the Del Norte Street crosswalk. The cluster will include trash, recycling and a pet waste station.

Segment 7: Del Norte Street to Waterfront Drive Crossing: Approximately 2,300 Feet

After the trail crosses Del Norte Street it turns west and crosses the railroad tracks, occupying the NCRA ROW. The trail then continues north parallel to a previously remediated linear wetland ditch which was contaminated by the former Eureka Plywood Mill. However, the project would not impact this ditch or its associated wetlands and would not impact groundwater. The trail will cross West 14th street and two driveways. The driveways will be paved and safety markings and signage will be installed on the trail to warn users that traffic may be present. The trail continues north on the west side of the railroad between the tracks and a drainage ditch along an existing unpaved access road (currently also used as a trail) until it transitions to an out-of-service spur to the Schneider Dock for approximately 300-feet. This segment of trail finishes on the west side of Waterfront Drive. See Figure 2.10-2.14.

Landscaping Along this segment, non-native vegetation removal would occur in the area directly adjacent to the trail.

Railroad Crossing North of W. Del Norte intersection. Temporary use of an out-of-service rail spur to the Schneider Dock.

Roadway Crossing Crossing of West 14th Street and two private driveways.

Segment 8: Crossing of Waterfront Drive: Approximately 45 Feet

This segment of trail will be parallel to the west side of Waterfront Drive northeast of the existing rail spur to Schneider Dock. Shortly after crossing the rail spur the trail will cross an existing private driveway and then turn to the east and cross both lanes of Waterfront Drive (approximately 750 feet south of Washington Street). The crossing will have a 10' wide pedestrian refuge island between the lanes, oriented to encourage trail users to see oncoming vehicular traffic. The trail would be designed to curve with Waterfront Drive in order to slow down bicylcists approaching the interseciton. The intersection will be improved with a continental-style crosswalk with striping and ADA accessible curb ramps. The trail approach to the intersection will include a stop sign and stop bar (limit line) striping to stop trail users before they cross Waterfront Drive. In addition, at this location pedestrian crossing signage and "no motor vehicle" signage will be installed per the Manual of Uniform Traffic Control Devices (MUTCD). On the east side of the crossing the trail will continue north in parallel to the railroad tracks, within the NCRA ROW. See Figure 2.14.

Lighting A new cobra head street light will be installed at the mid-block crossing of Waterfront Drive.

Parking No new parking proposed. Current informal use of the rail corridor as a parking lot will be displaced. Parking is provided by employers and existing on-street parking opportunities. Approximately 200 feet of parking would be removed (red-striped).

Roadway Crossing Crossing of Waterfront Drive

Signage Safety-related signage for both trail and roadway traffic associated with crossing of Waterfront Drive; stop sign and stop bar (limit line) at crossing of Waterfront Drive.

Segment 9: Waterfront Drive Crossing to Washington Street: Approximately 739 Feet

Between the Waterfront Drive Crossing and Washington Street, the trail will continue north on the east side of Waterfront Drive within the NCRA ROW. After the crossing, the existing sidewalk will be removed and a 2-5 foot landscape area will be planted between the curb and the trail. Pavers will be strategically installed along the landscape area to provide trail access from on-street parking. A 4-foot,

vinyl coated, chain link fence will be installed between the trail and the railroad tracks. See Figure 2.14-2.15

Landscaping	Native species would be planted along edge of trail.
Railroad	Trail occupies NCRA ROW
Signage	Safety-related signage for both trail and roadway traffic associated with crossing of Washington Street; stop sign and stop bar (limit line) at crossing of Washington Street.
Trail Amenities	Bench at south side of Washington Street.

Segment 10: Washington Street (Balloon Track) to Commercial Street: Approximately 2,900 Feet

After Washington Street the trail will continue Northeast along the western edge of the Balloon Track property towards Commercial Street. Before the trail reaches Clark Slough, the existing sidewalk will be removed and a 2-5 foot landscape area will be planted between the curb and the trail. Pavers will be strategically installed along the landscape area to provide trail access from on-street parking. The trail will then transition onto one of the railroad tracks. The intent of moving the trail to this location is to avoid impacts to Clark Slough and to avoid the need to cross both sets of railroad tracks.

A short secondary trail will deviate from the primary trail and lead to a crosswalk across Waterfront Drive allowing trail users to safely access the Eureka Marina and Warfinger Building. The existing parking at the Eureka Marina and Wharfinger Building will allow trail users to park and access the trail.

After the short secondary trail and as the main trail veres back towards Waterfront Drive, the existing sidewalk will be removed and a 2-5 foot landscape area will be planted between the curb and the trail. Pavers will be strategically installed along the landscape area to provide trail access from on-street parking. As the trail approaches Commerical Street, the project has been designed to curve towards Waterfront Drive in order to slow down bicylcists approaching the intersection. The intersection will be improved with a continental-style crosswalk with striping and ADA accessible curb ramps. Both trail approaches to the intersection will include stop signs and stop bar (limit line) striping to stop trail users before they cross Commerical Street. In addition, at these locations, pedestrian crossing signage and “no motor vehicle” signage will be installed. See Figure 2.15-2.20.

Landscaping	Same as previous segment.
Multi-Use Trail	Same as previous segment.
Railroad Crossing	The trail will occupy the rail corridor closest to Waterfront Drive, however, the trial will not cross the tracks.
Roadway Crossing	One crossing at Commercial Street and one crossing at Washington Street.
Signage	Safety-related signage associated with crossing of Commercial and

Washington Streets; stop sign and stop bar (limit line) at crossings.

Trail Amenities One bench, one public art installation, and one trash receptical cluster will be installed near the Eureka Marina crosswalk across Waterfront Drive. The cluster will include trash, recycling, and a pet waste station.

Segment 11: Commercial Street to Improved Railroad Crossing: Approximately 780 Feet

After the Commercial Street intersection, the existing sidewalk will be removed and a 2-5 foot landscape area will be planted between the curb and the trail up until the private driveway entering the Balloon Track. Pavers will be strategically installed along the landscape area to provide trail access from on-street parking. From the private driveway to the railroad crossing, the trail will have a Eureka Boardwalk style stamped concrete pattern. The See Figure 2.20-2.21

Landscaping Primarily native planting south of trail and between trail and sidewalk.

Signage Safety-related signage associated with crossing of driveway and street intersection.

Segment 12: Improved Railroad Crossing East of Commercial

The trail will continue east on the south side of Waterfront Drive and have a Eureka Boardwalk style stamped concrete pattern. As the trail intersects the railroad it will turn south to cross the railroad tracks, at an approximately 60-degree angle, and will then continue east paralleling the tracks on the south side of the tracks. This crossing replaces the existing railroad/sidewalk crossing and will be an improvement in terms of bicycle and pedestrian safety. See Figure 2.21.

Landscaping Replace existing sidewalk at rail crossing with vegetation to discourage undesired crossing.

Railroad Crossings One railroad crossing at a 60-degree angle

Signage Safety-related signage associated with crossing of railroad; stop sign and stop bar (limit line) at crossing of railroad.

Trail Amenities Concrete pad for art installation.

Segment 13: New Rail Crossing to C Street: Approximately 400 Feet

From the New Railroad Crossing the trail continues east on the south side of the railroad tracks and parallels them until the trail joins up with an existing sidewalk. The sidewalk will be upgraded to have a Eureka Boardwalk stamped concrete. A 150' length of seat wall will be added to the back of walk along the parking lot, similar in theme to the C Street Plaza. The trail will continue along this sidewalk until C Street. See Figure 2.21.

Parking No new parking proposed. Existing Parking stalls will be modified to accommodate the trail, but there will be no loss of parking.

Signage Safety-related signage associated with crossing of railroad; stop sign and stop bar (limit line) at crossing of railroad.

Segment 14: C Street Crossing

The multi-use trail would cross at the intersection of C Street and Waterfront Drive. The intersection would be improved with a continental-style crosswalk with striping and ADA accessible curb ramps where the trail would connect to the C Street Pedestrian Plaza and Fisherman's Terminal. The trail approach to the intersection would include a stop sign and stop bar (limit line) striping to stop trail users before they cross Waterfrtont Drive. In addition, at this location, pedestrian crossing signage and "no motor vehicle" signage would be installed per the MUTCD. See Figure 2.21.

Roadway Crossing Improvement of one roadway pedestrian crosswalk of Waterfront Drive at C Street.

Signage Signage to indicate a CCT insignia, will be located at the corner of C Street and Waterfront Drive. Trailhead informational signage – including a map and user/safety guidelines – will be located at the west end of the adjacent parking area near an existing tree in the first block of the trail. Safety-related signage associated with crossing of C Street; stop sign and stop bar (limit line) at crossing of C Street.

Segment 15: Adorni/Halvorsen Trail to Edge of Shoreline Property:

The project connects to the existing Adorni/Halvorsen Trail at the northwest limit of the project area. A portion of the existing Adorni Trail will be realigned to provide a better transition between the existing trail and the new trail. Immediately east of the connection with the Adorni Trail the new trail will cross a small 20 foot pedestrian bridge over existing drainage ditch. The span of the bridge was chosen to avoid any wetland or ESHA impacts.

The trail will continue east along the edge of former fill areas adjacent to the coastal salt marsh and the edge of Humboldt Bay. The trail then approaches a tidally-influenced drainage channel referred to as "Wedge Slough." A viewing platform and interpretive signage area will be installed where the trail turns southeast. West of Wedge Slough, the trail alignment turns southeast approaching a bridge structure to span Wedge Slough avoiding any permanent impacts to wetlands and ESHAs.

There is currently an approximately 9-foot grade differential between the existing west bank and east bank of Wedge Slough. The distance of this span is 90 feet, which would require a 10% grade to span from bank to bank. However, ADA requirements mandate that the trail surface shall not exceed 5% grade in the direction of travel. Therefore, in order to achieve these slope standards, the western approach to the bridge will be elevated by a small fill prism and the eastern approach will be cut slightly into the embankment.

The bridge will be a pre-manufactured aluminum bridge structure 113 feet 10 inches long to avoid wetland and ESHA impacts. The bridge will be supported on concrete abutments. The bridges will include railings that are designed to comply with Class I and ADA standards.

The trail will continue northeast from Wedge Slough crossing along the top of the existing embankment. A steep embankment drops down to the tidally-influenced edge of Humboldt Bay/Eureka Slough. The trail will wrap around the north edge of the Shoreline property and a viewing platform and interpretive signage will be installed. This viewing area will be situated at the approximate confluence of Humboldt Bay and Eureka Slough. From this viewing/interpretive

area the trail turns southeast along the top of the existing embankment, until the embankment terminates north of the boardwalk area (see Segment 16 below). A viewing area and interpretive sign will also be installed here at the edge of the upland Shoreline property behind the Blue Ox. At that point, the trail will transition down approximately 6 feet in vertical grade to get down to the grade of the boardwalk. In order to achieve maximum 5% grade (per ADA standards), the trail will need to be slightly cut into the embankment on the far eastern side of the Shoreline property.

Segment 15 will consist of a 10-foot wide Class I asphalt trail approximately 1,750 feet in length along the centerline of the trail. See Figure 2.22-2.25.

Signage Historical and nature study interpretive signage.

Trail Amenities Viewing platforms.

Segment 16: Boardwalk Segment:
The trail alignment continues southeast and transitions from being on Shoreline property on top of the embankment as a paved trail to being down in the boardwalk area as a boardwalk. The elevation difference from the top of the embankment to the boardwalk area is approximately 6 feet. The grade differential will be tied together by cutting slightly into the eastern bank of the Shoreline property and varying the height of the helical piles that support the aluminum boardwalk as the boardwalk transitions from the Shoreline property down to the boardwalk area.

Through the 559 foot boardwalk area segment of the project, the trail alignment crosses over an area that ranges from approximately 5 feet to 14 feet in elevation. In 2013 and 2014, the predicted maximum tide is 8.5 feet. Therefore, the boardwalk structure will be constructed throughout this segment to allow tidal waters to pass under the trail without impeding tidal flow and maintaining a 4 foot distance above vegetation to avoid shading impacts. The boardwalk will be 10 feet wide between railings and will be comprised of pre-manufactured aluminum, supported by 2 inch helical piles. Helical piles were chosen as they are screwed into the ground and do not require pile driving. Therefore, acoustical impacts to aquatic species will be avoided. The helical piles will be installed at low tide. All boardwalk spans will be 20 feet long.

The boardwalk structure will run southeast toward the area referred to as east field. The boardwalk will parallel Eureka Slough approximately 300 feet inland of mean sea level and is designed as the most direct route between the Shoreline property and east field avoiding the archeologically sensitive property of the Blue Ox Mill Works. The boardwalk ends at the northern edge of East Field. The total boardwalk segment is approximately 559 feet in length along the centerline of the trail. See Figure 2.25-2.26.

Segment 17: East Field:
The trail alignment passes along the western edge of the east field, which is southeast of the Blue Ox Mill Works. East Field spans between the boardwalk segment and the railroad crossing north of Y Street. East field is a large, flat, open, upland area located along the west bank of Eureka Slough. East field appears to be composed of fill that was historically placed on the native salt marsh. The trail will wrap around the west edge of East Field and be located a few feet on the inland side of the top of bank. A viewing platform and interpretive sign area will be installed where the boardwalk segment meets the east

field.

Due east of viewing platform/interpretive sign area (approximately 230 feet east) at the edge of the upland area an osprey platform will be installed. The platform would consist of a 12-inch minimum diameter wood pole and supports with a wood platform on top approximately 15-30 feet above the existing grade.

The area east of the trail alignment and north of the salt marsh wedge (adjacent to railroad) is under consideration as the project's mitigation site. The fill would be excavated from this area and disposed of at a legal site. Grades would be lowered down to the pre-existing ground elevation and salt marsh would be reintroduced.

At the far southern end of Segment 17, the trail crosses over the NCRA railroad tracks. The southern terminus of Segment 17 is at a four-way trail junction connecting Segment 17, Segment 18, the Y Street spur, and the X Street Spur. Segment 17 will consist of a 10-foot wide asphalt Class I trail approximately 275 feet in length along the centerline of the trail. See Figure2.26-2.27.

Signage Historical and nature study interpretive signage.

Trail Amenities Viewing platform.

Y Street Spur trail: Segments 17 and 18 merge at a four-way junction as described above. The southern leg of this 4-way junction is a small spur trail connecting to the far north end of Y Street on an existing informal trail/road. This spur trail will connect local non-motorized traffic from surface streets in northeast Eureka to the trail. A trailhead will be developed at the far north end of Y Street, which could consist of a kiosk, and re-configuration of existing parking. The Y Street Spur trail will consist of a 10-foot wide asphalt Class I trail 80 feet in length along the centerline of the trail. See Figure 2.27.

Parking Reconfigure with diagonal parking in City ROW and overlay existing parking area**.**

Trail Amenities Trash receptical cluster and informational kiosk will be installed. The cluster will include trash, recycling, and a pet waste station.

X Street Spur trail: The western leg of this 4-way junction is a small spur trail connecting to the junction of the far northern end of X Street and the far eastern end of First Street. The eastern half of this spur trail parallels the NCRA railroad tracks along an existing trail. The western half of this spur trail turns southwest away from the railroad tracks and passes under and between mature Monterey pine trees along an existing trail/road. This spur will connect local non-motorized traffic from surface

streets in northeast Eureka to the trail. A small trailhead will be developed at the far eastern end of First Street, which could consist of a kiosk, and re-configuration of existing parking. The X Street Spur trail will consist of a 10-foot wide asphalt Class I trail approximately 300 feet in length along the centerline of the trail. A maximum of seven (7) non-native trees would be removed to construct the project. See Figure 2.27.

Parking Reconfigure with diagonal parking in City ROW and overlay existing parking area.

Trail Amenities An informational kiosk will be installed.

Segment 18: Rail-with-Trail:
A majority of Segment 18 is within the NCRA ROW and therefore must comply with NCRA policy. The setbacks from the railroad track required in this policy influenced the location and footprint of the trail in this segment. Throughout most of Segment 18, the trail is parallel to the railroad tracks.

At the north end of Segment 18, the trail turns south away from the railroad tracks and approaches the tidally-influenced drainage slough, Target Slough. The elevation difference between the north bank of Target Slough and the south bank of Target Slough is approximately 1 foot. The grade differential will be alleviated by placing a small amount of fill at the south end of Target Slough. The south abutment of the target slough bridge impacts approximately 165 square feet of Estuarine Saltmarsh. Ninety percent of the impact area is back from the top of bank in an area that is currently maintained (mowed inside the existing fence line). The bridge will be a pre-manufactured aluminum bridge structure, 79 feet 3 inches long, to span the existing 60 foot gap. The span of the bridge was chosen to avoid any wetland or ESHA impacts. The bridge will be supported on concrete abutments.

Segment 18 primarily consists of a 10-foot wide asphalt Class I trail. Segment 18 is approximately 725 feet in length along the centerline of the trail. See Figure 2.27-2.28.

Segment 19: Existing Target Trail:
An approximately 575-foot long Class I trail currently exists east of the existing Target shopping center just west of Eureka Slough. The project ties into this existing trail at the southern end of Segment 18 and at the northern end of Segment 20. Segment 19 consists of the existing Target Trail. With a small exception on the north end, no modifications are proposed to the existing Target Trail. The northernmost 100 feet of the existing Target Trail will be removed and replaced with a new trail segment realigned to accommodate the bridge over Target Slough (at the south end of Segment 18). The portion removed will be replaced with grass to match the areas adjacent to the existing trail. A viewing platform and interpretive sign area will be installed at the northern end. See Figure 2.28-2.29.

Signage Historical and nature study interpretive signage.

Trail Amenities Viewing platform.

Segment 20: Undercrossing of Highway 101:
Segment 20 begins where the trail ties into the southern end of the existing Target Trail. The trail will span a small tidally-influenced drainage channel and simultaneously pass under an existing electrical utility line. At less than 10 feet wide, the drainage channel will be spanned with a 20 foot long pre-manufactured aluminum bridge. This minor crossing of a storm channel shade impacts approximately 67 square feet of Estuarine ditch. Due to the trail passing under the US 101 bridges the crossing location for this ditch was constrained to a specific area. Trail design standards for vertical curves did not allow for raising the structure high enough to avoid shading impacts.

The trail then enters Caltrans ROW and immediately passes under the southbound bridge deck of Highway 101. The trail turns southwest in the area between the southbound and northbound bridges. The trail then turns south and passes under the northbound bridge deck of Highway 101 and approaches the tidally-influenced drainage channel referred to as First Slough. This is the deepest tidally-influenced water body to be crossed for the project. There are two 18-inch utility pipes aerially crossing First Slough in the direct vicinity of the project. It is necessary that the project does not cross over the exposed portions of these utility pipes due to maintenance responsibilities. Therefore, a bridge will pass directly west of these pipes.

The trail then reaches the northern bank of the tidally-influenced First Slough. There is very little elevation difference between the north bank of First Slough and the south bank of First Slough. The bridge will be a pre-manufactured aluminum bridge structure 65 feet 6 inches long, to span the 60 foot gap. Both abutments and the bridge impact approximately 1,239 square feet of Estuarine Habitat. Due to the trail passing under the US 101 bridges the crossing location for first slough was constrained to a specific area. The height of the bridge could not be raised to avoid shading impacts as additional fill would be required to raise the bridge structure, increasing impacts from filling wetlands. The bridge will be supported on concrete abutments.

Segment 20 will consist of a 10-foot wide asphalt Class I trail approximately 275 feet long along the centerline of the trail. See Figure 2.29.

Segment 21: Shoreline RV Park:
Segment 21 begins just south of the bridge over First Slough. At this point, the trail passes through an approximately 100-foot long grassy area along the northeast corner of the loop road around Shoreline RV Park. The City owns an easement deed granting the City a “twelve foot (12’) wide non-exclusive easement for a pedestrian access inside the eastern property line of the RV park. The easement is coincident with existing pavement, for the most part. The project will occupy this 12-foot wide area on the eastern half of the eastern road of the RV Park from the north end of Segment 21 to the south end of

Segment 21. The eastern half of the roadway will become a two-way Class I trail, while the western half of the road will remain a vehicular way. Two portions of this Segment will require a short retaining wall, less than 4 feet in height. At the far southern end of Segment 21, the existing fence separating the RV Park from the City Sewer Pump Station will be modified to allow the trail to pass through.

A viewing platform and interpretive sign area will be installed near the northern end of Segment 21. Segment 21 will consist primarily of an 8-foot wide asphalt Class I trail approximately 920 feet in length along the centerline of the trail, due to the adjacent wetland impacts. The last 75 feet of this segment will be a 10-foot wide asphalt Class I trail. See Figure 2.30-2.31.

Signage Historical and nature study interpretive signage.

Trail Amenities Viewing platform.

Segment 22: Hill Street Pump Station:

Segment 22 passes an existing sewer pump station owned and operated by the City of Eureka. The pump station property is currently fenced around the entire perimeter to prevent public access. Just before entering the property, a pre-manufactured 31 foot, 4 inch long, and 8 foot wide aluminum bridge will be installed to cross a drainage ditch. The crossing of this palustrine emergent ditch has approximately 135 square feet of shade impacts. The height of the bridge could not be raised to avoid shading impacts as additional fill would be required to raise the bridge structure, increasing impacts from filling wetlands. On the pump station property, a 14-foot wide access road is located along the north side of the property. A swing-gate is located at the west side of the road. City staff is able to drive maintenance vehicles to the far west end of East Road, open the swing-gate, and then drive on the access road in order to access the facility. Within this segment, the project consists of repurposing the existing access driveway to serve as a Class I trail, constructing portions of new paved trail, relocating approximately 360 feet of existing chain-link fence, and relocating the existing swing-gate in the fence.

New paved trail will be constructed, parallel to the existing access road associated with the sewer pump station. New swing-gates will be installed just south of the access road. The trail will then turn south constructed on a fill prism and pass just east of an existing retaining wall. From the northwest corner of the property, the existing fence along the west side of the property will be relocated to the east side of the trail. The trail then leaves Segment 22.

Segment 22 will consist of a 10-foot wide asphalt Class I trail approximately 325 feet long along the centerline of the trail. See Figure 2.31.

Segment 23: Eureka Community Health and Wellness Center to Tydd Street:

After leaving the pump station property, the trail extends along the south side of the parking lots and buildings associated with the Eureka Community Health and Wellness Center, terminating at a trailhead on the property adjacent to the Center, ending on Tydd Street. From the end of Segment 22, the trail is

along the southeast side of an existing retaining wall. A viewing platform and interpretive sign area will be installed across from the southern end of the retaining wall. From that point, the trail turns west and will be just south of an existing gravel path up to the eastern edge of the Health and Wellness building, at which point another viewing area and interpretive sign will be installed. From that point, the trail tangents away from the existing gravel path and continues to the west behind the existing buildings. The trail will then pass between the toe of an existing berm and the southwestern-most corner of the building. The trail will then continue west on to the adjacent property. At the adjacent property, the trail will head southwest and then tangent to the west and connect to Tydd Street. The trail will terminate at Tydd Street.

Segment 23 will consist mostly of a 10-foot wide asphalt Class I trail approximately 710 feet long along the centerline of the trail. See Figure 2.31-2.32.

Parking	No new parking proposed.
Signage	Historical and nature study interpretive signage.
Trail Amenities	Viewing platforms and picnic area. Trash receptical cluster and informational kiosk will be installed. The cluster will include trash, recycling, and a pet waste station.

CITY OF EUREKA **PARKS AND RECREATION DEPARTMENT**

1011 Waterfront Drive • Eureka, California 95501-1146 • (707) 441-4241

Date: January 11, 2016

California Coastal Commission, North District Office
Cristin Kenyon, Program Analyst
1385 Eighth Street, Suite 130
Arcata, CA 95521

RE: Installation of no more than eight artistically designed benches and no more than eight artistically designed bike racks directly adjacent to the Eureka Waterfront Trail

Ms. Kenyon:

The City of Eureka would like to make an addition to the Eureka Waterfront Trail project, draft CDP application (1-15-2054) to include a series of nature themed benches and bike. These amenities will not interfere with the public's right of access. Placement of benches and bike racks will be made with special attention to avoid any disruption to Environmentally Sensitive Habitat Areas (ESHA) along the project area. If amenities are to be installed in an area with a potential for the presence of archaeological resources, a THPO will be on site to assist our crew. We intend that these trail amenities will be made with the scenic and visual qualities of our coastal areas in mind, and that views will be protected and additions will be compatible with the character of the surrounding areas.

We feel that these amenities will improve the trail user experience and encourage coastal access so that more people come down to the water and enjoy Eureka's waterfront while having minimal impact on the environment.

All benches and bike racks will be submitted to Coastal Commission staff for review and approval prior to installation.

Please contact me with any follow up questions or concerns.

Sincerely,

Miles Slattery
Parks & Recreation Director
mslattery@ci.eureka.ca.gov

Rendering of the proposed boardwalk at the project site during high tide.

Image of a bridge with a similar design to those proposed as part of the trail project.

EXHIBIT NO. 4

Application No. 1-15-2054
City of Eureka
BRIDGE & BOARDWALK DESIGN

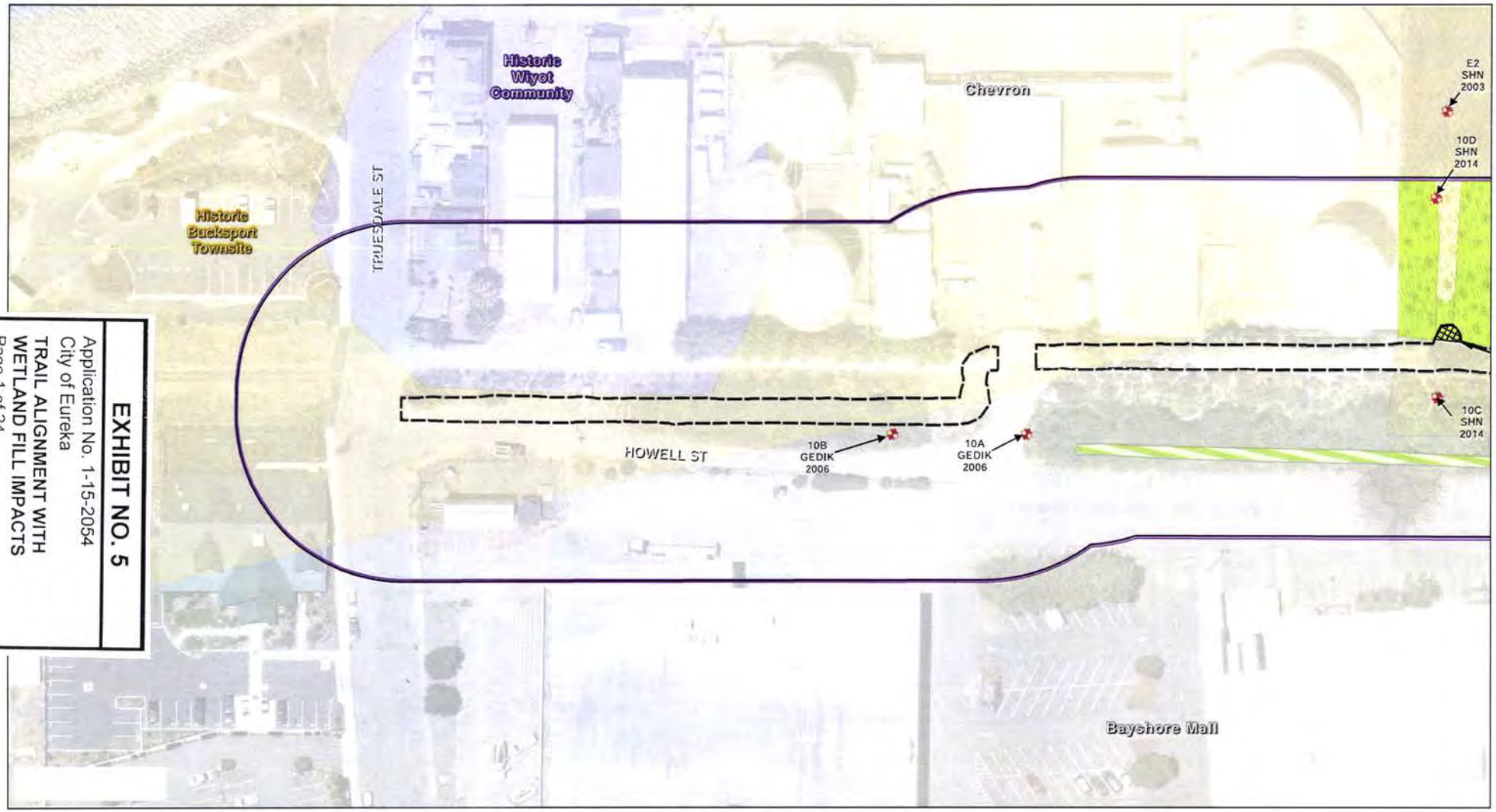

EXHIBIT NO. 5

Application No. 1-15-2054
City of Eureka

TRAIL ALIGNMENT WITH WETLAND FILL IMPACTS

Page 1 of 24

Paper Size 11" x 17" (ANSI B)

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts
- Eureka Holmes Lumber Mill Site
- Historic Wiyot Community
- Historic Bucksport Townsite
- Historic Eureka Dump (CA-HUM-857)
- ** Salix hookeriana Shrubland Alliance
- ** 1 Parameter, Brackish Vegetation
- ** 1-parameter (Freshwater Vegetation)
- ** 2 Parameter Vegetation/Soils
- Estuarine Saltmarsh/Ditch (E2EM1P)
- Estuarine Channel/Ditch (E2US3)
- Estuarine Subtidal (E1UB3)
- Palustrine Emergent Ditch (PEM1C)
- Palustrine Emergent Wetland (PEM1C)
- Palustrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka	Job Number 8411641
Waterfront Trails	Revision A
Phases A, B and C	Date 01 Oct 2015

Wetland Impacts Figure 2.1

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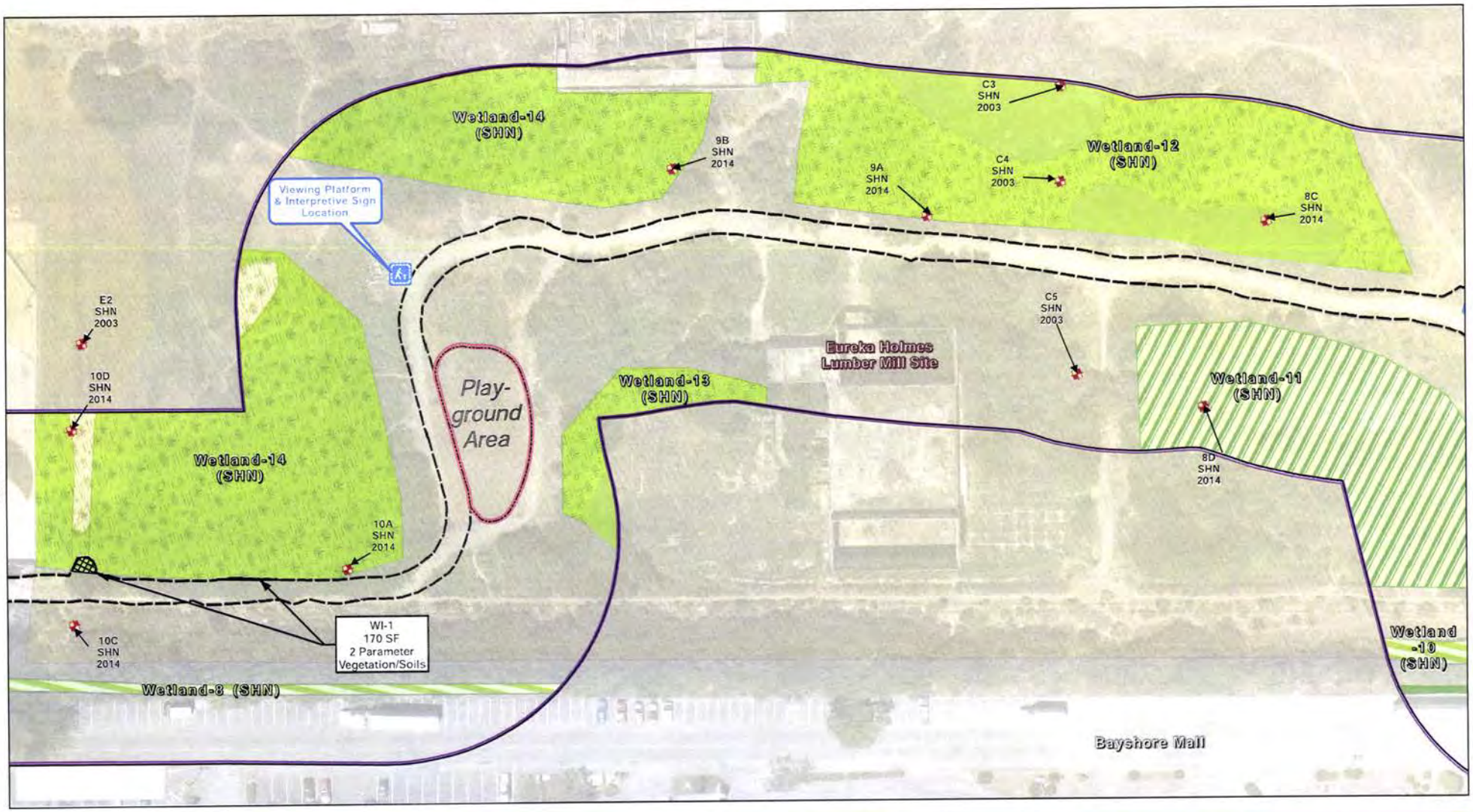

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
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Historic Eureka Dump (CA-HUM-857)

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Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PFO1) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

2.2

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 09 Nov 2015

Wetland Impacts Figure 2.2

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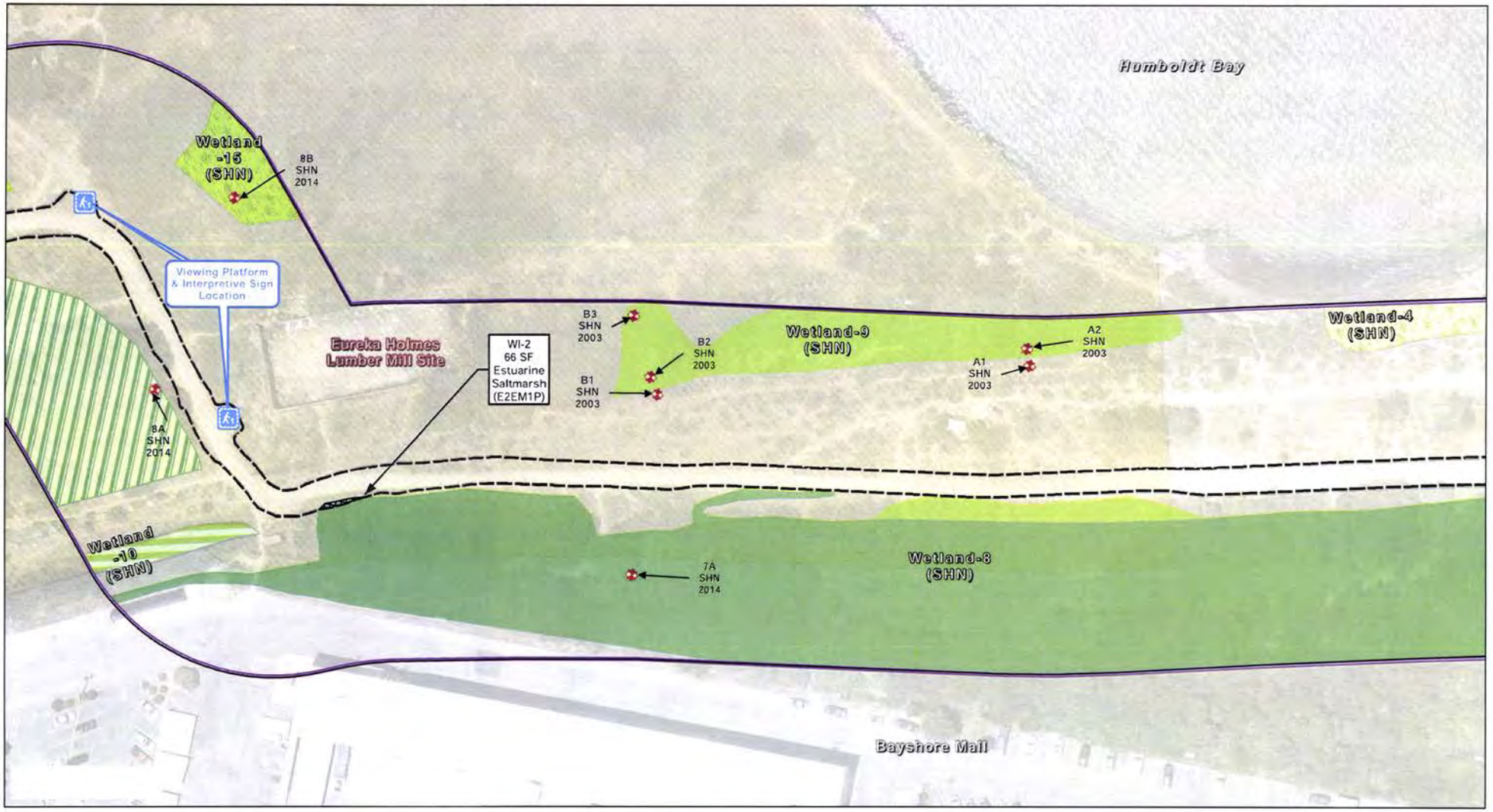

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
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Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

2.3

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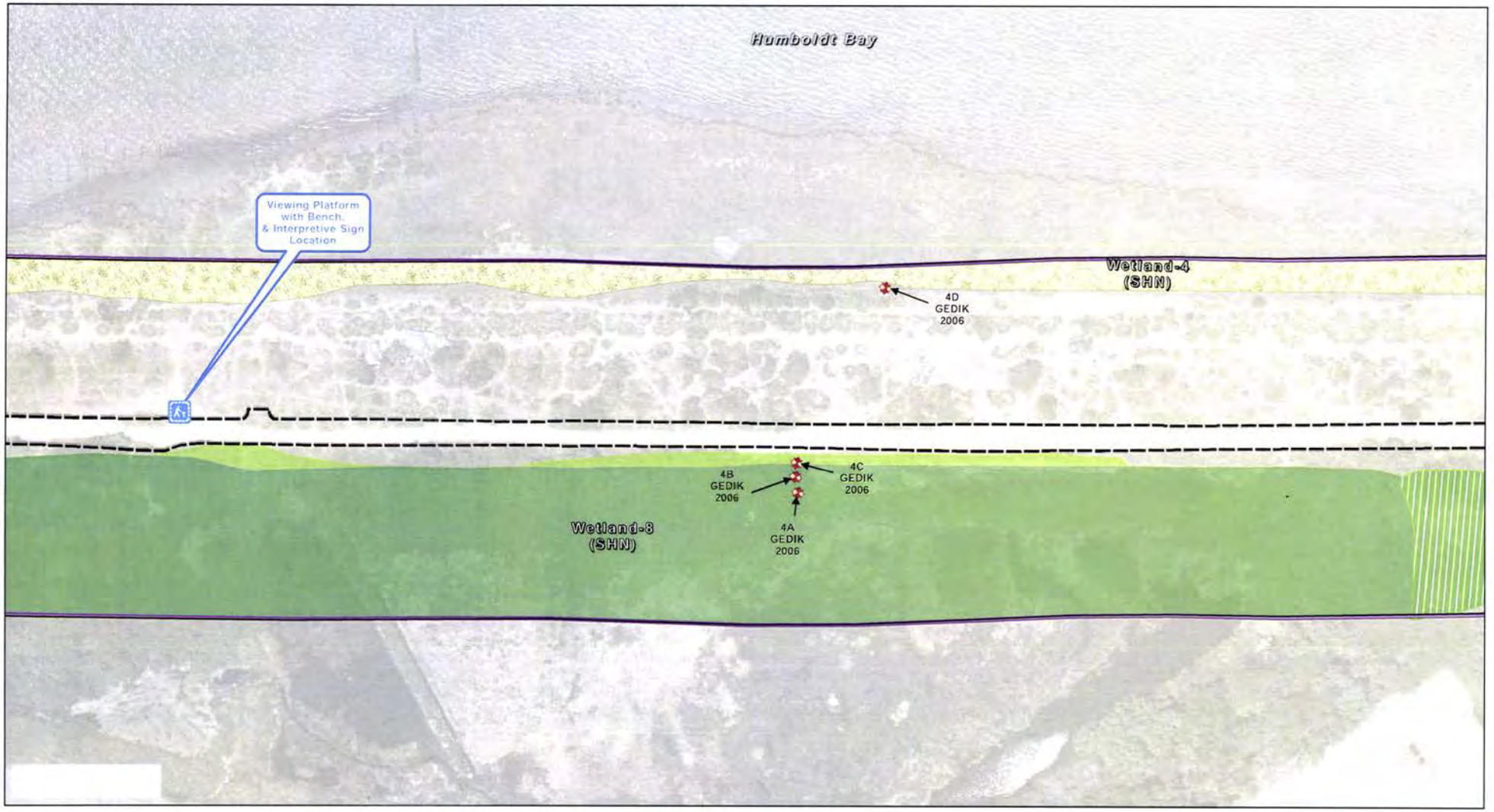
City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.3



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
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** Coastal Commission (CC) Jurisdiction

2.4

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.4

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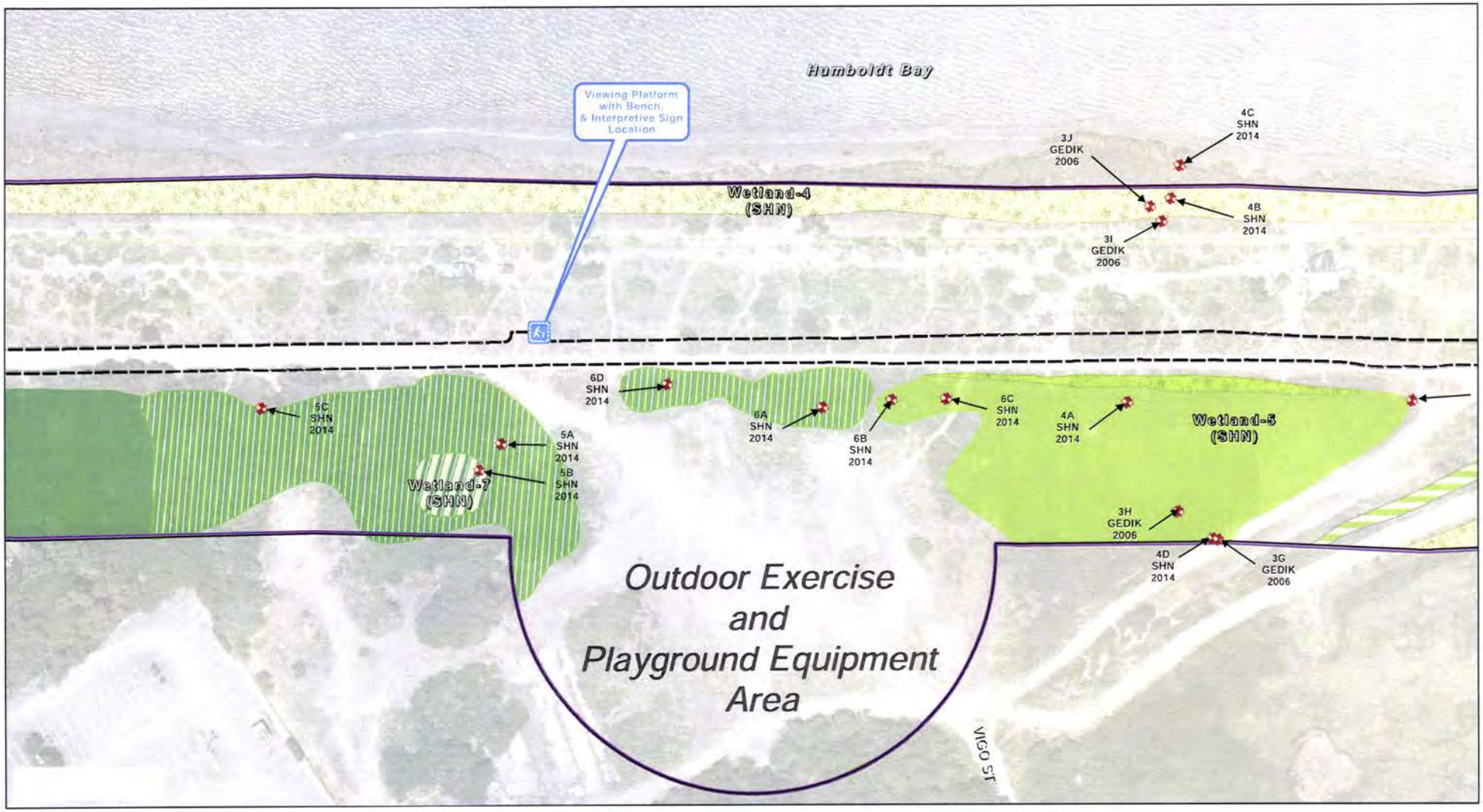

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** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.5

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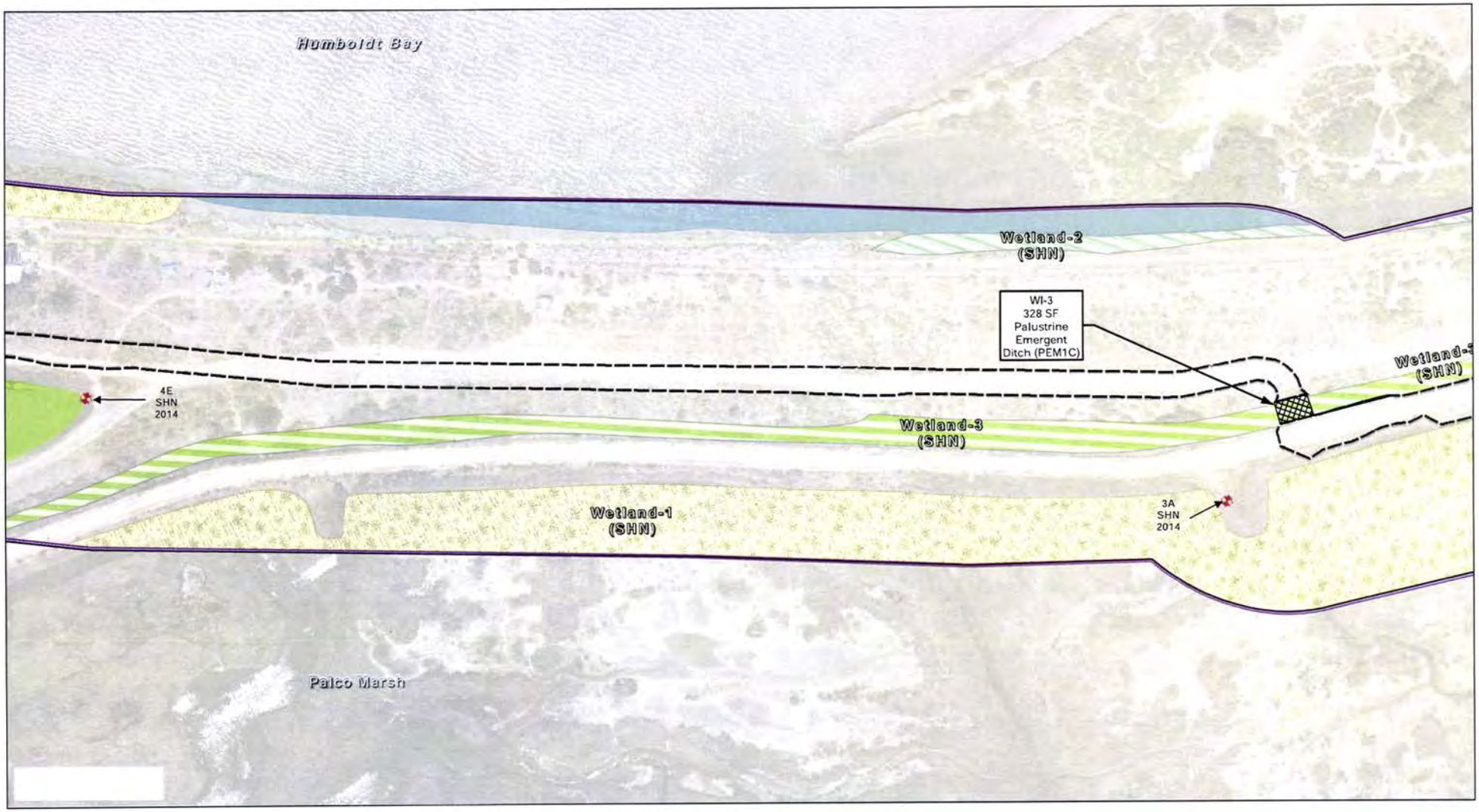

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City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
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Wetland Impacts Figure 2.6

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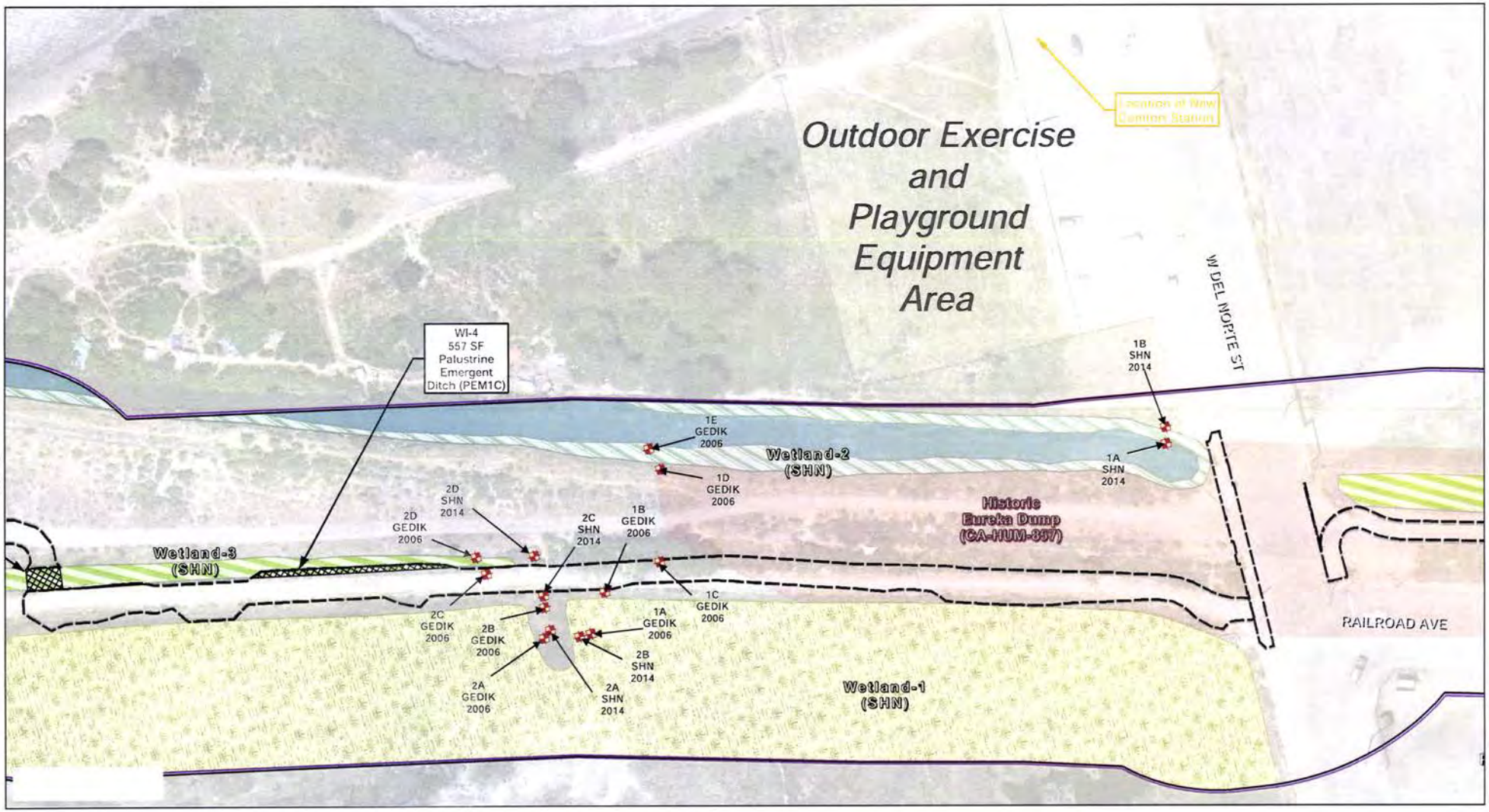

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** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.7

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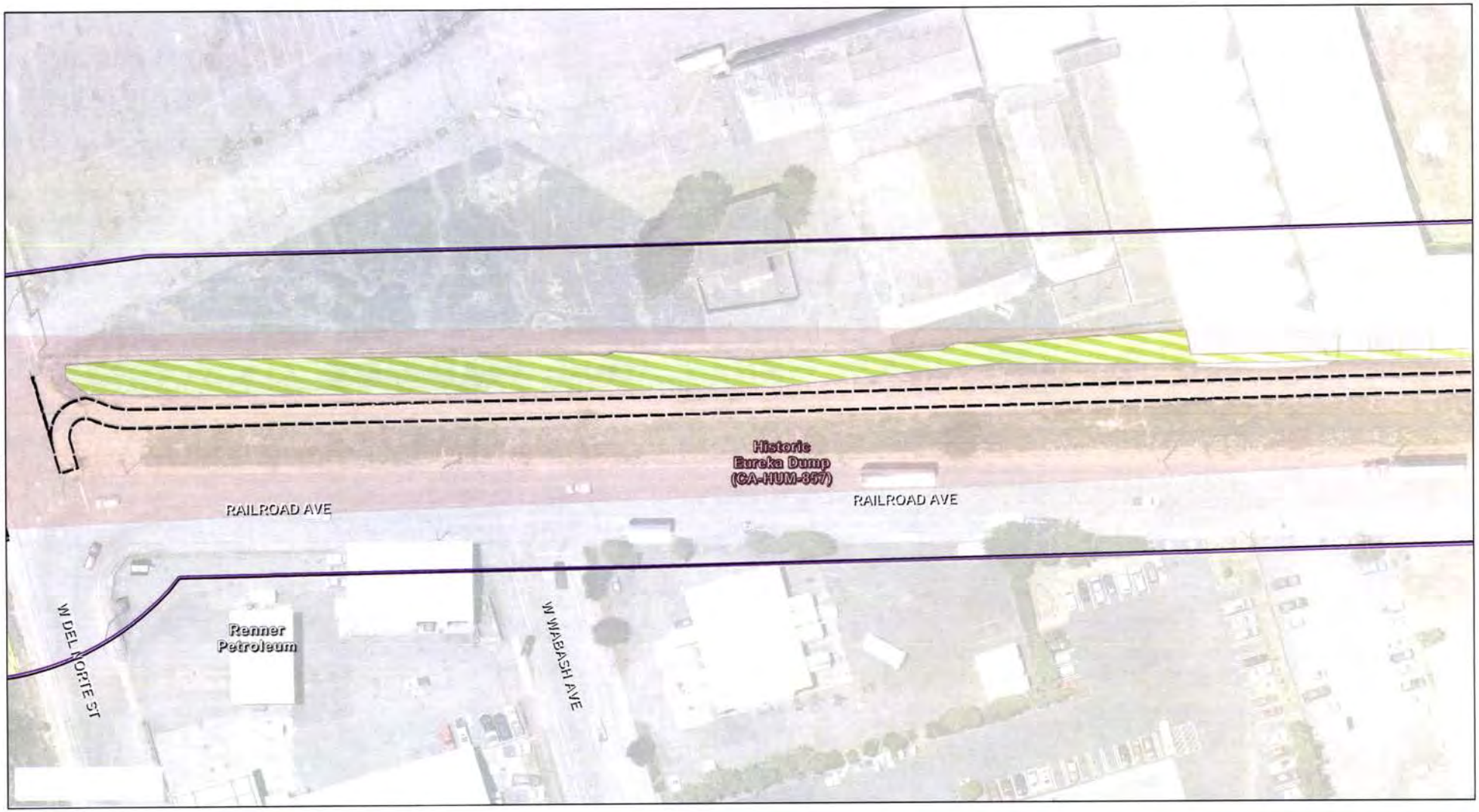

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.8

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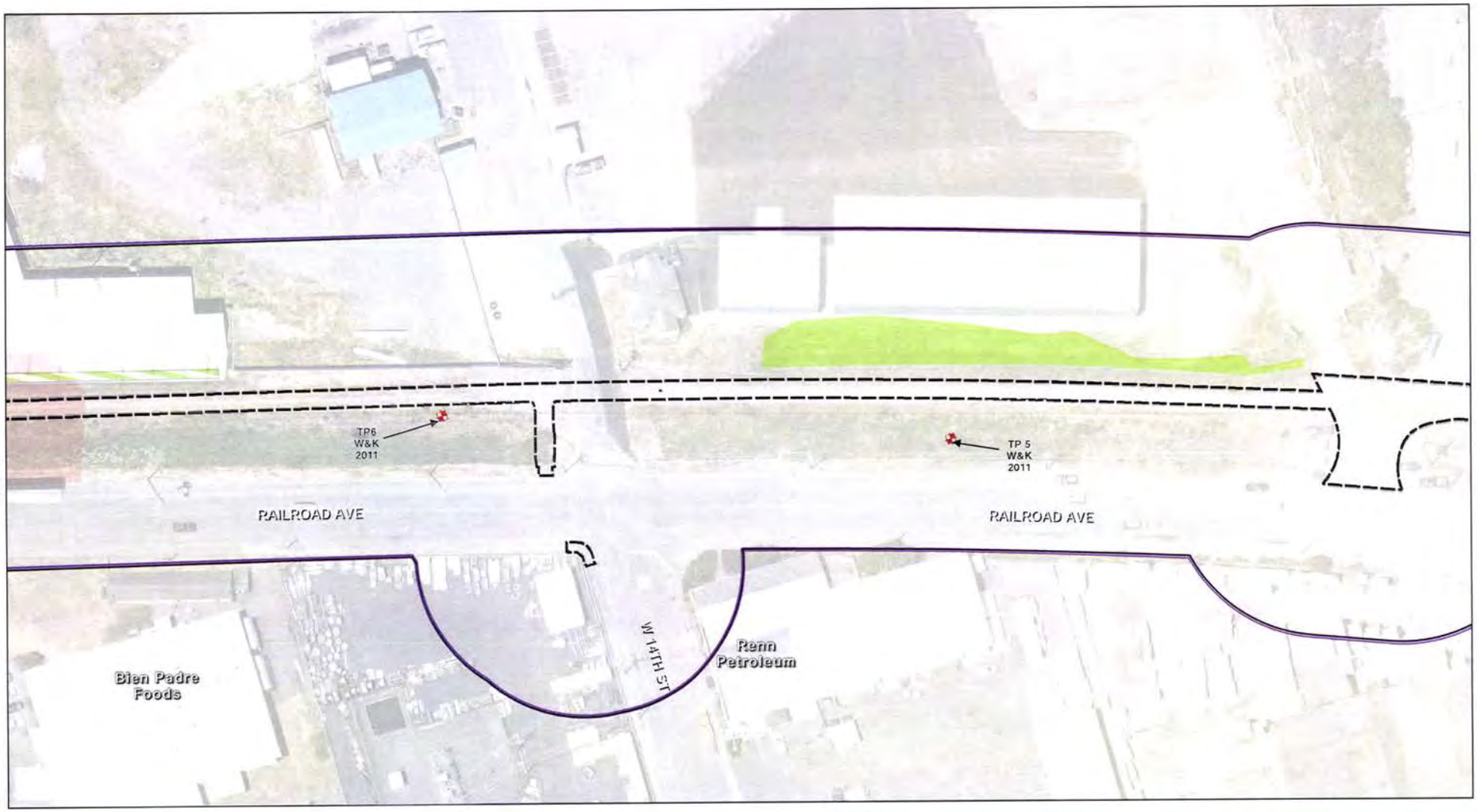

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
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Date 01 Oct 2015

Wetland Impacts Figure 2.9

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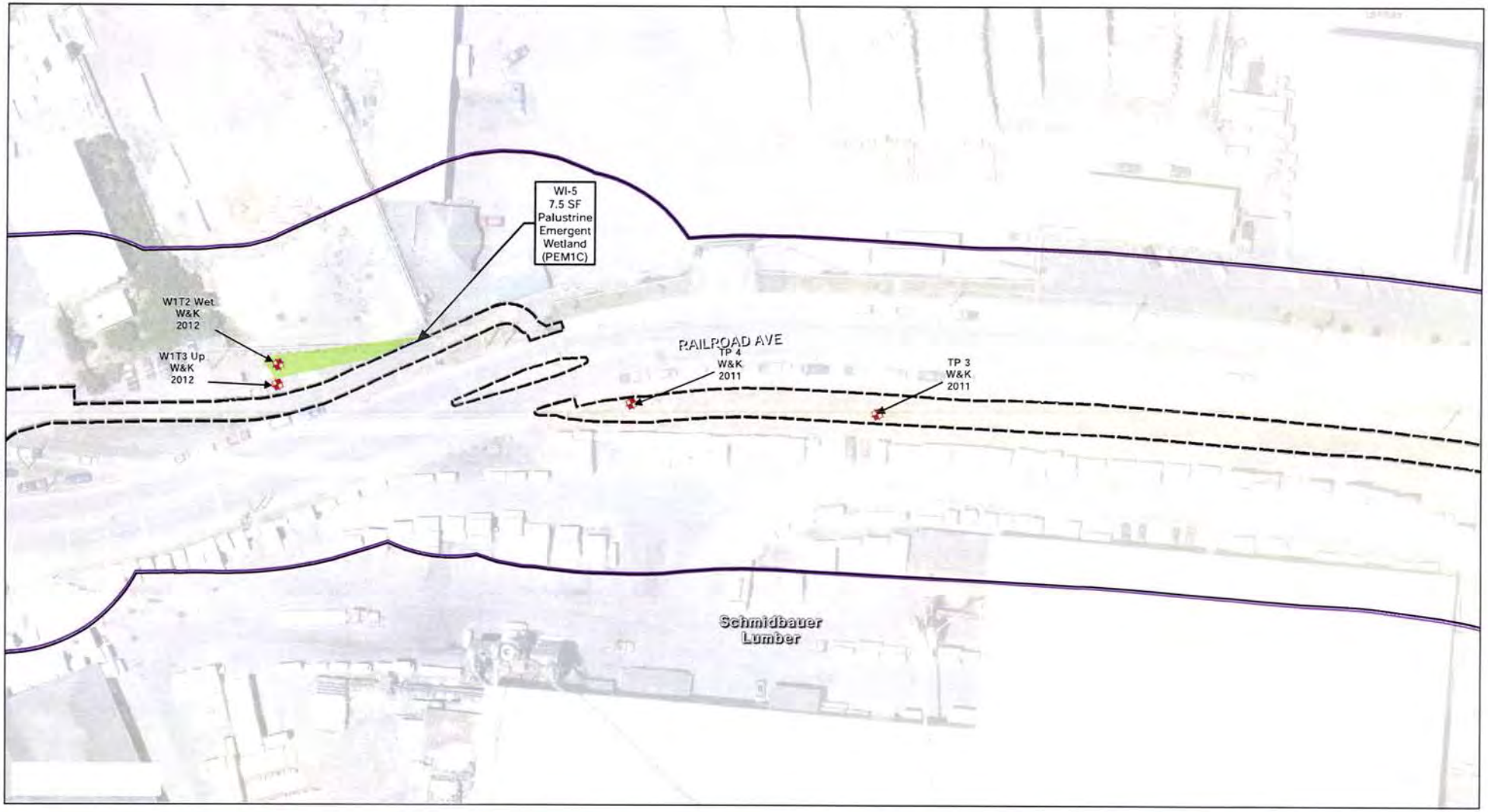

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts

- Eureka Holmes Lumber Mill Site
- Historic Wiyot Community
- Historic Bucksport Townsite
- Historic Eureka Dump (CA-HUM-857)

- ** Salix hookeriana Shrubland Alliance
- ** 1 Parameter, Brackish Vegetation
- ** 1-parameter (Freshwater Vegetation)
- ** 2 Parameter Vegetation/Soils

- Estuarine Saltmarsh/Ditch (E2EM1P)
- Estuarine Channel/Ditch (E2US3)
- Estuarine Subtidal (E1UB3)
- Palustrine Emergent Ditch (PEM1C)

- Palustrine Emergent Wetland (PEM1C)
- Palustrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

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City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.10

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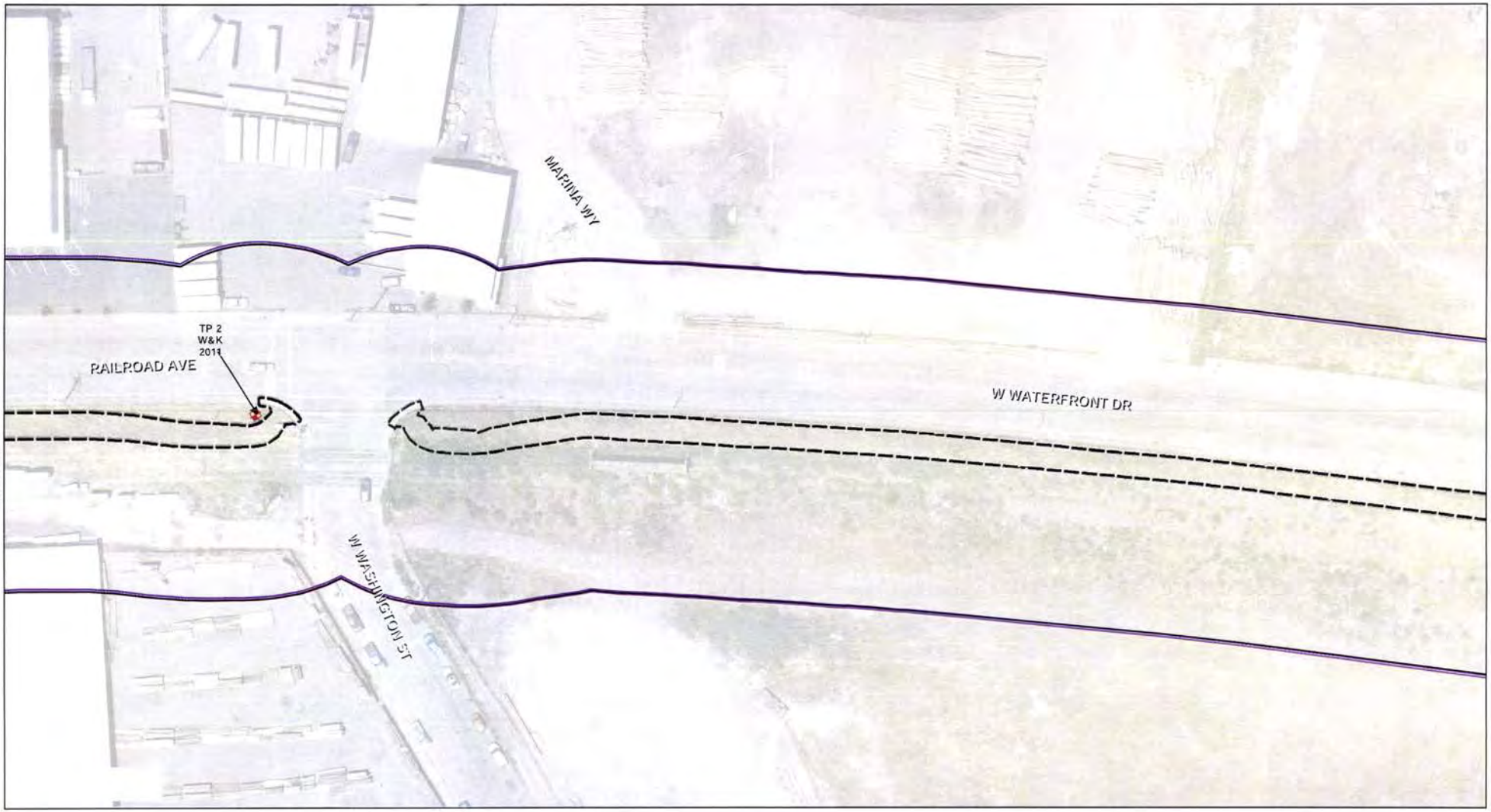

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
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Wetland Impacts Figure 2.11

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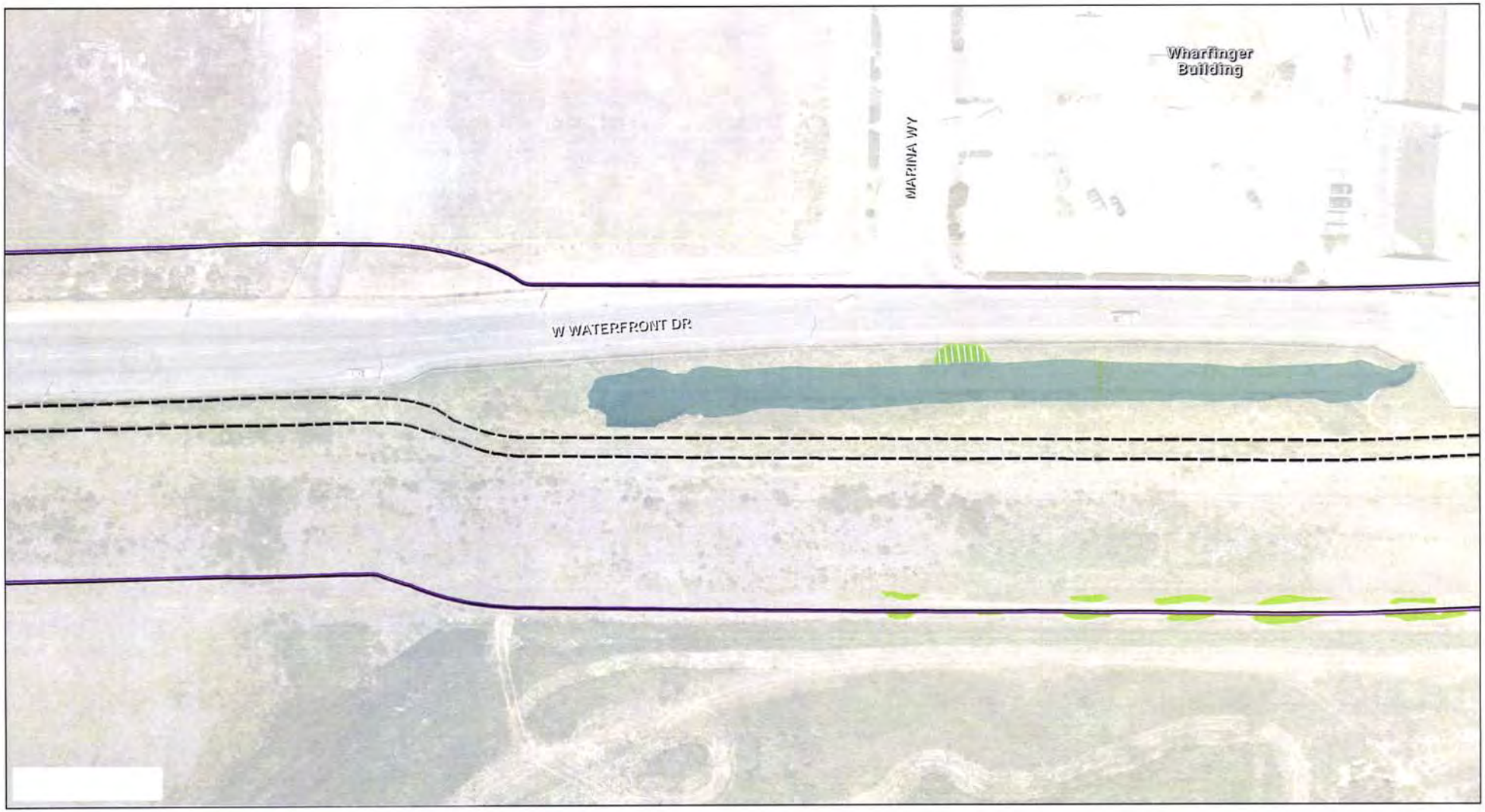

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

2.12

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City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
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Wetland Impacts Figure 2.12

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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

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Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

2.13

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
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Wetland Impacts Figure 2.13

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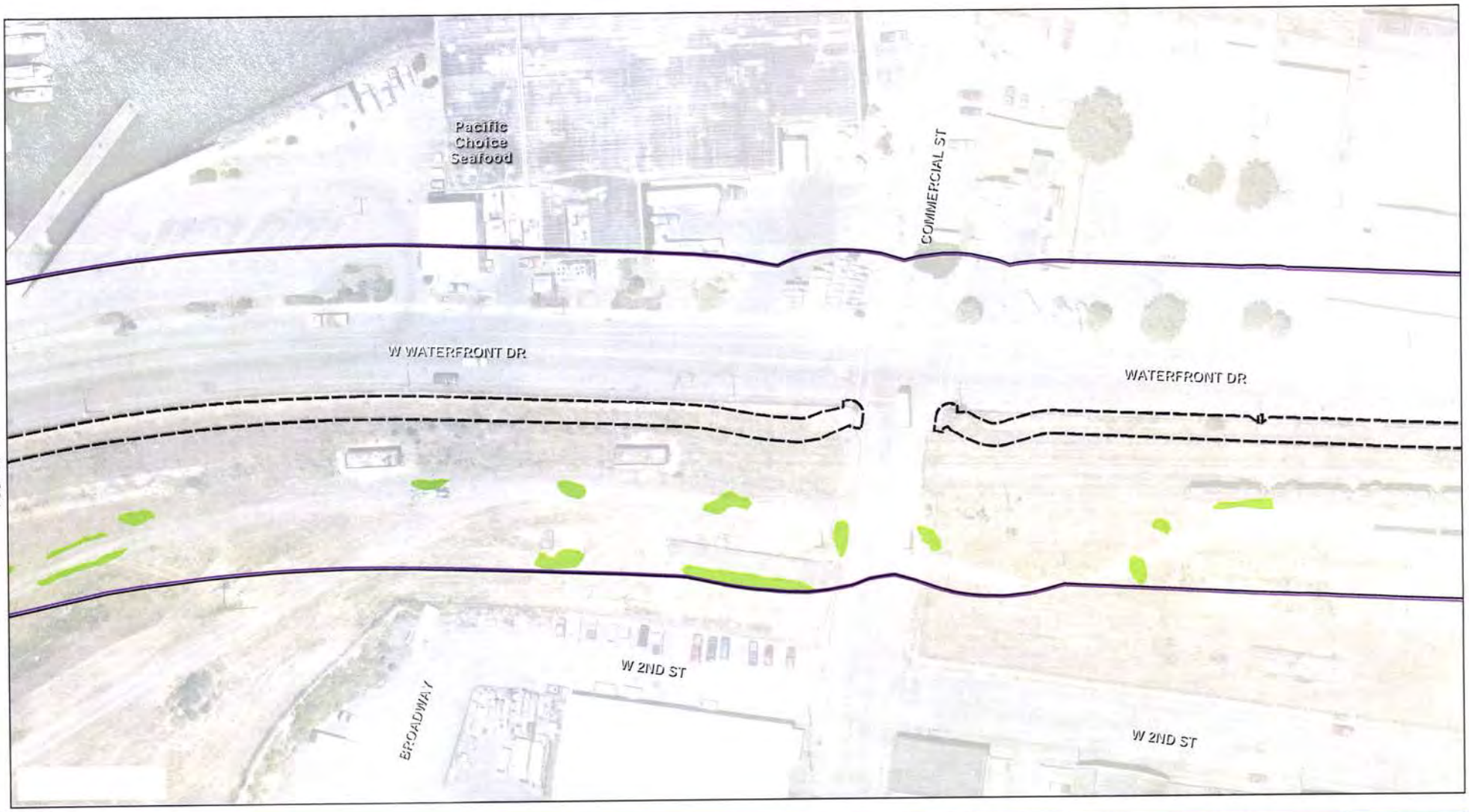

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts
- Eureka Holmes Lumber Mill Site
- Historic Wiyot Community
- Historic Bucksport Townsite
- Historic Eureka Dump (CA-HUM-857)
- ** Salix hookeriana Shrubland Alliance
- ** 1 Parameter, Brackish Vegetation
- ** 1-parameter (Freshwater Vegetation)
- ** 2 Parameter Vegetation/Soils
- Estuarine Saltmarsh/Ditch (E2EM1P)
- Estuarine Channel/Ditch (E2US3)
- Estuarine Subtidal (E1UB3)
- Palustrine Emergent Ditch (PEM1C)
- Palustrine Emergent Wetland (PEM1C)
- Palustrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PFO1) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

2.14

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.14

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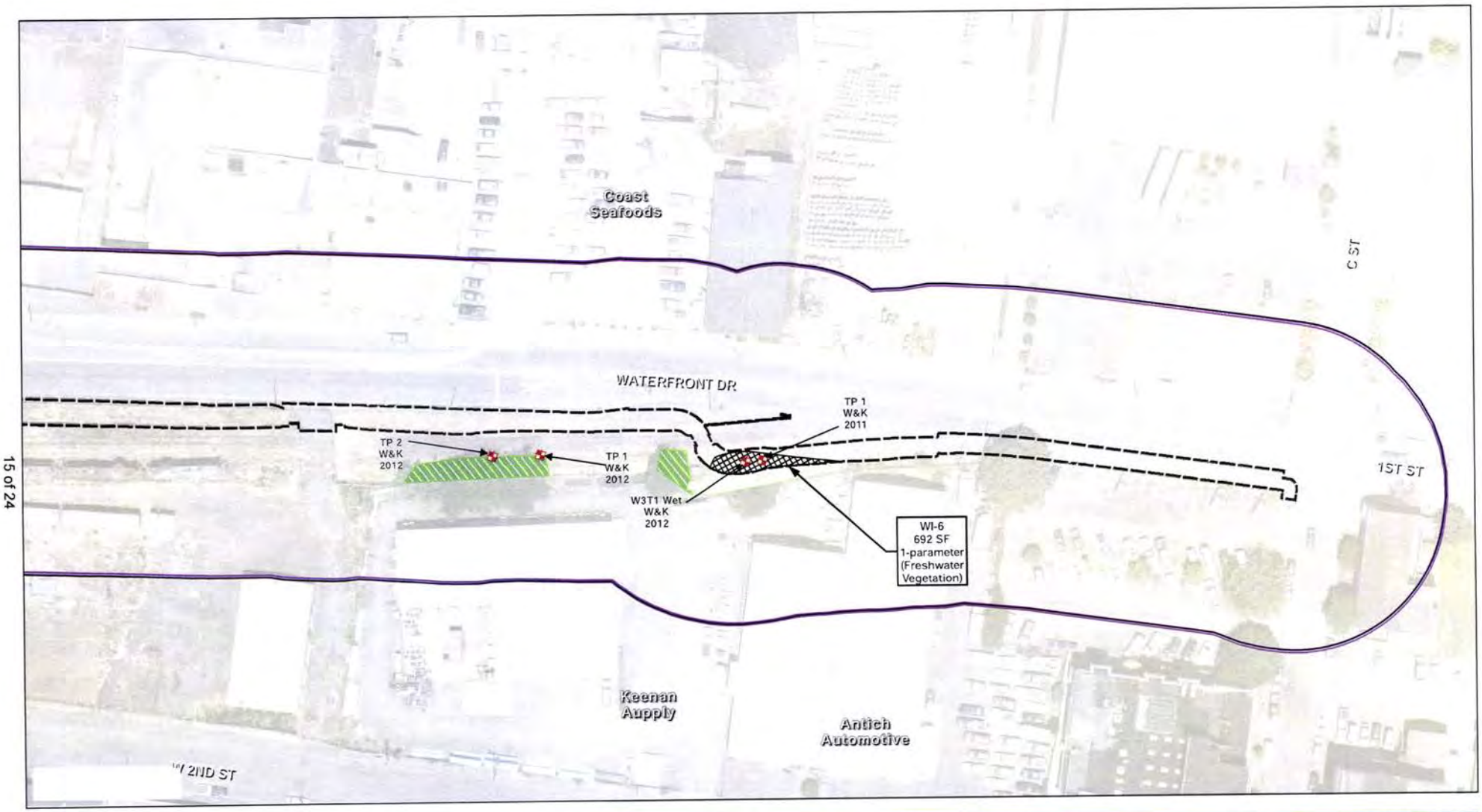

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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
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Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PFO1) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
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Wetland Impacts Figure 2.15

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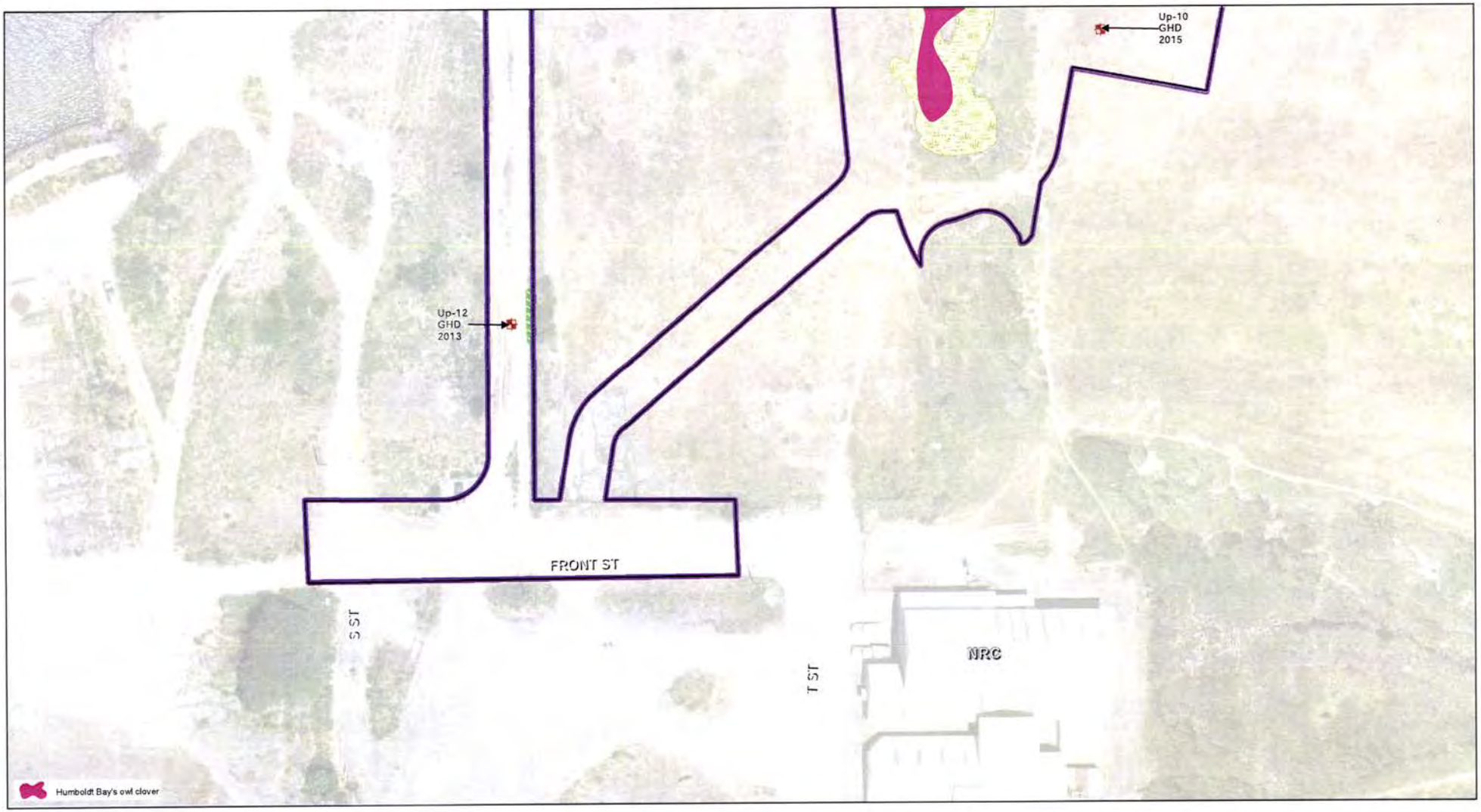

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.16

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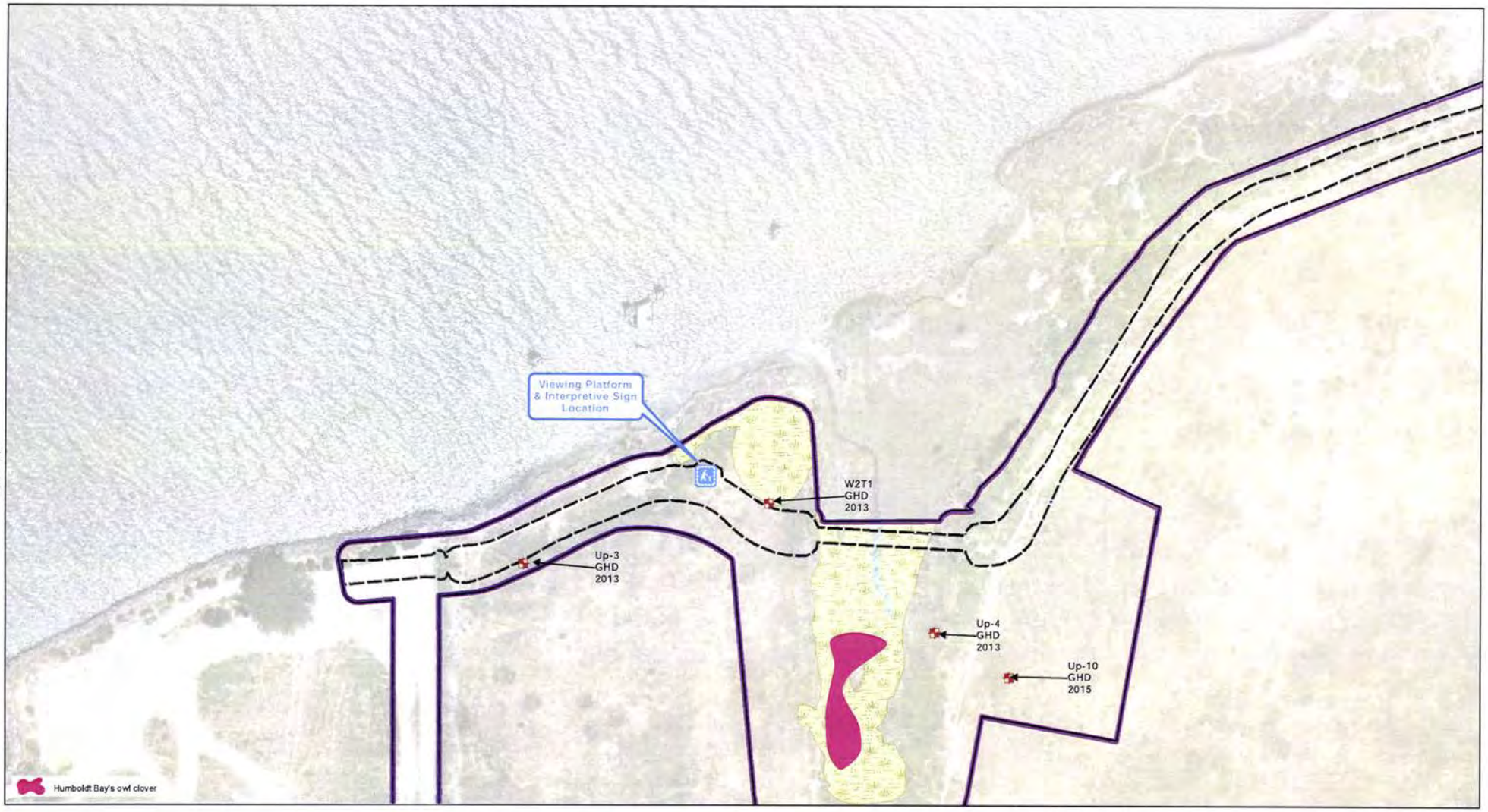

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.17

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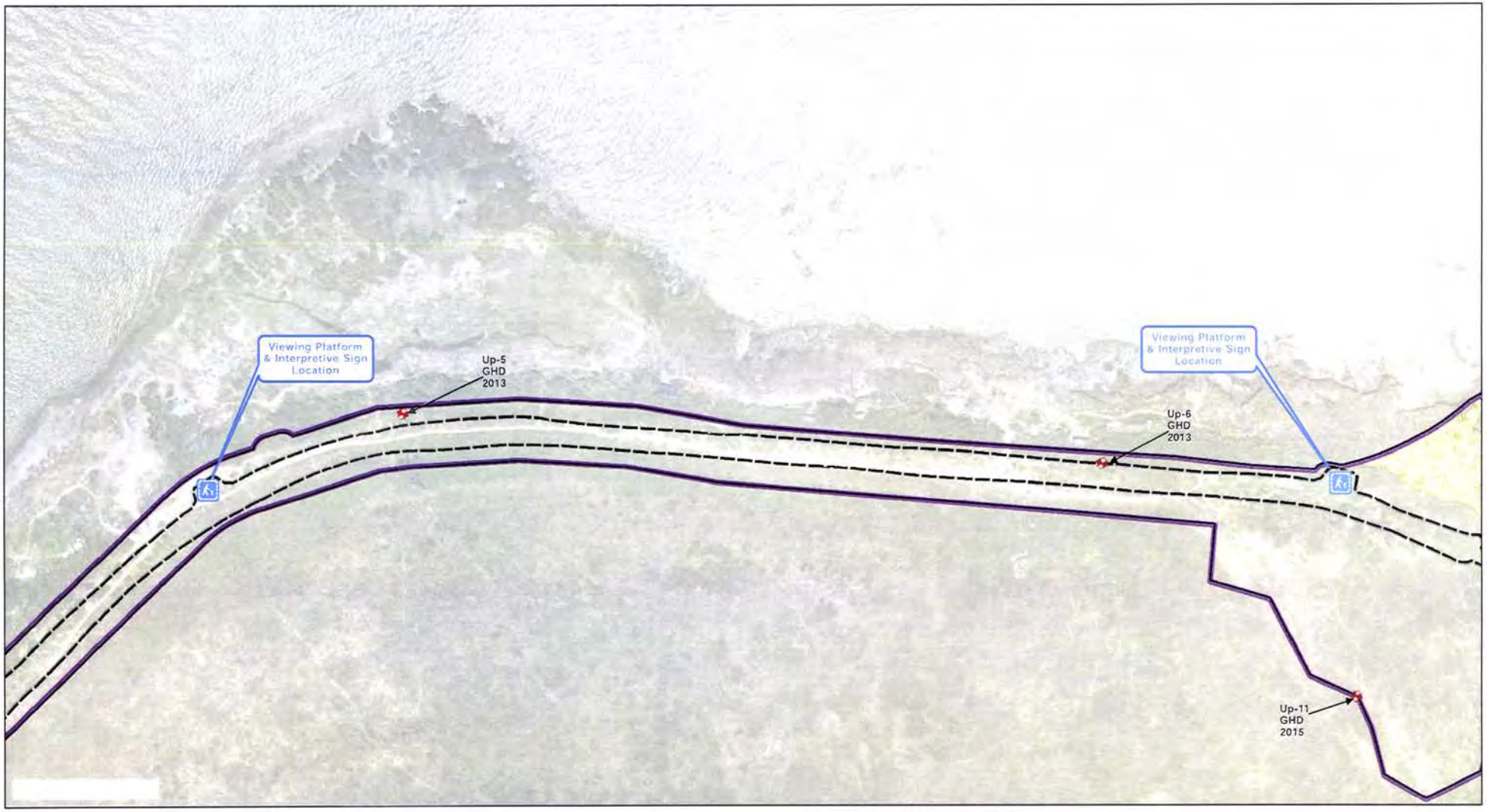

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.18

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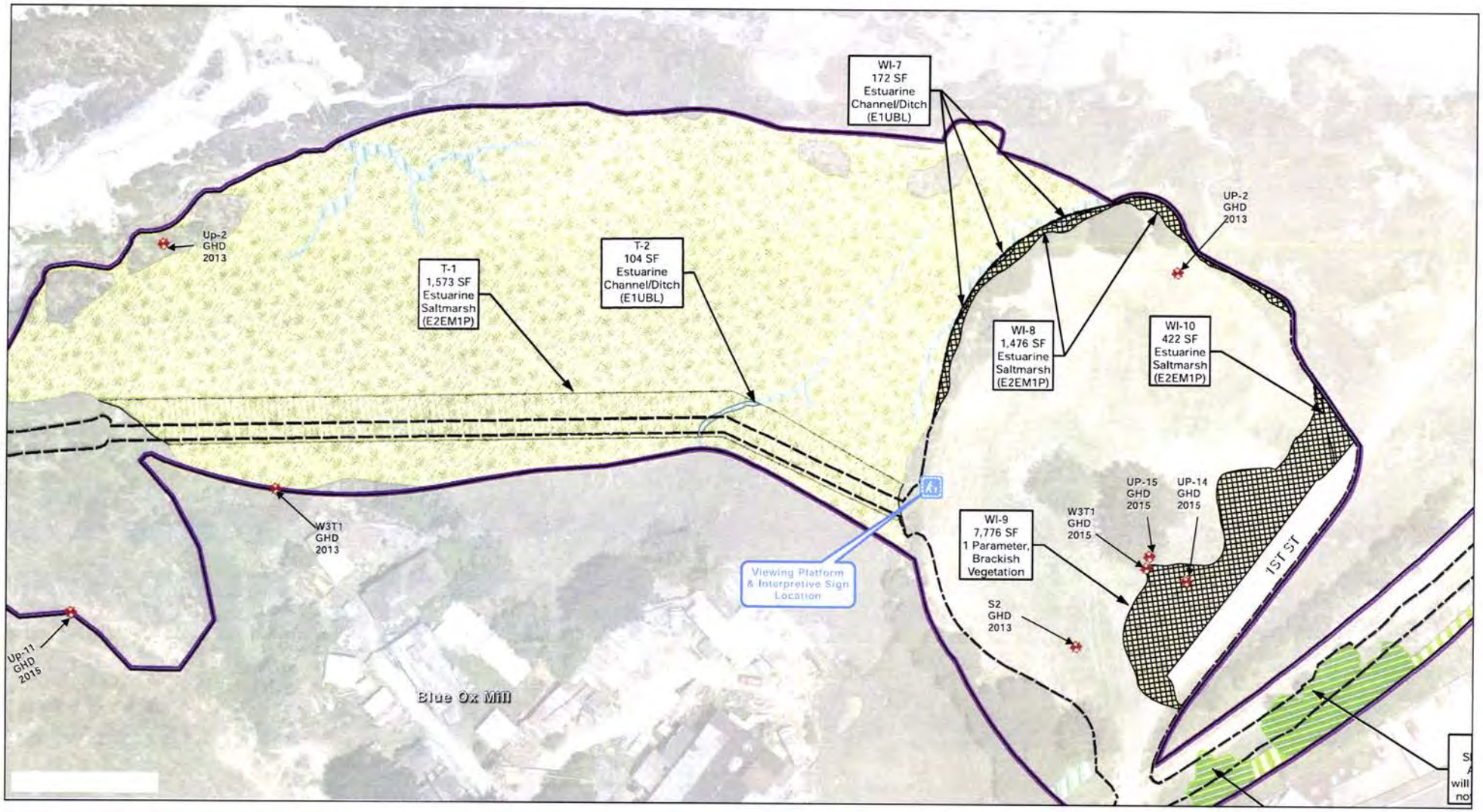

Paper Size 11" x 17" (ANSI B)

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

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City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.19

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Paper Size 11" x 17" (ANSI B)

0 25 50 75 100
Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PFO1) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

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Wetland Impacts Figure 2.20

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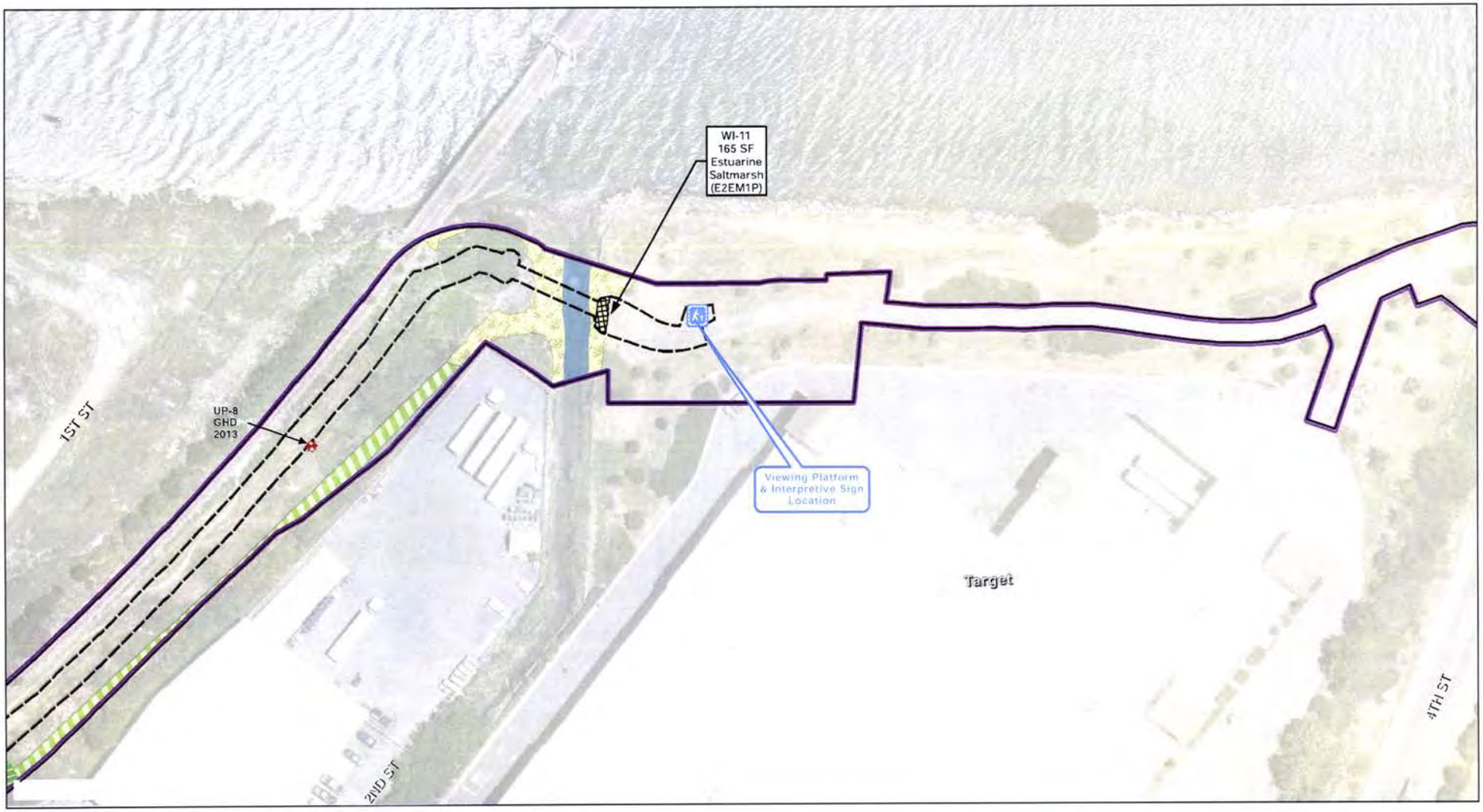

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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
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Estuarine Channel/Ditch (E2US3)
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Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
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Date 01 Oct 2015

Wetland Impacts Figure 2.21

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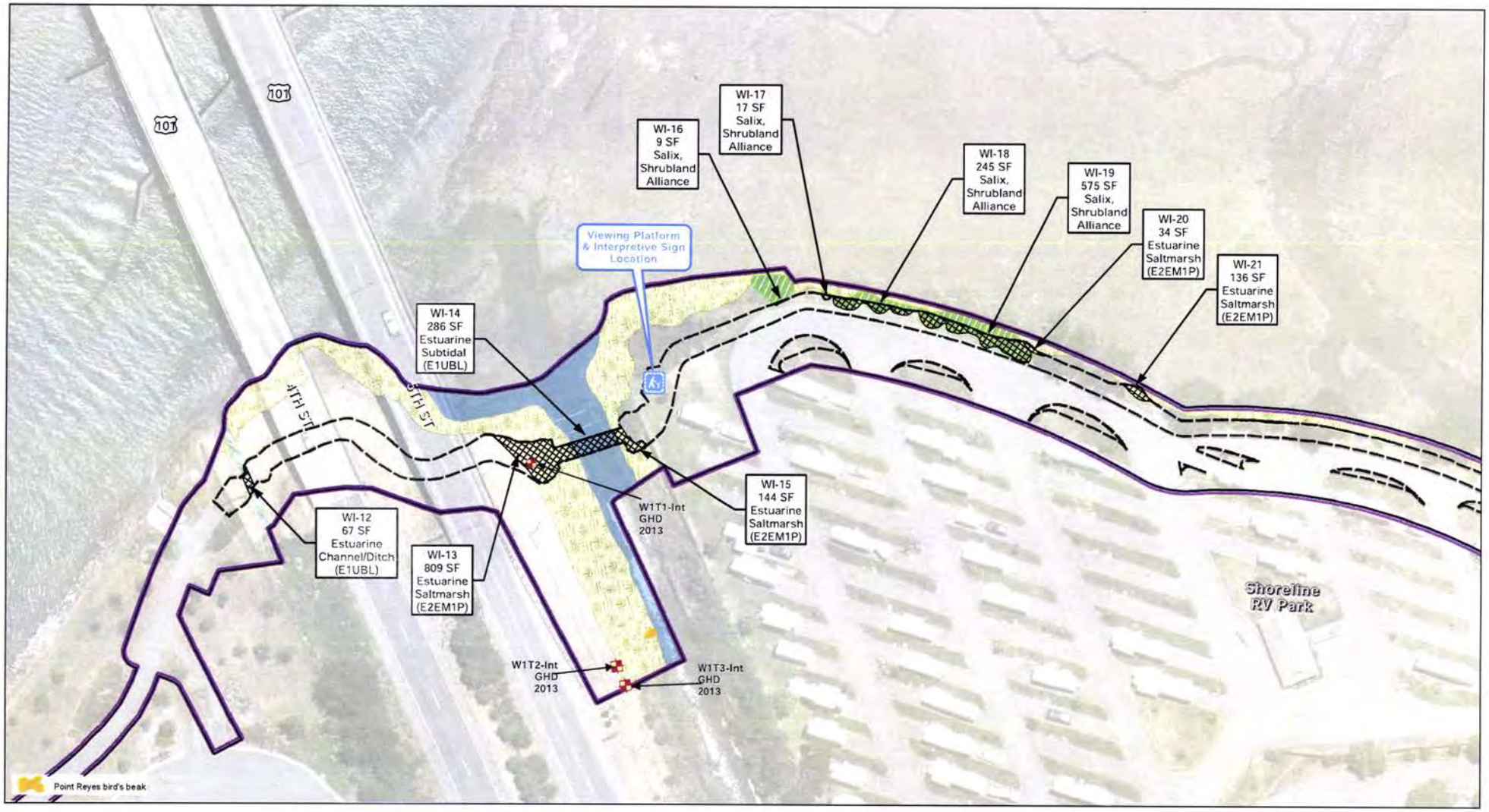
Data source: Data Custodian, Data Set Name/Title, Version/Date. Created by:gldavidson



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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

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** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
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Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PFO1) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
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Wetland Impacts Figure 2.22

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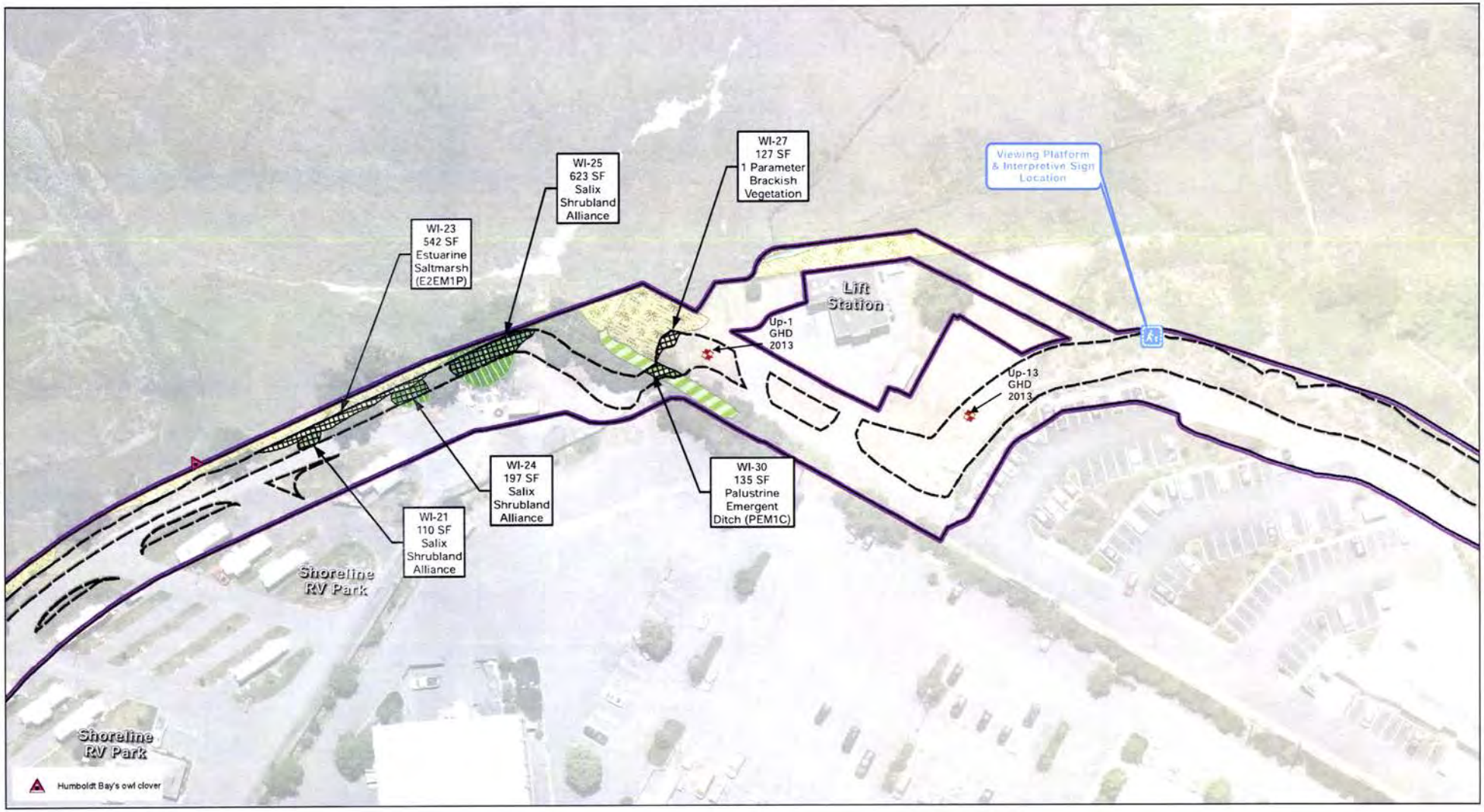

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

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Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PFO1) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 01 Oct 2015

Wetland Impacts Figure 2.23

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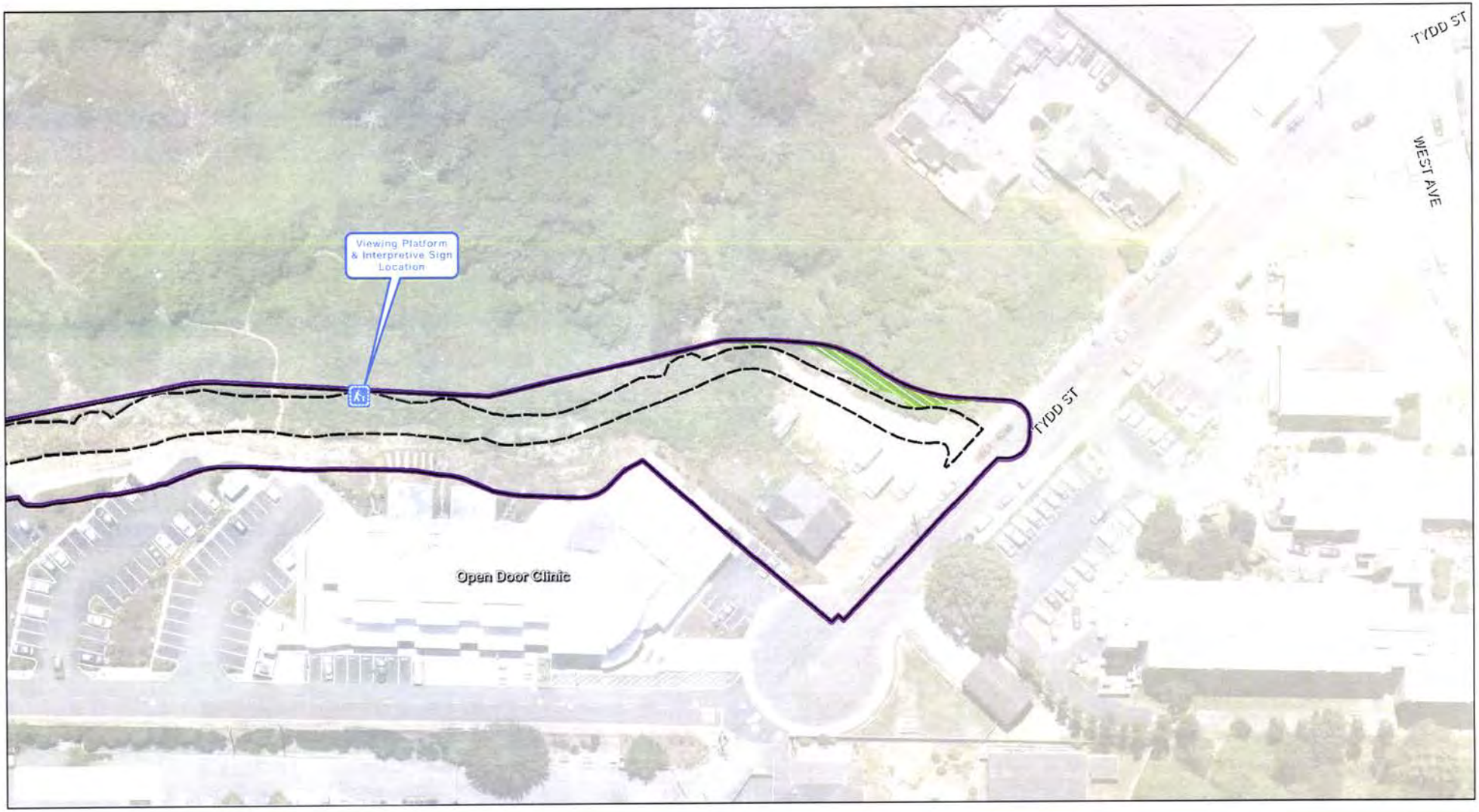

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

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Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PFO1) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

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City of Eureka
Waterfront Trails
Phases A, B and C

Job Number 8411641
Revision A
Date 16 Oct 2015

Wetland Impacts Figure 2.24

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EXHIBIT NO. 6

Application No. 1-15-2054
City of Eureka
TRAIL RELATIVE TO SPECIAL STATUS SALT MARSH PLANTS
Page 1 of 10

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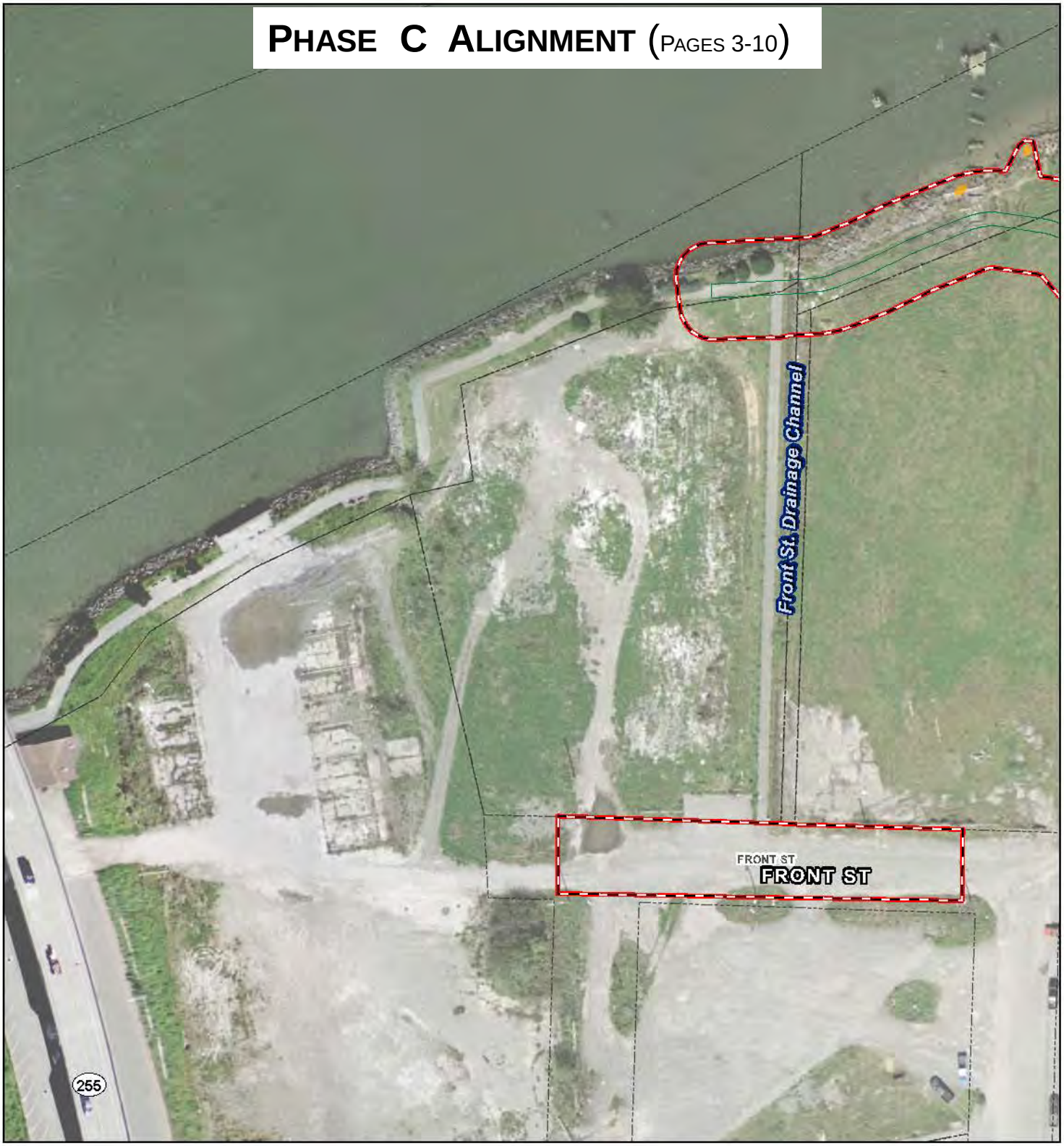
North State Resources, Inc.

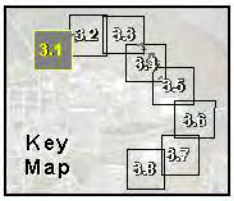
Eureka Waterfront Trail Project Phase A and B

Figure 5b
Environmentally Sensitive Habitat Areas and Special-Status Plant Occurrences

PHASE C ALIGNMENT (PAGES 3-10)



- Humboldt Bay's owl clover (CRPR List 1B.2)
- Point Reyes bird's beak (CRPR List 1B.2)
- sea watch (CRPR List 4.2)
- western sand spurrey (CRPR List 2B.1)
- Special Status Plants - Study Area
- Preliminary Concept Footprint
- Approximate Parcel Boundary



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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail Phase C
(Tydd St to Adornia)

Job Number 8410915
Revision B
Date 10 Jul 2014

Special Status Plants Survey Results

Figure 3.1

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\\ghdnet\ghd\US\Eureka\Projects\01052 City of Eureka\8410915 Eka-Wtrfrnt Trail Phs C PA-ED\08-GIS\Maps\Figures\RarePlantSurvey\F3_MB_RarePlants.mxd
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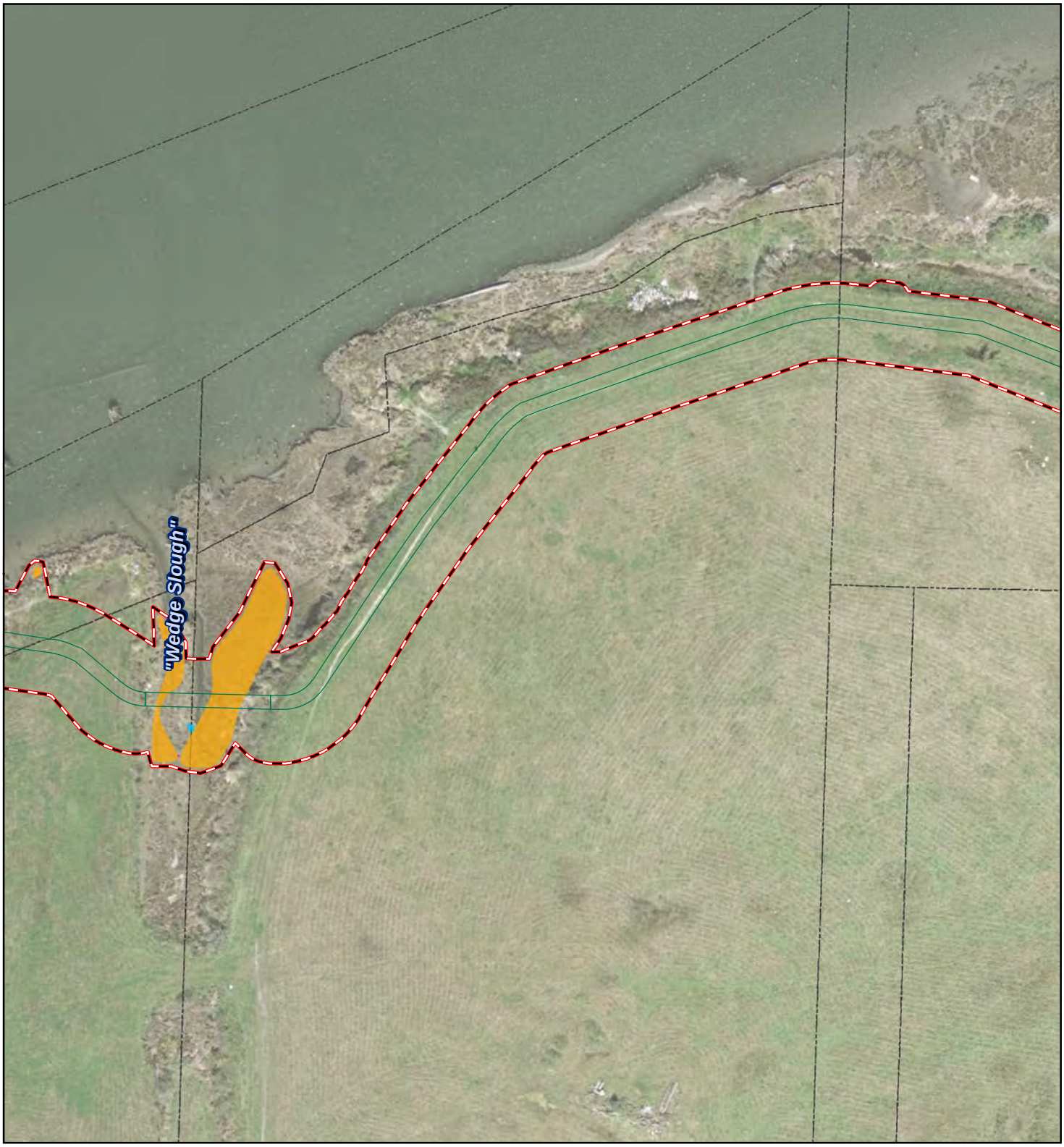


Humboldt Bay's owl clover (CRPR List 1B.2)

Point Reyes bird's beak (CRPR List 1B.2)

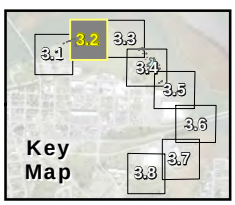
sea watch (CRPR List 4.2)

western sand spurrey (CRPR List 2B.1)

Special Status Plants - Study Area

Preliminary Concept Footprint

Approximate Parcel Boundary



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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C
(Tydd St to Adornia)

Job Number 8410915
Revision B
Date 10 Jul 2014

Special Status Plants Survey Results

Figure 3.2

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Humboldt Bay's owl clover (CRPR List 1B.2)

Point Reyes bird's beak (CRPR List 1B.2)

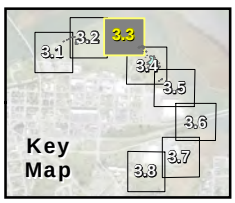
sea watch (CRPR List 4.2)

western sand spurrey (CRPR List 2B.1)

Special Status Plants - Study Area

Preliminary Concept Footprint

Approximate Parcel Boundary



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C
(Tydd St to Adornia)

Job Number 8410915
Revision B
Date 10 Jul 2014

Special Status Plants Survey Results

Figure 3.3

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Humboldt Bay's owl clover (CRPR List 1B.2)

Point Reyes bird's beak (CRPR List 1B.2)

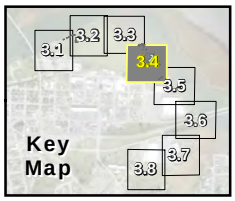
sea watch (CRPR List 4.2)

western sand spurrey (CRPR List 2B.1)

Special Status Plants - Study Area

Preliminary Concept Footprint

Approximate Parcel Boundary



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N

City of Eureka
Eureka Waterfront Trail Phase C
(Tydd St to Adornia)

Job Number 8410915
Revision B
Date 10 Jul 2014

Special Status Plants Survey Results

Figure 3.4

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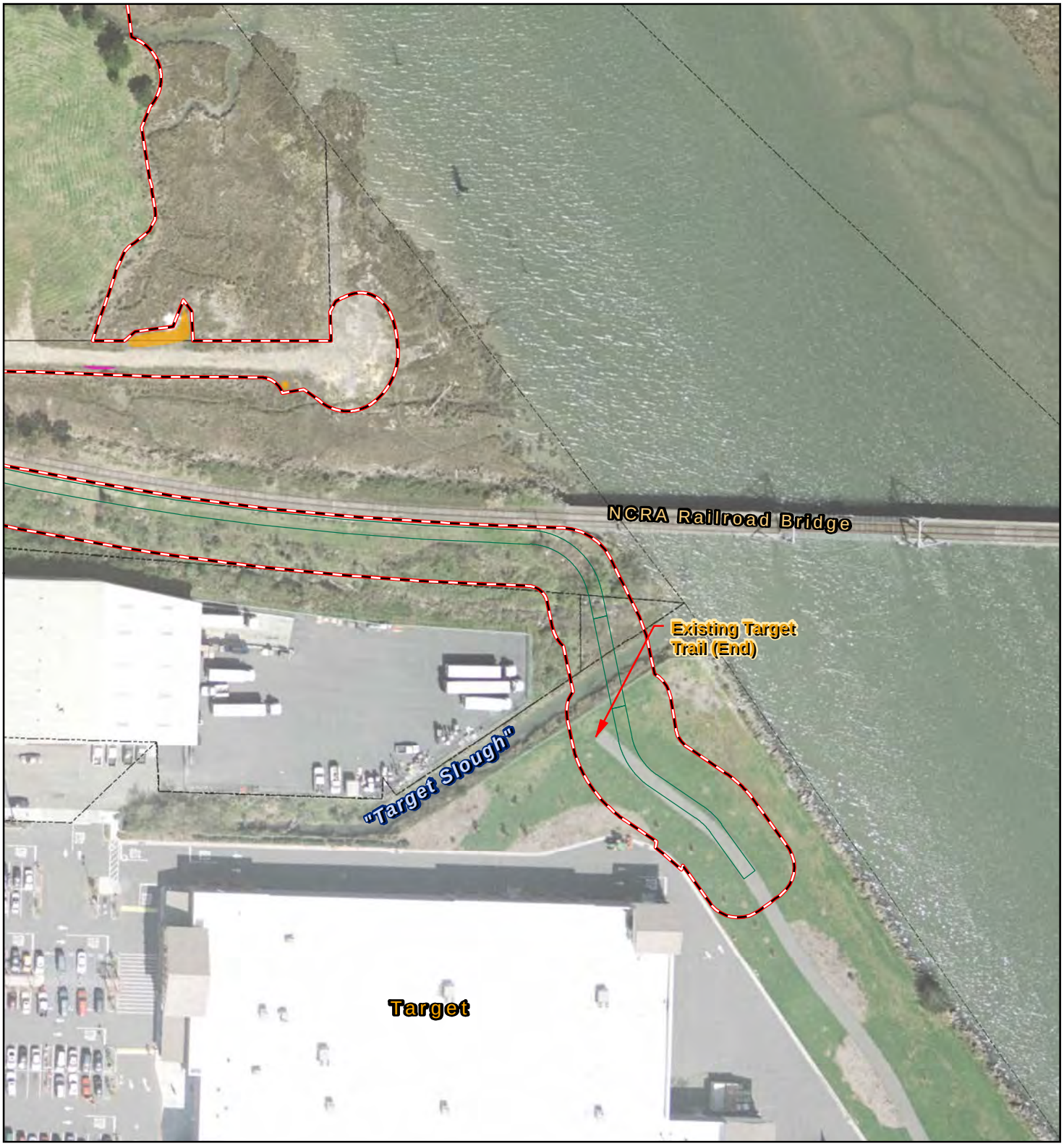
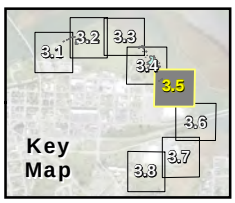


- Humboldt Bay's owl clover (CRPR List 1B.2)
- Point Reyes bird's beak (CRPR List 1B.2)
- sea watch (CRPR List 4.2)
- western sand spurrey (CRPR List 2B.1)
- Special Status Plants - Study Area
- Preliminary Concept Footprint
- Approximate Parcel Boundary



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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C
(Tydd St to Adornia)

Special Status Plants Survey Results

Job Number	8410915
Revision	B
Date	10 Jul 2014

Figure 3.5

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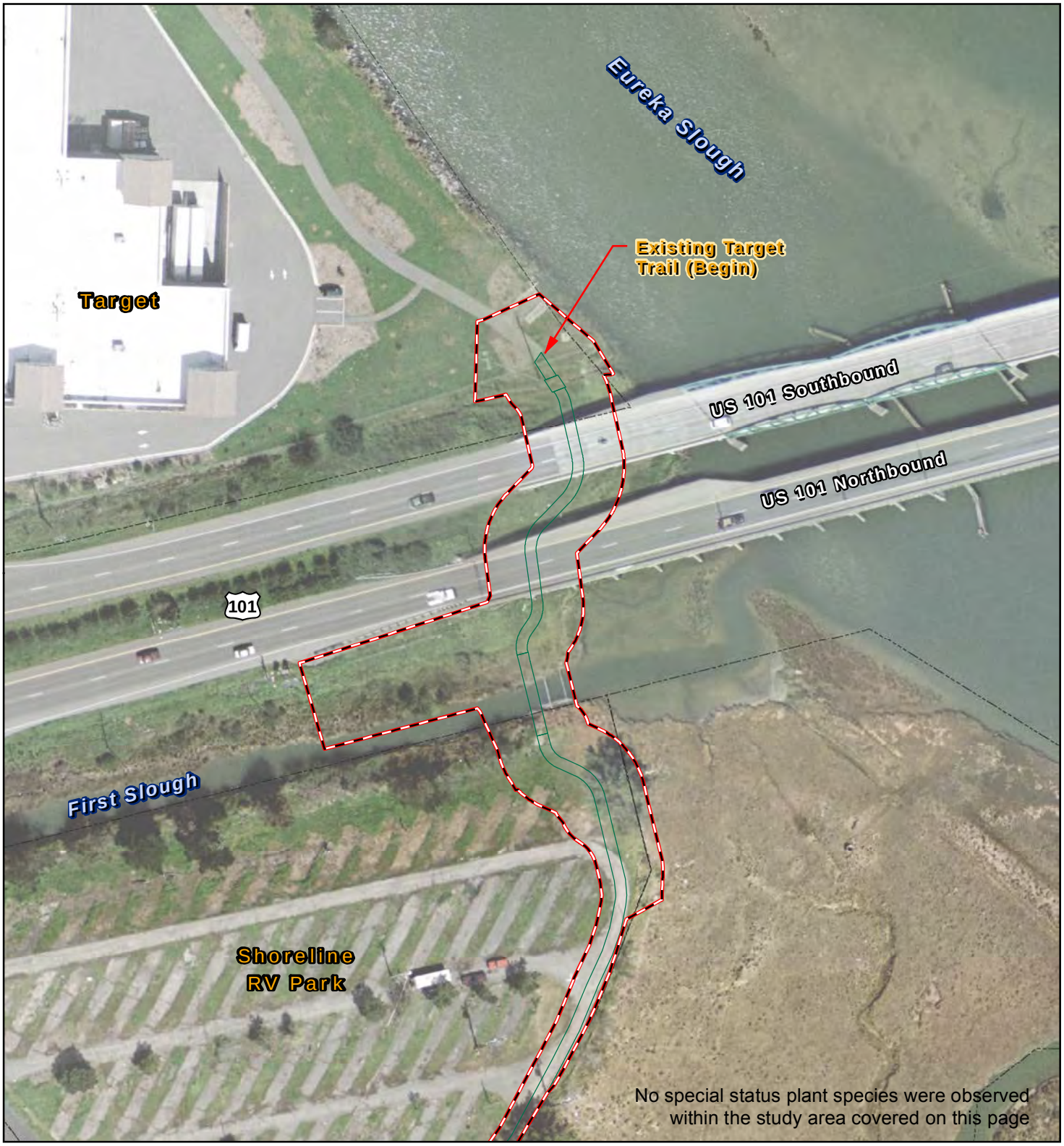


Humboldt Bay's owl clover (CRPR List 1B.2)

Point Reyes bird's beak (CRPR List 1B.2)

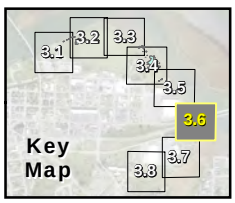
sea watch (CRPR List 4.2)

western sand spurrey (CRPR List 2B.1)

Special Status Plants - Study Area

Preliminary Concept Footprint

Approximate Parcel Boundary



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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C
(Tydd St to Adornia)

Job Number 8410915
Revision B
Date 10 Jul 2014

Special Status Plants Survey Results

Figure 3.6

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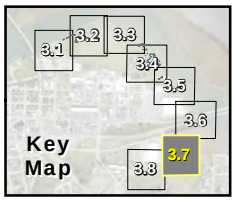
- Point Reyes bird's beak (CRPR List 1B.2)
- sea watch (CRPR List 4.2)
- western sand spurrey (CRPR List 2B.1)
- Special Status Plants - Study Area
- Preliminary Concept Footprint
- Approximate Parcel Boundary



Paper Size ANSI A

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C
(Tydd St to Adornia)

Special Status Plants Survey Results

Job Number	8410915
Revision	B
Date	10 Jul 2014

Figure 3.7

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

\\ghdnet\ghd\US\Eureka\Projects\01052 City of Eureka\8410915 Eka-Wtrfrnt Trail PhsC PA-ED\08-GIS\Maps\Figures\RarePlantSurvey\F3_MB_RarePlants.mxd

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Data source: City of Eureka GIS: parcel layer; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:porogers

Humboldt Bay's owl clover (CRPR List 1B.2)

Point Reyes bird's beak (CRPR List 1B.2)

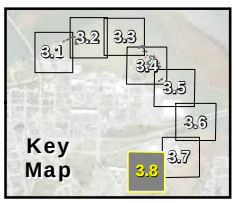
sea watch (CRPR List 4.2)

western sand spurrey (CRPR List 2B.1)

Special Status Plants - Study Area

Preliminary Concept Footprint

Approximate Parcel Boundary



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C
(Tydd St to Adornia)

Special Status Plants Survey Results

Job Number 8410915
Revision B
Date 10 Jul 2014

Figure 3.8

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\\ghdnet\ghd\US\Eureka\Projects\01052 City of Eureka\8410915 Eka-Wtrfrnt Trail PhsC PA-ED\08-GIS\Maps\Figures\RarePlantSurvey\F3_MB_RarePlants.mxd

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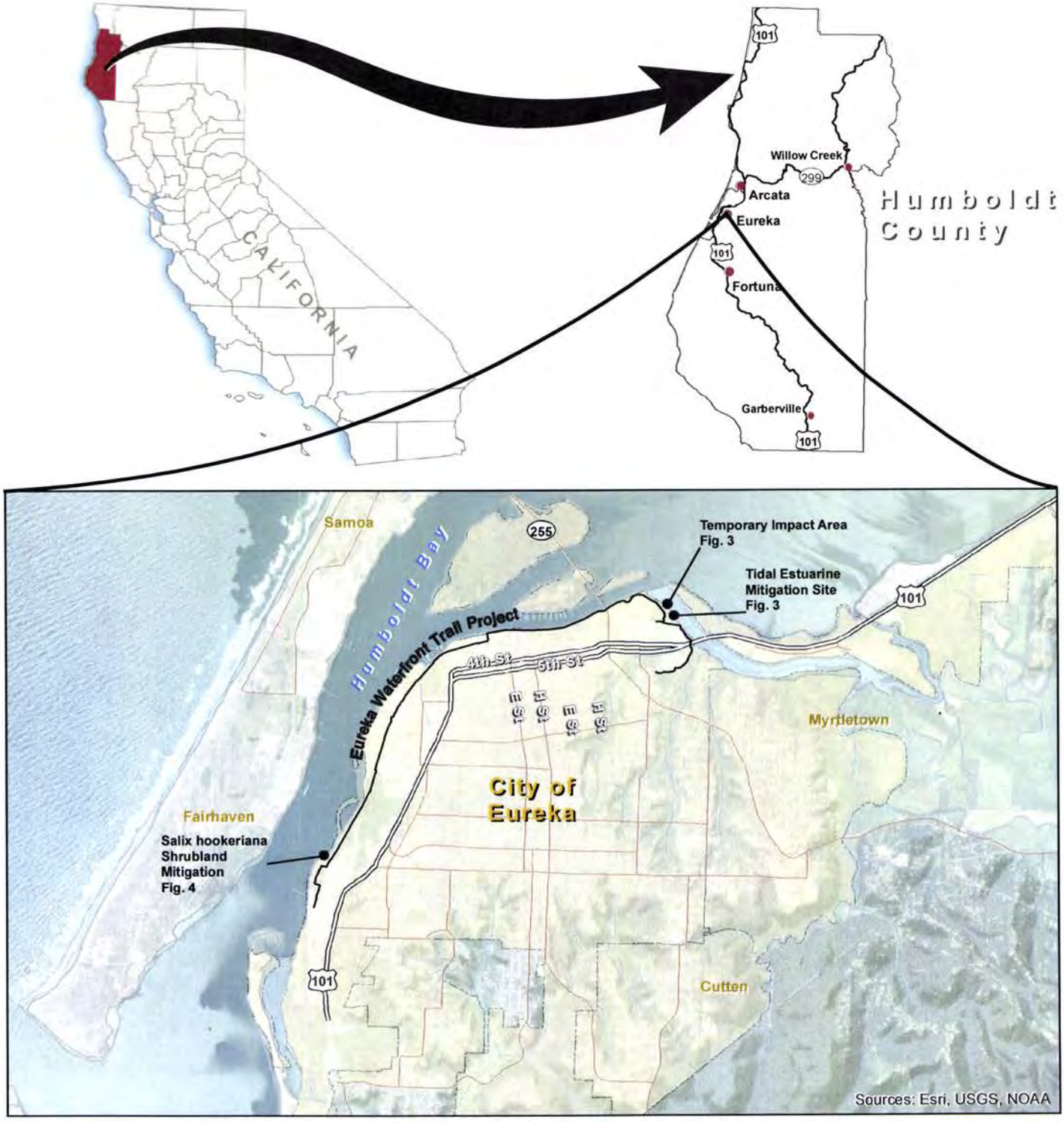
Data source: City of Eureka GIS: parcel layer; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:porogers



Eureka Waterfront Trail
Mitigation Sites
Highway
Major Road
Streams
City Limits
Humboldt County
Counties

1: 72,000 @ 8.5' X 11' (ANSI A)
0 2,000 4,000 6,000 8,000
Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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inaccurate, incomplete or unsuitable in any way and for any reaso
Data source: ESRI: Street Map USA; Humboldt County GIS: hydr

EXHIBIT NO. 7

Application No. 1-15-2054
City of Eureka
MITIGATION SITE PLANS
Page 1 of 7

City of Eureka
Eureka Waterfront Trail

Job Number | 8411641.13
Revision | B
Date | 05 Oct 2015

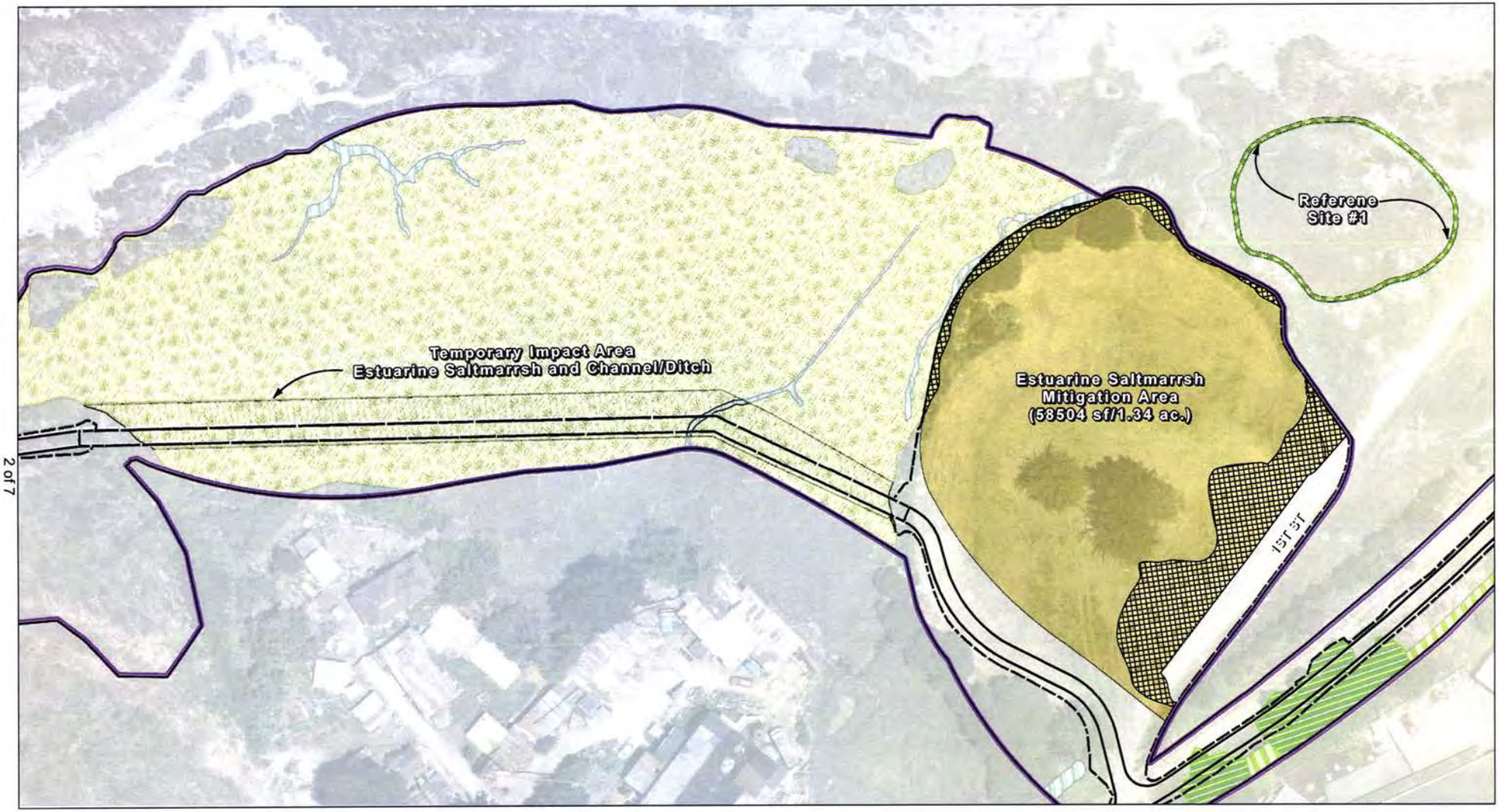
Vicinity and Location

Figure 1

Street Eureka, CA 95501 T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

it its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept consequential damage) which are or may be incurred by any party as a result of the map being

oject boundary. Created by:JClark2



Paper Size 11" x 17" (ANSI B)

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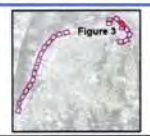
Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

- Wetland Study Boundary
- Limits of Disturbance
- Wetland Impacts
- Temporary Construction Impacts
- Edge of Paved Trail
- Boardwalk Outline
- Mitigation Area
- Reference Site 1
- ** Salix hookeriana Shrubland Alliance
- ** 1 Parameter. Brackish Vegetation
- Estuarine Saltmarsh/Ditch (E2EM1P)
- Estuarine Channel/Ditch (E2US3)
- Palustrine Emergent Ditch (PEM1C)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails Phases A, B and C

Job Number 8411641
Revision A
Date 02 Oct 2015

Estuarine Saltmarsh Reference Site and Mitigation Site

Figure 3

G:\ab\11841\08-GIS\Maps\Figures\MMP\F3_ReferenceSiteMap.mxd
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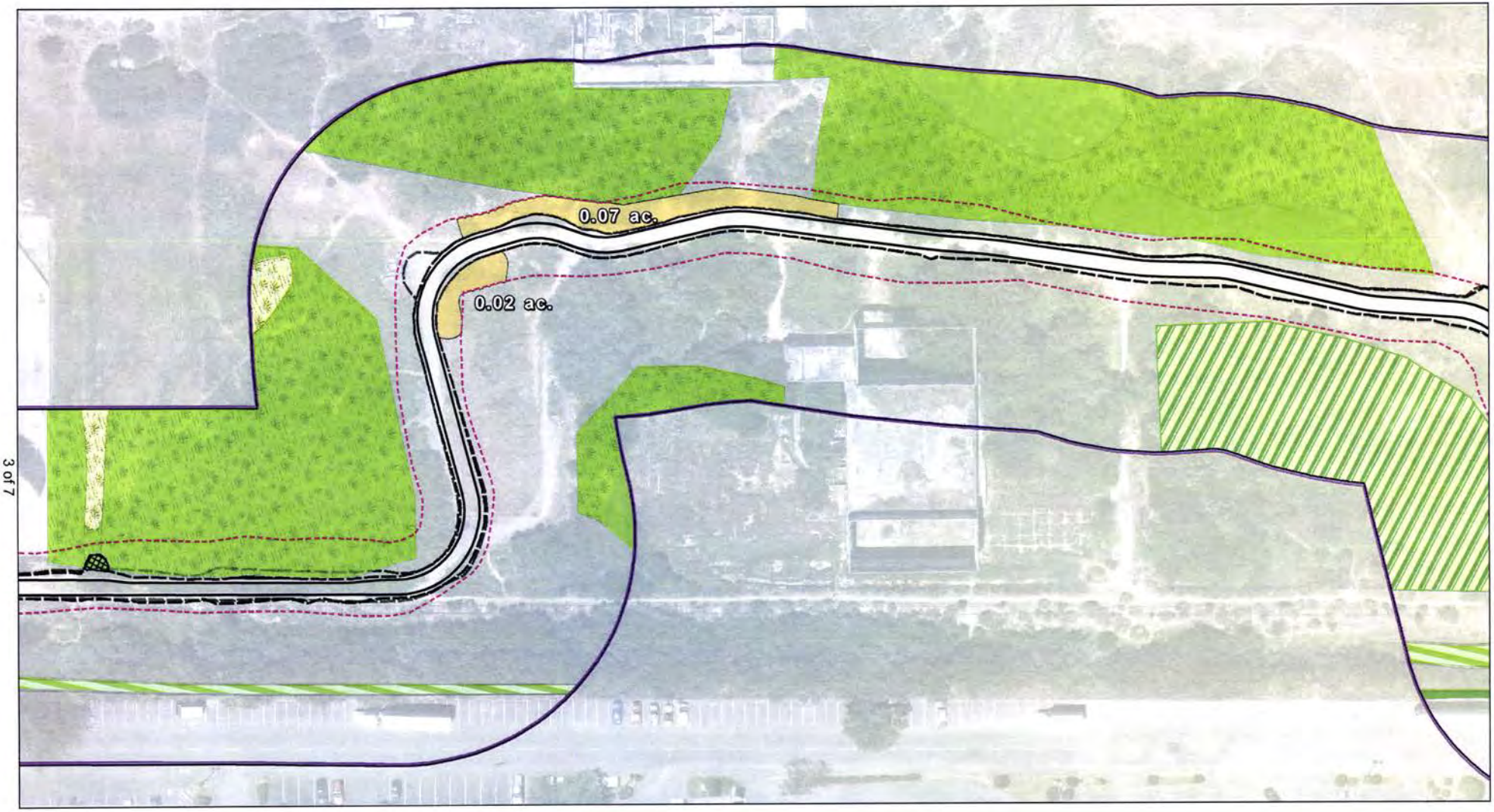

Paper Size 11" x 17" (ANSI B)

0 25 50 75 100

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

Wetland Study Boundary
Limits of Disturbance
Wetland Impacts
Temporary Construction Impacts
Edge of Paved Trail
APE Boundary
Salix hookeriana Shrubland Alliance Mitigation Area
** 2 Parameter Vegetation/Soils
Estuarine Saltmarsh/Ditch (E2EM1P)
Palustrine Emergent Ditch (PEM1C)
Palustrine Emergent Wetland (PEM1C)
Palustrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

Figure 4

City of Eureka
Waterfront Trails Phases A, B and C

Job Number 8411641
Revision A
Date 02 Oct 2015

Salix hookeriana Shrubland Alliance Mitigation Site

Figure 4

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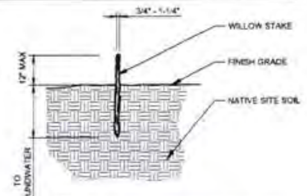
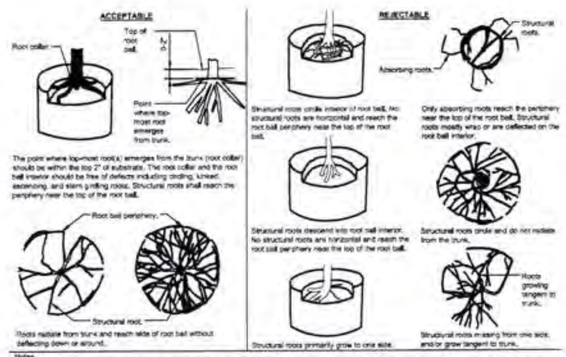


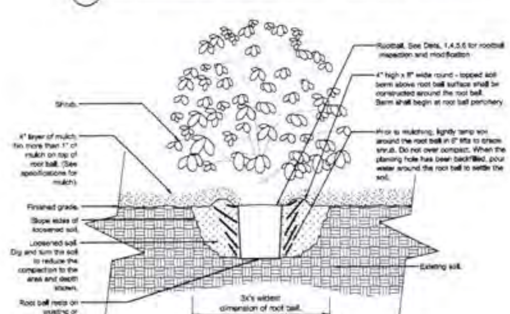
NOTES:
1. INSTALL STAKE VERTICALLY AND DIRECTLY INTO SOIL, BASAL END DOWN, WITH TWO-THIRDS (2/3) OF THE STAKE BELOW FINISH GRADE.
2. STAKES SHALL BE FROM HEALTHY SALIX HOOKERIANA WILLOW: 3/4-2" Ø, STRAIGHT AND FREE OF BENDS OR DEFICITS, AND OF SUFFICIENT LENGTH TO REACH GROUNDWATER.

1 STAKE INSTALLATION DETAIL



Notes:
1- Observations of roots shall occur prior to acceptance. Roots and substrate may be removed during the observation process; substrate/soil shall be replaced after observation has been completed.
2- Small roots (¼" or less) that grow around, up, or down the root ball periphery are considered a normal condition in container production and are acceptable however they should be eliminated at the time of planting. Roots on the periphery can be removed at the time of planting. (See root ball shaving container detail.)
3- See specifications for observation process and requirements.

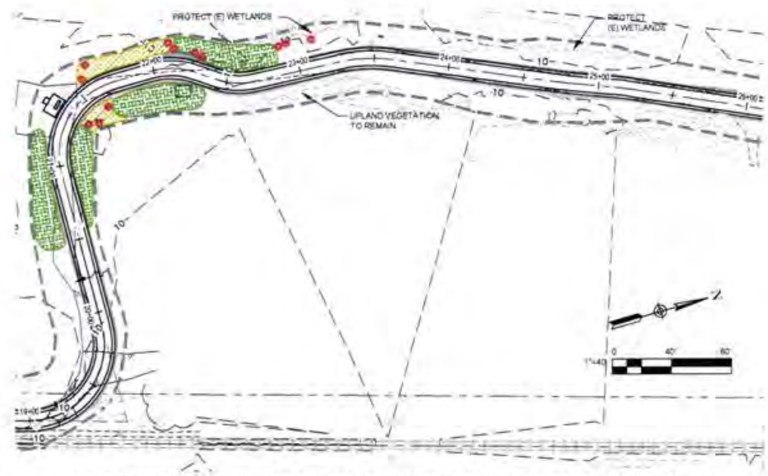
2 ROOT OBSERVATIONS DETAIL - CONTAINER



SECTION VIEW

Notes:
1- Shrubs shall be of quality prescribed in the root observations detail and specifications.
2- See specifications for further requirements related to this detail.

3 SHRUB PLANTING - UNMODIFIED SOIL DETAIL



WATERFRONT TRAIL - MITIGATION PLAN - PHASE A - STA 20+50 TO 23+50

PLANT SCHEDULE						
SYMBOL	SCI NAME	COMMON NAME	CONTAINER SIZE	QTY	NOTES	SPACING
(green hatch)	SALIX HOOKERIANA	HOOKER'S WILLOW	1 GAL	44	SEE DETAILS 2,3,4	8' OC
(red dot)	GARRYA ELLIPTICA	SILK TASSEL	1 GAL	8	SEE DETAILS 2, 3, 4	7' OC
UNDERSTORY MIX						
SYMBOL	SCI NAME	COMMON NAME	CONTAINER SIZE	QTY	NOTES	SPACING
(yellow hatch)	GAULTHERIA SHALLON	SALAL	1 GAL	29	SEE DETAILS 2, 3, 4	4' OC
	RUBUS URSINUS	CA BLACKBERRY	1 GAL	43	SEE DETAILS 2, 3, 4	8' OC

LANDSCAPING NOTES:
SEE SHEET D-4.0

DRAFT 50% PLAN

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MARK	DATE	DESCRIPTION

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City of Eureka
Eureka Waterfront Trail
Phase A

ENVIRONMENTAL
MITITGATION DETAILS - 1 OF 1

PROJ NO. 8411641
DRWN: OFG CHKD: JJW

ENV-1.0

SHEET 25 OF 29

City of Eureka
Eureka Waterfront Trail
Phase C
ENVIRONMENTAL
MITIGATION SITE
GRADING & PLANTING PLAN

PROJ NO: 8411641
DRWN: SDG CHKD JAY

ENV-3.0

SHEET 45 OF 45

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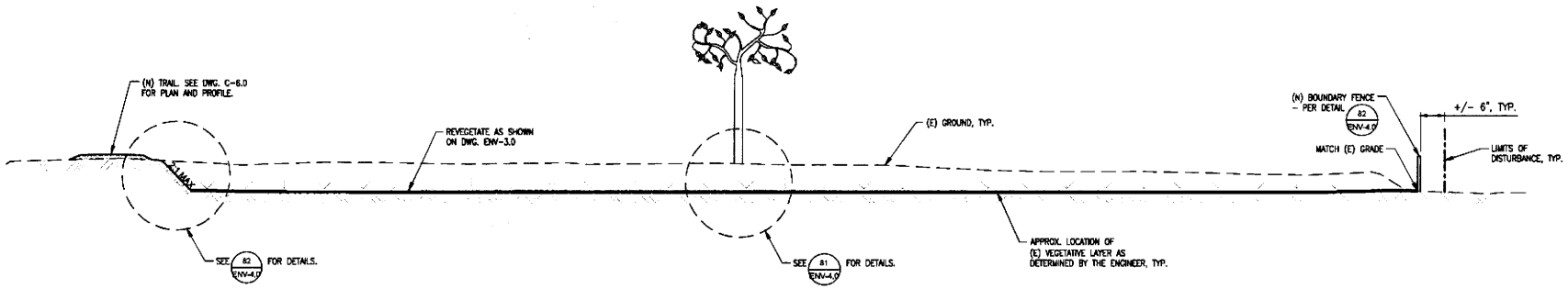
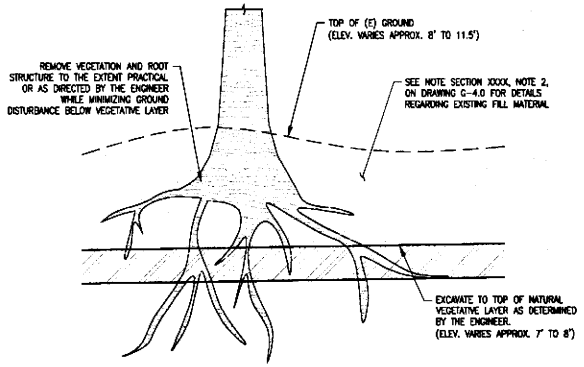
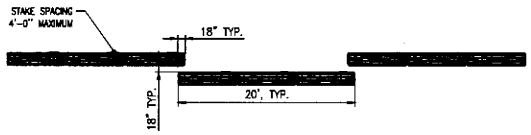


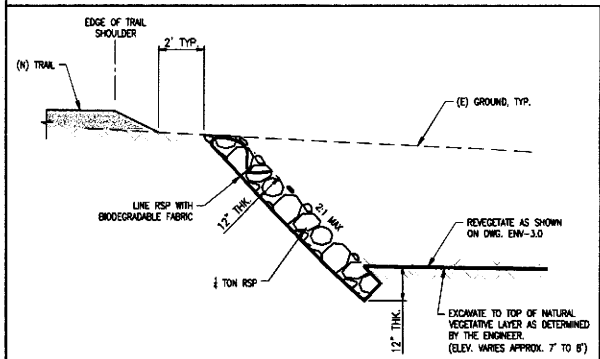
80 MITIGATION SECTION
TYP ENV-4.0 SCALE: NTS (1H:2V)



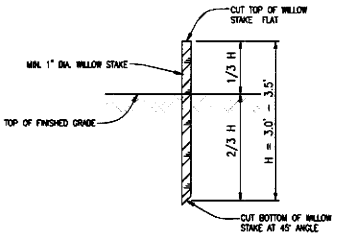
81 GRADING/VEGETATION REMOVAL DETAIL
TYP ENV-4.0 SCALE: NTS



83 FIBER ROLL STAGGER DETAIL
TYP ENV-4.0 SCALE: NTS



82 TRAIL/MITIGATION TIE-IN DETAIL
TYP ENV-4.0 SCALE: NTS (1H:2V)



84 LIVE WILLOW STAKE DETAIL
TYP ENV-4.0 SCALE: NTS

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MARK	DATE	DESCRIPTION
-	-	ISSUE

City of Eureka
Eureka Waterfront Trail
Phase C

ENVIRONMENTAL
ENVIRONMENTAL DETAILS

PROJ NO: 8411641
DRWN: SDG CHKD: JJW

ENV-4.0

SHEET 48 OF 48

6 of 7

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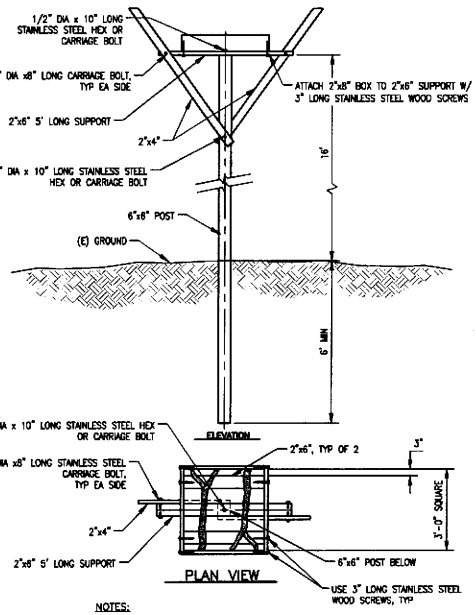
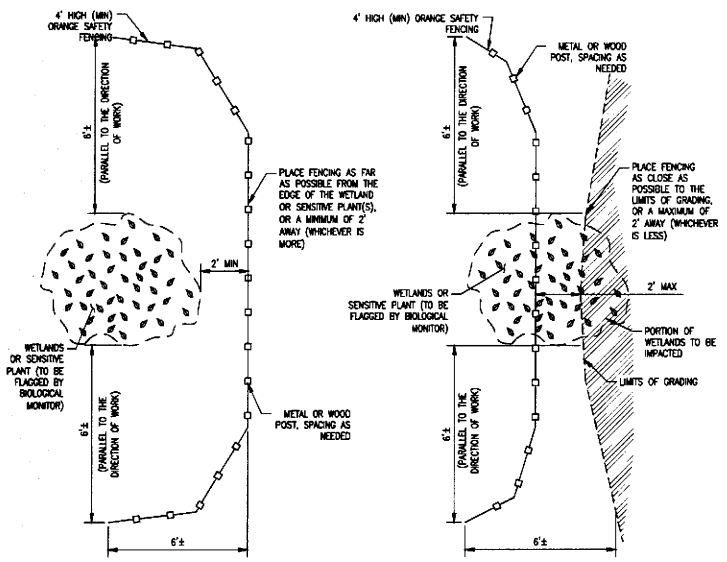


NOTES:

1. ALL LUMBER TO BE PRESSURE TREATED OR CEDAR.
4. ALL HARDWARE TO BE GALVANIZED.

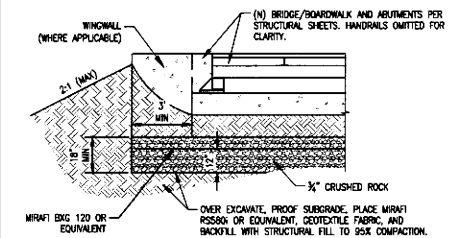
41 AVIAN HABITAT DETAIL
TYP CD-4.0 SCALE: N.T.S.



WORKING ADJACENT TO WETLANDS OR SENSITIVE AREAS

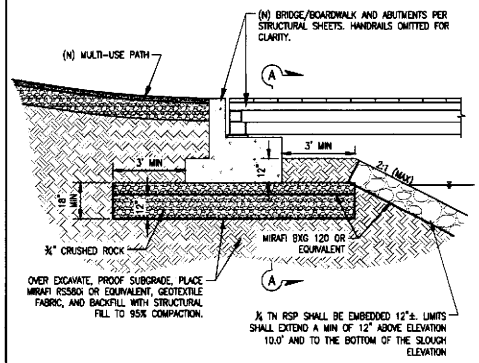
WORKING WITHIN WETLANDS OR SENSITIVE AREAS

42 TEMPORARY VEGETATION PROTECTION FENCING
TYP CD-4.0 SCALE: N.T.S.

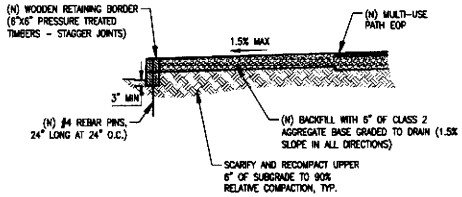


RSP NOT SHOWN FOR CLARITY; HOWEVER, THE LIMITS SHALL EXTEND A MIN OF 10' EITHER SIDE OF THE ABUTMENT OR AS INDICATED IN THE PLANS

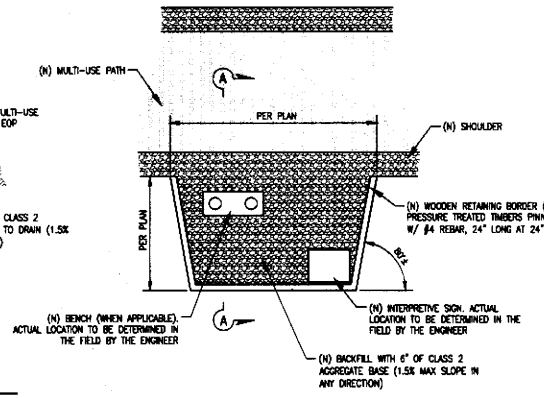
SECTION A–A



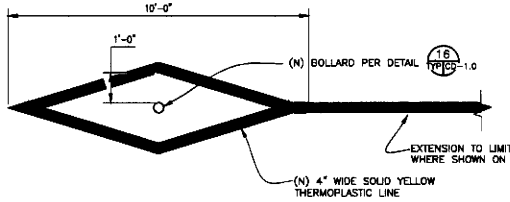
43 BRIDGE FOOTING/EMBANKMENT DETAIL
TYP CD-4.0 SCALE: N.T.S.



SECTION A–A



44 TYPICAL VIEWING AREA PLATFORM DETAIL
TYP CD-4.0 SCALE: NTS



NOTES:

1 STRIPING SHOWN ABOVE IS CONSISTENT WITH THE CAMUTCD, SEE SHEET G-4.0, NOTE 14

45 TYPICAL OBSTRUCTION STRIPING DETAIL
TYP CD-4.0 SCALE: NTS

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City of Eureka
Eureka Waterfront Trail
Phase C

CIVIL DETAILS
STANDARD DETAILS 4 OF 5

PROJ NO. 8411641
DRAWN: EBA CHKD: JJW

CD-4.0

SHEET 35 OF 48

7 of 7

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City of Eureka

Eureka Waterfront Trail Project

Eureka, California

Mitigation and Monitoring Plan

Revised
February 2016

EXHIBIT NO. 8
Application No. 1-15-2054 City of Eureka **MITIGATION & MONITORING PLAN EXCERPTS** Page 1 of 33

Table of Contents

Table index

Appendices

1. Introduction

1.1 Summary

This Mitigation and Monitoring Plan (MMP) has been prepared for the Eureka Waterfront Trail for the U.S. Army Corps of Engineers (USACE), North Coast Regional Water Quality Control Board (NCRWQCB), California Department of Fish and Wildlife (CDFW), and California Coastal Commission. The MMP is patterned on Regulatory Program Regulation (33 CFR) guidance published by the USACE (2008), 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 Eureka Waterfront Trail Mitigation and Monitoring Plan should be directed to:

GHD, Inc.
718 Third Street, Eureka, CA 95501
Tel: 707.443.8326 | Fax: 707.444.8330

And:

Jessica Hall, Landscape Architect
GHD, Inc.
718 Third Street, Eureka, CA 95501
Tel: 707.443.8326 | Fax: 707.444.8330

General administrative questions regarding the Eureka Waterfront Trail Mitigation Package should be directed to:

Miles Slattery
Director, Department of Parks and Recreation
City of Eureka
1011 Waterfront Drive
Eureka, CA 95501
Tel: 707.441.4484

2. Eureka Waterfront Trail Description

2.1 Location

The Eureka Waterfront Trail spans from south Eureka to northeastern Eureka paralleling the coast of Humboldt Bay and the west bank of Eureka Slough. The project runs from Truesdale Street (southern terminus) to Tydd Street (northeastern terminus). The trail project passes through public and private properties, but it is mainly within City property, City right-of-way (ROW) and the North Coast Railroad Authority (NCRA) railroad corridor. The Salix hookeriana Shrubland Alliance Mitigation Area is located within the Phase A section of the trail, and the Saltmarsh Mitigation Area is located within the Phase C section of the trail (Figure 1).

2.2 Responsible Parties

The City of Eureka is the owner and operator of the Eureka Waterfront Trail, and will be responsible for financing and developing the trail project, obtaining permits, and implementing the mitigation and monitoring plan.

2.3 Project and Regulatory Background

The trail project is part of a larger effort of the City of Eureka to increase access to Humboldt Bay, and to encourage local and regional multi-modal connectivity in the city and to other destinations in the county. Development of the promenade and boardwalk from C to F Streets in Eureka's Old Town and the Hikshari' Trail from the Elk River to Truesdale Street precedes this phase of trail development.

An Initial Study/Mitigated Negative Declaration (State Clearinghouse Number 2014022050) was completed in February 2014, and a Notice of Determination filed on March 28, 2014.

Applications for the following permits are in development:

Permit	Status	Expected Approval Date
Army Corps 404	In Progress	February 2016
Regional Water Quality Control Board 401	In Progress	February 2016
Coastal Development Permit	In Progress	February 2016

2.4 Project Description

The City of Eureka (City) proposes to construct 3.75 miles of Class 1 multi-use trail (project) that will follow the Humboldt Bay and Eureka Slough coastline along the Eureka Waterfront. The trail alignment and impact areas can be seen in Figure 2.1-2.24. The trail project's purpose is to create opportunities for nature study, appreciation of the environment and historic uses of the area, increase opportunities for active living to improve public health, increase the safety of non-motorized transportation, improve public safety, decrease transportation related carbon dioxide (CO_2) output, and recover native vegetation community values where possible. A formalized public access will channel the public into designated trail areas with the intention of decreasing environmental damage caused by illegal/unauthorized trespassing, camping, squatting, littering and dumping. This trail project seeks to initiate a transition of uses along the Waterfront Drive corridor and to improve safety and cleanliness.

The trail project is an important piece of the statewide initiative to complete the California Coastal Trail (CCT). The Eureka Waterfront Trail System and associated coastal access improvements are key elements in the City's General Plan and Eureka City Council's Strategic Plan 2013-2018.

The trail project will generally consist of a paved section designed to accommodate emergency vehicle access and two unpaved shoulders. Project-specific improvements include the Class I multi-use trail, boardwalk, six bridges, construction of trailheads, installation of interpretive signs, playgrounds, outdoor workout equipment, parking, landscaping, street crossing(s), roadway/sidewalks, lighting, fencing, drainage improvements, invasive plant removal and revegetation, and landscaping to buffer environmentally sensitive habitats (ESHA). Improved safety

elements are integrated within the information below and would include improved trail surfaces (as deemed appropriate), American's with Disability Act (ADA) access, and signage.

Construction of the boardwalk will require equipment on the salt marsh plain. The design of the boardwalk reduces the impact on salt marsh plantings and soil through the use of small diameter helical piles that are screwed in to the soil, and have smaller diameters than driven piles. Tracked vehicles that distribute their weight over a larger area will reduce compaction, and be used to install the helical anchors for the boardwalk's structure. It is anticipated that, while some plants will be disturbed by the movement of construction equipment during this installation phase, the root systems will remain intact and plants will recover.

The trail prism and boardwalk intersects a range of wetland and environmentally sensitive upland habitats, totalling 0.364 acre of permanent impacts and 0.35 acres of temporary impacts.

2.5 Proposed Mitigation

The Mitigation Project ("Project") will mitigate for 0.364 acre of permanent impacts, primarily at a location adjacent to the Phase C reach of the trail. The site in its current condition consists of fill over former salt marsh. The mitigation project will re-establish salt marsh. A smaller area of willow shrubland habitat will be mitigated along the trail at a city-owned site known as Parcel 4 (Figure 1).

Installation of a boardwalk will result in temporary impacts. The boardwalk is designed to be at least four feet above the salt marsh plain, which allows adequate light for salt marsh vegetation to recover and persist beneath the structure. Therefore, the area beneath the boardwalk is not included as a permanent impact. The temporary impact area includes a zone around the boardwalk for construction equipment.

While this temporary impact area will be discussed in this Mitigation and Monitoring Plan, it is expected that this area will recover from construction-related impacts with minimal intervention.

3. Mitigation Goals and Objectives

3.1 Mitigation Goals

3.1.1 Approach

The trail project's prism crosses through a range of habitat types. Mitigation requirements of the habitats indicated varies according to the regulations that govern each agency's review process:

Corps Jurisdictional Wetlands

- Palustrine Emergent Ditch (PEM1C)
- Palustrine Emergent Wetland (PEM1C)
- Estuarine Channel/Ditch (E2US3)
- Estuarine Saltmarsh (E2EM1P)
- Estuarine Subtidal (E1UB3)

- Wetland Mixed[1] (PEM1C)(PF01) (E2EM1P)

Environmentally Sensitive Habitat Areas (ESHA)/One and Two Parameter Wetlands

- One Parameter Brackish Vegetation
- One Parameter Freshwater Vegetation
- Two Parameter Wetlands, Vegetation and Soil
- *Salix hookeriana* Shrubland Alliance

The linear trail prism intersects many different habitat areas that are not contiguous and represent an existing fragmented matrix. In Phase A of the trail, the project is designed to leverage existing disturbed areas to minimize new impacts to these remaining, mostly disturbed, habitats. Phase B is through a mostly urban matrix with no impact areas. Habitats are contiguous in Phase C where the trail traverses estuarine saltmarsh and estuarine subtidal areas with a boardwalk, which reduces impacts to the matrix of this habitat.

Much of the one and two-parameter wetland areas are limited in ecological values and function with poor habitat quality resulting from historic development. Some are part of degraded wetland patches that appear to be sustained by intermittent surface runoff rather than groundwater or permanent freshwater sources, and other habitat areas are ditches with sufficient hydrologic function to support limited colonization of wetland plants. The trail project does not substantially alter the design or function of these ditches, but does reduce plant density.

Land use activities over the past 130 years have resulted in significant alterations to the Humboldt Bay coastline. It is estimated that at least 90 percent of coastal salt marsh habitat has been converted to other uses or otherwise lost. (HSU/Pickart 2005).

This mitigation plan seeks to establish resilient habitats that respond to and are maintained by local ecological processes. Mitigation can also be used to benefit habitat quality by reducing habitat fragmentation, increasing the size of habitat patches, and creating connectivity. These considerations were factored into the articulation of mitigation goals and mitigation site selection. The proposed approach recognizes that mitigation of the many wetland types listed does not substantially benefit each wetland type due to the relatively small quantities of each wetland type, and the larger issues of fragmentation and disconnection affecting them. The project also recognizes the importance and sensitivity of coastal saltmarsh in Humboldt Bay. Therefore, the project proposes to aggregate the mitigation areas and provide a focused wetland re-establishment of estuarine saltmarsh. In addition to increasing saltmarsh acreage, the plan will increase the size, integrity, and interior habitat of saltmarsh in the area of the mitigation project. The project also proposes to mitigate for the loss of *Salix hookeriana* Shrubland Alliance with replanting Hooker's willow (*Salix hookeriana)* and related understory species in locations that enhance the buffer around existing wetlands.

[1] The Wetland Mixed category encompassed three Cowardin classification wetlands; however within the impact area, PF01 was not present and will not be shown on the Impacts table. Please note that delineations were conducted on each phase of trail planning separately. During mitigation planning, attempts were made to identify the various wetlands uniformly using Cowardin as applicable. As a result, there may be different nomenclatures in individual jurisdictional wetland delineation documents and final wetland impacts maps.

3.1.2 Mitigation Goal

The project shall compensate for impacts to 0.364 acre of wetland and ESHA habitats resulting from trail improvements along the Eureka waterfront and ensure that 0.35 acre of temporary impacts recover through planting, monitoring and if necessary, enhancement or adaptive management.

Additionally:

- Mitigation shall restore tidal saltmarsh functionality and habitat;
- Mitigation site selection shall enhance habitat quality and connectivity of an existing salt marsh;
- Mitigation shall establish or re-establish willow shrubland habitat through replanting of *Salix hookeriana* and related understory species.

3.2 Mitigation Objectives

Project objectives provide quantifiable targets for the mitigation plan, and form the basis of evaluating success.

The Eureka Waterfront Trails Mitigation Project shall:

- Result in a net increase in area of Estuarine Saltmarsh habitat;
- Reduce fragmentation and increase the amount of interior saltmarsh habitat; and,
- Increase the area of *Salix hookeriana* Shrubland Alliance

Target Habitats and Community Types

Table 1 General Mitigation Concepts and Targets

Current Use/ Existing Habitat	Proposed Habitat	Proposed Action	Location
Fill	Estuarine Saltmarsh	Remove fill; grade for tidal processes; replant with saltmarsh species	See Fig 3, Appendix A
Upland/Fill	*S. hookeriana* Shrubland Alliance	Plant appropriate species from the *S. hookeriana* Shrubland Alliance	See Fig 4, Appendix A

4. Determination of Credits

4.1 General

Impacts and mitigation credits are measured in acres, and mitigation will be applied at ratios agreed upon by the City of Eureka and the regulatory agencies. Ratios above 1:1 are intended to compensate for permanent impacts, temporal lag, uncertainty of success.

4.2 Mitigation Credits

Because Estuarine Saltmarsh is a high quality and rare habitat type, and because other wetland impacts to the project are relatively small, the project proposes to re-establish Estuarine Saltmarsh as mitigation for all permanent jurisdictional wetlands and one and two parameter wetland impacts. The project proposes a mitigation ratio of 4:1 for the total impact (0.324 ac) to these habitat types, including the non-USACE jurisdictional wetlands that are often mitigated at lower ratios. This mitigation ratio is intended to also compensate for temporal lag resulting from the date of impact in

the Phase A reach of the Waterfront Trail and the implementation of saltmarsh mitigation It is expected that both the Army Corps and Coastal Commission will have jurisdiction over this mitigation.

To mitigate for impacts to *Salix hookeriana* Shrubland Alliance plantings, the project proposes to replant Coastal Willow at a ratio of 2:1 for the total impact (0.04 ac) to this habitat type. It is expected that the Coastal Commission will have jurisidiction over this mitigation.

A small area of estuarine saltmarsh (0.35 ac) will also be impacted temporarily as a result of boardwalk construction. The project proposes to mitigate this in-kind, in-place. It is expected that both the Army Corps and Coastal Commission will have jurisdiction over this area.

Table 2 Proposed Mitigation to Meet Requirements

Permanent Impacts	Jurisdiction		Area	Aggregate Area (SF)	Aggregate Area (AC)	Mitigation Ratio	Mitigation Area (AC)	Mitigation Type
	USACE	CCC	(SF)					
1 Parameter, Brackish Vegetation		■	7,903.06	14,116.69	0.324	4:1	1.3	Estuarine Saltmarsh (E2EM1P)
1 Parameter, Freshwater Vegetation		■	692.21					
2 Parameter, Vegetation/Soils		■	170.41					
Estuarine Channel/Ditch (E2US3)	■	■	239.24					
Estuarine Saltmarsh (E2EM1P)	■	■	3,793.63					
Estuarine Subtidal (E1UB3)	■	■	286.03					
Palustrine Emergent Ditch (PEM1C)	■	■	1,024.63					
Palustrine Emergent Wetland (PEM1C)	■	■	7.48					
Salix hookeriana Shrubland Alliance		■	1,774.73	1,774.73	0.04	2:1	0.08	*S. hookeriana* Shrubland Alliance

Temporary Impacts	Area (AC)	Aggregate Area (AC)	Mitigation Ratio	Mitigation Area (AC)	Mitigation Type
Estuarine Saltmarsh (E2EM1P)	0.35	0.35	1:1	0.35	Estuarine Saltmarsh (E2EM1P)
Estuarine Channel/Ditch (E2US3)	0.003				

5. Mitigation Site Selection

5.1 Candidate Mitigation Site Descriptions and Analysis

Estuarine Saltmarsh exists as a narrow fringe along much of the Eureka waterfront. Fill, rock slope protection, dikes and habitat type conversion has reduced areas of salt marsh. Some of these fill areas have legacy uses such as trash dump or timber processing that could result in mobilizing hazardous materials if disturbed. Due to their narrow extents or problematic legacy uses, these sites are less desirable to meet the goal of not only increasing estuarine saltmarsh habitat but also creating greater interior habitat within a saltmarsh patch. The selected site is an area of fill near the Eureka Slough, with existing saltmarsh on three sides (Figure 3).

S. hookeriana Shrubland Alliance replanting poses social challenges as well as ecological ones. Much of the existing willow areas along the Eureka waterfront are used for squatting or unauthorized camping. Some areas of these camps have become settings for fires, shootings, or other problems. Illegal dumping including of human waste and toxic materials such as batteries is also common. *S. hookeriana Shrubland Alliance* plantings can benefit existing nearby palustrine wetland habitats by creating buffers, improving habitat interspersion and heterogeneity, or acting as dispersal corridors for wildlife between existing patches of woody vegetation. The selected site for planting provides for this while facilitating management of social concerns.

S. hookeriana plantings will be installed at upland locations within Parcel 4 near the waterfront trail (Figure 4).

5.2 Selected Mitigation Site

Image 1: Tall shrubs have created a visual screen for illegal dumping and encampments at Mitigation Site.

Image 2: Fill area is characterized by predominantly ruderal grasses and shrubs, with non-native and hybrid native trees along the north edge.

Image 3: View of existing saltmarsh adjacent to mitigation site.

5.2.1 Estuarine Saltmarsh Mitigation Site

The optimal estuarine saltmarsh mitigation location was identified between Stations 123+50 and 126+00 (Figure 3: Saltmarsh Mitigation Location Map and Appendix C) of the trail project's Phase C reach. A 1.5 acre area of fill juts into a plain of saltmarsh. The fill currently achieves elevations ranging from 8' to 12', approximately two- to six feet higher than adjacent salt marsh, and too high for the fill area to convert readily to salt marsh on its own. Non-native, hybrid native, and native upland trees and shrubs ring the fill area, with ruderal grasses and herbs constituting the majority of site vegetation.

5.2.2 *Salix hookeriana* Shrubland Alliance Planting Mitigation Site

Mitigation for Salix hookeriana Shrubland Alliance plantings will be within the City's "Parcel 4" property in the Phase A trail segment between Stations 21+00 – 24+00. (Figure 4: *S.hookeriana Shrubland Alliance* Mitigation Site Map and Appendix C). To minimize the occurrence of unauthorized camping and illegal dumping within willow stands while providing some wetland buffering, the replanting site will be a narrow upland band between the trail and existing wetland and upland habitats.

5.3 Reference Site

5.3.1 Estuarine saltmarsh Reference Site 1

Two tidal salt marsh sites were visited to inform estuarine saltmarsh design. These salt marsh sites are in close proximity to the Estuarine Saltmarsh site and thus provide realistic expectations of

saltmarsh development and disturbances at the project site. Reference Site 1 was selected for use for this project; Reference Site 2 was dominated by dense-flowered cordgrass (*Spartina densiflora*) and deemed an inappropriate target for mitigation.

Reference Site Description

A reference site has been established adjacent to the project footprint to calibrate monitoring results with other environmental variables. Reference sites focus on estuarine saltmarsh wetlands as this community type is the target site/habitat condition.

This reference area is located within an estuarine saltmarsh wetland (*Sarcocornia pacifica* Herbaceous Alliance). This reference site was located to document representative conditions of typical salt marsh around Humboldt Bay. This reference site is located within the city limits of Eureka, northwest of Second Street and west of the proposed project footprint. The reference site's overall slope is approximately ½% with an elevation of 7 ft (NAVD88). Where the reference site interfaces with a tidal channel, the slope drops down to an average slope of 11%. Saltmarsh is present from elevations 7.5 ft to 5ft (NAVD88).. The site has an undulating, uneven surface with variations of four to six inches.

Vegetation

The estuarine wetland is dominated by pickleweed (*Sarcocornia pacifica*[2]), 30 percent absolute cover), salt grass (*Distichlis spicata*, 20 percent cover) and the CAL-IPC, non-native dense-flowered cord grass (*Spartina densiflora*, 30 percent cover). The site has approximately five percent bare ground and 10 percent water due to the presence of shallow meandering channels. Small amounts of other halophytes are also present within the reference site and include Oregon gumplant (*Grindelia stricta* var. *platyphylla*), jaumea (*Jaumea carnosa*), western marsh-rosemary (*Limonium californicum*), and common arrow-grass (*Triglochin maritima*). In examining the species richness of the site, of the nine plant species observed only one non-native plant, dense-flowered cord grass, was identified. Point Reyes salty bird's-beak (*Chloropyron maritimum ssp. palustre*, CRPR List 1B.2) was noted in trace amounts.

[2] Also recognized as *Salicornia pacifica.*

Reference Site Photo Documentation

Photo 1: Reference Site, looking northwest

Photo 2: Reference Site, looking north.

5.3.2 *Salix hookeriana* Shrubland Alliance Plantings

Degraded willow shrublands and wetlands surround the project site. Reference characteristics for replanting of the *Salix hookeriana* Shrubland Alliance are therefore drawn from A Manual of California Vegetation (Sawyer et al 2009). The *S.hookeriana* Shrubland Alliance is characterized by greater than 50% relative cover of Hooker willow. Willow stands tend to grow in dense thickets, which can take on the appearance of a monoculture. It is commonly seen in disturbance-related areas such as roads, creeks, lagoons, and dunes. Observed related vegetation to this alliance

includes California blackberry (*Rubus ursinus),* salal (*Gaultheria shallon),* silk tassel (*Garrya elliptica),* Brewer's rush (*Juncus brewerii),* and false lily of the valley *(Maianthemum dilatatum).*

6. Site Protection Instrument

The City of Eureka is in the process of obtaining the mitigation site from Security National Properties, the current owner of the site. Appendix D, Mitigation Site Ownership Transfer Letter, demonstrates the intent of the current owner to complete a transfer of ownership to the City of Eureka. Upon completion of this transfer of ownership, the City will place the project site under a conservation easement in order to ensure that it will remain under protection in perpetuity.

7. Mitigation Site Environmental Baseline

7.1 Baseline Conditions

Estuarine Saltmarsh Mitigation Site

The Estuarine Saltmarsh site in its current condition is a relatively flat area with an average slope of 1.7% ranging in elevation from 8 feet to 12 feet (NAVD88). This includes approximately three to five feet of fill over former saltmarsh. Fill material includes discarded concrete, bricks, and rebar. Soil in test pits ranged from sand to fine sand and silt. Soil saturation was revealed at different test pits between 4 and 5' below ground surface (BGS). Vegetation is primarily ruderal grasses and non-native herbaceous perennials such as fennel *(Foeniculum vulgare*), sharp dock (*Rumex conglomeratus*), and orchard grass (*Dacytlis glomerata)*. The native coyote bush (*Baccharis pilularis)* and trees such as non-native Eucalyptus (*Eucalyptus spp.),* not locally native Monterey cypress *(Cupressus macrocarpa)*, hybrid bishop pines non-hybrid native bishop pines (*Pinus muricata*), Atlas cedar (*Cedrus atlantica*) and a dying young California redwood (*Sequoia sempervirens*)are also present in limited quantities along the edge of the fill area. The placement and assortment of species strongly suggests manmade plantings using nursery stock; these are not considered ESHA given these factors and minimal ecological role they play at the site.

The area is currently used informally and illegally for camping, squatting, and the discarding of rubbish related to the camping, posing a health and safety hazard to the community, wildlife, and adjacent waters. The area has also become frequented by off road 4x4 activity, disturbing soils and contributing to increased sediment in runoff.

Salix Hookeriana Shrubland Alliance Mitigation Site

The *Salix hookeriana* Shrubland Alliance Mitigation Site is characterized by ruderal herbaceous annuals and perennials, shrubs, and disturbed fill soils. The site parallels the planned trail and several different wetland categories.

8. Mitigation Work Plan

8.1 Mitigation Area

Estuarine saltmarsh will be mitigated at the area east of the trail alignment and north of the salt marsh wedge (adjacent to railroad), located near the Phase C trail (Figure 3).

S. hookeriana Shrubland Alliance plantings will be mitigated near the Phase A trail (Figure 4).

Temporary impacts to estuarine saltmarsh within the boardwalk area will be mitigated in-place, in-kind (Figure 3).

8.2 Work Plan

The Estuarine Saltmarsh mitigation concept is focused on removal of fill material to match grades of the existing adjacent salt marsh plain, and replanting or reseeding of salt marsh vegetation.

The *Salix hookeriana* Shrubland Alliance planting mitigation concept is focused on strategic replanting of Coastal willow species as transitional/upland buffer between palustrine wetland patches and adjacent land uses.

The temporarily impacted Estuarine Saltmarsh mitigation concept shall protect disturbed areas from invasive species colonization and replant or reseed salt marsh native species.

8.2.1 Construction Phases and Methods

Implementing the Estuarine Saltmarsh mitigation site plan will be in tandem with the in-place rehabilitation of any temporarily impacted saltmarsh in the boardwalk construction area as part of the Phase C trail construction project. As noted in Table 2, this mitigation proposes to mitigate for wetland impacts in all phases of the overall project. *S. hookeriana Shrubland Alliance* plantings is scheduled to occur with the Phase A construction project.

***Salix hookeriana* Shrubland Alliance Mitigation**

Prior to planting of *S.hookeriana shrubland alliance plantings*, test pits will be dug to confirm adequate groundwater.

Plants shall be of good health and sourced according to Section 8.2.5. At the *S. hookeriana* Shrubland Alliance plantings mitigation site(s), plantings will be installed according to a standard planting detail with an organic compost-native soil amendment backfill.

These plantings will be monitored for five years in accordance with Section 9.2.

Estuarine Saltmarsh Mitigation (Temporary Impact and Permanent Impact)

The temporary saltmarsh impact plan entails the movement of construction equipment over a designated area of saltmarsh. It is expected that some aboveground plant material will be impacted by the trucks, but that root material will remain resulting in regrowth. Recovery will be supported with a replanting and/or seeding of bare areas as needed.

To attain adequate quantities of plantings for both the boardwalk area and the Estuarine Saltmarsh mitigation site, cuttings, seed, and plants will be collected from the larger salt marsh plain within City of Eureka tidelands. These cuttings and seeds will be collected at rates that do not impact the size, health, reproduction or abundance of source plants, generally less than 30% of a given plant or of available seed, and 10% or less of any given area will be reduced in plant mass as a result of propagule collection.

The stormwater pollution prevention plan will also be implemented to protect adjacent Waters of the State and of the United States from runoff impacts. Erosion control measures will also be installed as fill is removed to prevent tidal action or rainfall from damaging grading and plantings.

The site will be cleared and grubbed using a combination of hand-held equipment and machinery. Removal of fill for the Estuarine Saltmarsh mitigation area will require the use of heavy equipment

such as excavators and dump trucks. Equipment that distributes its weight over a larger surface area, with tracks instead of tires, reduces compaction impacts and will be a preferred specification of equipment used on site. A stockpiling area will be situated so as to not impact the mitigation site. Dump truck movement shall be limited to moving between the stockpile location and dump site. The project will use the same access routes as the overall trail project for construction equipment.

Fill material will be removed to achieve elevations suitable for the establishment and maintenance of Estuarine Saltmarsh. It is understood that fill includes rubble and debris; only suitable soil will be used to achieve suitable grades, trash, rubble and debris will be removed. A mat of salt marsh vegetation and roots still exists under this fill material. To the extent that the project achieves appropriate grades, this material will be left in place for its erosion reduction properties. To prevent tides from entering the site prematurely, and to prevent any precipitation from washing rubble into the Bay, excavation will begin in the center of the site and work towards the edges, creating a temporary berm of the unremoved fill. When the interior of the site is graded, this berm will be breached, and equipment will begin to remove fill from this perimeter working towards the access roads. Planting and seeding will follow decompaction.

Plantings will be installed by hand using hand-held equipment.

Erosion control (coir logs spaced at 100 feet) will be installed. Environmental monitors will observe the growth and expanding coverage of salt marsh plantings. These erosion control measures will be removed when coverage of the mitigation area achieves ≥ 70 percent.

Upon completion of implementation, a five-year monitoring and adaptive management period will begin. Invasive species management at the temporarily impacted boardwalk area and at the Estuarine Saltmarsh mitigation site will be conducted in conjunction with quarterly inspections and management activities during the five year post-construction monitoring period.

8.2.2 Construction Timing and Sequence

The Eureka Waterfront Trail mitigation component is expected to commence in 2016. The schedule will generally occur in the following phases:

***Salix hookeriana* Shrubland Alliance Mitigation**

- Pre-construction surveys, invasive species removal, *S. hookeriana shrubland alliance test pit(s)*, April 2016 to August 2016.
- Equipment mobilization and site preparation: August 2016
- Construction: August 2016
- Clean up and demobilization: November 2016
- Implement mitigation: August 2016-June 2017
- Monitoring of restoration: June 2017 to June 2022
- Ongoing maintenance: June 2017 to June 2022, or as mandated by permit conditions. The City of Eureka will be responsible for maintenance through the monitoring period.

Estuarine Saltmarsh Mitigation

- Collection of seed and cuttings for propagation: January 2016-May 2016.
- Equipment mobilization and site preparation: October 2016.
- Construction: November 2016.
- Clean up and demobilization: November 2017

- Implement mitigation: November 2016-November 2017.
- Monitoring of restoration: November 2017 to November 2022
- Ongoing maintenance: November 2017 to November 2022, or as mandated by permit conditions. The City of Eureka will be responsible for maintenance through the monitoring period.

Construction activities will be conducted in compliance with applicable federal, state and local requirements and in a manner that minimizes disturbance to adjacent properties and disruption to traffic. Construction will occur between the hours of 7 AM and 6 PM, Monday through Friday, and 10 AM to 5 PM on Saturdays. No construction will be allowed on Sundays, except in an emergency. The number of construction workers present on the project site at any given time is anticipated to be up to 10. The number of motor vehicles is anticipated to be up to 10. Up to six pieces of heavy machinery are anticipated to be in use at any one time. The project will also require the delivery of equipment, workers and materials via public roads and an established access route.

Prior to ground disturbance, pre-construction surveys will be completed to identify any sensitive species presence. Occurrences of sensitive species will be flagged and then protected with exclusion fencing.

8.2.3 Sources of Water

Tidal cycles, groundwater movement, and precipitation will support the mitigation plantings.

8.2.4 Grading Plan

The grading plan is provided in Appendix C, shown at 50% completion. Critical elevations guiding grading are the Mean Higher High Water (MHHW) of 6.62 ft (NAVD88) and High Tide Line (HTL) of 8.51 (NAVD88). Estuarine Saltmarsh is observed to be present in abundance between these elevations. Reference tidal marsh includes natural changes in elevation +/- 6”; grading shall achieve similar irregularities.

8.2.5 Planting Plan

Plants will be installed in the species, quantities, and spacings as noted below. In the saltmarsh mitigation area, ten percent of the reference site area included open water, and five percent bare ground. The frequency and spacing in Table 3 reflects this, with plants totalling 85% of coverage. Estuarine Saltmarsh Planting Mix shall be applicable to both the mitigation site and, as needed, the ratio and species shall apply to the temporary impact area. Estuarine Saltmarsh Planting Mix plants shall be sourced from Humboldt Bay saltmarshes.

Within the *S. hookeriana* Shrubland Alliance mitigation area, a combination of canopy trees and understory shrubs will be planted, totalling 95% cover after five years. Sixty percent of that cover will be Hooker’s Willow. Willow shrub and groundcovers can be propagated from harvested local cuttings or seeds, or sourced from commercial nurseries that guarantee local (Humboldt, Del Norte, or Mendocino County) provenance of source material.

Table 3 Estuarine Saltmarsh Planting Mix

Overall Spacing (feet on center)	Quantity per acre	Frequency*	Species Name	Common Name	Unit	Notes	Spacing Type

5	3466	29%	*Distichlis spicata*	salt grass	4"/DP	Up to 30% direct transplant ok.	Cluster
5	3466	35%	*Sarcocornia pacifica***	pickleweed	4"/DP		
5	3466	24%	*Jaumea carnosa*	jaumea	4"/DP		
2	6162	6%	*Limonium californicum*	western marsh rosemary	4"/DP		
2	3550	6%	*Triglochin maritima*	common arrow grass	4"/DP		
		100	**= total**				
*Frequency describes the frequency of plantings in relation to total plantings. It does not describe the percent cover, which would also factor in bare ground or open water.							
**Also identified as *Salicornia pacifica.*							

Table 4: Salix hookeriana Shrubland Alliance Plantings

Overall spacing (feet on center)	Quantity per acre	Frequency*	Species Name	Common Name	Unit	
7	1075	10	*Garrya elliptica*	Silk tassel		
4	3293	11	*Gaultheria shallon*	Salal		
4	3293	16	*Rubus ursinus*	California blackberry		
8	823	63	*Salix hookeriana*	Hooker's Willow	Stake	
		100%				
*Frequency describes the frequency of plantings in relation to total plantings. It does not describe the percent cover, which would also factor in bare ground or open water.						

8.2.6 Mitigation Cost Estimate

The mitigation project is estimated to cost $386,388. See Appendix B for a cost breakdown.

9. Maintenance Plan

9.1 Maintenance

The re-established habitats have been designed to be as self-sustaining as possible. However, natural ecosystems are dynamic and subject to change over time. This is especially true in modern fragmented preserves, where the vast landscapes and ecological processes which once maintained habitat mosaics have been partially or completed disrupted. Natural processes include flood, drought, fire, fog, wind, burrowing animal activity, and grazing. A well-established mitigation project will respond to these natural processes with similar levels of resilience as naturally-evolved ecosystems. Anthropogenic (human-caused) disturbances can interrupt the functioning of both naturally-evolved and manmade, mitigation ecosystems. Maintenance activities shall focus on

promoting plant establishment and intervention to limit anthropogenic impacts such as invasive species, trespass, and illegal dumping.

The construction contractor shall be under contract for one year of plant establishment and weed removal. The City of Eureka will be responsible for ongoing establishment, maintenance and monitoring thereafter. The term of establishment is typically five years, unless activities such as replanting are required, which re-sets the establishment timeframe.

9.2 Inspection Activities and Frequencies

Inspection will occur quarterly throughout the mitigation monitoring timeframe, or less as needed after year one if plant success exceeds targets. Field notes will document if conditions are normal or abnormal, and the annual monitoring report will recommend remedial adaptive management actions to address any significant issues, as deemed necessary. In addition to the annual monitoring criteria listed above, annual monitoring will 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.

9.3 Maintenance Activities and Schedules

Maintenance shall be conducted throughout the five year monitoring period. Maintenance activities may include supplemental irrigation, supplemental planting, invasive plant control, and herbivory control.

Maintenance shall occur at the most seasonally appropriate time depending on the activity. For example if cordgrass is becoming established on site, the maintenance shall occur prior to the flowering and setting of seed.. Table 5 provides a guide for determining when to visit the mitigation sites for inspections and maintenance during the monitoring period.

Maintenance will be conducted to ensure revegetation out-planting is becoming established.

- In year one of the maintenance period, the Contractor shall establish an agreement with a native plant nursery to collect seed to propagate and germinate for supplemental and/or incidental planting in anticipation of long-term replanting efforts for the following year;
- Supplemental planting will occur in areas that have deficiencies in the seeding or planted material, when a plant becomes damaged or injured by maintenance activities, and to fill the niche for areas where target invasive plants are removed (may be in-kind, or if a particular species is not doing well at the sites, a suitable replacement species can be supplemented for original plant species);
- Supplemental irrigation for areas that are of higher elevations and not regularly subjected to tidal inundation.

Table 5 Schedule for Wetland Inspection and Maintenance During the Monitoring Period

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Revegetation Inspection and Maintenance	I, M			I	M*	M*	I,M*	M*		I		

I = Inspection, M = Maintenance.
*Maintenance will prioritize removal of invasive cordgrass flowers and seeds as they are first forming (May-August).

9.3.1 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. A majority of the mitigation will re-establish salt marsh habitat and therefore many of the invasive species observed along the trail corridor (Table 6) will not impact the success of the re-established salt marsh as most of the plants have low salinity tolerances. However, some of the plants have the ability to invade the restored willow habitat.

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 Weed List
- Regional Strategy for the Northwest Del Norte & Humboldt (Cal-IPC and CalWeedMapper)

Table 6 below lists invasive plant species observed within trail phase C of the proposed trail project footprint; the list is based on the Special-Status Plant Species Survey and Mapping for Eureka Waterfront Trail Phase C-Tydd Street to Samoa Bridge (GHD 2015) and Trail Phase C Wetland Delineation Report (GHD 2014). Table 6 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 so that they do not hinder the successful re-establishment of the native salt marsh and willow habitat.

The willow mitigation areas will be void of invasive plants with the exception of the plants listed as exempt in Table 6. The salt marsh re-establishment will be guaranteed against target invasive plants (Table 7) 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. No herbicides are allowed during maintenance activities.

Invasive plant inspections and maintenance will be conducted quarterly. Cordgrass removal techniques vary with different equipment and levels of disturbance to adjacent plants and wetland soil. Techniques range from manual activities such as mowing, use of modified weed whackers, and hand removal; and mechanized equipment such as the Marshmaster. While herbicide application is also approved for use on a very limited basis within Humboldt Bay, it is not considered as a technique for this site. Managers will need to take into consideration access, the potential for

mobilizing wetland soil and need for repeat/follow-up removal when selecting an appropriate technique.

The following general principles apply to maintenance activities for invasive species management:

- Where invasive and weedy plants have been removed, maintenance activities shall ensure they do not readily re-propagate within the mitigated habitats by filling the open niche with supplemental planting. This must be balanced with the potential negative effects of over-planting.
- Target invasive plant removal includes manual and mechanical methods to the extent practicable.

Table 6 Invasive Plant Species Observed

Scientific Name	Common Name	Cal-IPC Rating	Humboldt WMA	Exempt
TREES				
Eucalyptus sp.	gum tree	Limited	NL	X
SHRUBS				
Cotoneaster franchetti	cotoneaster	Moderate	High	
Cytisus scoparius	scotch broom	High	High	
Genista monspessulana	french broom	High	High	
Ilex aquifolium	English holly	Moderate	High	
Lupinus arboreus	yellow bush lupine	Limited	high	
HERBS				
Agrostis stolonifera	creeping bent grass	Limited	High	
Anthoxanthum odoratum	sweet vernal grass	Moderate	Naturalized/watch list	X
Atriplex prostrata	fat-hen	NL	Moderate	
Avena barbata	slender wild oat	Moderate		X
Bellis perennis	English daisy		NL	X
Briza major	large quaking grass	NL	High	
Bromus diandrus	ripgut grass	Moderate	High	
Bromus hordeaceus	soft chess	Limited	High	
Bromus madritensis	foxtail chess	High	High	
Cirsium vulgare	bull thistle	Moderate	High	
Conium maculatum	poison hemlock	Moderate	Moderate	
Cortaderia jubata	pampas grass	High	High	
Cynosurus echinatus	bristly dogtail grass	Moderate	Naturalized/watch list	X
Dactylis glomerata	orchard grass	Limited	NL	X
Dipsacus fullonum	teasel	Moderate	Moderate	
Festuca myuros	rattail six weeks grass	Moderate	NL	X

Scientific Name	Common Name	Cal-IPC Rating	Humboldt WMA	Exempt
Festuca perennis	rye grass	Moderate	Naturalized/watch list	X
Foeniculum vulgare	fennel	High	High	
Geranium dissectum	cranesbill	Limited	NL	X
Hedera helix	English ivy	High	High	
Helminthotheca echioides	bristly ox-tongue	Limited	Naturalized/watch list	X
Hirschfeldia incana	shortpod mustard	Moderate	Moderate	
Holcus lanatus	velvet grass	Moderate	Moderate	
Hordeum marinum ssp. *gussoneanum*	barley	Moderate	NL	X
Hypericum perforatum	Klamath weed	Moderate	Monitor/research	
Hypochaeris radicata	rough cat's-ear	Moderate	NL	X
Lotus corniculatus	bird's-foot trefoil	NL	Monitor/research	X
Medicago polymorpha	California burclover	Limited	NL	X
Mentha pulegium	pennyroyal	Moderate	NL	X
Parentucellia viscosa	parentucellia	Limited	Monitor/research	X
Plantago lanceolata	English plantain	Limited	NL	X
Ranunculus repens	buttercup	Limited	NL	X
Raphanus sativus	wild radish	Limited	NL	X
Rubus armeniacus	Himalayan blackberry	High	High	
Rumex acetosella	sheep sorrel	Moderate	Moderate	
Rumex crispus	curly dock	Limited	NL	X
Spartina densiflora	dense-flowered cord grass	High	High	
Vinca major	periwinkle	Moderate	High	

Salt Marsh Target Invasive Plant Species

This section outlines target invasive plants to be controlled at the salt marsh mitigation site. Target salt marsh invasive plants are identified as plants that are thought to impede the function and value salt marsh habitat. Table 7 below describes five species that have the ability to establish in low to high salt marsh habitats around Humboldt Bay and are thus a target for control if they are observed occupying restored habitat. Creeping bentgrass (*Agrostis stolonifera*), fat-hen (*Atriplex prostrata*) and common teasel (*Dipsacus fullonum*) were observed along the proposed trail corridor and are salt tolerant and therefore have been included on the list. The most likely invader of the high salt marsh habitat in Humboldt Bay is dense-flowered cordgrass (*Spartina densiflora)* making it a priority invasive species of concern within the mitigation project area. Dense flowered cordgrass is a perennial grass reproduced through seed and spreading of tillers. Cordgrass has the ability to quickly occupy bare soil/ bay mud and out complete natives plants. In addition, cordgrass (*Spartina*

alternaflora) remains on the HWMA watch list, as this species has been eradicated from the bay, but could potentially reappear and thus remains on the target list below.

Table 7 Target Invasive Plants for Salt Marsh Re-establishment

Scientific Name	Common Name
Agrostis stolonifera	creeping bent grass
Atriplex prostrata	fat-hen
Dipsacus fullonum	teasel
Spartina alternaflora	cordgrass
Spartina densiflora	dense-flowered cord grass

10. Performance Standards

10.1 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.

10.2 Mitigation Site

10.2.1 Hydrology Criteria

Estuarine Saltmarsh Mitigation Site

H1: Mitigation site soil surface elevations shall vary less than +/-6" compared to as built conditions, excluding areas affected by tidal channel, inlet migration, similar natural/non-anthropogenic hydrogeomorphic changes, or due to adaptive management to adjust grading to better reflect reference site conditions.

H2: Mitigation site elevations shall be within ranges that maintain suitable saltmarsh habitat. An observed target range is between the Mean Highest High Water (MHHW) of 6.62 ft (NAVD88) and High Tide Line (HTL) of 8.51 ft (NAVD88), plus or minus six (6) inches.

10.2.2 Vegetation Criteria

Estuarine Saltmarsh Mitigation Site and Temporary Impact Area

V1: Saltmarsh post-planting shall meet the annual criteria described in Table 9:

Table 8 Estuarine Saltmarsh Mitigation Site Success Criteria

Estuarine Saltmarsh Success Criteria	
Year 1	50 percent (≥) relative cover[1] of native wetland species, of which: 15 percent (≥) relative cover of pickleweed, a saltmarsh structural species 15 percent (≥) relative cover of saltgrass, a saltmarsh structural species

	No more than 10 percent absolute cover[2] of target invasive plants.
Year 2	55 percent (≥) relative cover of native wetland species, of which: 18 percent (≥) relative cover of pickleweed, a saltmarsh structural species 18 percent (≥) relative cover of saltgrass, a saltmarsh structural species No more than 10 percent absolute cover of target invasive plants.
Year 3	60 percent (≥) relative cover of native wetland species, of which: 20 percent (≥) relative cover of pickleweed, a saltmarsh structural species 20 percent (≥) relative cover of saltgrass, a saltmarsh structural species . No more than 10 percent absolute cover of target invasive plants.
Year 4	65 percent (≥) relative cover of native wetland species, of which: 23 percent (≥) relative cover of pickleweed, a saltmarsh structural species 23 percent (≥) relative cover of saltgrass, a saltmarsh structural species . No more than 10 percent absolute cover of target invasive plants.
Year 5	70 percent (≥) relative cover of native wetland species, of which: 25 percent (≥) relative cover of pickleweed, a saltmarsh structural species 25 percent (≥) relative cover of saltgrass, a saltmarsh structural species No more than 10 percent absolute cover of target invasive plants.
All Years	• 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 ratio of absolute cover of intended plant species to total absolute area of vegetation present. It excludes bare ground, open water, etc. [2] Absolute cover refers to the ratio of named plant species relative to entire site, including bare ground, open water, etc.

Salix Hookeriana Shrubland Alliance Plantings

V2: Salix hookeriana Shrubland Alliance (Willow stakes and understory) post-planting shall meet the annual criteria described in Table 9:

Table 9 Salix hookeriana Shrubland Alliance Plantings Success Criteria

Salix hookeriana Shrubland Alliance Planting (Willow Staking) Success Criteria	
Year 1	≥ 70 percent sprouted stakes. 20 percent relative cover by staked willow. 15 percent relative cover by related understory plantings.
Year 2	30 percent relative cover by staked willow. 20 percent relative cover by related understory plantings.
Year 3	40 percent relative cover by staked willow. 25 percent relative cover by related understory plantings.
Year 4	50 percent relative cover by staked willow. 30 percent relative cover by related understory plantings.
Year 5	60 percent cover by staked willow. 35 percent relative cover by related understory plantings.
All Years	

11. Monitoring

11.1 Reference Sites

The mitigation project's saltmarsh reference site is described in Section 4.3.

11.2 Wetland Monitoring

The following wetland monitoring activities are applied to each of the mitigation areas in accordance with Table 10.

Table 10: Monitoring Activities by Mitigation Area

Monitoring Activity	Estuarine Saltmarsh		*Salix hookeriana* Shrubland Alliance Plantings
	Mitigation Site	Temporary Impact Area (Boardwalk)	
Wetland elevations	■		
Sample Size	■		■
Vegetative Cover	■	■	
Non-native Invasive Plant Monitoring	■	■	
Willow Stake Success			■
Additional Data Collection	■	■	■
Photo Monitoring Stations	■	■	■

11.2.1 Wetland elevations

Elevations will be monitored annually using hand held high resolution GPS devices capable of recording elevations within 1/10 foot, and/or traditional survey equipment. Elevations for the saltmarsh mitigation area will document overall elevations, and observe variations including tidal channel development. This data will be used to assess the success of the designed elevations in achieving saltmarsh establishment and any developing geomorphic trends.

11.2.2 Sample Size

Power analysis

A priori power analysis will be used to determine the monitoring effort required. We define the specific question to be addressed as follows:

Is the true value of the percent cover less than or equal to the percent cover requirement?

The allowable certainty for percent cover will be a margin of error of +/- 10 percent at the 95 percent confidence interval. The confidence interval is the probability that the true value will be encapsulated in the margin of error around the reported percentage; the lower the confidence

interval, the smaller the margin of error. Margin of error (ME), confidence interval and required number of sampling points (n) are related by the following equation for the 95 percent confidence interval:

$$ME = 0.98/\sqrt{n}$$

The number of sampling points required to evaluate percent cover will be calculated using this equation.

11.2.3 Vegetative Cover

Monitoring for wetlands at the Estuarine Saltmarsh site will use transects with quadrats. Transects will be located randomly within the salt marsh and each transect will run perpendicular to the waterfront trail. 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, 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.

A t-test will be used to evaluate whether or not percent cover is less than or equal to the interim or final success criteria. Trend analysis may be more informative than examining threshold exceedance because invasive plant species percent cover increases often are predictive of long-term ecological composition.

11.2.4 Non-native Invasive Plant Monitoring

During spring or early summer of years one to five, target invasive plant cover will be calculated from the data collected, as described above. In addition to this monitoring, areas with greater than five percent cover of the target non-native plant species will be mapped using GPS as long as areas are safely accessible. Maintenance activities to control non-native invasive species will be targeted in these areas. Each year the acreage of mapped highly invasive species will be compared.

A spring inspection in subsequent years comparing mapped non-native invasive cover from the prior year will be conducted to determine if a non-native invasive species population has spread or a new species has invaded. In either scenario, maintenance activities may be required.

11.2.5 Willow Stake Success

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

11.2.6 Additional Data Collection

In addition to data collected along transects, quantitative and qualitative data will be collected each year of monitoring. These general site assessments are intended to help determine if data from sampling transects is an accurate representation of site conditions, to help assess the overall functioning of the site as a whole, and also to help identify localized or low-level trends such as new invasive species formations, localized changes in species abundance, and other changes that might be overlooked if only transect data are analyzed.

The following data will be collected during the site assessment:

- Species richness: this general site data will be used for calibrating similar data taken at transects, and is not intended for comparison with performance criteria. Data will also help to evaluate whether invasive or non-native species are outcompeting native plants, and whether more active management might be required.
- Other site characteristics, including patterns of plant die-offs, erosion, hydrological issues, trespass, herbivory or grazing pressure, or other land use issues. This information is intended for use in recommending management actions as necessary

11.2.7 Photo Monitoring Stations

Permanent photo-documentation points will be established within the project site. A minimum of one photopoint is required for each monitored re-established habitat unit. GPS coordinates will be obtained for the photopoint, and the point will be included on a GIS map of the sites.

Photographs will be taken throughout the monitoring period, during each monitoring event. 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 (approximately 35mm focal length if a full-frame sensor, approximately 24mm focal length if a DX sensor, at the widest setting if a consumer-level digital camera with a built in zoom). 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.

11.3 Monitoring Schedule

Some flexibility to account for annual variation in weather conditions is acceptable. The results will be submitted in the annual report for a total of five monitoring reports over a five-year monitoring period.

11.3.1 Wetland Monitoring

In addition to quarterly inspections as noted in Section 9.3.1 above, wetland monitoring will be implemented annually for five years. The wetland vegetation communities will be monitored annually once in June or July. Some flexibility to account for annual variation in weather conditions is acceptable. The site will be inspected for general parameters including observations of target invasive plants, signs of erosion, illegal dumping or trespass, and vitality of plant survivorship.

12. Long Term Management

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 and to perform in perpetuity, there will still be a need to make occasional inspections and if necessary, perform maintenance tasks to assure the viability of the mitigation site. The site is City property and will remain under the management of the Department of Parks and Recreation.

Trail maintenance crews will attend to the state of the mitigation areas, including periodic trash removal, erosion of wetland areas, and observing invasions of non-native plants. Should failure of the wetlands or invasive species incursions occur, the City will refer to the Adaptive Management Plan to aid in formulating an approach forward. .

As noted in Section 6 Site Protection Instrument, the mitigation project will remain in City of Eureka ownership, protected in perpetuity through a conservation easement. Long term management will be conducted by the City of Eureka, or through contracted agents acting on behalf of the City. The schedule for ongoing management activities will be scheduled by the City at that time and are not expected to require reporting to agencies.

13. Adaptive Management Plan

13.1 Adaptive Management

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 regarding.

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 Table 6 Invasive Plant 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.

13.2 Initiating Procedures

Adaptive management may be implemented if:

- The absolute percent cover in any monitoring year (averaged over sample plots) is 15 percent below the target level described under “Annual Success Criteria,” or if absolute cover of target invasive species is more than 15 percent over target in monitoring years three, four or five; or if additional final criteria are not met.
- The hydrology annual performance criteria exceed 6” in variation, or excessive erosion or sedimentation is noted during annual monitoring.
- Performance criteria are not met for three consecutive years, and monitoring indicates that conditions are not improving.

If adaptive management is determined to be necessary, a report shall be prepared analyzing the cause of failure and, if necessary, proposing remedial action. A meeting will then be scheduled with the appropriate resource agencies, depending on the specific issue(s), and consensus reached on the best method(s) to address the issue.

13.2.1 Revegetation

Vegetation monitoring surveys may reveal the poor survival rates of planted stock or inadequate natural recruitments. Replanting will be recommended if monitoring reveals that plant success is failing to meet target thresholds and it is the best procedure to attain success criteria. Recommended thresholds for replanting are:

- 15 percent below the target level of cover or
- 15 percent below performance criteria in years three, four, or five.

Replanting may also be deemed appropriate to replace dead plants. Plants should be replaced during the next rainy season. This should be considered throughout the monitoring period. If replanting is initiated and irrigation is required for those plants to become established then the monitoring period shall be extended by one year for each year of additional irrigation and the monitoring period will be reset to year one (in these specific locations) to ensure the plants are self-sustaining, based on Regional Water Quality Control Board recommendations.

Additional adaptive considerations include:

- If a particular species has poor success throughout the site it may be replaced with a different species better suited to actual conditions in the restoration habitats.
- If selected areas are receiving too much or too little water, the system may be modified accordingly.
- Use of weed mats or mulch as remedial action to reduce invasive plant recruitment.

13.2.2 Hydrologic Modification

Hydrologic modification by regrading or re-contouring could be recommended if it is deemed that no other procedure could be employed to restore the target habitat to meet monitoring success criteria.

- Re-grade if tidal and/or groundwater flows are not adequate to establish estuarine saltmarsh plantings.
- Re-grade if the target hydrologic regime is not met by year three, assuming normal precipitation (within NRCS WET tables).

13.2.2 Invasive Species Control

An early detection rapid response mechanism should be in place for weed management throughout the year. Reducing invasive plants should occur throughout the year as needed. No more than fifteen percent cover (above the allowable percent cover as described in the performance standards) of target invasive plants should occur during monitoring years one through five.

Machinery should not be used at the site during wet conditions. Invasive species control will likely require repeated effort for at least several years and possibly throughout the monitoring period. Specific needs will be identified based on each year of monitoring, and documented in annual reports. Appropriate control methods will be utilized depending on the species, the abundance and distribution of the species, and the location within the site and relative to wetlands or other sensitive resources. With dense-flowering cordgrass as the dominant invasive species, removal shall follow the procedures established in the Final Programmatic Environmental Impact Report for the Humboldt Bay Regional Spartina Eradication Plan and related Mitigation and Monitoring Plan.

- Reducing non-native annuals and target invasive plants should occur throughout the year if needed.
- When any new plant is listed or if a ranking status has been revised by the California Invasive Plant Council (Cal-PC) as medium or high priority, and it has been identified during monitoring it should be removed according to the most recent up to date methods.
- When new control methods are released that are more effective than a previously employed method for control and removal the plan should accommodate the new techniques for the remainder of the monitoring period.
- Target invasive plants will be removed extending three to five feet into areas surrounding the re-established habitat.
- Routine weeding will be implemented as part of the maintenance.

14. Financial Assurances

The City is committed to ensuring the success of the mitigation projects described herein, and has successfully demonstrated its commitment to environmental mitigation in its prior trail projects, including the Hikshari' Trail. The City manages its funds to adequately cover costs of the mitigation and monitoring period, which come from the Parks and Recreation Department's Environmental Program Division.

Given its track record, the City requests that no financial assurances, such as a performance bonds, irrevocable trusts, escrow accounts, letters of credit, etc. be required as a part of this project.

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16. List of Preparers

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17. Scope and limitations

This report: has been prepared by GHD for the City of Eureka and *may only be used and relied on for the purpose agreed between GHD and the City of Eureka as set out in this report.*

GHD otherwise disclaims responsibility to any entity other than the City of Eureka arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by the City of Eureka and others who provided information to GHD (including Government agencies), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

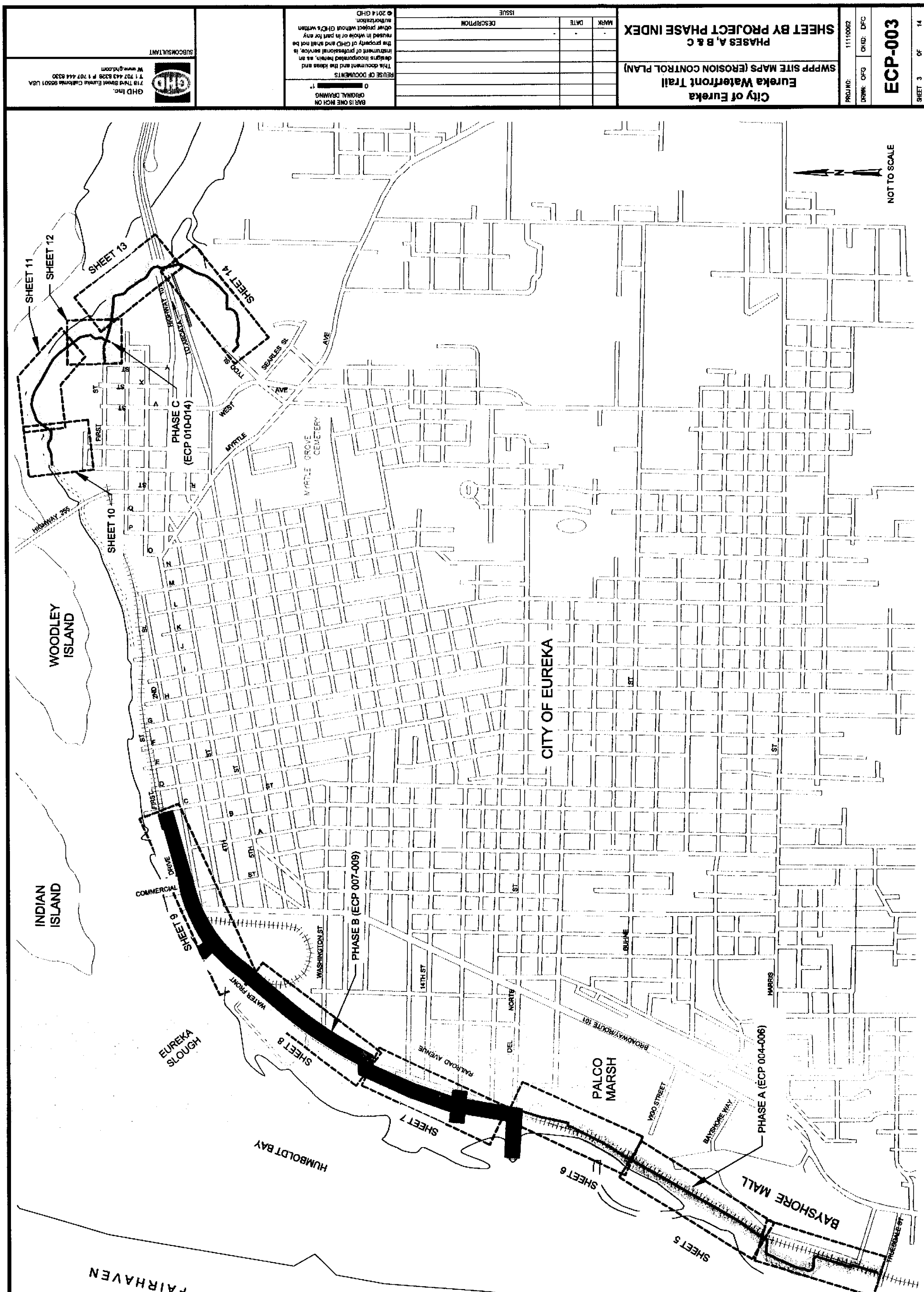

EXHIBIT NO. 9

Application No. 1-15-2054
City of Eureka

EROSION & SEDIMENT CONTROL SITE PLANS

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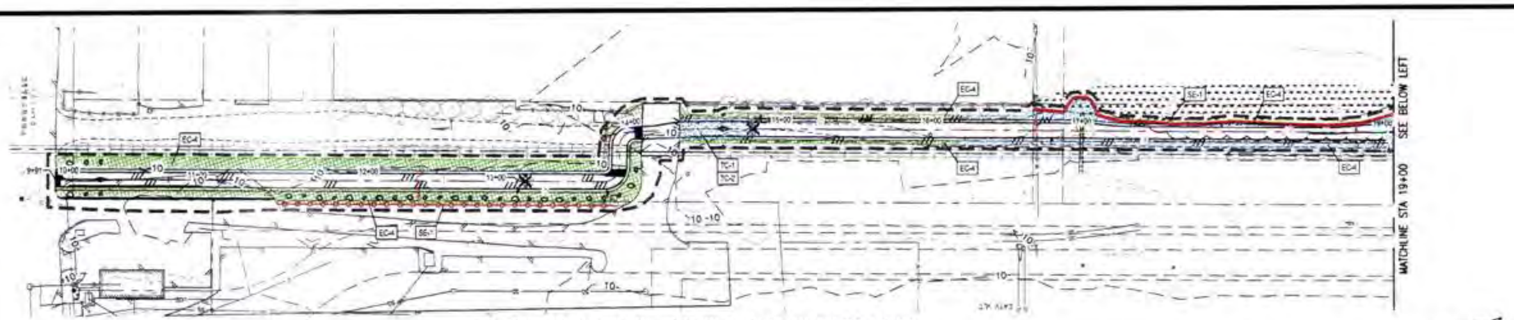
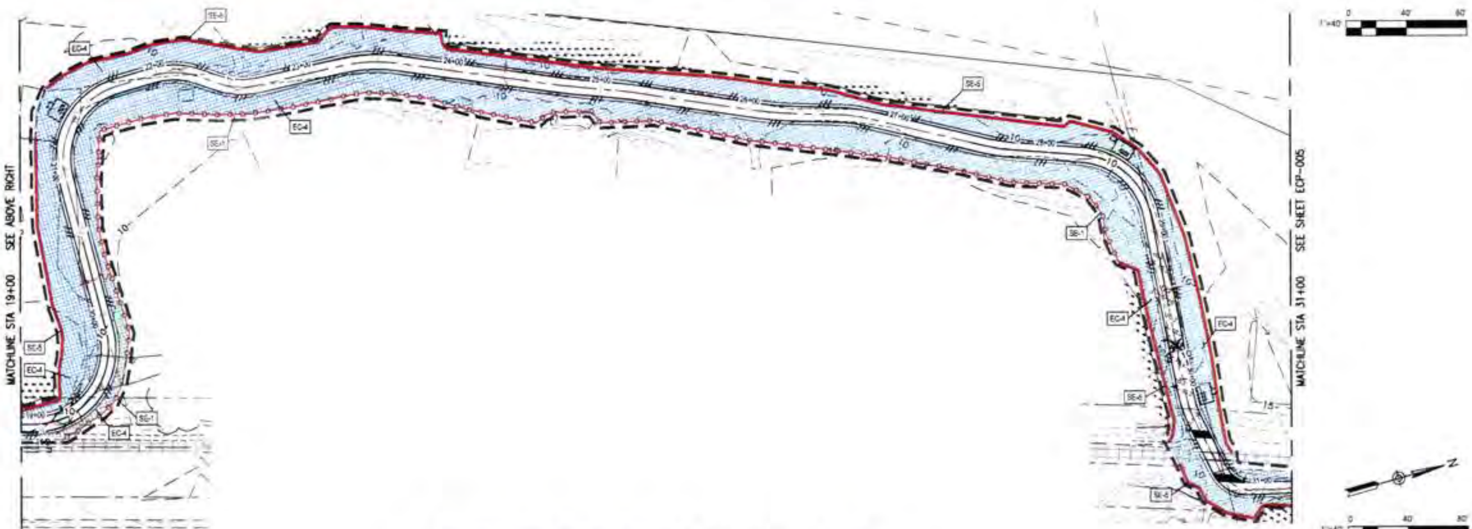


WATERFRONT TRAIL - PHASE A - STA 10+00 TO 19+00



WATERFRONT TRAIL - PHASE A - STA 19+00 TO 31+00

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS. WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
2. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
3. UPDATE MAP THROUGHOUT CONSTRUCTION TO SHOW LOCATIONS OF STORAGE ARES FOR WASTE, VEHICLES, SERVICE, LOADING/UNLOADING OF MATERIALS, STAGING, STOCKPILES, CONCRETE WASHOUT, SANITARY FACILITIES, ACCESS (ENTRANCE/EXIT) POINTS TO CONSTRUCTION SITE, FUELING, WATER STORAGE, WATER TRANSFER FOR DUST CONTROL AND COMPACTION AND ANY ADDITIONAL BMPs REQUIRED TO COMPLY WITH THE GENERAL PERMIT.
4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SE-1 SILT FENCE (SE-1)
- SE-5 STRAW WATTLE SEDIMENT BARRIER (SE-5)
- PAVED AREA. IF NOT PAVED, PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)
- T-1 T-2 STABILIZED CONSTRUCTION ENTRANCE (T-1 & T-2)
- EC-4 NON-NATIVE PASTURE MIX (EC-4)
- EC-4 NATIVE UPLAND MIX (EC-4)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
SE-2 SEDIMENT BASIN
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-11 ACTIVE TREATMENT SYSTEMS
SE-12 TEMPORARY SILT DIKE
SE-13 COMPOST SOCKS AND BERMS
SE-14 BIOFILTER BAGS

NON-STORM WATER MANAGEMENT BMPs
NS-1 WATER CONSERVATION PRACTICES
NS-2 DEWATERING OPERATIONS
NS-3 PAVING AND GRINDING OPERATIONS
NS-4 TEMPORARY STREAM CROSSING
NS-5 CLEAR WATER DIVERSION
NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-11 PILE DRIVING OPERATIONS
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING
NS-14 MATERIAL AND EQUIPMENT USE
NS-15 DEMOLITION ADJACENT TO WATER
NS-16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPs
WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATED SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

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MARK	DATE	DESCRIPTION
		ISSUE

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE A
CONSTRUCTION BMPS 1 OF 3
STA 10+00 TO STA 31+00

PROJ NO	11110062		
DRWN	DFG	CHKD	DFC

ECP-004

SHEET 4 OF 14

2015-11-13 11:34 AM TMDUNCAN
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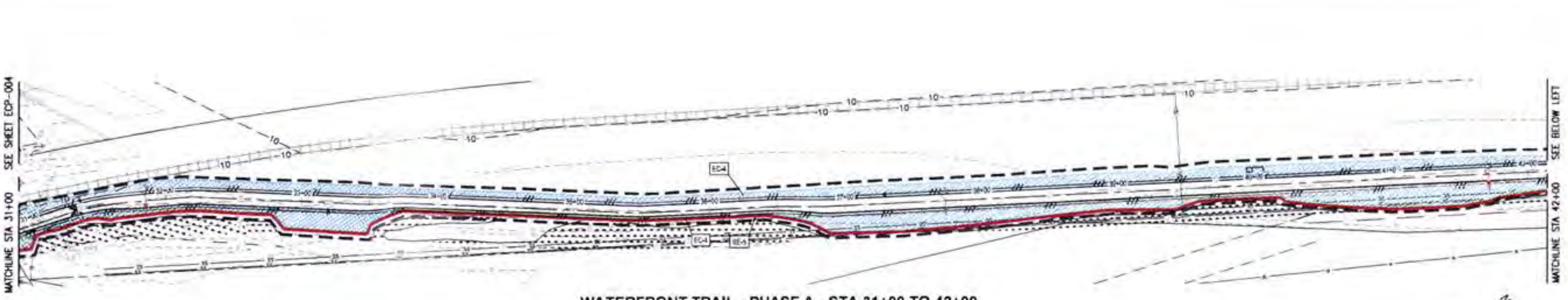
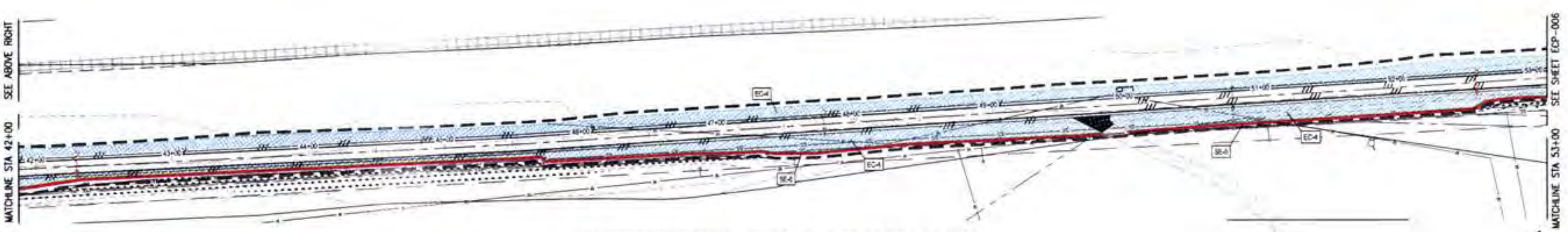


WATERFRONT TRAIL - PHASE A - STA 31+00 TO 42+00



WATERFRONT TRAIL - PHASE A - STA 42+00 TO 53+00

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS, WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
2. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
3. UPDATE MAP THROUGHOUT CONSTRUCTION TO SHOW LOCATIONS OF STORAGE ARES FOR WASTE, VEHICLES, SERVICE, LOADING/UNLOADING OF MATERIALS, STAGING, STOCKPILES, CONCRETE WASHOUT, SANITARY FACILITIES, ACCESS (ENTRANCE/EXIT) POINTS TO CONSTRUCTION SITE, FUELING, WATER STORAGE, WATER TRANSFER FOR DUST CONTROL AND COMPACTION AND ANY ADDITIONAL BMPs REQUIRED TO COMPLY WITH THE GENERAL PERMIT.
4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SILT FENCE (SE-1)
- STRAW WATTLE SEDIMENT BARRIER (SE-5)
- PAVED AREA. IF NOT PAVED, PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)
- STABILIZED CONSTRUCTION ENTRANCE (T-1 & T-2)
- NON-NATIVE PASTURE MIX (EC-4)
- NATIVE UPLAND MIX (EC-4)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
SE-2 SEDIMENT BASIN
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-11 ACTIVE TREATMENT SYSTEMS
SE-12 TEMPORARY SILT DIKE
SE-13 COMPOST SOCKS AND BERMS
SE-14 BIOFILTER BAGS

NON-STORM WATER MANAGEMENT BMPs
NS-1 WATER CONSERVATION PRACTICES
NS-2 DEWATERING OPERATIONS
NS-3 PAVING AND GRINDING OPERATIONS
NS-4 TEMPORARY STREAM CROSSING
NS-5 CLEAR WATER DIVERSION
NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-11 PILE DRIVING OPERATIONS
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING
NS-14 MATERIAL AND EQUIPMENT USE
NS-15 DEMOLITION ADJACENT TO WATER
NS-16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPs
WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATED SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

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MARK	DATE	DESCRIPTION
		ISSUE

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE A
CONSTRUCTION BMPS 2 OF 3
STA 31+00 TO STA 53+00

PROJ NO: 11110062
DRWN: OFG CHKD: DFC

ECP-005

SHEET 5 OF 14

2015-11-13 11:34 AM TMDUNCAN

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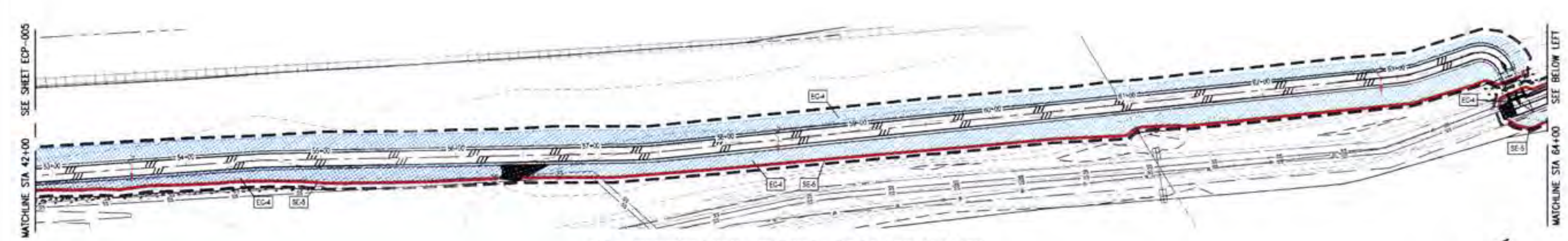
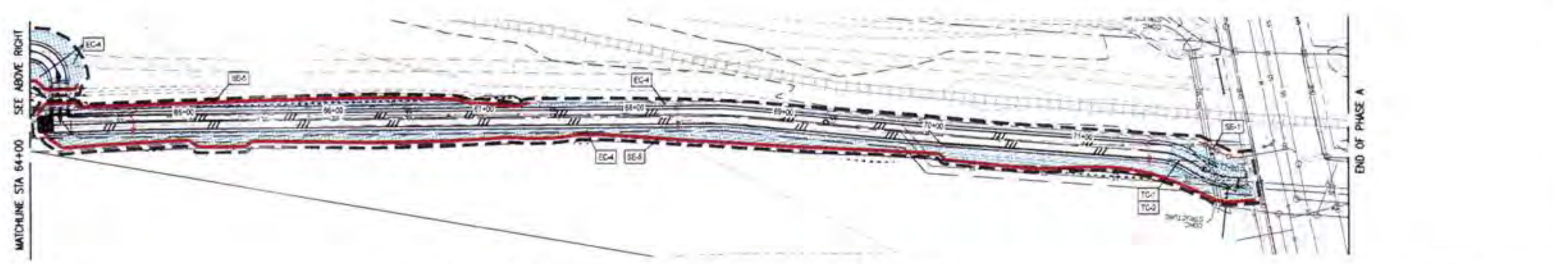


WATERFRONT TRAIL - PHASE A - STA 53+00 TO 64+00



WATERFRONT TRAIL - PHASE A - STA 64+00 TO END OF PHASE A

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS, WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
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4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SILT FENCE (SE-1)
- STRAW WATTLE SEDIMENT BARRIER (SE-5)
- PAVED AREA. IF NOT PAVED: PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)
- STABILIZED CONSTRUCTION ENTRANCE (T-1 & T-2)
- NON-NATIVE PASTURE MIX (EC-4)
- NATIVE UPLAND MIX (EC-4)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
SE-2 SEDIMENT BASIN
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-11 ACTIVE TREATMENT SYSTEMS
SE-12 TEMPORARY SILT DIKE
SE-13 COMPOST SOCKS AND BERMS
SE-14 BIOFILTER BAGS

NON-STORM WATER MANAGEMENT BMPs
NS-1 WATER CONSERVATION PRACTICES
NS-2 DEWATERING OPERATIONS
NS-3 PAVING AND GRINDING OPERATIONS
NS-4 TEMPORARY STREAM CROSSING
NS-5 CLEAR WATER DIVERSION
NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-11 PILE DRIVING OPERATIONS
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING
NS-14 MATERIAL AND EQUIPMENT USE
NS-15 DEMOLITION ADJACENT TO WATER
NS-16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPs
WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATED SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

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MARK	DATE	DESCRIPTION

ISSUE

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE A
CONSTRUCTION BMPS 3 OF 3
STA 53+00 TO END OF PHASE A

PROJ NO 11110062
DRWN DPG CHKD DFC

ECP-006

SHEET 6 OF 14

2015-11-13 11:35 AM TMDUNCAN
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WATERFRONT TRAIL - PHASE B - STA 20+00 TO 31+00

WATERFRONT TRAIL - PHASE B - STA 31+00 TO 42+00

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS, WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
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4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SE-1 SILT FENCE (SE-1)
- SE-5 STRAW WATTLE SEDIMENT BARRIER (SE-5)
- EC-4 NON-NATIVE PASTURE MIX (EC-4)
- PAVED AREA IF NOT PAVED PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
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SE-3 SEDIMENT TRAP
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SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
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NON-STORM WATER MANAGEMENT BMPs
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WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

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MARK	DATE	DESCRIPTION

ISSUE

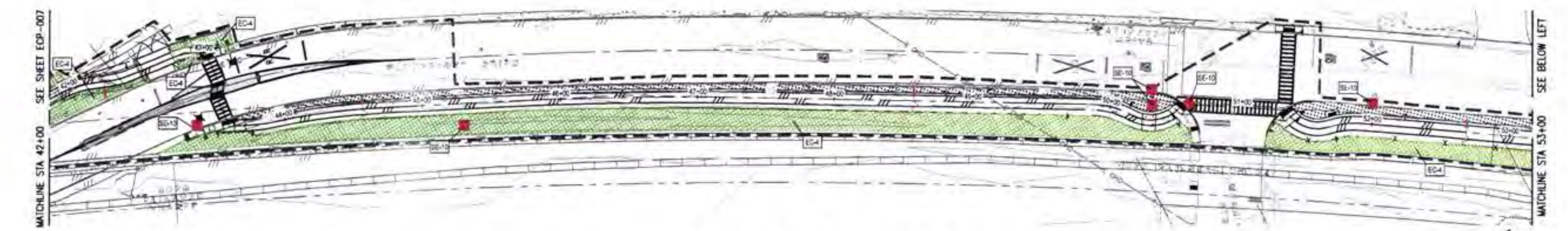
City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE B
CONSTRUCTION BMPS 1 OF 3
STA 20+00 TO STA 42+00

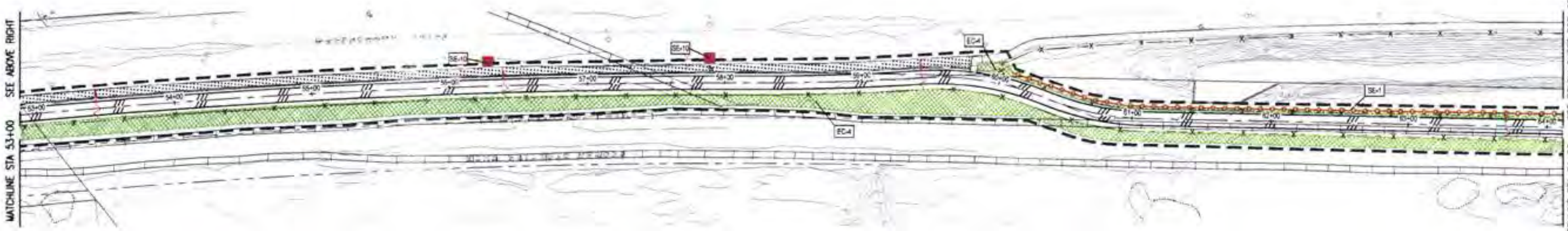
PROJ NO 11110062
DRWN DFG CHKD DFC

ECP-007

SHEET 7 OF 14



WATERFRONT TRAIL - PHASE B - STA 42+00 TO 53+00



WATERFRONT TRAIL - PHASE B - STA 53+00 TO 64+00

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS, WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
2. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
3. UPDATE MAP THROUGHOUT CONSTRUCTION TO SHOW LOCATIONS OF STORAGE ARES FOR WASTE, VEHICLES, SERVICE, LOADING/UNLOADING OF MATERIALS, STAGING, STOCKPILES, CONCRETE WASHOUT, SANITARY FACILITIES, ACCESS (ENTRANCE/EXIT) POINTS TO CONSTRUCTION SITE, FUELING, WATER STORAGE, WATER TRANSFER FOR DUST CONTROL AND COMPACTION, AND ANY ADDITIONAL BMPs REQUIRED TO COMPLY WITH THE GENERAL PERMIT.
4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SE-1: SILT FENCE (SE-1)
- SE-5: STRAW WATTLE SEDIMENT BARRIER (SE-5)
- EC-4: NON-NATIVE PASTURE MIX (EC-4)
- PAVED AREA, IF NOT PAVED, PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
SE-2 SEDIMENT BASIN
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-11 ACTIVE TREATMENT SYSTEMS
SE-12 TEMPORARY SILT DIKE
SE-13 COMPOST SOCKS AND BERMS
SE-14 BIOFILTER BAGS

NON-STORM WATER MANAGEMENT BMPs
NS-1 WATER CONSERVATION PRACTICES
NS-2 DEWATERING OPERATIONS
NS-3 PAVING AND GRINDING OPERATIONS
NS-4 TEMPORARY STREAM CROSSING
NS-5 CLEAR WATER DIVERSION
NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-11 PILE DRIVING OPERATIONS
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING
NS-14 MATERIAL AND EQUIPMENT USE
NS-15 DEMOLITION ADJACENT TO WATER
NS-16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPs
WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATED SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

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MARK	DATE	DESCRIPTION

ISSUE

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE B
CONSTRUCTION BMPS 2 OF 3
STA 42+00 TO STA 64+00

PROJ NO 11110062
DRWN CFG CHKD CFC

ECP-008

SHEET 8 OF 14

2015-11-13 11:38 AM TMDUNCAN
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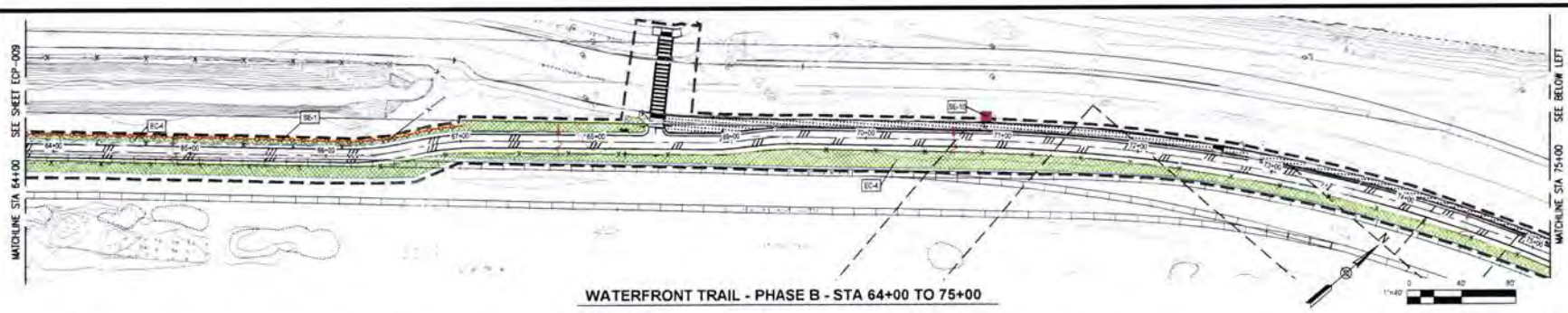
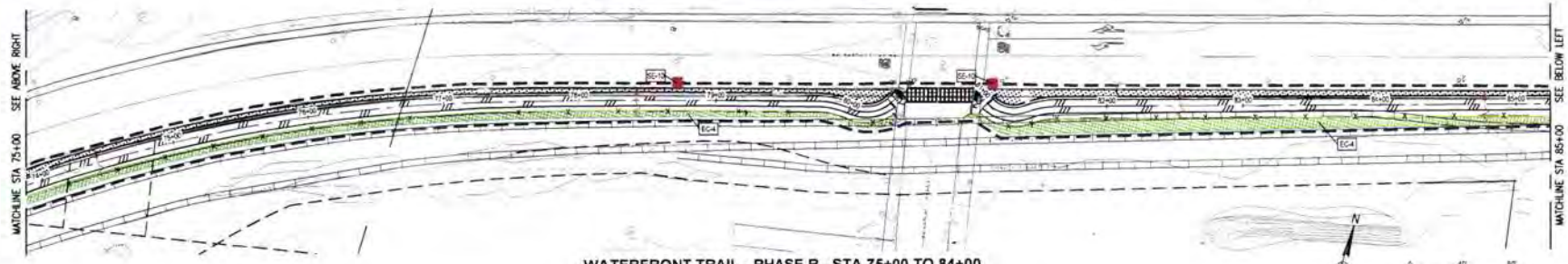
11/13/2015 11:26 AM



WATERFRONT TRAIL - PHASE B - STA 64+00 TO 75+00



WATERFRONT TRAIL - PHASE B - STA 75+00 TO 84+00

WATERFRONT TRAIL - PHASE B - STA 85+00 TO END OF PHASE B

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE ISTE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS. WHEN RAINFALL IS FOREAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
2. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
3. UPDATE MAP THROUGHOUT CONSTRUCTION TO SHOW LOCATIONS OF STORAGE ARES FOR WASTE, VEHICLES, SERVICE, LOADING/UNLOADING OF MATERIALS, STAGING, STOCKPILES, CONCRETE WASHOUT, SANITARY FACILITIES, ACCESS (ENTRANCE/EXIT) POINTS TO CONSTRUCTION SITE, FUELING, WATER STORAGE, WATER TRANSFER FOR DUST CONTROL AND COMPACTION, AND ANY ADDITIONAL BMPs REQUIRED TO COMPLY WITH THE GENERAL PERMIT.
4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SE-1 SILT FENCE (SE-1)
- SE-1 STRAW WATTLE/SEDIMENT BARRIER (SE-5)
- EC-4 NON-NATIVE PASTURE MIX (EC-4)
- PAVED AREA (IF NOT PAVED, PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)

BMP KEY

EROSION CONTROL BMPs
- EC-1 SCHEDULING
- EC-2 PRESERVATION OF EXISTING VEGETATION
- EC-3 HYDRAULIC MULCH
- EC-4 HYDROSEEDING
- EC-5 SOIL BINDERS
- EC-6 STRAW MULCH
- EC-7 GEOTEXTILES & MATS
- EC-8 WOOD MULCHING
- EC-9 EARTH DIKES AND DRAINAGE SWALES
- EC-10 VELOCITY DISSIPATION DEVICES
- EC-11 SLOPE DRAINS
- EC-12 STREAMBANK STABILIZATION
- EC-14 COMPOST BLANKETS
- EC-15 SOIL PREPARATION / ROUGHENING
- EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
- WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
- SE-1 SILT FENCE
- SE-2 SEDIMENT BASIN
- SE-3 SEDIMENT TRAP
- SE-4 CHECK DAM
- SE-5 FIBER ROLLS
- SE-6 GRAVEL BAG BERM
- SE-7 STREET SWEEPING AND VACUUMING
- SE-8 SANDBAG BARRIER
- SE-9 STRAW BALE BARRIER
- SE-10 STORM DRAIN INLET PROTECTION
- SE-11 ACTIVE TREATMENT SYSTEMS
- SE-12 TEMPORARY SILT DIKE
- SE-13 COMPOST SOCKS AND BERMS
- SE-14 BIOFILTER BAGS

NON-STORM WATER MANAGEMENT BMPs
- NS-1 WATER CONSERVATION PRACTICES
- NS-2 DEWATERING OPERATIONS
- NS-3 PAVING AND GRINDING OPERATIONS
- NS-4 TEMPORARY STREAM CROSSING
- NS-5 CLEAR WATER DIVERSION
- NS-6 ILLICIT CONNECTION/DISCHARGE
- NS-7 POTABLE WATER/IRRIGATION
- NS-8 VEHICLE AND EQUIPMENT CLEANING
- NS-9 VEHICLE AND EQUIPMENT FUELING
- NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
- NS-11 PILE DRIVING OPERATIONS
- NS-12 CONCRETE CURING
- NS-13 CONCRETE FINISHING
- NS-14 MATERIAL AND EQUIPMENT USE
- NS-15 DEMOLITION ADJACENT TO WATER
- NS-16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPs
- WM-1 MATERIAL DELIVERY AND STORAGE
- WM-2 MATERIAL USE
- WM-3 STOCKPILE MANAGEMENT
- WM-4 SPILL PREVENTION AND CONTROL
- WM-5 SOLID WASTE MANAGEMENT
- WM-6 HAZARDOUS WASTE MANAGEMENT
- WM-7 CONTAMINATED SOIL MANAGEMENT
- WM-8 CONCRETE WASTE MANAGEMENT
- WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
- WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
- TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
- TC-2 STABILIZED CONSTRUCTION ROADWAY
- TC-3 ENTRANCE/OUTLET TIRE WASH

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MARK	DATE	DESCRIPTION
		ISSUE

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE B
CONSTRUCTION BMPS 3 OF 3
STA 64+00 TO END OF PHASE B

PROJ NO. 11110052
DRWN. DFC CHKD. DFC

ECP-009

SHEET # OF 14

7 of 12

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WATERFRONT TRAIL - PHASE C - STA 100+50 TO 130+00

1"=40' 0 40' 80'

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS, WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
2. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
3. UPDATE MAP THROUGHOUT CONSTRUCTION TO SHOW LOCATIONS OF STORAGE ARES FOR WASTE, VEHICLES, SERVICE, LOADING/UNLOADING OF MATERIALS, STAGING, STOCKPILES, CONCRETE WASHOUT, SANITARY FACILITIES, ACCESS (ENTRANCE/EXIT) POINTS TO CONSTRUCTION SITE, FUELING, WATER STORAGE, WATER TRANSFER FOR DUST CONTROL AND COMPACTION AND ANY ADDITIONAL BMPs REQUIRED TO COMPLY WITH THE GENERAL PERMIT.
4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SILT FENCE (SE-1)
- STRAW WATTLE SEDIMENT BARRIER (SE-5)
- PAVED AREA IF NOT PAVED: PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)
- T-1 T-2 STABILIZED CONSTRUCTION ENTRANCE (T-1 & T-2)
- EC-4 NON-NATIVE PASTURE MIX (EC-4)
- EC-4 NATIVE UPLAND MIX (EC-4)
- EC-4 WETLAND PLUG MIX (EC-4)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
SE-2 SEDIMENT BASIN
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-11 ACTIVE TREATMENT SYSTEMS
SE-12 TEMPORARY SILT DIKE
SE-13 COMPOST SOCKS AND BERMS
SE-14 BIOFILTER BAGS

NON-STORM WATER MANAGEMENT BMPs
NS-1 WATER CONSERVATION PRACTICES
NS-2 DEWATERING OPERATIONS
NS-3 PAVING AND GRINDING OPERATIONS
NS-4 TEMPORARY STREAM CROSSING
NS-5 CLEAR WATER DIVERSION
NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-11 PILE DRIVING OPERATIONS
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING
NS-14 MATERIAL AND EQUIPMENT USE
NS-15 DEMOLITION ADJACENT TO WATER
NS-16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPs
WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATED SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

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MARK	DATE	DESCRIPTION

ISSUE

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE C
CONSTRUCTION BMPS 1 OF 5
STA 100+50 TO STA 106+00

PROJ NO: 11110062
DRWN: DFO CHKD: DFC

ECP-010

SHEET 10 OF 14

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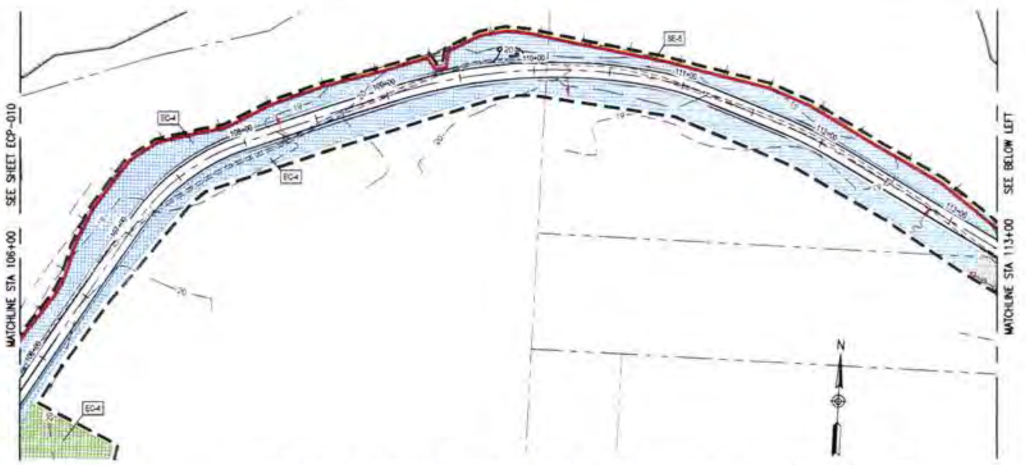

WATERFRONT TRAIL - PHASE C - STA 106+00 TO 113+00

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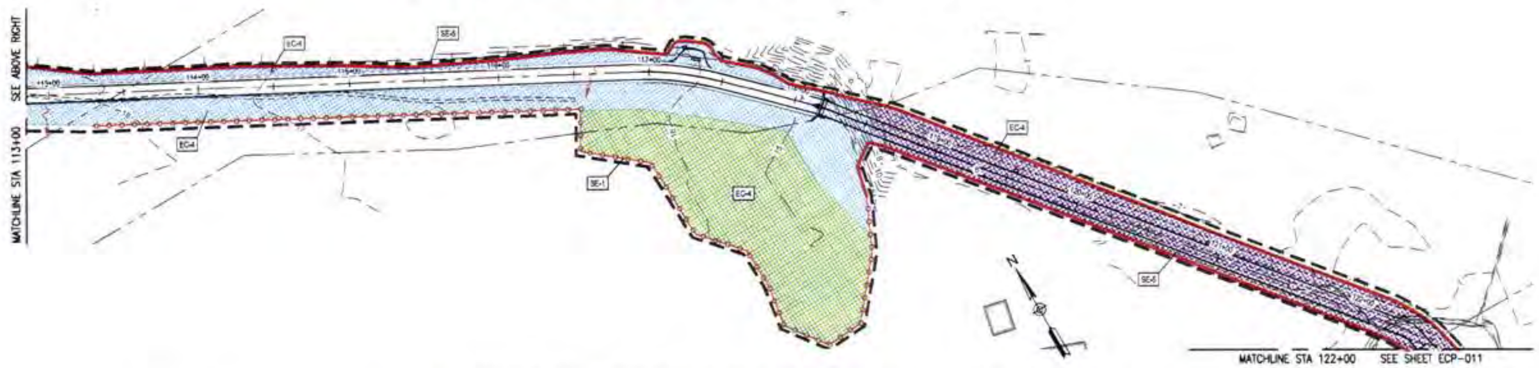

WATERFRONT TRAIL - PHASE C - STA 113+00 TO STA 122+00

1"=40' 0 40 80

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS. WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
2. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
3. UPDATE MAP THROUGHOUT CONSTRUCTION TO SHOW LOCATIONS OF STORAGE ARES FOR WASTE, VEHICLES, SERVICE, LOADING/UNLOADING OF MATERIALS, STAGING, STOCKPILES, CONCRETE WASHOUT, SANITARY FACILITIES, ACCESS (ENTRANCE/EXIT) POINTS TO CONSTRUCTION SITE, FUELING, WATER STORAGE, WATER TRANSFER FOR DUST CONTROL AND COMPACTION AND ANY ADDITIONAL BMPs REQUIRED TO COMPLY WITH THE GENERAL PERMIT.
4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SILT FENCE (SE-1)
- STRAW WATTLE SEDIMENT BARRIER (SE-6)
- PAVED AREA. IF NOT PAVED, PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)
- T-1 T-2 STABILIZED CONSTRUCTION ENTRANCE (T-1 & T-2)
- EC-4 NON-NATIVE PASTURE MIX (EC-4)
- EC-4 NATIVE UPLAND MIX (EC-4)
- EC-4 WETLAND PLUG MIX (EC-4)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
SE-2 SEDIMENT BASIN
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-11 ACTIVE TREATMENT SYSTEMS
SE-12 TEMPORARY SILT DIKE
SE-13 COMPOST SOCKS AND BERMS
SE-14 BIOFILTER BAGS

NON-STORM WATER MANAGEMENT BMPs
NS-1 WATER CONSERVATION PRACTICES
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NS-3 PAVING AND GRINDING OPERATIONS
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NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-11 PILE DRIVING OPERATIONS
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING
NS-14 MATERIAL AND EQUIPMENT USE
NS-15 DEMOLITION ADJACENT TO WATER
NS-16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPs
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WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATED SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

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MARK	DATE	DESCRIPTION
		ISSUE

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE C
CONSTRUCTION BMPS 2 OF 5
STA 106+00 TO STA 122+00

PROJ NO: 11110062
DRWN: DFG CHKD: DFC

ECP-011

SHEET 11 OF 14

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WATERFRONT TRAIL - PHASE C - STA 122+00 TO STA 127+00 & STA 200+00 TO STA 207+00

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS, WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
2. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
3. UPDATE MAP THROUGHOUT CONSTRUCTION TO SHOW LOCATIONS OF STORAGE ARES FOR WASTE, VEHICLES, SERVICE, LOADING/UNLOADING OF MATERIALS, STAGING, STOCKPILES, CONCRETE WASHOUT, SANITARY FACILITIES, ACCESS (ENTRANCE/EXIT) POINTS TO CONSTRUCTION SITE, FUELING, WATER STORAGE, WATER TRANSFER FOR DUST CONTROL AND COMPACTION, AND ANY ADDITIONAL BMPs REQUIRED TO COMPLY WITH THE GENERAL PERMIT.
4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SE-1 SILT FENCE (SE-1)
- SE-5 STRAW WATTLE SEDIMENT BARRIER (SE-5)
- PAVED AREA IF NOT PAVED, PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)
- T-1 T-2 STABILIZED CONSTRUCTION ENTRANCE (T-1 & T-2)
- EC-4 NON-NATIVE PASTURE MIX (EC-4)
- EC-4 NATIVE UPLAND MIX (EC-4)
- EC-4 WETLAND PLUG MIX (EC-4)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
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EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
SE-2 SEDIMENT BASIN
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-8 SANDBAG BARRIER
SE-9 STRAW BALE BARRIER
SE-10 STORM DRAIN INLET PROTECTION
SE-11 ACTIVE TREATMENT SYSTEMS
SE-12 TEMPORARY SILT DIKE
SE-13 COMPOST SOCKS AND BERMS
SE-14 BIOFILTER BAGS

NON-STORM WATER MANAGEMENT BMPs
NS-1 WATER CONSERVATION PRACTICES
NS-2 DEWATERING OPERATIONS
NS-3 PAVING AND GRINDING OPERATIONS
NS-4 TEMPORARY STREAM CROSSING
NS-5 CLEAR WATER DIVERSION
NS-6 ILLICIT CONNECTION/DISCHARGE
NS-7 POTABLE WATER/IRRIGATION
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-11 PILE DRIVING OPERATIONS
NS-12 CONCRETE CURING
NS-13 CONCRETE FINISHING
NS-14 MATERIAL AND EQUIPMENT USE
NS-15 DEMOLITION ADJACENT TO WATER
NS-16 TEMPORARY BATCH PLANTS

WASTE MANAGEMENT & MATERIALS POLLUTION CONTROL BMPs
WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL PREVENTION AND CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-6 HAZARDOUS WASTE MANAGEMENT
WM-7 CONTAMINATED SOIL MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

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0 1"

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MARK	DATE	DESCRIPTION
		ISSUE

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

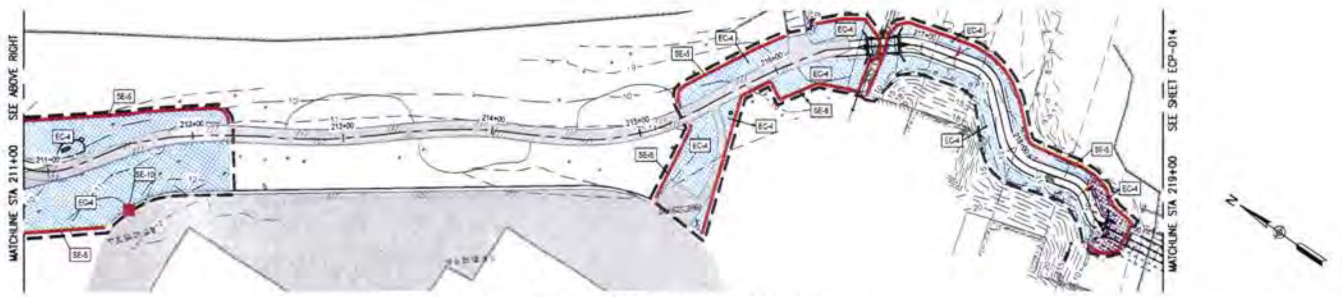
PHASE C
CONSTRUCTION BMPS 3 OF 5
STA 122+00 TO STA 127+00, STA 200+00 TO STA 207+00

PROJ NO	11110062		
DRWN	DFG	CHKD	DFC

ECP-012

SHEET 12 OF 14

WATERFRONT TRAIL - PHASE C - STA 207+00 TO STA 211+00



WATERFRONT TRAIL - PHASE C - STA 211+00 TO STA 219+00

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS, WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
2. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
3. UPDATE MAP THROUGHOUT CONSTRUCTION TO SHOW LOCATIONS OF STORAGE ARES FOR WASTE, VEHICLES, SERVICE, LOADING/UNLOADING OF MATERIALS, STAGING, STOCKPILES, CONCRETE WASHOUT, SANITARY FACILITIES, ACCESS (ENTRANCE/EXIT) POINTS TO CONSTRUCTION SITE, FUELING, WATER STORAGE, WATER TRANSFER FOR DUST CONTROL AND COMPACTION AND ANY ADDITIONAL BMPs REQUIRED TO COMPLY WITH THE GENERAL PERMIT.
4. SEE BMP FACT SHEETS IN SWPPP APPENDIX J.

LEGEND

- LIMIT OF DISTURBANCE
- DIRECTION OF SURFACE RUNOFF
- SILT FENCE (SE-1)
- STRAW WATTLE SEDIMENT BARRIER (SE-5)
- PAVED AREA. IF NOT PAVED: PROVIDE BMPs AS REQUIRED TO COMPLY WITH GENERAL PERMIT
- STORM WATER SAMPLING LOCATION (SWSL No. #)
- DRAINAGE INLET PROTECTION (SE-10)
- STABILIZED CONSTRUCTION ENTRANCE (T-1 & T-2)
- NON-NATIVE PASTURE MIX (EC-4)
- NATIVE UPLAND MIX (EC-4)
- WETLAND PLUG MIX (EC-4)

BMP KEY

EROSION CONTROL BMPs
EC-1 SCHEDULING
EC-2 PRESERVATION OF EXISTING VEGETATION
EC-3 HYDRAULIC MULCH
EC-4 HYDROSEEDING
EC-5 SOIL BINDERS
EC-6 STRAW MULCH
EC-7 GEOTEXTILES & MATS
EC-8 WOOD MULCHING
EC-9 EARTH DIKES AND DRAINAGE SWALES
EC-10 VELOCITY DISSIPATION DEVICES
EC-11 SLOPE DRAINS
EC-12 STREAMBANK STABILIZATION
EC-14 COMPOST BLANKETS
EC-15 SOIL PREPARATION / ROUGHENING
EC-16 NON-VEGETATIVE STABILIZATION

WIND EROSION CONTROL BMPs
WE-1 WIND EROSION CONTROL

TEMPORARY SEDIMENT CONTROL BMPs
SE-1 SILT FENCE
SE-2 SEDIMENT BASIN
SE-3 SEDIMENT TRAP
SE-4 CHECK DAM
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
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WM-9 SANITARY/ SEPTIC WASTE MANAGEMENT
WM-10 LIQUID WASTE MANAGEMENT

TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
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0 1"

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MARK	DATE	DESCRIPTION
ISSUE		

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)

PHASE C
CONSTRUCTION BMPS 4 OF 5
STA 207+00 TO STA 219+00

PROJ NO: 11110062
DRWN: DFO CHKD: DFC

ECP-013

SHEET 13 OF 14

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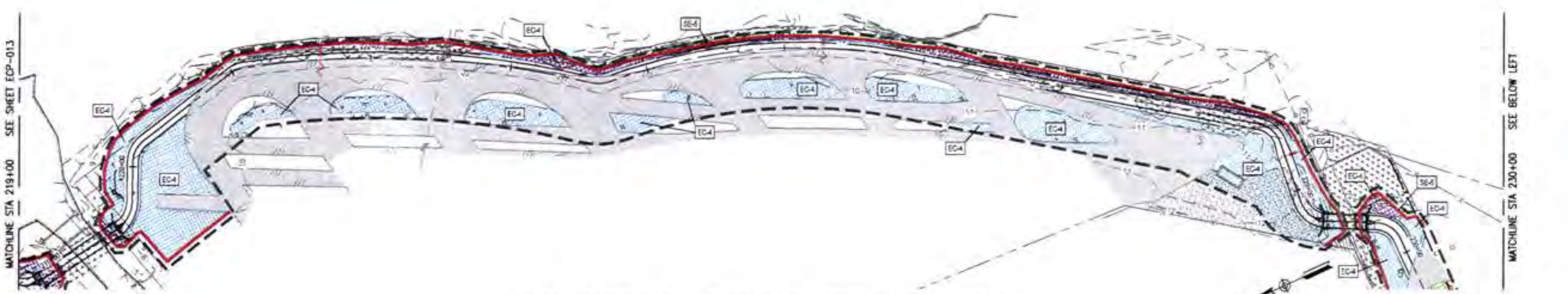
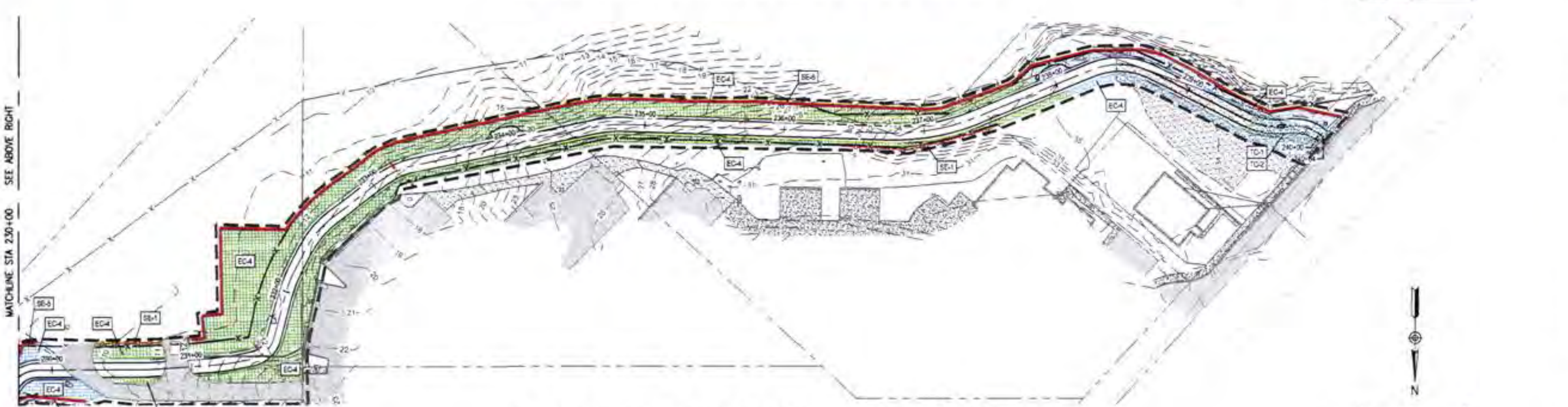


WATERFRONT TRAIL - PHASE C - STA 219+00 TO STA 230+00



WATERFRONT TRAIL - PHASE C - STA 230+00 TO END OF PHASE C

GENERAL NOTES

1. THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE A MINIMUM BEST MANAGEMENT PRACTICE. THE CONTRACTOR MAY BE REQUIRED TO TAKE ADDITIONAL EROSION CONTROL MEASURES TO ENSURE THAT NO SEDIMENT LADEN WATER EXITS THE SITE OR ENTERS THE EXISTING STORMWATER SYSTEMS. BMPS ARE TO BE EMPLOYED AS APPROPRIATE TO MINIMIZE EROSION AND PREVENT SEDIMENT DISCHARGE FROM THE SITE IN THE EVENT OF SUMMER RAINSTORMS, WHEN RAINFALL IS FORECAST, OR AT THE LATEST BY OCTOBER 15TH AND UNTIL APRIL 15TH.
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TEMPORARY TRACKING CONTROL BMPs
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-2 STABILIZED CONSTRUCTION ROADWAY
TC-3 ENTRANCE/OUTLET TIRE WASH

City of Eureka
Eureka Waterfront Trail
SWPPP SITE MAPS (EROSION CONTROL PLAN)
PHASE C
CONSTRUCTION BMPS 5 OF 5
STA 219+00 TO END OF PHASE C

PROJ NO 11110062
ECP-014
SHEET 14 OF 14

GHD Inc.

CITY OF EUREKA PARKS AND RECREATION DEPARTMENT
1011 Waterfront Drive • Eureka, California 95501-1146 • (707) 441-4241

January 21, 2016

Cristin Kenyon, Coastal Planner
California Coastal Commission North Coast District Office
1385 8th Street, Suite 130
Arcata, CA 95501

Subject: Sea Level Rise Analysis for the Eureka Waterfront Trail Project

Dear Ms. Kenyon,

City staff has analyzed the proposed effect of sea level rise (SLR) on the Eureka Waterfront Trail. The City utilized Northern Hydrology and Engineer's 2014 data to estimate the anticipated sea level rise of Humboldt Bay. The scenario utilizes projections for relative SLR at the North Spit tide gage.

Utilizing Northern Hydrology and Engineer's 0.5 meter projection, the relative tide level would be a 9.6' (NAVD88) tide. The entire length of the trail is at or above a 10' (NAVD88) tide. The time forecasts established by this data predict low, medium and high projections. The low projection for SLR to reach the 0.5 meter increase is 2088. The medium projection is 2066. The high projection is 2045.

The California Coastal Commission's Sea Level Rise Policy (2015) provides guidance for life expectancy of proposed projects. The proposed Eureka Waterfront Trail Project does not have a specified design life. So the City has chosen to use the Coastal Commission's recommended ranges as a time frame. According to the Policy, "temporary structures, ancillary development, amenity structures, or moveable or expendable construction may identify a relatively short expected life such as 25 years or less. Residential or commercial structures will likely be around for some time, so a time frame of 75 to 100 may be appropriate." The City considers this development to be closer to ancillary development than commercial development. So the life expectancy is closer to a 25 year life expectancy than 75 years.

Northern Hydrology and Engineer's most conservative estimate for SLR to reach just below (9.6') the level of any portion of the project would provide a minimum life expectancy of 28 years. Using the data's low projection, it would provide a life expectancy of over 60 years.

EXHIBIT NO. 10
Application No. 1-15-2054
City of Eureka
SEA LEVEL RISE ANALYSIS & MAPPING
Page 1 of 3

As you can see from the attached map of Eureka Waterfront Trail and Sea Level Rise Predictions (*see* **attached exhibit**), all of the data referenced above was taken into consideration during the design phase of the project. For instance, the boardwalk could have been designed with a soffit elevation of 8.6' to accommodate the 2015 king tide. Instead, the soffit elevation was design at 10' to accommodate the projected future sea level rise. Likewise, all of the bridges and trail alignment for the project have been designed specifically to accommodate project future sea level rise elevations instead of being designed for current tidal elevations.

The California Coastal Commission's Sea Level Rise Policy also provides guidance regarding Adaptive Capacity. The areas of the project that are most closely bordering the projected inundation area can successfully adapt to sea level rise impacts. The lowest level of development for the project occurs alongside the boardwalk across the salt marsh behind the Blue Ox. Another area where the inundation map appears to be close to affecting the trail alignment is adjacent to Clark Slough on the Balloon Track. When SLR becomes an issue in these location, the City can relocate the alignment of the trail.

In the case of the boardwalk, the City has a license agreement in place with the North Coast Railroad Authority for the entire railroad corridor from Truesdale to the Eureka Slough Bridge. The City also owns a paper street that extends from V Street to the proposed trail. When the Bay submerges the alignment along the boardwalk, the City can relocate the trail to extend from the Eureka Slough Bridge to V Street along the railroad corridor and up the V Street paper street connecting with the Waterfront Trail (*see* **attached exhibit**).

In the case of the trail adjacent to Clark Slough, the City can relocate the trail to go towards Waterfront Drive into the City's right-of-way. The trail could then go along Waterfront Drive and connect back to the Waterfront Trail (*see* **attached exhibit**)

It can be safely assumed that no critical facilities will be linked to the trail project. Construction of the Trail will not put habitable structures and business at risk. As referenced above, it can also be assumed that the trail may have to be relocated in some areas as the sea level rises. However, at some point, the Trail will be abandoned when it is completely submerged by the Bay. Nevertheless, the Waterfront Trail is a worthy project that will provide much needed formalized and managed public access to Humboldt Bay.

Sincerely,

Miles Slattery
Parks and Recreation Director


Scale: 1" = 2000'
0 1,000 2,000 4,000 Feet
Legend
Waterfront Trail: Proposed
Projected 0.5 Meter Sea Level Rise
Waterfront Trail: SLR Relocation
Bridge
Boardwalk
Eureka Waterfront Trail and Sea Level Rise Predictions
Date: 1/19/2016
Created By: rtopolewski

Trail Projects Currently in Development

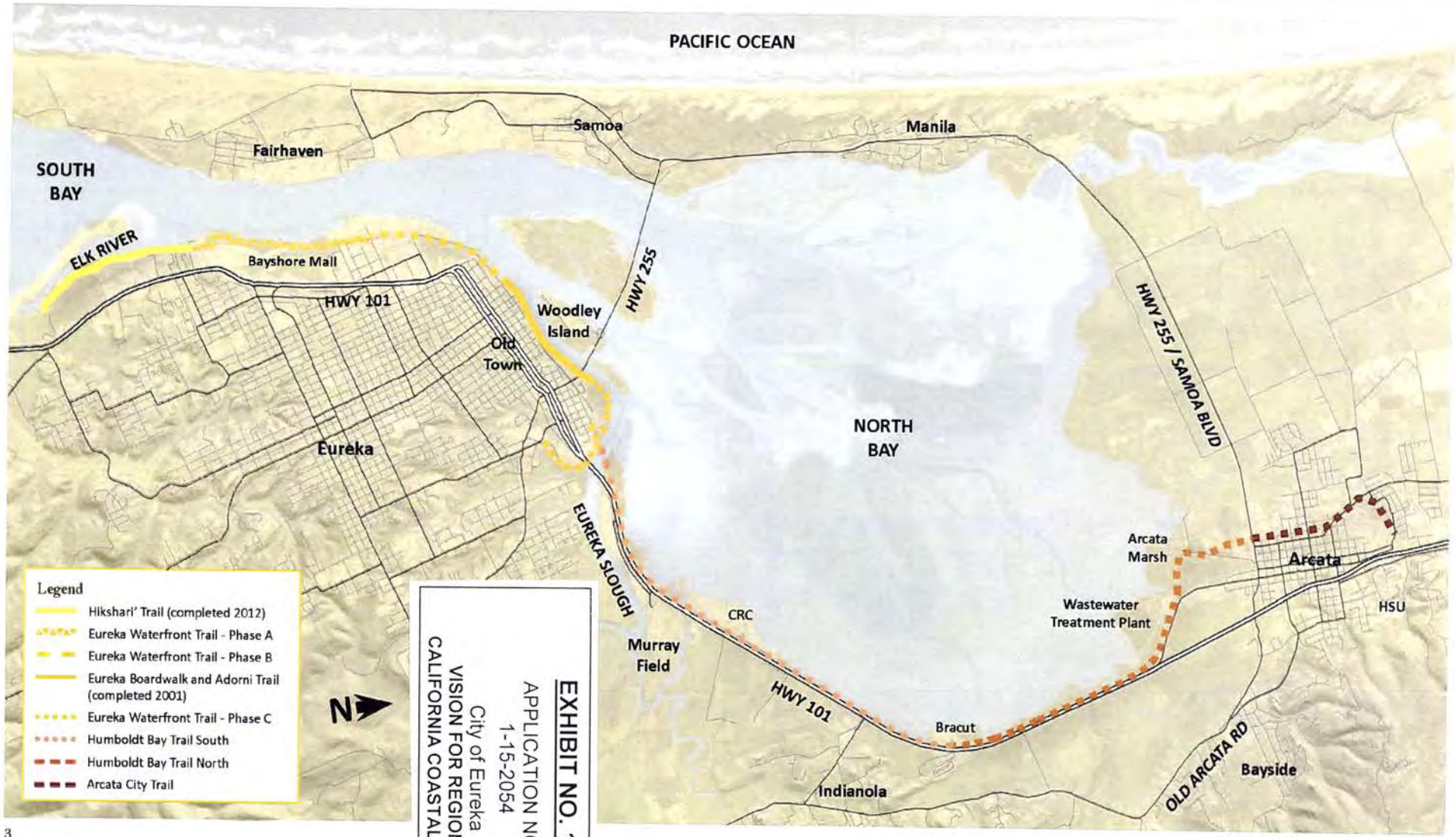


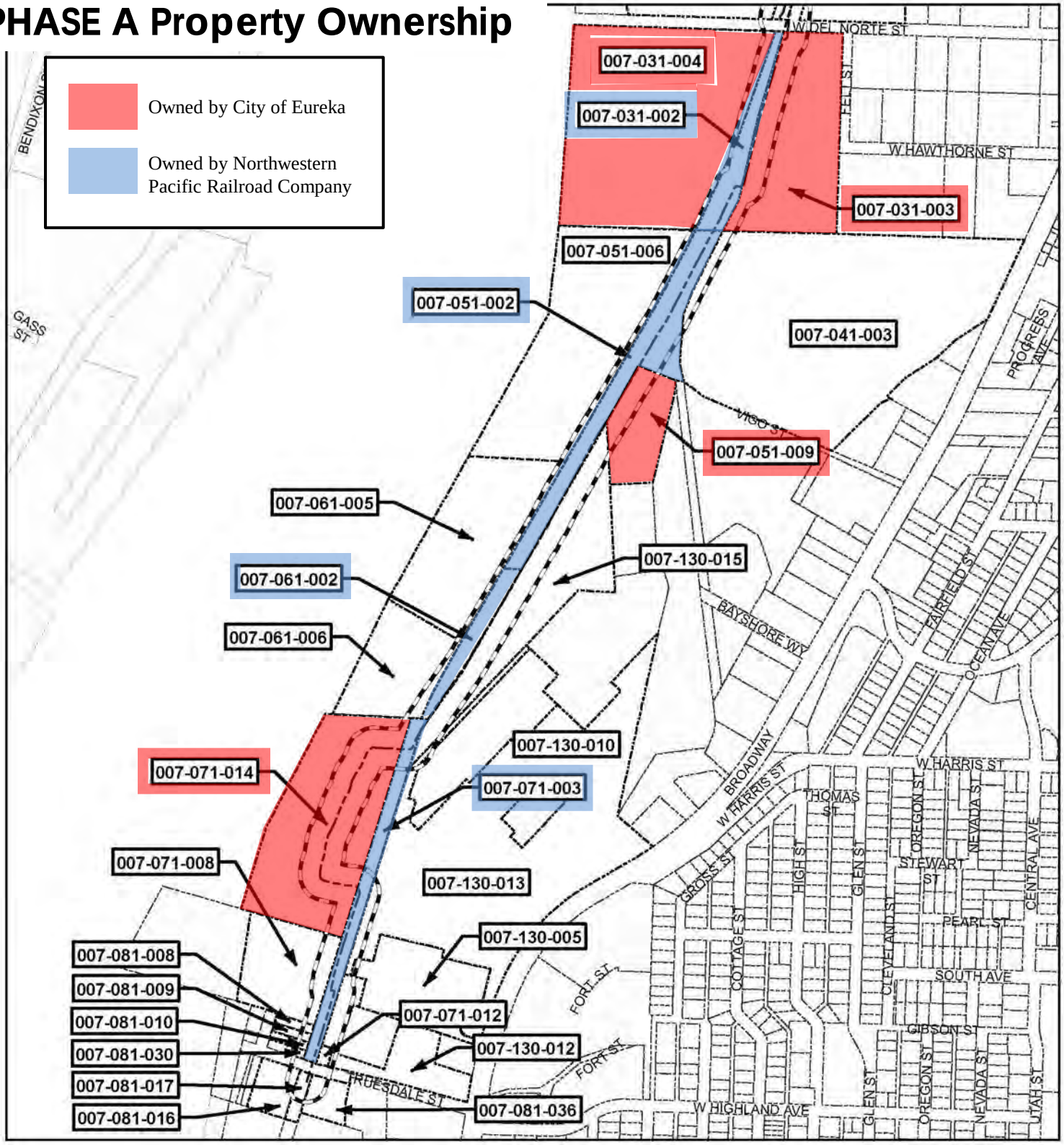
EXHIBIT NO. 11
APPLICATION NO.
1-15-2054
City of Eureka
VISION FOR REGIONAL
CALIFORNIA COASTAL TRAIL

[Created by GHD (June 2014) *The Humboldt Bay Trail: Project Update*]

Trail Segment	APNs	Property Owners
Phase A	007-031-002	Northwestern Pacific Railroad Company
	007-031-003	City of Eureka
	007-031-004	City of Eureka
	007-051-002	Northwestern Pacific Railroad Company
	007-051-009	City of Eureka
	007-061-002	Northwestern Pacific Railroad Company
	007-071-003	Northwestern Pacific Railroad Company
	007-071-014	City of Eureka
Phase B	001-011-010	City of Eureka
	001-013-011	Northwestern Pacific Railroad Company
	001-014-002	CUE VI LLC
	001-014-003	City of Eureka
	003-021-008	City of Eureka
	003-021-009	CUE VI LLC
	003-031-002	City of Eureka
	003-031-006	CUE VI LLC
	003-041-007	CUE VI LLC
	003-051-001	CUE VI LLC
	003-062-024	Travis Schneider
	003-072-003	CUE VI LLC
	003-082-006	City of Eureka
	003-082-021	Northwestern Pacific Railroad Company
	003-082-022	Northwestern Pacific Railroad Company
Phase C	002-191-025	Salvation Army
	002-191-032	City of Eureka
	002-191-035	Open Door Community Health Centers
	002-201-008	Target Corporation
	002-231-002	Northwestern Pacific Railroad Company
	002-231-004	City acquiring for mitigation site
	002-231-008	Security National Commercial LLC
	002-231-009	Security National Commercial LLC
	002-231-010	City of Eureka
	002-231-012	City of Eureka
	002-231-013	Security National Commercial LLC
	002-231-021	City tidelands
	002-252-028	Travis Schneider

EXHIBIT NO. 12
APPLICATION NO.
1-15-2054
City of Eureka
PROPERTY OWNERSHIP
1 of 5

PHASE A Property Ownership

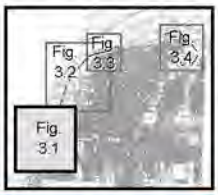


Trail Alignment

100 foot buffer from trail alignment

Parcels within 100 feet of trail alignment

Parcels beyond 100ft of trail alignment



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Feet
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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase

CDP Application
APN Maps - Phase A

Job Number 8411641.13
Revision A
Date 11 Sep 2015

Figure 3.1

rd Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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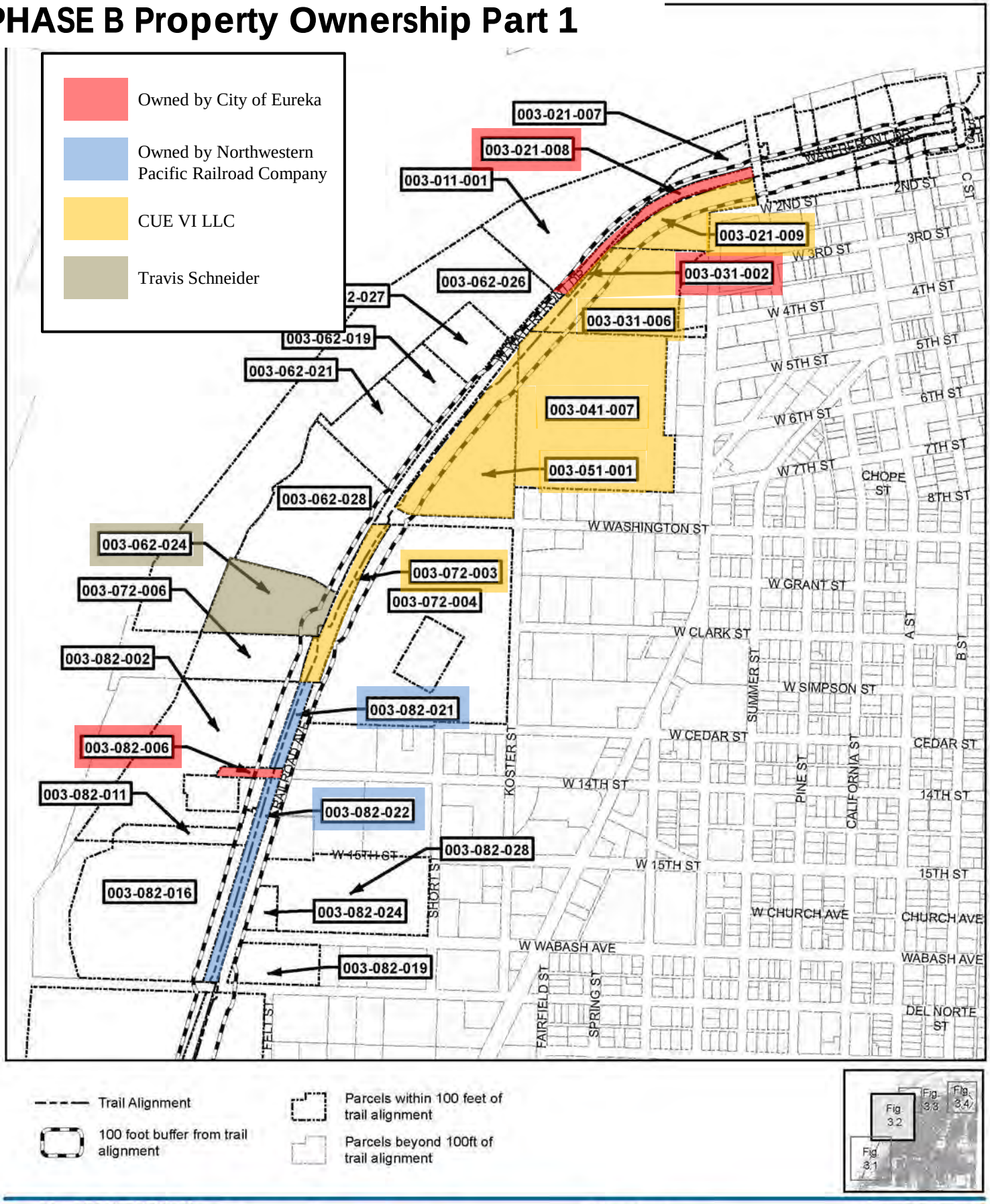
Data source: City of Eureka GIS: parcel layer. Created by:gldavidson

PHASE B Property Ownership Part 1



Trail Alignment

100 foot buffer from trail alignment

Parcels within 100 feet of trail alignment

Parcels beyond 100ft of trail alignment

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Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail

CDP Application
APN Maps - Phase B

Job Number 8411641.13
Revision A
Date 11 Sep 2015

Figure 3.2

rd Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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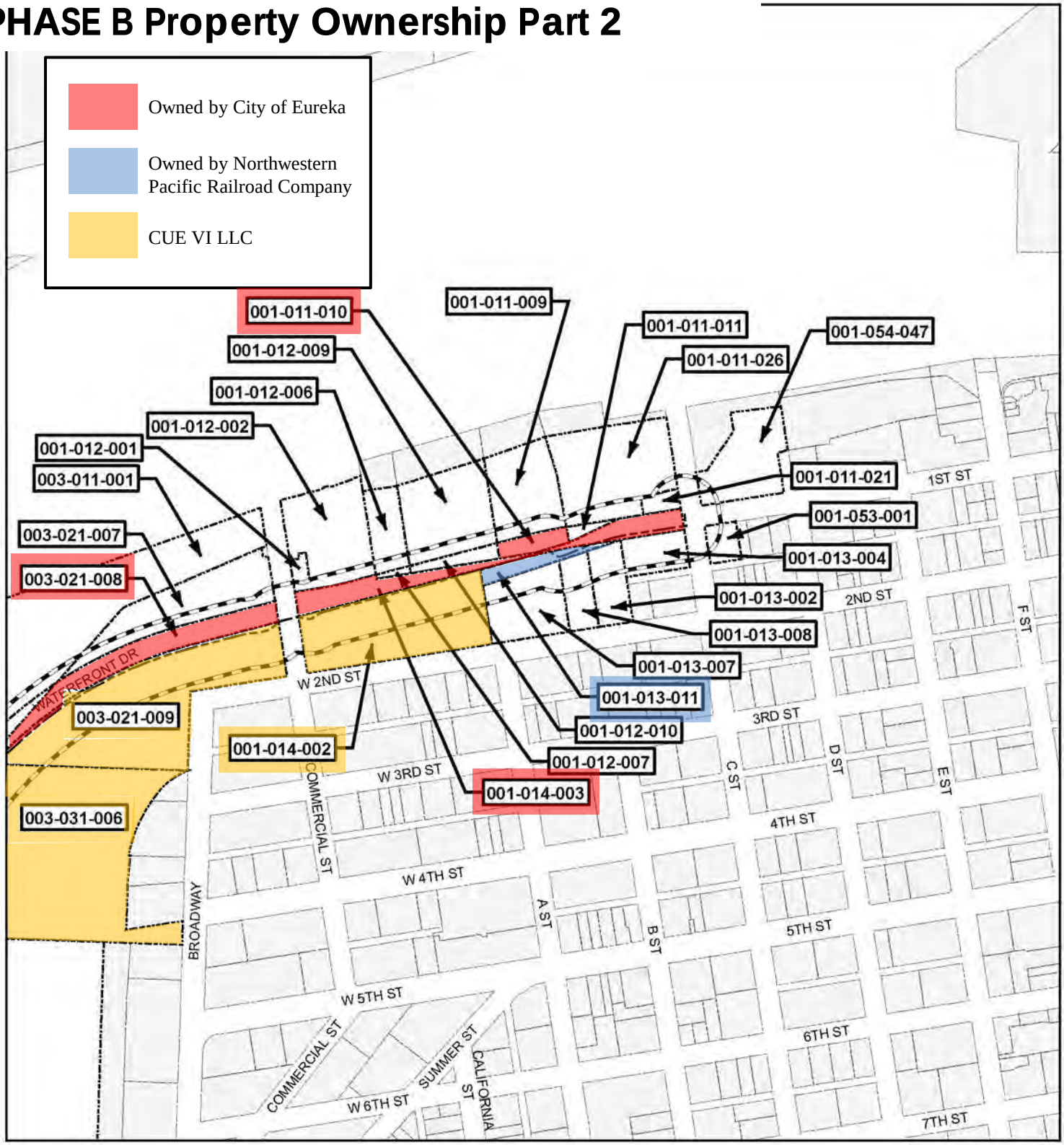
Data source: City of Eureka GIS: parcel layer. Created by:gldavidson

PHASE B Property Ownership Part 2



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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail

CDP Application
APN Maps - Phase B

Job Number 8411641.13
Revision A
Date 11 Sep 2015

Figure 3.3

rd Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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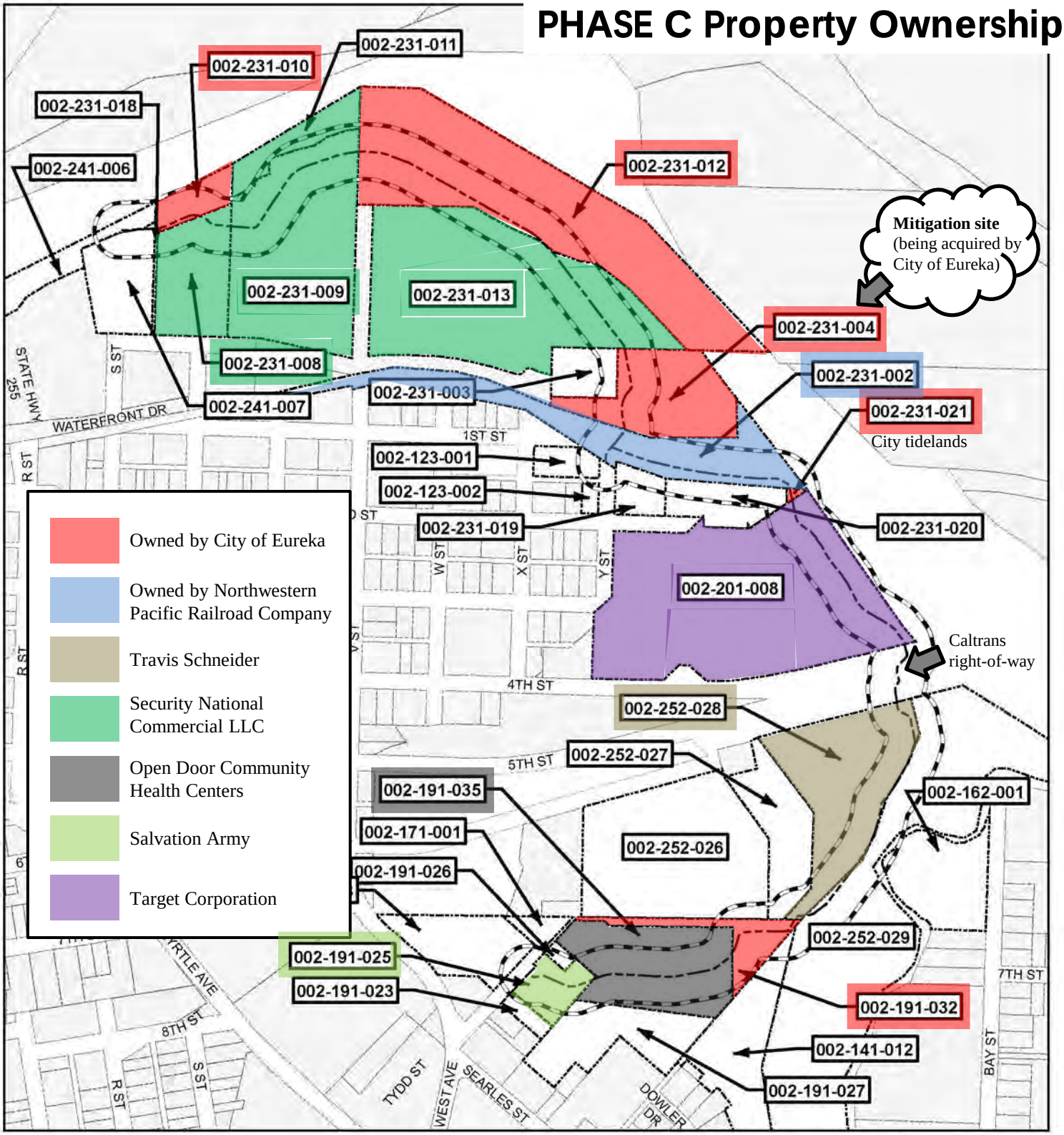
Data source: City of Eureka GIS: parcel layer. Created by:gldavidson

PHASE C Property Ownership

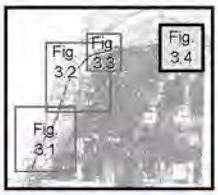


Trail Alignment

100 foot buffer from trail alignment

Parcels within 100 feet of trail alignment

Parcels beyond 100ft of trail alignment



Paper Size 8.5" x 11" (ANSI A)
0 100 200 300 400 500
Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail

CDP Application
APN Maps - Phase C

Job Number 8411641.13
Revision A
Date 11 Sep 2015

Figure 3.4

ird Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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