The project's water demands would not be substantial and could be met by existing entitlements and resources. Therefore, the project would not result in the need for the construction of new water facilities, or the expansion of existing facilities. A less than significant impact would occur.

f, g) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs, and comply with federal, state, and local statutes and regulations related to solid waste? (Less than Significant)

The solid waste provider in the project area is the Humboldt Waste Management Authority (HWMA). The project is not expected to generate a significant increase of services for solid waste disposal needs. The proposed trail would generate limited solid waste during construction and even less during operation. Construction solid waste would include the one-time temporary generation of construction waste associated with the proposed development of the trail. Recyclable construction materials (e.g. scrap metal, wood, concrete, glass) could be shipped to local businesses for reuse, with non-recyclable materials sent to the HWMA transfer station in Eureka.

The project may include waste receptacles, spaces for recycling bins, and pet waste stations. The County and City of Eureka have franchise agreements for waste collection in the project area. Solid waste collected as a part of the project would be disposed of at the HWMA. HWMA trucks solid waste produced in the County to State licensed landfills located in Anderson, California and Medford, Oregon in compliance with local, state, and federal regulations pertaining to solid waste disposal. These facilities have sufficient capacity to serve the project's solid waste disposal needs; therefore, a less than significant impact is anticipated.

3.19 Mandatory Findings of Significance

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			✓	
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?			✓	

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (Less than Significant with Mitigation)

As evaluated in this IS/MND, the project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

Mitigation measures are listed herein to reduce impacts related to biological resources, cultural resources, hazards and hazardous materials (related to releases that may impact biological resources), and tribal cultural resources. With implementation of the required mitigation measures, impacts would be less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (Less than Significant)

Cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

As discussed in Section 3.10 Land Use and Planning, the project is consistent with the goals and policies of the Humboldt County LCP and General Plan and City of Eureka General Plan. The Humboldt Bay Trail project has also been identified as a high-priority regional project by the HCAOG for many years, and when completed, the trail would become a component of the California Coastal Trail providing non-motorized transportation, recreation and coastal access opportunities for the public.

The project's impacts would not add appreciably to any existing or foreseeable future significant cumulative impact, such as visual quality, cultural resources, biological, traffic impacts, or air quality degradation. Incremental impacts, if any, would be negligible and undetectable. Any applicable cumulative impacts to which this project would contribute would be mitigated to a less-than-significant level. Incremental impacts, if any, would be very small, and the cumulative impact would be less than significant. Because the proposed project would not result in significant impacts after mitigation, and because the proposed project is a trail project rather than a development project that could add to existing and future population growth and development in the area, the proposed project would not contribute to any significant cumulative impacts which may occur in the area in the future. Therefore, the impact would be less than significant.

c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? (Less than Significant)

The project has been planned and designed to avoid significant environmental impacts. As discussed in the analysis throughout Section 3 of this IS/MND, the project would not have environmental effects that would cause substantial adverse direct or indirect effects on human beings. The impact is less than significant.

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4. References

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Appendices

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Appendix A Comments on Initial Study
(forthcoming)

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Appendix B Visual Impact Assessment

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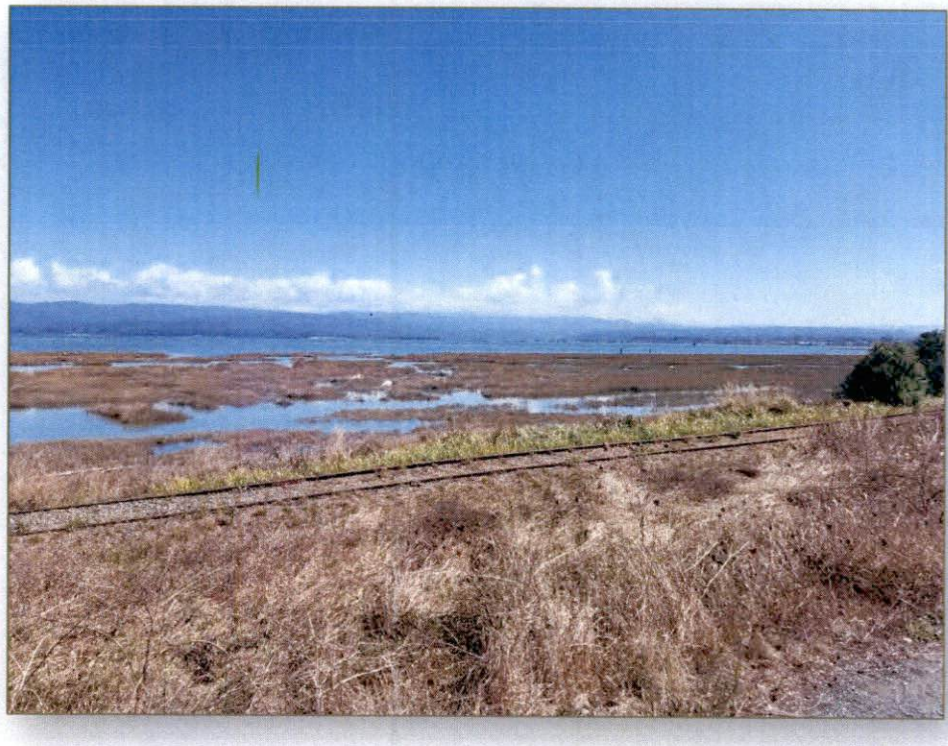
Humboldt Bay Trail South

Visual Resources Impact Assessment

Draft Revision 1



Humboldt County, California

Eureka, *California* and *Arcata South, California* 7.5-Minute Quadrangles, Township 5 North, Range 1 West, Sections 23 and 24; and Township 5 North, Range 1 West, Section 4, 9, 17, and unsectioned portions, respectively

01-HUM-0-CR, Federal Project No. RPSTPL-5904(143)

February 2018

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Humboldt Bay Trail South

Visual Resources Impact Assessment

Humboldt County, California
Eureka, California and *Arcata South, California* 7.5-Minute Quadrangles
Township 5 North, Range 1 West, Sections 23 and 24; and Township 5 North, Range 1 West, Section 4, 9, 17, and unsectioned portions, respectively
February 2018

01-HUM-0-CR
Federal Project No. RPSTPL-5904(143)

STATE OF CALIFORNIA
Department of Transportation, District 1 and
County of Humboldt – Public Works Department

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Humboldt Bay Trail South

Visual Resources Impact Assessment

Contents

Images

Tables

Figures

Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
APN	Assessor's Parcel Number
bgs	below ground surface
BMPs	best management practices
Bracut	Bracut Industrial Center
Caltrans	California Department of Transportation
CCA	California Coastal Act
CCC	California Coastal Commission
CCT	California Coastal Trail
CEQA	California Environmental Quality Act
CISS	cast-in-steel-shell
County	Humboldt County Department of Public Works
CRC	California Redwood Company
FHWA	Federal Highway Administration
Highway 101	U.S. Highway 101
KOP	Key Observation Point
LCP	Local Coastal Program
LAU	Landscape Assessment Unit
MUTCD	Manual of Uniform Traffic Control Devices
NEPA	National Environmental Policy Act
NCRA	North Coast Railroad Authority
NWR	National Wildlife Refuge
project	Humboldt Bay Trail South
ROW	right of way
SR 255	California State Route 255
VAU	Visual Assessment Unit
VIA	Visual Impact Assessment

Chapter 1. Introduction

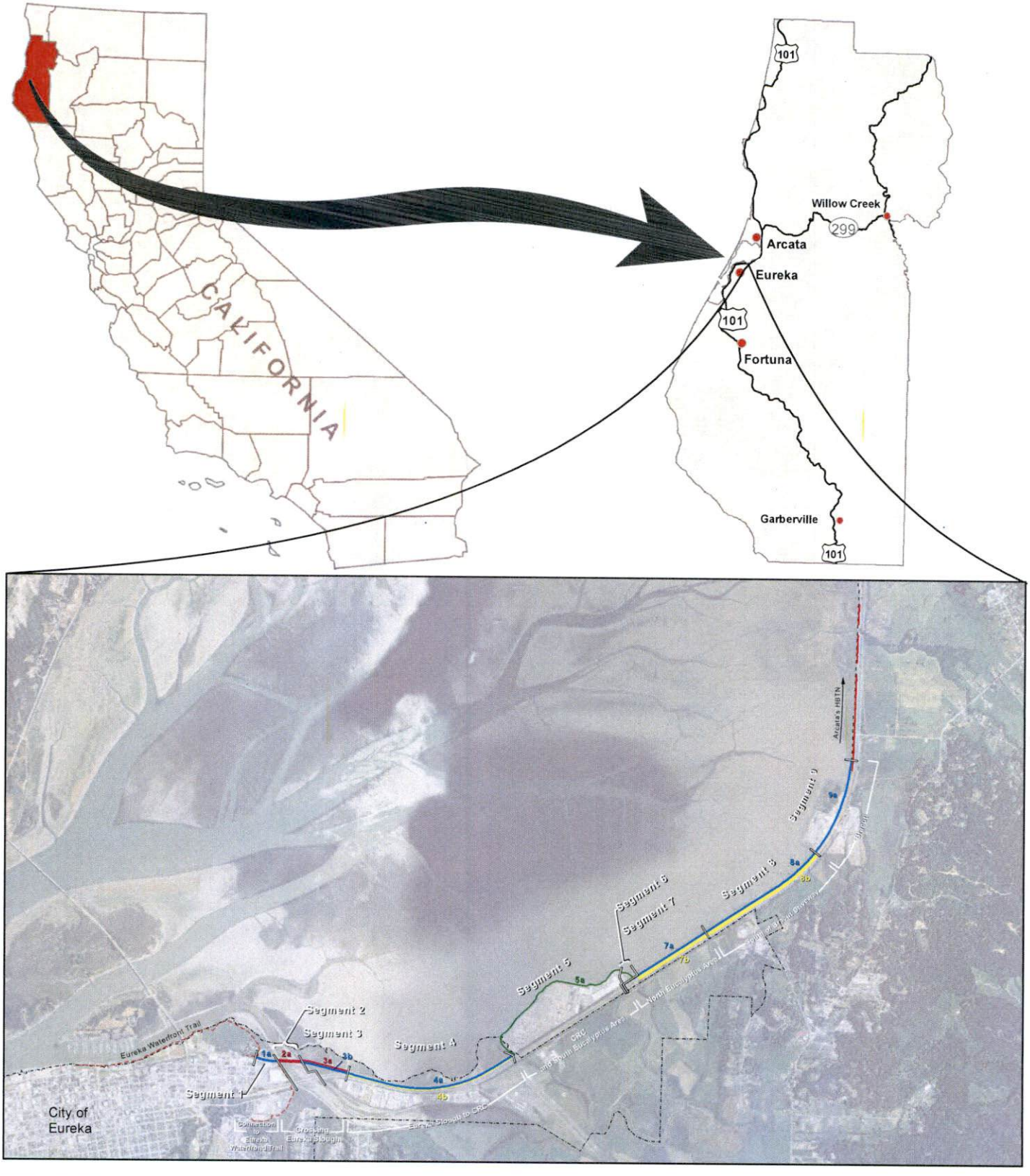
Humboldt County Department of Public Works (County) is proposing to construct a Class I multi-use recreational trail between Bracut and the city of Eureka, Humboldt County, California. The Humboldt Bay Trail South Project (project) would provide the interconnecting link between two other segments of the larger Humboldt Bay Trail system that are currently under construction—the City of Arcata's Bay Trail North and the City of Eureka's Waterfront Trail. The proposed project would be generally aligned in or adjacent to the unused North Coast Railroad Authority (NCRA) railroad corridor that follows the Humboldt Bay coastline immediately west of U.S. Highway 101 (Highway 101). This Visual Resources Impact Assessment (VIA) was prepared to evaluate the effects of the project on the aesthetics and visual resources associated with the proposed trail alignment: provide project design recommendations (i.e., conservation measure), strategies, and features; and act as a technical support document for the project's environmental documents and permits. The existing and post-project visual environments and visual quality of the project area are assessed and the corresponding viewer response to project-related changes anticipated to result from implementation of the proposed project. Cumulative impacts of the project, as a whole, are also discussed.

In accordance with the California Environmental Quality Act (CEQA), visual impacts were assessed using the Appendix G, CEQA Guidelines criteria (Association of Environmental Professionals 2017) and for the purposes of the National Environmental Policy Act (NEPA), the guidance for visual resources set forth by the Federal Highway Administration (FHWA) (Federal Highway Administration 1988) were followed. The project is situated primarily within the state jurisdiction of the Coastal Zone and is subject to the requirements of the California Coastal Act (CCA). This VIA also evaluates the project for consistency with the City of Eureka Local Coastal Program (LCP) (2008a) and the County's certified LCP (1982), and with the goals and policies indicated in the City of Eureka's (2008b) and the County's (2017) general plans.

Chapter 2. Project Location

The project alignment is found in Township 5 North, Range 1 West, Sections 23 and 24 in the *Eureka, California* 7.5-minute U.S. Geological Survey quadrangle and Township 5 North, Range 1 West, Sections 4, 9, 17, and unsectioned portions in the *Arcata South, California* 7.5-minute U.S. Geological Survey quadrangle (Figure 1).

The project area extends from the southern terminus of the City of Arcata's Humboldt Bay Trail North project, located near Brainard Slough (also known as Rocky Gulch) north of the Bracut Industrial Center (Bracut), to the existing Target trail in Eureka, for a total length of approximately 4.2 miles. The majority of the project is proposed to be situated between U.S. Highway 101 (Highway 101) and the NCRA railroad corridor, with a portion located on the perimeter levee along the California Redwood Company's (CRC) property. The project also includes the extension of a cable barrier along Highway 101 from Brainard Slough to Gannon Slough where the highway is adjacent the City of Arcata's Humboldt Bay Trail North project. Figures 2a and 2f illustrates the proposed project alignment.



TRAIL LOCATION TYPE

- NCRA RwT (N of tracks)
- NCRA RwT (S of tracks)
- On Railroad (temporary)
- Highway-with-Trail
- Private (CRC)
- Cable Railing - Humboldt Bay Trail North
- Segment Break

Trail Connections

- Eureka Waterfront Trail
- Humboldt Bay Trail North

Eureka City Limits

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2a Alignment

"Text" Project Reach

Humboldt County Public Works Department
Humboldt Bay Trail - Bay Trail South
(Eureka to Bracut)

Job Number 11110166
Revision B
Date 25 Oct 2017

Vicinity Map

Figure 1

718 Third 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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N

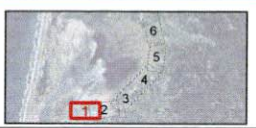
- Key Observation Points (KOPs)
- Area of Potential Effect

Visual Assessment Units (VAUs)

- Connection to Eureka Waterfront Trail
- Crossing Eureka Slough
- Eureka Slough North

Trail Connections

- Existing Eureka Waterfront Trail
- Proposed Eureka Waterfront Trail (Tydd St to Adorni Trail)



Humboldt County Public Works Department
Humboldt Bay Trail - Bay Trail South
(Eureka to Bracut)

Job Number	11110166
Revision	F
Date	13 Feb 2018

Trail Alignment

Figure 2a

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Data source: Aerial: NAIP USDA. Created by: gtdavidson

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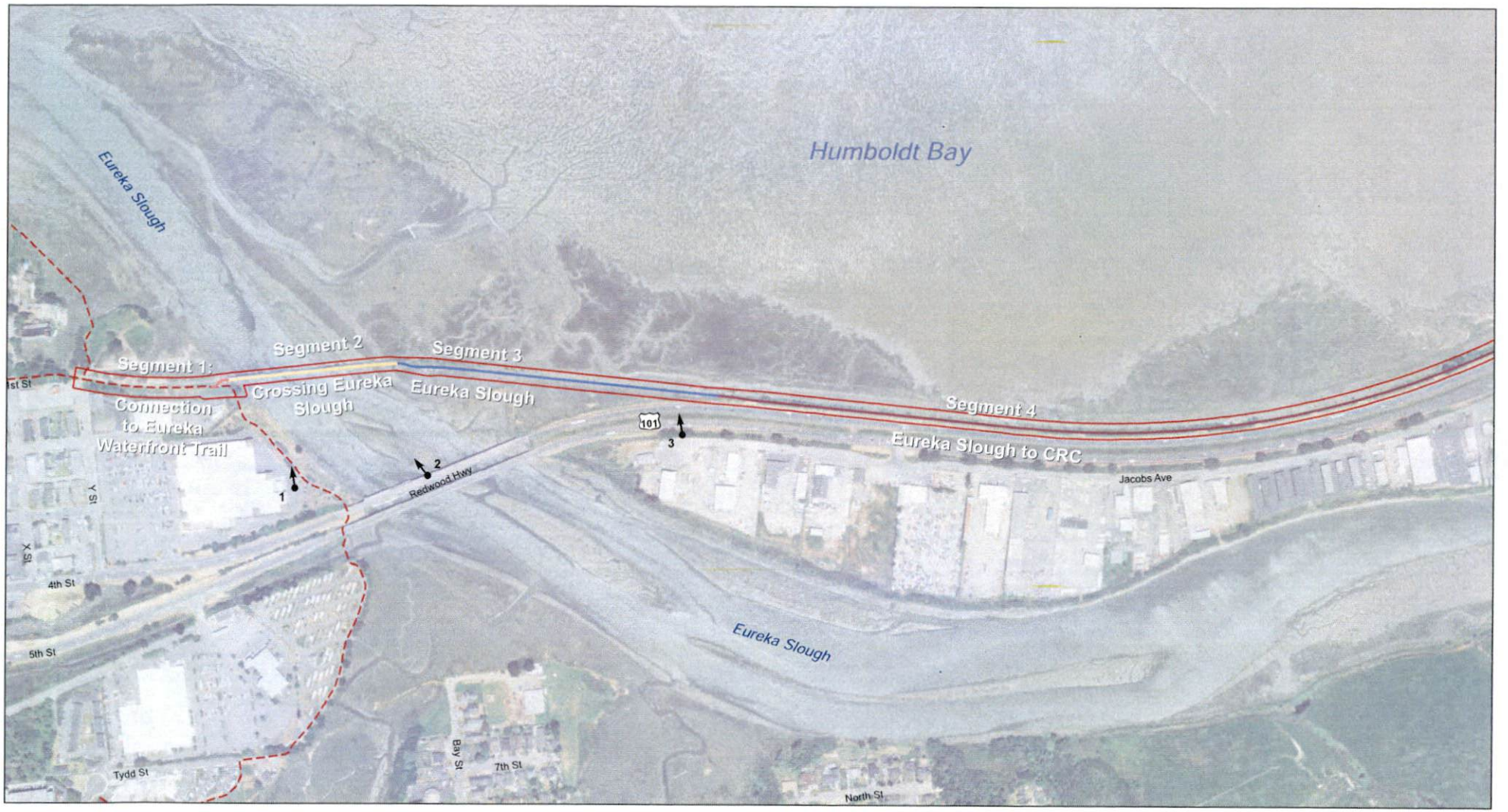

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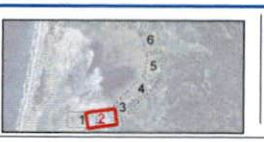
Key Observation Points (KOPs)
Area of Potential Effect

Visual Assessment Units (VAUs)
Connection to Eureka Waterfront Trail
Crossing Eureka Slough
Eureka Slough North
Eureka Slough to CRC

Trail Connections
Proposed Eureka Waterfront Trail (Tydd St to Adorni Trail)



Humboldt County Public Works Department
Humboldt Bay Trail - Bay Trail South
(Eureka to Bracut)

Job Number	11110166
Revision	F
Date	13 Feb 2018

Trail Alignment

Figure 2b

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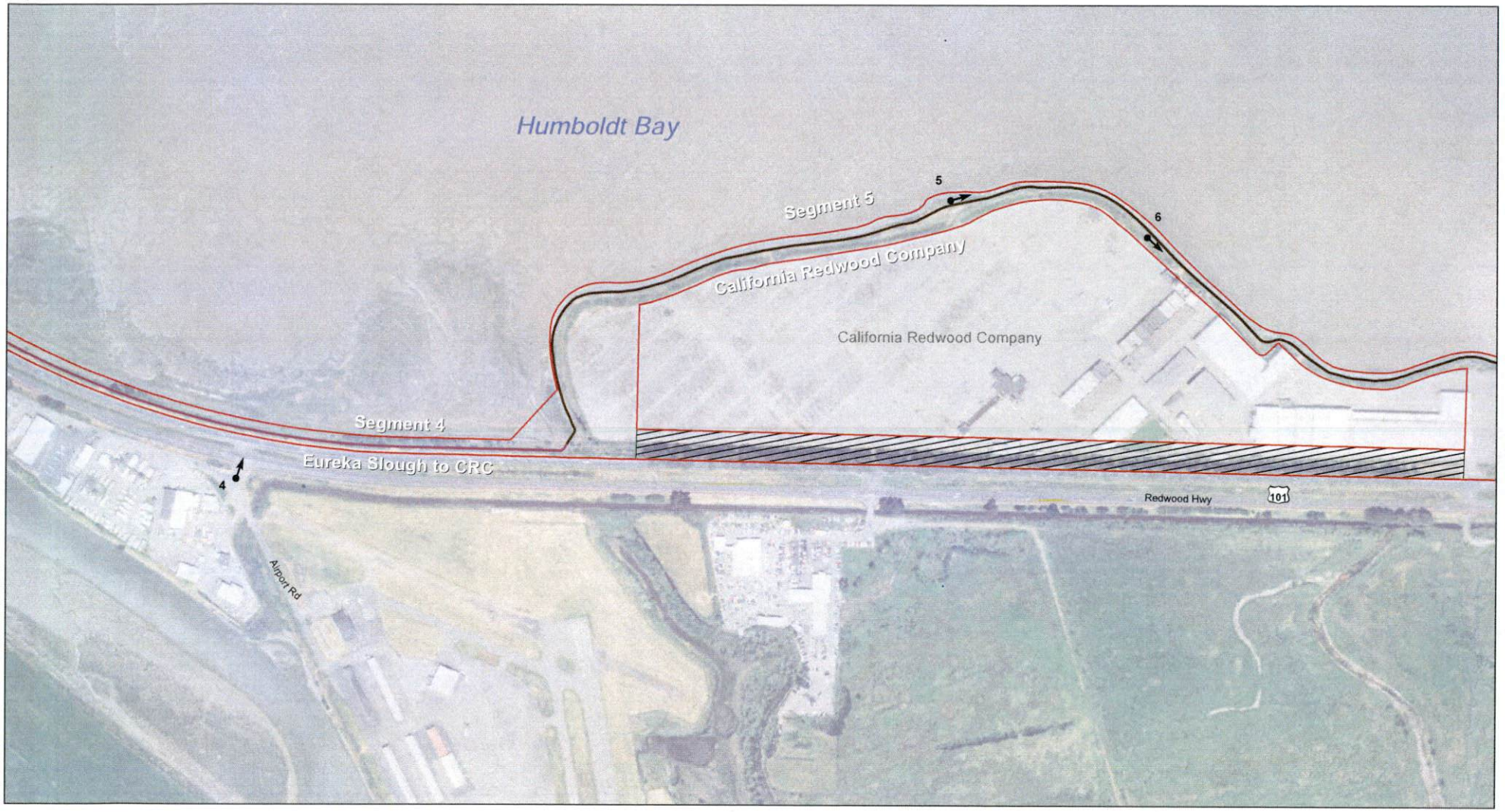
Data source: Aerial: NAIP, USDA. Created by: gldavidson

718 Third 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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Horizontal Datum: North American 1983
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N

- Key Observation Points (KOPs)
- Area of Potential Effect
- Area not assessed in this study

Visual Assessment Units (VAUs)

- California Redwood Company
- Eureka Slough to CRC

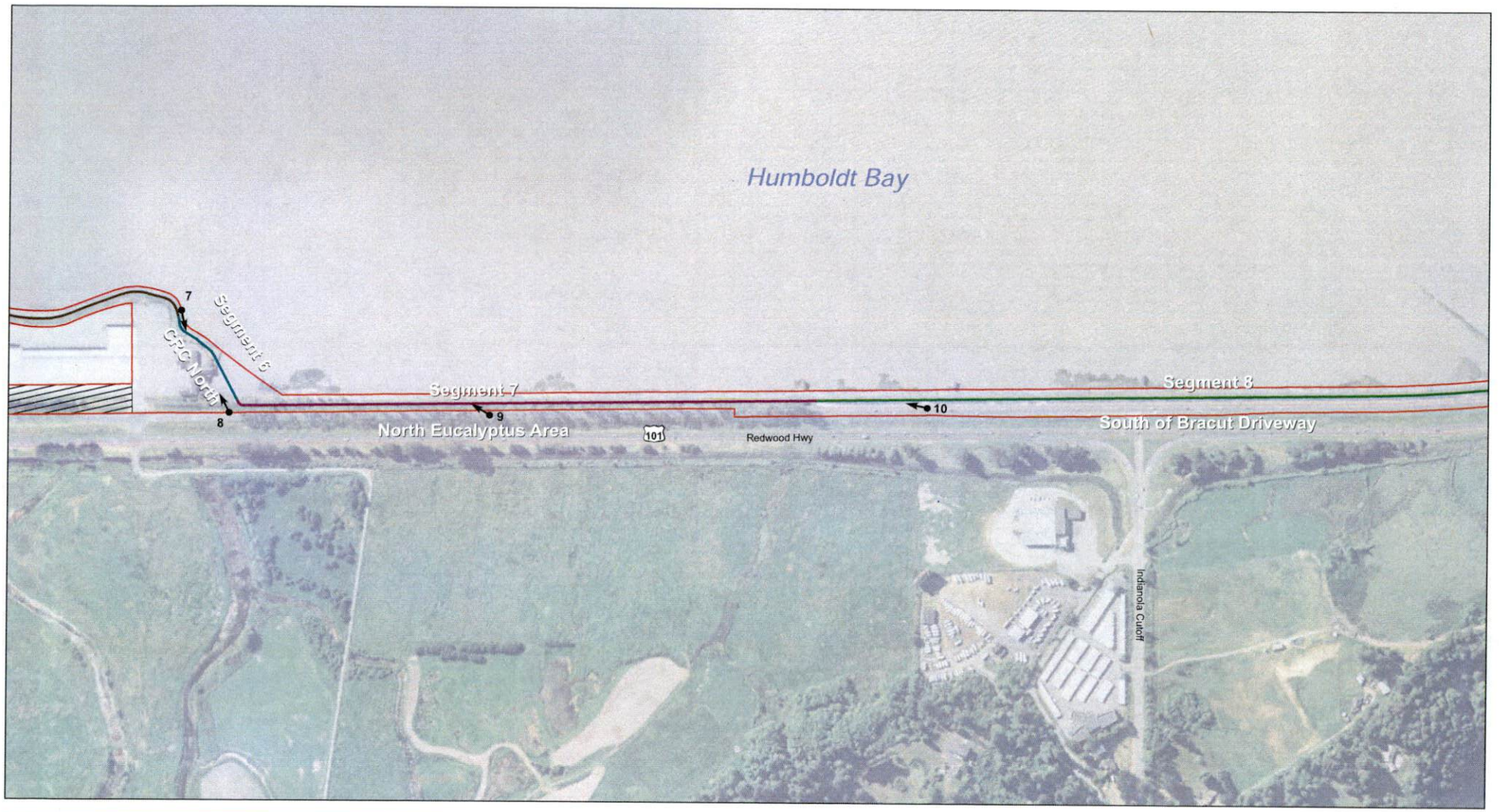
Humboldt County Public Works Department
Humboldt Bay Trail - Bay Trail South
(Eureka to Bracut)

Job Number	11110166
Revision	F
Date	13 Feb 2018

Trail Alignment

Figure 2c

718 Third 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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Reference Scale (1:4800)

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Feet

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

Key Observation Points (KOPs)
Area of Potential Effect
Area not assessed in this study

Visual Assessment Units (VAUs)
CRC North
California Redwood Company
North Eucalyptus Area
South of Bracut Driveway

Humboldt County Public Works Department
Humboldt Bay Trail - Bay Trail South
(Eureka to Bracut)

Job Number	11110166
Revision	F
Date	13 Feb 2018

Trail Alignment

Figure 2d

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Data source: Aerial: NAIP, USDA. Created by: gldavidson

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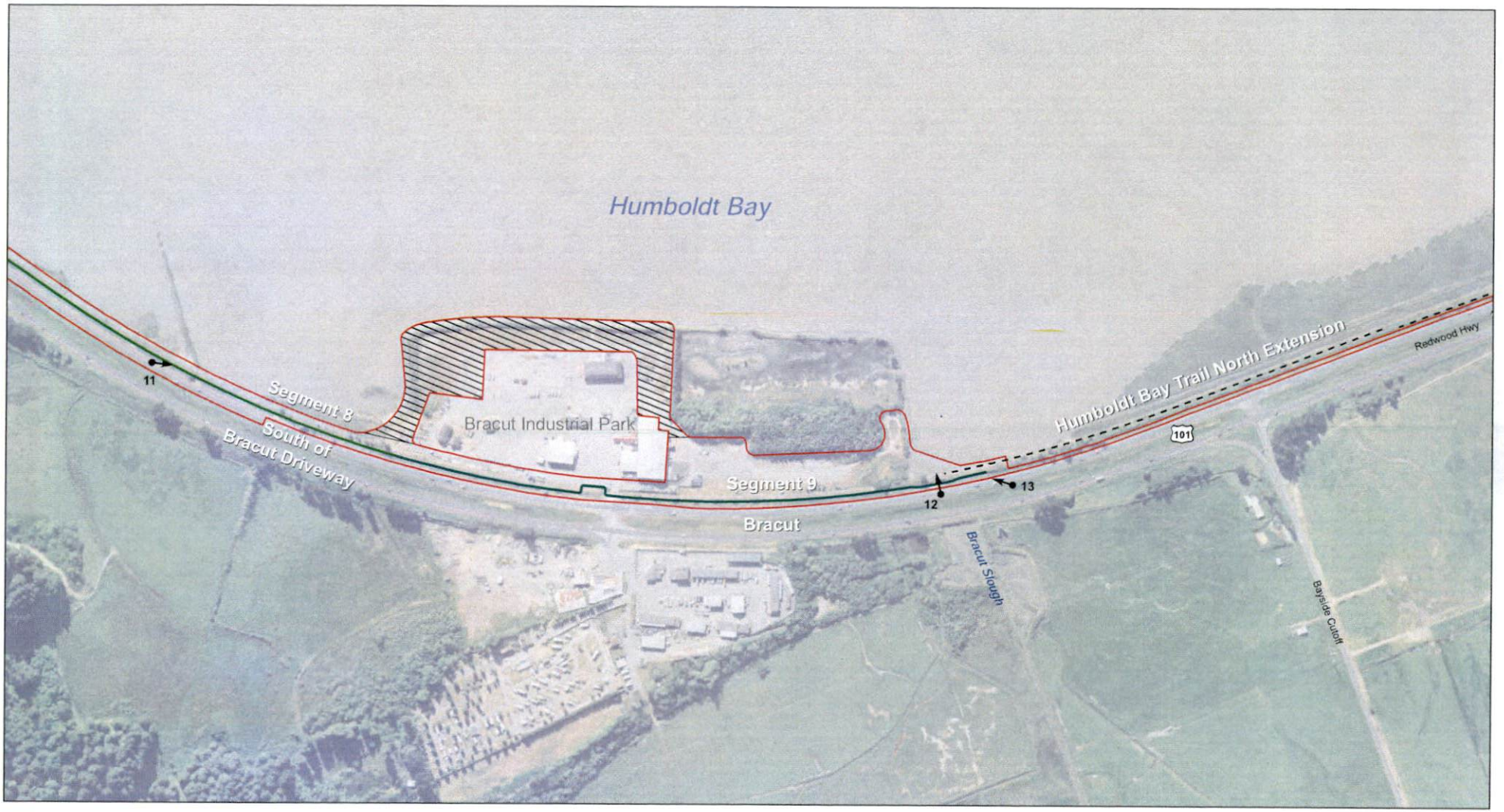

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Key Observation Points (KOPs)

Area of Potential Effect

Area not assessed in this study

Visual Assessment Units (VAUs)

Bracut

South of Bracut Driveway

Trail Connections

Arcata Rail-with-Trail (Bracut to Foster Ave)

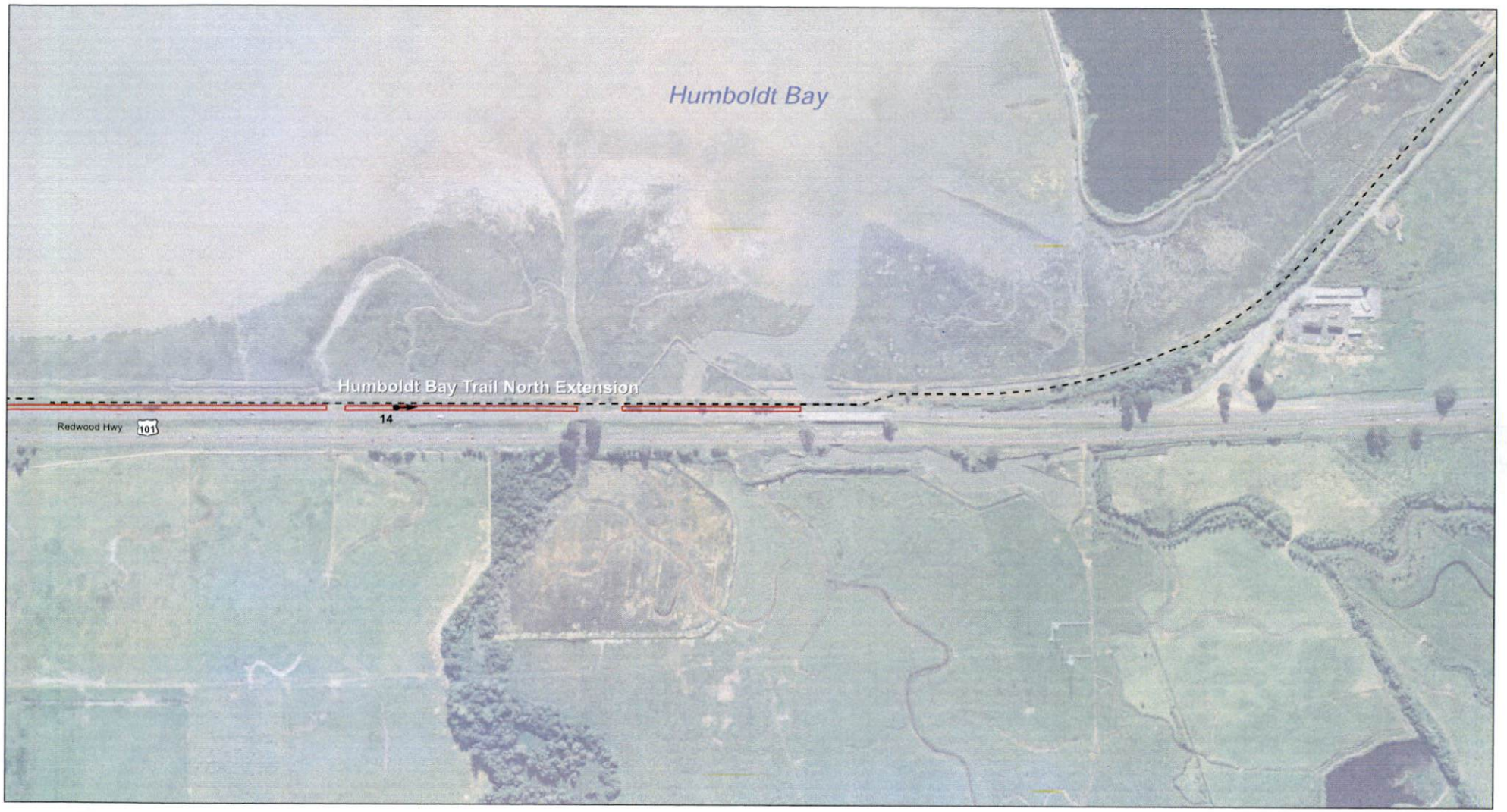
Humboldt County Public Works Department
Humboldt Bay Trail - Bay Trail South
(Eureka to Bracut)

Job Number	11110166
Revision	F
Date	13 Feb 2018

Trail Alignment

Figure 2e

718 Third 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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N

Key Observation Points (KOPs)

Area of Potential Effect

Trail Connections

Arcata Rail-with-Trail (Bracut to Foster Ave)

Humboldt County Public Works Department
Humboldt Bay Trail - Bay Trail South
(Eureka to Bracut)

Job Number	11110166
Revision	F
Date	13 Feb 2018

Trail Alignment

Figure 2f

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Data source: Aerial: NAIP USDA. **Created by: gldavidson**

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Chapter 3. Project Description

3.1. Project Background

A non-motorized trail between Eureka and Arcata has been identified as a community priority for over 20 years in multiple surveys, workshops, meetings, and planning documents. The proposed project is part of the proposed Class I multi-use trail, with several segments of the Humboldt Bay Trail already completed or in construction, the proposed 4.2 mile Humboldt Bay Trail South Project would be the keystone project of the overall Humboldt Bay Trail system which when complete will result in a continuous 13-mile-long non-motorized trail from Sunset Avenue in Arcata, to Hikshari' Trail in Eureka. Once complete the trail would become a component of the California Coastal Trail. The Humboldt Bay Trail was identified as a high priority regional project by the Humboldt County Association of Governments and was formally linked to the California Department of Transportation (Caltrans) Eureka-Arcata Highway 101 Corridor Improvement Project by the California Coastal Commission (CCC) in 2013. When complete, the trail will link the two largest cities in Humboldt County and provide a major step toward regional trail connectivity in and around Humboldt Bay.

3.2. Project Purpose and Need

The primary purpose of the project is to improve safety and connectivity for non-motorized and motorized travelers between the communities of Eureka and Arcata. The trail is warranted because Highway 101 between Eureka and Arcata is an incomplete transportation facility that was designed primarily to support motorized vehicles. The project would reduce the potential for conflicts between bicyclists, pedestrians, and vehicles within the Highway 101 corridor and increase mobility options between the communities of Arcata and Eureka. The project would contribute to a balanced, "complete street" transportation network and enhance public access to Humboldt Bay. A continuous trail would have many benefits, including:

- Improved safety (through separation of motorized and non-motorized travelers)
- Economic development (by supporting transportation mobility and regional tourism)
- Congestion relief
- Coastal access and opportunities for nature study
- Improved bay viewshed
- Enhanced quality of life
- Community connectivity
- Reduced vehicle miles traveled, fuel consumption, and emissions
- Partial rehabilitation of selected areas of the railroad prism

3.3. Project Description

The Humboldt Bay Trail South Project would provide non-motorized (primarily pedestrian and bike) transportation and recreational access by creating a Class I multi-use trail connection between the City of Eureka's Waterfront Trail and the City of Arcata's Humboldt Bay Trail North. The project would connect to the existing Eureka Waterfront Trail, starting just south of NCRA's Eureka Slough Bridge in Eureka, and continuing along the NCRA railroad transportation corridor north towards Brainard Slough. In addition to the proposed trail improvements between Eureka and Brainard Slough, the project includes sections of cable barrier that are proposed to be installed at specified locations between the existing Humboldt Bay Trail North Project and U.S. Highway 101. For the purposes of this study, the approximately 4.2-mile-long trail alignment was divided into nine unique segments (as shown on Figures 2a–f) in addition to the Humboldt Bay Trail North segment where extension of the safety cable barrier is proposed:

- Segment 1: Connection to Eureka Waterfront Trail
- Segment 2: Eureka Slough Crossing
- Segment 3: Eureka Slough North
- Segment 4: Eureka Slough to CRC
- Segment 5: CRC
- Segment 6: CRC North Bay Crossing
- Segment 7: North Eucalyptus Area
- Segment 8: South of Bracut
- Segment 9: Bracut to Brainard Slough

Following is a description of the project design standards and approach that would be implemented under the proposed project, including the trail segment where these project features would be used.

3.3.1. Design Standards and Approach

The project is being designed to achieve the standards of a Class I Bikeway in accordance with the Caltrans Highway Design Manual (2017). In addition, the project will be designed to conform to other applicable standards, including the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, Fourth Edition (2012); California Manual of Uniform Traffic Control Devices (CA MUTCD) (2014); the 2010 Americans with Disabilities Act (ADA) Standards for Accessibility Design; Chapter 11B of the 2016 California Building Code; General Order No. 26-D from the California Public Utilities Commission; and the NCRA Trail Guidelines (2009).

The project is being designed to accommodate the expected volume and diversity of users, which includes a range of ages, experience levels, speeds, trip purposes, and mobility modes. Consideration will be given to user safety and ensuring that the project will meet the needs of the public and minimize potential conflicts. Particular constraints within the trail alignment may warrant adjustments to the standards to address site specific issues. Throughout the project alignment, the design standards described in the following sections would be applied to the design:

3.3.2. Trail Width and Surface (All Project Segments)

In accordance with the County of Humboldt's Basis of Design Report for Trail Width (March 31, 2016), a context-based approach will be utilized for selecting the appropriate trail width for the project. Trail width is a key design parameter for user safety. Trails that are too narrow can result in a high rate of collisions or a perception of unsafe conditions, which could deter use and result in a failure to achieve the desired outcomes and benefits. Trail width is also a key design parameter for the quality of the user experience, with wider trails typically resulting in a higher quality user experience.

In order to satisfy the project need, while minimizing impacts on environmental sensitive areas, the standard trail would consist of a 10-foot-wide asphalt track with 2-foot-wide gravel shoulders on each side. A narrower trail width may be used in isolated areas, where special situations preclude construction of the standard trail width. In accordance to Class I and accessibility standards, the trail would be designed with a two percent or less cross slope and a five percent or less running slope. In areas where the project intersects tidally influenced waters, the standard trail would consist of a bridge (described below).

3.3.3. Streetscape Improvements (All Project Segments)

3.3.3.1. Viewing Platforms and Interpretive Signage

The viewing platforms and interpretive sign areas associated with the project may consist of either low-profile landscaped areas or raised deck platforms comprised of steel, asphalt-concrete, concrete, or wood or rail tie borders filled with crushed rock. Each platform/sign area may include interpretive signs, benches, trash receptacles and landscaping. These areas would 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 provide information about local habitats and cultural/historical sites. Specific locations for viewing platforms and interpretive signage will be determined later in the design process.

3.3.3.2. DIRECTIONAL AND WAYFINDING SIGNAGE

Directional and wayfinding signage would be installed at regular intervals to inform trail users of nearby connections to surface streets and nearby destinations.

3.3.3.3. TRAILHEADS

The project is primarily situated within the interior of the Arcata-Eureka transportation corridor and was fundamentally designed to connect existing trail segments located in the two cities—Eureka and Arcata. Currently the project does not propose new trailheads and envisions that users would access the new trail segment from the interconnecting trail segments in Eureka or Arcata. Opportunities for new trailheads will be evaluated as the project design progresses. The trailheads could include new or refurbished parking spaces, interpretive signs, gateway signage, kiosks, benches, trash receptacles, and/or landscaping.

3.3.3.4. LIGHTING

Up to two new lights may be included at the Bracut driveway/trail intersection to enhance visibility at night. Outside night lighting associated with construction, would be designed to protect wildlife and nighttime views, including views of the night sky. This design goal would be satisfied using a variety of means as applicable, including fixture types, cut off angles, shields, lamp arm extensions, and pole heights. Specific design preferences include directing light downward and away from other properties, avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles, and directing lighting away from environmentally sensitive habitat areas (ESHA).

3.3.4. Structural Pavement Sections (All Project Segments)

The trail is anticipated to have a typical pavement structural section that has approximately 12 inches of aggregate base and approximately 3 inches of asphalt concrete. In areas of poor soils, the structural section may be increased to up to 3 feet of aggregate/engineered fill base or other soil stabilization measures such as the use of geotextiles and increased structural section depth.

3.3.5. California Redwood Company Area (Project Segment 5 and 6)

Approximately 1.1 miles of the proposed trail alignment follows the outer perimeter levee surrounding the CRC. The existing levee varies in width from 12 to more than 30 feet wide and averages approximately 10 feet higher than the adjacent Humboldt Bay mud flats. The standard trail section would be maintained along the levee, but may include additional fencing/railing and/or slope/drop-off protection as needed on one or both sides of the trail. The fencing/railing would be 42 inches in height (minimum) and would be constructed from wood or metal material, and may include chain link, cable or picket style fencing. In general, the trail elevation is proposed to be very similar to that of the existing levee; however, the

elevation profile would vary as needed to comply with the standards and other design elements. Portions of the levee that are narrow or low in elevation may need additional embankment to widen or raise the elevation of the trail. Sections may also require reinforced steepened slopes or short retaining systems (i.e., gabion walls) to limit necessary embankment fill. If widening is necessary, it would generally occur on the CRC side of the levee rather than towards Humboldt Bay. The additional embankment would be added along the inside slope at an approximate 1.5:1 slope. In most cases, the added embankment would result in fill into the inboard ditch/wetlands. When this occurs, the inboard ditch would be reconstructed to provide for the necessary capacity and to also mitigate onsite for wetlands impacts associated with inboard ditch. The CRC portion of the trail is proposed to be connected to the adjacent trail sections (on both ends) by bridges used to cross the mud flats or saltmarsh and provide a smooth transition back on to the main trail alignment located between the railroad tracks and highway. The bridge are described in more detail below.

3.3.6. Eureka Slough Crossing (Project Segments 2 and 3)

Currently, Highway 101 crosses the Eureka Slough, but contains no bike or pedestrian facilities. The highway's bridge structures (northbound and southbound bridges) are scheduled to be replaced and reconstructed in the future; however, no specific dates have been determined. Caltrans staff have indicated a replacement highway bridge across Eureka Slough would include bike and pedestrian facilities, but until that time, an alternate route would be required.

Approximately 700 feet to the northwest of the Highway 101 Eureka Slough Bridge crossing is a railroad bridge owned by NCRA. The bridge is currently unused as there is no rail service within the area. If rail service were to resume, significant maintenance or improvements would be required as the condition of portions of the tracks approaching the bridge are not to current standards for rail traffic.

The proposed trail across Eureka Slough would make use of the existing railroad bridge by modifying the structure to accommodate the trail. One option utilizes the existing deck by installing an asphalt, concrete, or a wooden surface over the existing bridge surface and on top of the rails. Another option would be to install an asphalt, concrete, wooden, or pre-manufactured surface up to the level of the rails that would allow for cooperative use with trains. Some of the existing cross ties may require replacement or an anti-fungal treatment to extend their useful life. Both options would include new safety railing and minor cosmetic improvements to the bridge's appearance, such as painting over graffiti. During construction, protection measures would be implemented to prevent construction debris and other materials from falling from the bridge and entering the waterway below.

In the future, when Caltrans replaces the southbound Highway 101 bridge structure with one that contains accommodations for bikes and pedestrians, the trail would be rerouted and utilize the Highway 101 bridge structure. After crossing the highway bridge, the trail would continue along the highway until it connects with the trail approximately 1,000 linear feet to the north. At that time, access across the railroad bridge would likely discontinue and all pedestrian and trail improvements would be removed. The future Eureka Slough crossing on Highway 101, connection route to and from the bridge, and the deconstruction of the trail improvements on the railroad bridge were not analyzed in this document.

3.3.7. Brainard Slough Crossing (Project Segment 9)

Brainard Slough is formed from the Washington Gulch and Rocky Gulch drainages, the confluence of which is on the east side of the freeway before crossing under Highway 101 via a single reinforced box culvert, then under the tracks via two 48-inch corrugated metal pipe culverts. These culverts are significantly damaged and do not currently function. A new trail crossing would require the two existing 48-inch pipe culverts be removed and a bridge structure be added for the trail.

The bridge structure would need to be approximately 120 feet in length. The bridge would consist of a single-span, pre-manufactured structural section comprised of steel, aluminum, fiberglass, or concrete. The bridge would be supported on each end by abutments (including wingwalls) supported by up to five 18-inch diameter cast-in-steel-shell (CISS) piles on each end. Up to 10 piles would be installed to a depth of up to approximately 100 feet below ground surface (bgs) and approximately 10 to 15 feet from Humboldt Bay water extents during periods of low tide. The steel shells would be installed outside the active channel using a vibratory pile driver (American Pile driving Equipment Model 200 or similar), which would utilize a vegetable based non-toxic hydraulic oil in case of a hydraulic leak in or near Humboldt Bay. Each steel shell would be proofed by driving its final 5 feet by a conventional impact hammer pile driver to achieve design tip elevation and verify load capacity. No pile driving would occur in water, as installation would occur during low tides.

The existing failed culverts and debris (including timber ties, supports and rock) would be removed, the remaining rail embankment regraded (as-needed), and rip-rap installed (including on the bay side) to stabilize the embankment/shoreline and reduce the potential for ongoing erosion.

Prior to completing the project's final design, the County will complete a geotechnical analysis to determine the bearing capacity of the soils and to verify if piles are necessary. The geotechnical analysis will be used to verify the target depths of the piles.

3.3.8. CRC Bridge Structures (Project Segments 5 and 6)

Two bridge structures would be constructed at the north and south extents of the CRC property for trail portions that cross tidally influenced waters. The bridges would be at least 10-feet wide between railings and would be comprised of pre-manufactured wood, fiberglass, steel, aluminum, or concrete.

The northern CRC bridge is anticipated to be a three-span pre-manufactured bridge supported with four piers (one on each end and two within the mid-sections located in Humboldt Bay). The bridge would have a total length of approximately 200 feet. Each pier is anticipated to be comprised of up to five 18-inch diameter CISS piles. Like the bridge structure proposed for the Brainard Slough crossing, the steel shells would be installed to a depth of approximately 100 feet bgs using the vibratory hammer method followed by impact hammer proofing. In order to provide access for cranes, temporary sheet piles and washed coarse-grained aggregate fill would be used to construct an access road and landings. These activities would be required for the three-span bridge proposed on the north side of CRC, on property owned by CRC (Assessor's Parcel Number [APN] 404-141-004), the City of Eureka (APN 405-061-004), and McMurray and Hoff (APN 404-141-005). The sheet piles would be installed approximately 30 feet bgs and the aggregate fill would be encapsulated in geotextile fabric to separate native and fill soils. Water bladders may also be used to construct a coffer dam to isolate the work area from the bay and tidal waters. Isolating the work area with water bags would allow for work within the bay to be expedited as work would not be restricted to periods of low tides only. The coffer dam would also reduce the likelihood of construction-generated sediment from entering the bay and to reduce the possibility of fish entrapment. Following the installation of the bridges, the temporary access road, including the sheet piles, aggregate fill and geotextiles, would be removed, and existing ground surface (bay mud) smoothed out to the extent practical.

The southern CRC bridge would be a single-span pre-manufactured bridge approximately 80 feet in length. Like the Brainard's Slough bridge, the southern bridge is anticipated to be supported on each end by abutments and up to four 18-inch diameter CISS piles driven approximately 100 feet deep. The piles would be installed in the same manner and using the same equipment as the northern CRC bridge.

The vibratory hammer used for the installation of sheet piles and steel shell piles at the north and south extents of the CRC property is anticipated to be operated for approximately 3 hours per day for a total of 20 days. It is anticipated that the piles (up to 26 total) would require 100 blows per pile at 145 decibels and driving 3 to 4 piles per day. The installation of sheet piles and steel shells would occur during low tide.

Prior to completing the project's final design, the County will complete a geotechnical analysis to determine the bearing capacity of the soils and to verify if piles are necessary. The geotechnical analysis will be used to verify the target depths of the piles.

There have been some opinions expressed regarding the shininess of the new aluminum bridges installed as part of the Eureka Waterfront Trail and Arcata's Humboldt Bay Trail North. A study will be prepared in early 2018 to identify the bridge types that are suitable and that could be considered for the Humboldt Bay Trial South project. The photographs below show examples of possible bridge and rail types being considered for the proposed project. During bridge type selection, the County will consider the feedback received on adjacent trail projects as well as the potential benefits of consistency with the existing structures.

Examples of Bridge and Rail Types

3.3.9. Retaining Structures (Project Segments 4, 5, 6, 7, and 9)

Retaining structures may be used at each end of the bridges (abutment wingwalls) and also along the segment of the trail beginning at the northwest corner of the CRC property and

extending north-westerly for a distance of approximately 2,700 linear feet. The segment of trail north of CRC would be located between the railroad and the Highway 101 corridor, either directly adjacent to the railroad or directly adjacent to the highway (behind the existing metal beam guardrail). A retaining wall structure may be required in order to maintain minimum setbacks from the NCRA tracks or Highway 101 (depending on the alignment) while limiting encroachment into the existing drainage ditch that is located between the railroad and highway. The structure may consist of cast-in-place concrete or soldier pile retaining wall. If soldier pile retaining wall is used, 30 to 40-foot tall reinforced concrete or coated steel soldier piles would be driven at 6- to 8-foot intervals and approximately 22 to 34 feet bgs leaving approximately 6 to 8 feet exposed above the ground surface. The soldier piles would be impact driven using the same (or similar) pile driver that would be used for proofing the CISS pilings. Lagging (concrete or treated timber) would be used to retain the backfill. It is anticipated that the beams (approximately 340 total) would require 100 blows per pile. The top of the retaining structures would not exceed the elevation of the railroad and the height to the ground surface is expected to be 6 feet or less. For safety purposes, the retaining structure would include railings.

3.3.10. Eucalyptus Trees (Project Segment 7)

The group of existing eucalyptus trees located north of the CRC property would need to be removed as part of the project. Removal of the eucalyptus trees is needed to accommodate the trail and includes approximately 219 eucalyptus trees that are 8 inches in diameter or greater in addition to smaller trees and saplings. The trees would be limbed and trunks rigged, felled, and lowered in sections (i.e., sectional felling). Tree stumps would be removed to the extent feasible through excavating, grinding or other means, with remaining stumps and root systems treated with an herbicide to prevent regrowth. Required equipment and workers would access the trees from both the highway and railroad sides. The removal operation would likely require the temporary closure of one or more lanes of US 101. The existing metal beam guardrail adjacent to the trees would likely be replaced because removal of the trees is expected to damage the guard rail system. The project would also remove all eucalyptus saplings in the vicinity of the trail (generally between the highway and railroad). Figure 3 shows the extent of proposed eucalyptus tree removal.

3.3.11. Shoreline Protection (Project Segments 4, 7, 8, and 9)

As previously discussed, the project includes localized shoreline restoration and protection at the Brainard Slough crossing. In addition to Brainard Slough, there are multiple areas along the project extents where the existing railroad fill prism has deteriorated and shows significant signs of erosion as a result of direct wave action from Humboldt Bay. The area between CRC and Bracut is generally in the worst condition with more isolated areas of

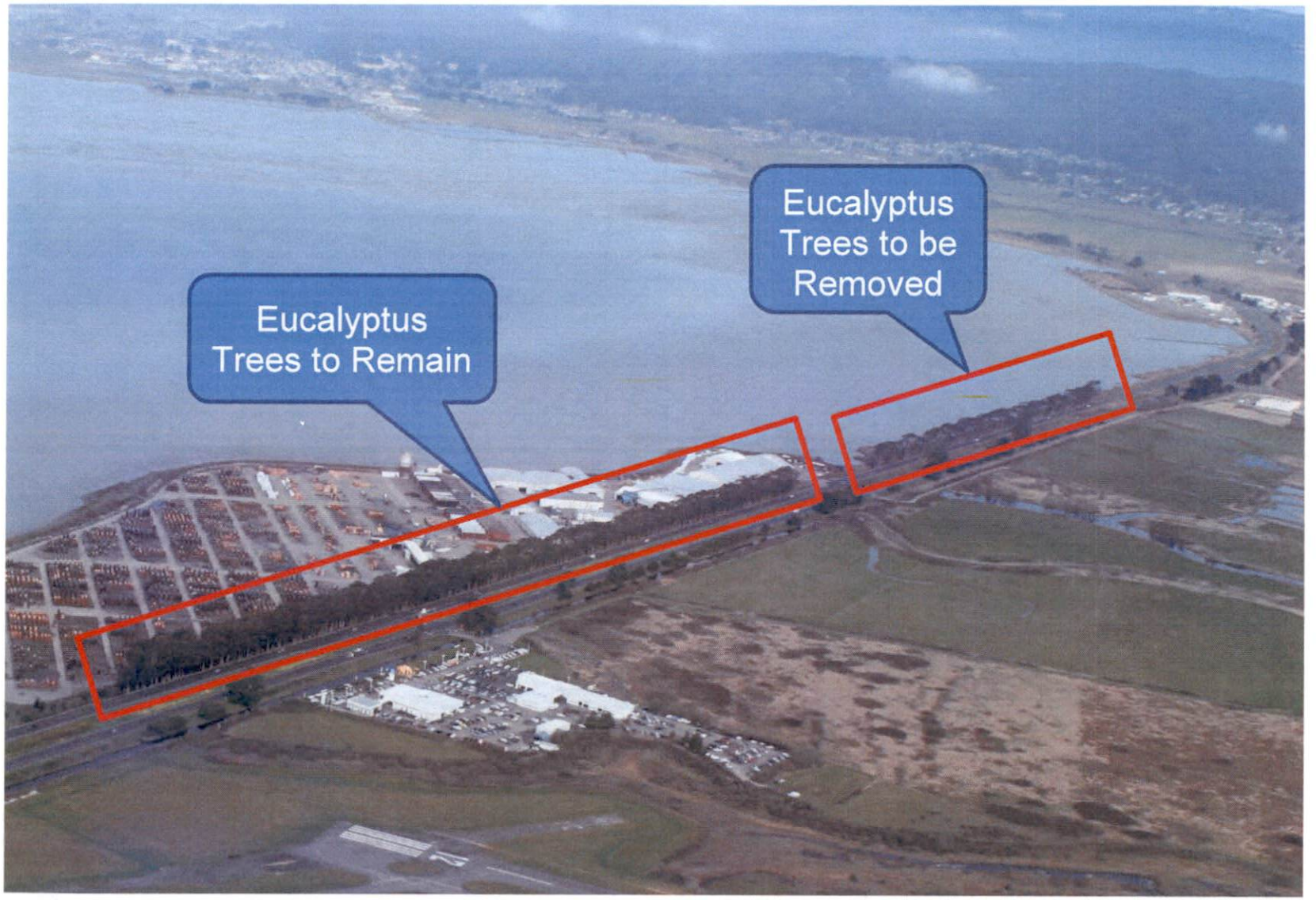

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Figure 3
Proposed Eucalyptus Tree Removal

deterioration between Eureka Slough and CRC. In order to help protect the trail prism from future erosion and damage, sections of the rail prism would be repaired by placing ballast rock, and portions of the revetment would be repaired and/or supplemented with additional shoreline rock rip-rap. The shoreline protection along the bay side (the western side of the railroad prism) would be limited (horizontally) to the bay-ward extent of the existing rip-rap. No additional encroachment beyond the toe of existing rock armoring is proposed.

Approximately 500 linear feet of existing shoreline revetment would be repaired with rip-rap and ballast rock. Work would include temporarily removing the railroad ties and rails, placing additional ballast rock, and resetting the ties and rails on the ballast.

Approximately 5,000 linear feet of shoreline would receive supplemental ballast rock infill and surface applied rip-rap placed directly adjacent to the railroad ties on the bay side to improve and protect the shoreline from wind and wave action. Additional surface stabilization rock armoring is anticipated along the highway side of the trail prism to protect against wave over wash and surface erosion. The stabilization rock would be smaller in size as compared to the shoreline rip-rap. Over time, it is anticipated that native vegetation would establish itself in the interstices of the rock armoring, lessening the appearance of the rock on the landscape.

3.3.12. Striping and Vehicle Control (All Project Segments)

The trail would include a centerline stripe to delineate the two bi-directional lanes. Standard trail-related traffic-control signage would be installed in order to comply with Class I standards and MUTCD requirements. At locations where the trail intersects a vehicular roadway, removable bollards would be installed to prevent motorized vehicles from entering the trail. Authorized personnel (e.g., police, emergency-responders, County/City maintenance crews, etc.) would be able to remove the bollards and temporarily access some portions of the trail with motorized vehicles.

3.3.13. Drainage (All Project Segments)

The trail would typically have a two percent or less cross slope to allow surface water to flow off of the trail surface. When the trail is directly adjacent to either the railroad or the highway facilities, the cross slope of the trail would slant away from the railroad/highway in order to convey runoff towards existing or new drainage facilities. In locations where the existing drainage ditches are in close proximity to the proposed trail alignment, culverts may need to be extended or added. Similarly, in cases where the trail's fill prism encroaches into the existing drainage ditch to the extent it causes a reduction in capacity, the drainage ditch

may need to be reconstructed at approximately the same grade and depth, but at a location (horizontally) offset from the original position.

3.3.14. Barriers and Fencing (All Project Segments)

Safety railing and fencing is proposed along retaining walls, viewing platforms, the CRC levee, on bridges, at the Bracut driveway, and at the edge of the trail when adjacent to steep embankments or drop-offs. In addition, the project may include security fencing and gates along portions of the CRC property to prevent trail users from entering CRC facilities. The railings, fencing, and gates would be constructed from wood or metal material, and may include chain link, cable or picket style fencing. During railing type selection, the County will consider feedback received on adjacent trail projects as well as potential benefits of consistency with existing structures.

High-tension cable barriers and metal beam guard rail would be utilized between Highway 101 and the trail to protect trail users from errant vehicles. Barriers are required by design standards when the trail is located within the highway's 30 foot clear recovery zone. The proposed project includes cable barriers in certain locations where the trail is outside the clear recovery zone to enhance trail and highway safety, based on documented occurrences of vehicles departing the highway within the Eureka-Arcata corridor and reaching the railroad prism. The cable barrier would be installed along portions of the proposed Humboldt Bay Trail South project as well as the existing Humboldt Bay Trail North project. The high-tension cable barrier would be set back approximately 10 feet from the edge of trail and approximately 8 to 12 feet from the edge of the highway shoulder. The cable barrier consist f steel wire ropes (typically 4 strands) mounted on steel posts secured in concrete foundations. An approximately 2-foot wide concrete weed mat would be installed along the length of the cable barrier. The picture at right shows a typical cable barrier along a highway.

Typical cable barrier fencing (all project segments.)

Where the trail is less than 10 feet from the edge of the highway shoulder, a metal beam guard rail or other positive barrier would be required. In this situation, the trail would be located approximately 3 feet behind the metal beam guard rail wood posts. A weed control mat would be installed along the length of new metal beam guardrail to control vegetation.

3.3.15. Billboard Removal (Project Segments 7 and 8)

There are four billboards in the vicinity of the project, all of which are situated on private property. Three of the billboards are located outside the project area on the bay side of the railroad prism. One of the billboards is located within the project area between the highway and railroad. Depending on the final trail alignment, the trail may narrowly avoid this billboard, or it could be in conflict and require the billboard be removed or relocated. The future disposition of the remaining three billboards located outside the project area is unknown at this time, and not analyzed in this document. (Note: Visual simulations used in Section 8.8.6 conservatively assume all billboards would remain).

3.4. Project Construction

3.4.1. Construction Staging, Activities and Equipment

Construction staging areas would occur in the mapped portion of the project study boundary, within paved or graveled areas, or in designated, previously disturbed corporation yards.

Construction would primarily include removal of trees and vegetation, excavation and grading, bridge foundation construction and pre-manufactured bridge assembly and installation, trail paving, fencing/railing and signage, along various segments of the project alignment. All construction activities would be accompanied by both temporary and permanent erosion and sediment control best management practices (BMPs).

Trail construction would include the following activities:

- Clearing and Grubbing – To clear trees, vegetation and topsoil from the proposed trail footprint
- Excavation – Primarily at bridge approaches with other shallow excavations to maintain trail grades
- Embankment – Fill to maintain trail grades through low areas
- Retaining Walls – To limit encroachment into drainage ditches
- Aggregate Base – For trail shoulders and to support asphalt paving
- Asphaltic Concrete Paving – For trail surface
- Fencing/Barriers/Bollards
- Trail striping and signage.

Pre-manufactured bridge assembly and placement would include the following activities:

- Excavation – For the abutment foundations (maximum depth of 6 feet below existing grade)
- Aggregate Base – For structure foundations
- Abutments and Footings – Cast-in-place concrete to support pre-manufactured bridges
- Piles – Reinforced concrete in steel shell to support pre-manufactured bridges
- Bridge assembly in stating area
- Placement/Installation – Set pre-manufactured bridge on abutments
- Railing Installation
- Rock Slope Protection – To protect abutments and prisms

Equipment required for trail construction would include: tracked excavators, backhoes, graders, bulldozers, dump trucks, rollers, paving machines, cranes, water trucks, drill rigs, pile drivers and pick-up trucks. Equipment required for pre-manufactured bridge assembly and placement would include excavators and cranes.

Construction access would be to and from the staging areas identified below. Roadways that would be utilized for construction access and the staging areas include Highway 101, the entrance into CRC and the entrance into Bracut Industrial Park.

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

3.4.2. Construction Access and Hauling Traffic

The anticipated haul truck routes to the project area include Highway 101 from the north and south. The number of construction-related vehicles traveling to and from project area would vary on a daily basis. It is anticipated that up to 40 haul truck round trips would occur on a peak day. In addition, it is anticipated that construction crew trips would require up to eight round trips per day. Therefore, for the purposes of analysis, on any one day during construction, up to 48 vehicle round trips could occur.

3.4.3. Site Restoration and Demobilization

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

Chapter 4. Affected Environment

4.1. Regional Context

Humboldt County is located along the northern coast of California from the King Range National Conservation Area up to the Prairie Creek Redwoods State Park. The cities of Eureka and Arcata are located within Humboldt County. The City of Eureka is located on the inner shoreline of Humboldt Bay, buffered from the Pacific Ocean by the Samoa Peninsula. Eureka is bordered on all sides by unincorporated Humboldt County. Humboldt Bay and the Samoa peninsula occur to the west, the foothills of the Pacific Coast Range occur to the east, the Eureka Slough and lowland wetlands occur to the north; the Elk River and more wetlands are found to the south of the city. The City of Arcata is situated just north along Highway 101 from Humboldt Bay (the northern portion of Humboldt Bay is also referred to as Arcata Bay) to Highway 299. Humboldt Bay lies to the south and the foothills occur east of the city. Agriculture dominates the land to the west of Arcata and the Mad River borders the city to the north.

This area contains open and expansive views of Humboldt Bay, low-lying wetlands, and tree-covered foothills. Further east the canyons and ridges of the Coast Range are visible. Several large streams, rivers, and sloughs flow through this area of Humboldt County and empty into the Humboldt Bay or directly into the Pacific Ocean.

4.2. Local Context

The proposed trail alignment begins in the northeast end of the Eureka and proceeds generally northeast along the NCRS corridor that parallels Highway 101 to the east and Humboldt Bay to the west. The flat elevation of the coastal plain grants views of the bay throughout the entire trail alignment and adjacent Highway 101 corridor, with the exception of the extreme south end of the proposed trail, which passes into urban areas. The terrain to the west of the proposed project alignment includes open water, wetlands, mudflats, and designated wildlife areas. To the east is Highway 101, scattered industrial development, and agricultural lands. The proposed trail segment also would pass through two industrial areas located immediately adjacent to the bay. There are four billboards in the vicinity of the project, all of which are situated on private property. Three of the billboards are located outside the project area on the bay side of the railroad prism. One of the billboards is located within the project area between the highway and railroad.

4.3. Project Viewshed

The viewshed is traditionally defined as what can be seen in 360 degrees from a single view point. The limits of a viewshed include the visual boundaries of the surface areas seen from the proposed project. Viewsheds can be restricted to corridors—limited by vegetation, topography, or other obstacles—or may be temporarily limited by smoke, dust, fog, or precipitation. While the extent of the viewshed varies by location (i.e., view point), throughout the project area, it is primarily characterized by open views with Humboldt Bay to the west. Landward views to the east from the proposed trail predominantly show lowland wetlands, commercial development, and the foothills and Coast Range in the distance. Highway 101 parallels the proposed trail corridor to the east. Views may be obstructed by trees and traffic along Highway 101. Portions of the trail are adjacent to development such as the CRC and the Bracut Industrial Park.

4.4. Landscape Units

Landscape units are used to define the visual environment within distinct boundaries. Landscape units are frequently named and are often locally recognized. For example, Humboldt Bay—located in between Arcata and Eureka—would be a landscape unit. Landscape units provide a framework for the assessment and management of visual resources and the effects of projects upon them.

A visual assessment unit (VAU) is a term used to define the portion of the landscape unit that is visible from the project or from which the project may be seen within the boundaries of a landscape unit. Individual VAUs are characterized by key observation points (KOP), which are key locations from which viewers can see existing conditions in the VAU.

Following are descriptions of the nine landscape units that correspond to project segments and one landscape unit outside of the project alignment defined for the purpose of visual resources assessment for the proposed project (Figures 2a–f). Visual assessment units and KOPs within each landscape unit are introduced in the analysis of impacts (Section 8).

4.4.1. Landscape Unit #1: Connection to Eureka Waterfront Trail (Project Segment 1)

Landscape Unit #1 corresponds to Segment #1 of the proposed trail alignment. This landscape unit begins at its connection to Eureka Waterfront Trail and extends approximately 100 feet along the railroad corridor to the Eureka Slough crossing. The surrounding landscape type is a mix of coastal, industrial, rural residential dominated by low-lying vegetation (mostly grass) with a few scattered mature hardwood trees and shrubs. For the

most part, this landscape unit is not visible from major roads in the area, including Highway 101 and SR 255 because of the flat topography, distance, and surrounding development. Some businesses adjacent to nearby surface streets (2nd and Y streets) would have the most direct views of the proposed trail. Commercial, industrial, and residential development immediately adjacent to this landscape unit would be visible to trail users.

4.4.2. Landscape Unit #2: Eureka Slough Crossing (Project Segment 2)

Landscape Unit #2 consists of the approximately 700-linear-foot existing railroad bridge crossing over Eureka Slough that runs roughly parallel to Highway 101. The railroad bridge is a relatively low-elevation, flat, steel structure supported by multiple piers. Views of the bridge from Highway 101 and areas immediately adjacent to the north side of the slough, including a public waterfront access at the northwest corner of Highway 101, behind the Target store are generally unobstructed, although the flat topography and distance make it difficult to distinguish detail. The landscape type associated with this landscape unit is the railroad corridor, water, and mudflats. Trail users would be afforded views of Humboldt Bay to the west, Highway 101 to the east, and Eureka Slough over which the trail would pass.

4.4.3. Landscape Unit #3: Eureka Slough North (Project Segment 3)

Continuing north from the east end of the Eureka Slough railroad bridge crossing, Landscape Unit #3 follows the railroad corridor as it passes between two wetland marsh/mudflats managed by Humboldt Bay National Wildlife Refuge (NWR). It is along this project segment that the proposed trail alignment would begin to parallel the west side of Highway 101. The landscape type is dominated by the railroad corridor, coastal mudflats, and marshes with no designated public access or other development. Commercial development lines much of the east side of Highway 101 adjacent to the project area, but the flat topography, distance, and vegetation that lines the south side of Highway 101 obstructs most views toward the bay. Trail users passing through Landscape Unit #3 would experience the naturalness of Humboldt Bay and the coastal marshlands; however, the visual character of these views from the trail would also include the Highway 101 corridor to the east.

4.4.4. Landscape Unit #4: Eureka Slough to CRC (Project Segment 4)

Landscape Unit #4 follows the Humboldt Bay coastline for approximately 1 mile. This landscape unit follows the railroad corridor as it passes between Highway 101 to the south and the wetland marsh/mudflats managed by Humboldt Bay NWR to the north, and eventually to the west as the alignment follows the land contours northward. The tidally influenced (i.e., inundated) Humboldt Bay coastline is only about 100 feet to the west. The railroad corridor prism is slightly elevated and is, therefore, apparent from Highway 101 with the exception of a few stretches where the view is buffered by small stands of trees and

shrubs that have established between the highway and the railroad corridor. The elevation is flat and the landscape type is dominated by the railroad corridor, coastal mudflats, and marshes. There is no residential or commercial development, or public access immediately adjacent to this project segment. The visual experience afforded trail users would be similar to that described for Landscape Unit #4.

4.4.5. Landscape Unit #5: CRC and South Eucalyptus Area (Project Segment 5)

The proposed trail would be routed along the approximately 1-mile long levee that was created to protect the CRC mill site from the waters of Humboldt Bay. Although it is no longer used as a lumber mill, many of the old buildings at the north end of the parcel remain intact. Landscape Unit #5 consists of the proposed trail alignment that would follow the outer perimeter of the CRC mill site. Trail users would be afforded direct views of Humboldt Bay as well as unobstructed views of the CRC parcel. Conversely, viewers within the CRC parcel would have views of this section of the trail. The sizable former log deck area would buffer views of the trail along the levee from Highway 101; however, a proposed bridge structure would be needed at the south end of the parcel, adjacent to Highway 101, to allow for connection of the trail to the existing levee. In addition, mature eucalyptus trees that line the west side of the Highway 101 road corridor as it passes by CRC would further limit views of this trail segment. Limited industrial and commercial use of the parcel occurs, but there is no residential development or public access in proximity to this landscape unit. In addition to the railroad corridor and the armored rock levee, the landscape type is industrial and commercial development, with outlying areas of coastal marsh and mudflats. Because Project Segment 5 would deviate from the NCRA corridor, the Highway 101 corridor and the southern eucalyptus corridor that occurs between Highway 101 and the eastern boundary of the CRC parcel, these areas will not be discussed relative to this trail segment.

4.4.6. Landscape Unit #6: North CRC Levee Trail Connector (Project Segment 6)

Landscape Unit #6 is a small unit that corresponds to project Segment 6. Approximately 500-linear feet of trail bridge crossing would be needed in this segment to create a connection between the proposed trail to the north and the north end of the CRC levee. The area to be spanned consists of a tidally-influenced inundated finger of the Humboldt Bay coastline that interfaces with the west side of the railroad prism and the north side of the levee. A commercial office building on the extreme north end of the CRC parcel further limits trail alignment options. The proposed bridge would be visible from Highway 101, but the view would be buffered by the presence of existing development. The landscape type

associated with this landscape unit is water, coastal marsh, mudflats, the railroad corridor, and commercial development. Trail users would experience this variety of landscape types and the visual character unique to each as seen from the trail.

4.4.7. Landscape Unit #7: North Eucalyptus Area (Project Segment 7)

Landscape Unit #7 would extend approximately 0.75 mile, from the proposed bridge crossing at the north end of the CRC parcel to the location where Indianola Cutoff intersects the east side of Highway 101. The southern end of this segment contains a row of mature eucalyptus trees that line a portion of the north side of Highway 101. Two commercial billboards are located on either side of the railroad corridor just north of the trees. The area available for trail development is limited in this segment by the presence of Highway 101 on the east and Humboldt Bay on the west. Under the proposed project, the eucalyptus trees would be removed to allow for trail construction and as a public safety measure for trail users. Changes to the existing view in this landscape unit would be apparent, particularly to travelers familiar with this stretch of roadway. However, as experienced by users of the new trail, the changes in the post-construction visual character of this landscape unit would not be substantial since there currently is no comparable land use. The landscape type includes railroad corridor, commercial billboards, coastal marsh, mudflats, water, and mature tree stands.

4.4.8. Landscape Unit #8: South of Bracut (Project Segment 8)

Landscape Unit #8 is similar in structure to Landscape Unit #7. The area available for trail development is limited by the presence of Highway 101 and Humboldt Bay. This approximately 0.5 mile segment of proposed trail contains only a widely scattered number of small trees and two commercial billboards. Its proximity to Highway 101 would result in the proposed trail and its features highly visible on the landscape. Aside from the billboards, there is no commercial or residential development near this proposed trail segment. The landscape type includes the railroad corridor, commercial billboards, coastal marsh, mudflats, water, and widely scattered trees. The visual character experienced by trail users in this landscape unit would include developed and undeveloped features, including Highway 101 and the developed road corridor immediately adjacent to the trail and the more natural environment of Humboldt Bay to the west.

4.4.9. Landscape Unit #9: Bracut (Project Segment 9)

Landscape Unit #9 corresponds to project Segment 9, which is the northern terminus of the proposed trail addressed in this assessment. Bracut is an area of active commercial and light industrial development that lines both side of Highway 101. There is no residential development adjacent to this project segment. Similar to the other northern landscape units

(i.e., #s 7 and 8), the railroad corridor is aligned in close proximity to Highway 101, making it readily apparent on the landscape. Trees and shrubs are sparse in this landscape unit with the exception of the northern end where vegetation along the railroad corridor increases in density. The landscape type includes the railroad corridor, a commercial billboard, coastal marsh, mudflats, water, and patches of trees and shrubs. The visual experience afforded trail users would be similar to that described for Landscape Unit #8.

4.4.10. Landscape Unit #10: Humboldt Bay Trail North

Landscape Unit #10 consists of a section of the Humboldt Bay Trail North where it would join the proposed Humboldt Bay Trail south. It was included in this discussion to assess the planned extension of safety cable barrier fencing from the north end of project Segment 9 into the Humboldt Bay Trail North. Trail pavement in this landscape unit was installed as a part of the Humboldt Bay Trail North project. The trail is aligned on the east side of the NCRA corridor and the west side of Highway 101. The safety cable barrier fencing would be installed between the trail and Highway 101 over approximately 0.9 mile. Trees and shrubs are scattered along the edge of the railroad corridor. Much of the wetland marsh/mudflats on the west side of the NCRA corridor are managed by Humboldt Bay NWR.

Chapter 5. Visual Environment

5.1. Regional Landscape

The description of regional landscape is used to establish the general visual environment of the project alignment against which the effects of the project on visual resources are assessed. A regional landscape is characterized by those attributes that distinguish it from the next. Following are descriptions of the landform (e.g., valleys, coasts, and mountains), natural and developed land cover, regional distribution, and visual homogeneity of the regional landscape within the project alignment.

5.2. Landform

The dominant landform associated with the project area is coast plain. The city of Eureka and the coastal plain through which the proposed trail would be aligned is located on a fairly flat plain just slightly higher in elevation (approximately 44 feet above mean sea level) than Humboldt Bay. Vast areas of mudflats and shallow water north of Eureka extend north along the Humboldt Bay coastline. Although views are expansive, the nearly level elevation limits definition of distant views. To the east, north, and south the coastal plain extends for some distance before giving way to the forested mountain foothills.

5.3. Land Cover

5.3.1. Natural

Natural land cover in the landward portions of the project area includes coastal wetlands, grasslands, and shoreline. Expansive wetlands, marshes, sloughs, and mudflats occur throughout the project alignment. Little in the way of natural vegetation and land cover remains in the southern end of the project area south of the Segment #2 Eureka Slough crossing. Years of industrial, commercial, and urban development and other disturbances have significantly altered the natural vegetation community types in this area favoring invasive and ornament species over coastal wetland and upland species. The wetlands, mudflats, and marshes support low-growing vegetation (i.e., grass, rush, sedges) with occasional patches of shrubs and small trees.

Adjacent to the southeast side of the CRC parcel is a sizable stand of mature eucalyptus trees. These trees buffer views of the CRC industrial complex from Highway 101 and areas to the east and south. A second, similar row of mature eucalyptus, also located along the southeast side of Highway 101, begins at the north end of the CRC parcel and extends approximately 0.7 mile northeast toward Bracut.

5.3.2. Developed

Although the alignment would pass through areas dominated by natural land cover, the alignment itself would be within the NCRA corridor. Much of the proposed trail alignment has at some time in the past experienced varying levels of disturbance and development. The proposed purpose of the project—to develop a commuter and recreational trail—would diversify the land cover type to include mixed use (industrial, transportation, and recreation). Portions of two significant industrial areas would be included in the proposed project area. The Bracut Industrial Center is the smaller of the two areas and is used for light industrial and commercial businesses. The larger CRC no longer is used as a mill, but many of the buildings on the northern half of the parcel are used for a variety of commercial and light industrial businesses. The old log deck on the southern half of the property is currently unused. Within the proposed project alignment and vicinity, the currently unused NCRA corridor, Highway 101, and adjacent recreational development such as Arcata's Humboldt Bay Trail North to the north and the Eureka Waterfront Trail to the south influence the visual character of the proposed trail alignment.

Chapter 6. Planning Guidelines

The following designations and planning documents serve as the basis for the assessment of potential impacts on scenic resources resulting from the project:

6.1. California Coastal Commission – Coastal Act

The CCA was enacted by the State Legislature in 1978 to provide long-term protection of California's coastal zone (the inland boundary of the coastal zone was mapped by the Legislature in 1976). The Coastal Act also made permanent the California Coastal Commission. The Commission plans and regulates development and natural resource use along the coast in partnership with local governments and in keeping with the requirements of the Coastal Act. Coastal Act policies constitute the standards used by the Coastal Commission in its coastal development permit decisions and for the review of Local Coastal Programs (LCPs). These policies are also used by the Commission to review federal activities that affect the coastal zone. The policy that pertain to visual resources and aesthetics require:

- Protection of the scenic beauty of coastal landscapes and seascapes.

6.2. Humboldt County General Plan

Humboldt County completed the update of its General Plan in October 2017. The Conservation and Open Space element (Humboldt County 2017) contains a number of goals and policies relating to scenic resources. Although Highway 101 in the project vicinity is not officially designated as a State Scenic Highway, it is considered to be eligible for listing (Caltrans 2017); therefore, policies that guide scenic resource protections associated with state scenic highways are provided in this study. The following goals and policies from this element are relevant to the proposed project:

Conservation and Open Space Element

Goal SR-G1: Conservation of Scenic Resources. Protect high-value scenic forest, agriculture, river, and coastal areas that contribute to the enjoyment of Humboldt County's beauty and abundant natural resources.

6.3. Humboldt County Local Coastal Program Plan

Humboldt County contains a series of LCPs as part of its Local Coastal Program. There are Local Coastal Plans for the Eel River Area, Humboldt Bay Area, McKinleyville Area, North

Coast Area, South Coast Area, and Trinidad Area. The project area falls within the Humboldt Bay Area Local Coastal Plan (Humboldt County 1982) that the County is currently in the process of updating. The existing plan, certified in 1982, contains a series of policies and standards to guide land use and development within the coastal zone. The following policies related to aesthetic resources are relevant to the proposed project:

3.22 Public Services-Rural

B.3 Development Policies: Public Roadway Projects

Public roadway improvement projects shall not, either individually or cumulatively, degrade environmentally sensitive habitats or coastal scenic areas. Improvements (beyond repair and maintenance) shall be consistent with Section 3.30 et seq and shall be limited to the following:

g. construction of bikeways.

3.30 Natural Resources Protection Policies and Standards

*** 30240(b). Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

3.40 Visual Resource Protection

*** 30251. 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 in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

B. Development Policies

1. Physical Scale and Visual Compatibility

No development shall be approved that is not compatible with the physical scale of development as designated in the Area Plan and zoning for the subject parcel; and the following criteria shall be determinative in establishing the compatibility of the proposed development:

a. For the proposed development that is not the principle permitted use, or that is outside and urban limit and for other than detached residential, agricultural uses, or forestry activities regulated by CDFW, that the proposed development compatible with the principle permitted use, and, in addition is either:

(1) No greater in height or bulk than is permitted for the principle use, and is otherwise compatible with the styles and visible material so existing development or land forms in the immediate neighborhood, where such development is visible from the nearest public road.

(2) Where the project cannot feasibly conform to paragraph 1, and no other more feasible location exists, that the exterior design, and landscaping be subject to a public hearing, and shall be approved only when:

2. Protection of Natural Landforms and Features

Natural contours, including slope, visible contours of hilltops and treelines, bluffs, and rock outcroppings shall suffer the minimum feasible disturbance compatible with development of any permitted use, and the following standards shall at a minimum secure this objective:

a. Under any permitted alteration of natural landforms during construction, mineral extraction or other approved development, the topography shall be restored to as close to natural contours as possible, and the area planted with attractive vegetation common to the region.

b. In permitted development, land form alteration for access roads and public utilities shall be minimized by running hillside roads and utility corridors along natural contours where feasible, and the optional waiving on minimum street width requirements, where proposed development densities or use of one-way circulation patterns make this consistent with public safety, in order that necessary hillside roads may be as narrow as possible.

3. Coastal Scenic Area

In the Coastal Scenic Area designated in the Area Plan Map (Indianola area), it is the intent of these regulations that all developments visible from Highway 101 be subordinate to the character of the designated area, and the following uniform standards shall apply to all development within said area, in addition to other applicable policies of this plan:

a. New industrial and public facility development shall be limited to:

(1) Temporary storage of materials and equipment for the purpose of road and utility repair or improvement provided that this is necessary to the repair or improvement, and no feasible site for storage of equipment of material is available outside such area.

b. All permitted development shall be subject to the following standards for siting and design except for structures integral to agricultural use and timberland management subject to CDF requirements for special treatment areas.

(2) The highest point of a structure shall not exceed 30' vertically measured from the highest point of the foundation, nor 40' from the lowest point of the foundation.

(3) Vegetation clearing for new development shall be minimized. New development on ridgelines shall be sited adjacent to existing major vegetation, prohibiting removal of tree masses which might destroy the ridgeline silhouette, and limiting the height of structures so that they maintain present ridgeline silhouettes.

6.4. City of Eureka General Plan

The City of Eureka General Plan contains goals and policies designed to guide the future physical development of the city based on current conditions. Although the General Plan contains all the state-required elements, it does not specifically address visual resources. However, certain goals identified within the context of other plan elements are relevant to visual resources. The following goals and objectives related to the aesthetic issues associated with the proposed project were taken from the applicable elements of the City's General Plan:

Recreation and Cultural Resources Element

Goal 5.A: **To provide for park and recreational systems which include sufficient diversity of areas and facilities to effectively serve a population with varied characteristics, densities, needs and interests, consistent with protecting environmentally sensitive habitats.**

Goal 5.B: **To provide public open space and shoreline accessways throughout the Coastal Zone, consistent with protecting environmentally sensitive habitats and other coastal priority land uses.**

Policy 5.B.1: The City shall provide public open space and shoreline access throughout the Coastal Zone, particularly along the waterfront and First Street, through all of the following:

d. Consider and protect the scenic and visual qualities of coastal areas that are visible from scenic public vista points and waterfront walkways.

Natural Resources Element

Goal 6.C: **To support the continued protection of valuable open space resources in and around Eureka.**

Land Use and Community Design Element

Goal 1.H: **To maintain and expand views of the waterfront, inner harbor, and landmark buildings from public streets and other public spaces.**

6.5. City of Eureka Local Coastal Program Plan

Goal 1.A: **Land Use and Development Framework**

Policy 1.A.6.c: The City shall continue to work with the Humboldt Bay Harbor, Recreation, and Conservation District to implement the projects described in the City's Eureka Waterfront Revitalization Program as listed below:

Goal 3.A: **Streets and Highways**

Policy 3.A.7: The City should improve the appearance of existing transportation [right of ways] ROWs and incorporate high standards of aesthetic design when considering new transportation corridors, including streets, bikeways, walkways, and other related ROWs.

Goal 5.B: **Coastal Recreation and Access**

Policy 5.B.1: The City shall provide public open space and shoreline access throughout the Coastal Zone by considering and protecting the scenic and visual qualities of

coastal areas that are visible from scenic public vista points and waterfront walkways.

Policy 5.B.8: Where public access ways or vista points are located near environmentally sensitive habitat areas, attractive barriers shall be provided to preclude disturbance of natural areas by off-road or all-terrain vehicles.

Chapter 7. Viewers and Viewer Response

Viewer sensitivity (activity, awareness, and local values) and exposure (location, quantity, and duration) influence viewer response (public opinion) to changes to the visual character of a landscape as the result of a proposed project. Viewer groups are used to differentiate the classes of viewers as a means of assessing viewer response. This study assesses views of the proposed trail (travelers on Highway 101 and neighbors) and from the proposed trail (pedestrian and bicyclist travelers).

7.1. Viewer Groups

Viewer groups that would be affected by project implementation include neighbors and travelers. Travelers consist of persons that would have views from the trail and adjacent road corridors, and are typically subdivided by their reason for, or mode of, travel. Neighbors are those persons whose views of the trail are tied to a particular land use such as a residence or commercial business, or passive use of a recreation area.

7.1.1. Travelers

This viewer group consists of trail and adjacent roadway users, including bicyclists, pedestrians, tourists, commuters, and others traveling by motorized vehicles. The awareness of visual resources by travelers varies with their specific activity. Bicyclists and pedestrians using the proposed trail would have a longer exposure time to the area's scenic resources than other travelers (e.g., those passing by the trail on Highway 101). A majority of the views that travelers would have of the proposed trail would be made from the Highway 101 corridor. Travelers may also use streets that feed into Highway 101 such as Indianola Cutoff. Tourists generally have a high sense of awareness of visual resources yet are often less sensitive to specific changes in the environment because of their transitory, non-residential nature. Tourists typically experience the scenic resources within the project area as a cumulative sequence of views rather than as individual features. Commuters would be the most sensitive to changes in the visual environment since this sub-group includes area residents who have more familiarity and a personal investment in the area as a result of routine travel on Highway 101.

Recreationists who use the project area and vicinity for more passive forms of recreation such as fishing, bird watching, or kayaking may be present in the project vicinity. Currently, recreational activities are primarily limited to the Eureka Slough area since there is no readily accessible trail or public access areas in the remainder of the proposed trail alignment or vicinity. Kayaking, fishing, and walking are popular activities near Eureka Slough, with a

public water front access located near the southwest corner of the railroad bridge crossing over the slough, behind the Target store. Recreationists are generally highly sensitive to visual resource changes due to their having familiarity and prolonged exposure to the area.

7.1.2. Neighbors

Neighbors consist of those viewer groups who have views to the project area. This viewer group is typically subdivided by land use, such as residential, recreational, commercial, or industrial. The western portion of the trail near its southern beginning in Eureka would contain the most neighbors from businesses in the proposed trail proximity. Neighbors would also be present in the commercial areas along the Highway 101 adjacent to project area. These neighbors would include workers who have views of the proposed trail from their office or job site such as the Bracut area. Residential areas are limited to the southern end of the project alignment in Eureka; other areas of residential development are located substantial distances from the project area and would not be able easily discern changes in the visual environment as a result of the new trail. Neighbors can be particularly sensitive to visual changes due to their routine and sometimes prolonged exposure to views.

Chapter 8. Visual Impacts

8.1. Study Methodology

8.1.1. Visual Impact

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. These impacts can be beneficial or detrimental to the visual environment. The assessment of visual impacts also considers changes to visual character (composed of pattern elements and pattern character), cumulative, and temporary impacts associated with construction activities. Tables are used to assign numerical values to the existing visual resource and project-related changes, and the viewer's sensitivity to these changes. Numerical ratings range from -7.0 to +7.0 where -7.0 is high negative change and +7.0 is high positive change. Table A provides a reference for comparing numerical ratings associated with changes to visual resources to a qualitative narrative rating:

Table A. Comparing Numerical and Narrative Ratings of Visual Resource Change Based on Viewer Response

	Negative Visual Resource Change								Positive Visual Resource Change						
Rating	-7.0	-6.0	-5.0	-4.0	-3.0	-2.0	-1.0	0	1.0	2.0	3.0	4.0	5.0	6.0	7.0
Viewer Sensitivity[A]/ Equivalent Narrative Rating	High	High	Moderately High	Moderate	Moderate	Moderately Low	Low	No Change	Low	Moderately Low	Moderate	Moderate	Moderately High	High	High
Significance[B]	S	S	S	S	S	LS	LS	LS	LS	LS	LS	LS	LS	LS	LS

Notes:

[A]Viewer Sensitivity

High: The potential for public concern over adverse (negative) change in scenic/visual quality is great. Affected views are rare, unique, or in other ways are special and highly valued in the region or locale. Project-related changes that enhance or preserve affected views would not be considered adverse and would be perceived as positive (less than significant).

Moderate: The potential for public concern over adverse (negative) change in scenic/visual quality is appreciable. Affected views are secondary in importance or similar to views commonly found in the region or locale. A moderately to highly intense visual impact would be perceived as a significant lessening of visual quality. Project-related changes that enhance or preserve affected views would not be considered adverse and would be perceived as positive (less than significant).

Low: There may be some indication that a small minority of the public has a concern over scenic/visual resource impacts on the affected area. However, only the greatest intensity of adverse change (i.e., High and Moderate) in the condition of aesthetics/visual resources would have the potential to register with the public as a substantial (significant) reduction in visual quality. Project-related changes that

enhance or preserve affected views would not be considered adverse and would be perceived as positive (less than significant).

No Change: The views are not public or there are no indications of public concern over, or interest in, scenic/visual resource impacts on the affected area. This designation is also used to indicate no impact or no adverse impact.

[B]**Significance** (Determinations correspond to Table 12, CEQA Guidelines Significance Criteria for Aesthetics and Visual Resources, provided in Chapter 9 of this VIA):

S (Significant Impact): There would be a substantial reduction in visual quality.

LS (Less-than-Significant-Impact): There would be no substantial reduction in visual quality.

The magnitude of potential changes to visual resources resulting from implementation of the project was assessed by evaluating changes to visual character of the existing views. Pattern elements, which are the artistic attributes—form, line, color, and texture—intrinsic to the items to compose the view; and pattern character, including, but not limited to dominance, scale, diversity, and continuity, were considered. In addition, the assessment of project-related visual impacts considered visual quality of the existing and proposed conditions of the 15 KOPs used to represent scenic resources within the project area. The numerical difference between the following three visual quality conditions, in addition to the response of viewers described in Chapter 7, was used to quantify the level of change to visual resources anticipated as a result of the proposed project:

- **Vividness:** The extent to which the landscape is memorable. This is associated with the distinctiveness, diversity, and contrast of visual elements.
- **Intactness:** The integrity of the visual order in the landscape and the extent to which the existing landscape is free from non-typical encroaching intrusions.
- **Unity:** The visual harmony of the landscape as a whole; the degree to which the visual elements maintain a coherent visual pattern.

Key views within the various VAUs, referred to in this study as Key Observation Points (KOPs), were selected to best assess the proposed changes to the project's visual resources. In many cases, post-project visual simulations were created at the KOP to provide a snapshot of anticipated changes to visual resources.

The ratings of visual quality provided herein were determined by Stantec staff based on their professional experience evaluating similar development projects.

8.2. Visual Resources Impacts Assessment

Following are descriptions of the VAUs within each landscape unit. These VAUs were chosen to represent the different visual attributes within a particular landscape unit. KOPs illustrate the visual resources as seen from a specific location with a VAU. Figures 2a–f show the hierarchy of the visual analysis method used in the context of the project alignment.

8.2.1. Landscape Unit #1: Connection to Eureka Waterfront Trail (Project Segment 1)

8.2.1.1. Visual Assessment Unit 1, Key Observation Point 1

VAU 1 is located in a public waterfront access area behind the Target store in Eureka. Because of its public accessibility, parking availability, and proximity to Eureka Slough, it is popular with recreationists, including fishermen, walkers, and kayakers. KOP 1 represents a recreationist's point of view. Image 1A illustrates the existing view from this KOP facing north toward the proposed project and the railroad bridge over Eureka Slough. Views of Eureka Slough are fairly expansive from this KOP; however, human-made visual intrusions, including ornamental trees and metal fencing in the fore- and middle-ground, and the railroad bridge in the background are somewhat visually intrusive and views of Humboldt Bay in the distance.

The proposed trail would follow the railroad alignment in the background. As shown in the post-project visual simulation (Image 1B), a section of the Eureka Waterfront Trail—visually simulated to illustrate its connection to the Humboldt Bay Trail that would begin where the former would intersect the railroad corridor immediately to the left of the railroad bridge—would be created to link the public parking area to the Humboldt Bay Trail. Specific to the proposed Humboldt Bay Trail, the visual simulation illustrates the new bridge railing, which would be consistent with the existing view. As seen from KOP 1, the existing landscape would be modified as a result of trail development actions associated with the extension of the Eureka Waterfront Trail, but as it ascends into the background toward the Humboldt Bay Trail, it creates an inviting view to explore the trail system. Modifications to the railroad bridge as a result of the addition of new railing and the intersection of the two trails at the left end of the bridge would not significantly change the existing pattern elements associated with the view. Scale and continuity of the existing visual features would not change. The pattern character observed from KOP 1 and VAU 1 is the result of scale and continuity of the

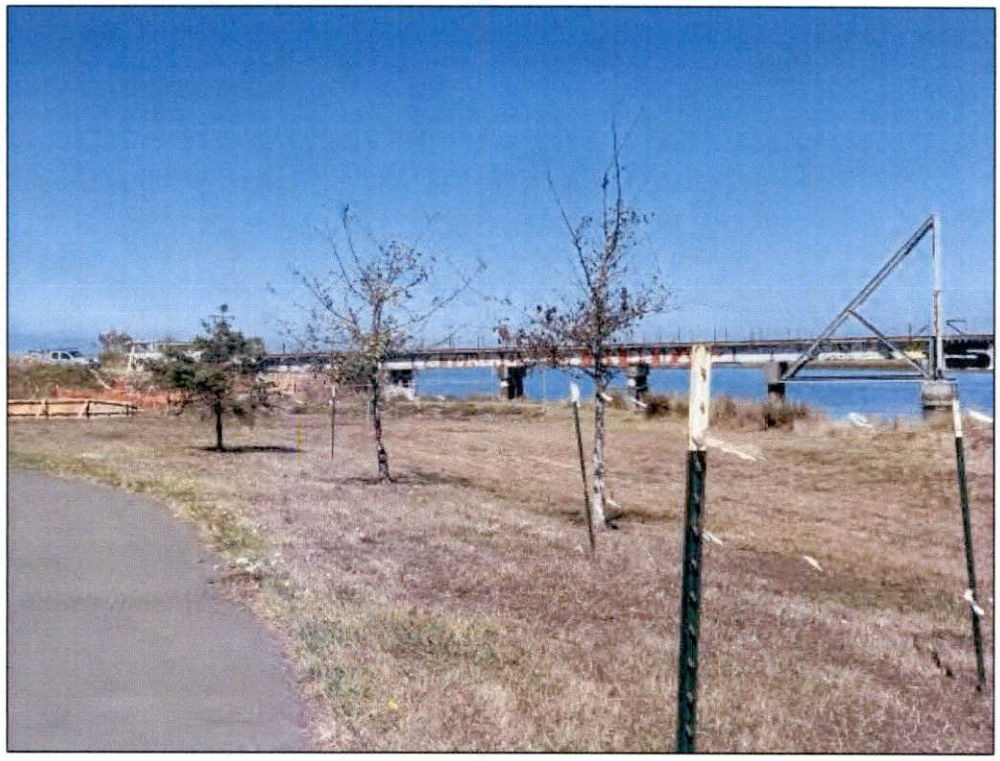

Image 1A (VAU 1, KOP 1). Existing view of the proposed trail alignment and NCRA Railroad bridge crossing over Eureka Slough. View looking north towards Humboldt Bay.

Image 1B (VAU 1, KOP 1). Visual simulation of post-project view of the trail alignment and NCRA Railroad bridge crossing over Eureka Slough. View looking north towards Humboldt Bay.

railroad corridor. Table 1 summarizes the anticipated effect of the proposed project on visual resources as seen from VAU 1.

Table 1. Anticipated Changes to Visual Quality in Visual Assessment Unit 1

	Vividness	Intactness	Unity	Total ((V+I+U)/3)	Resource Change (Qualitative)
Existing Condition[A]	6	5	5.5	5.3	
Proposed Condition[A]	6.5	5.5	6	6	
Visual Quality Difference				+0.7	Low (Positive)

[A]The visual quality ratings shown above are based on summertime daylight hours, which is the most likely time that travelers would pass through the area. Ratings are anticipated to vary minimally by season and time of day.

The existing vividness, intactness, and unity of views from VAU 1 earn moderately-high to high ratings. The area shown appears to be maintained (e.g., mowed grass). Although the presence of infrastructure and urban development detract from the unique visual qualities associated with Humboldt Bay to the north beyond the railroad crossing and the undeveloped Humboldt Bay coastline to the northeast, implementation of the proposed project would not significantly change the existing visual environment. Although the access trail shown in the visual simulation (Image 1B) is a part of the Eureka Waterfront Trail system, its presence is an important part of the proposed Humboldt Bay Trail since it would serve as a link between the two trail segments. The addition of even more human-made features in the view as seen from KOP 1, including the access trail and new railing on the railroad bridge, would enhance rather than degrade this view by creating a more inviting public space that would encourage viewers to explore the new coast trail. Despite its being in the background, Humboldt Bay and its coastal influence shape the pattern character of the view. Although minor, the proposed project would introduce slightly increased visual intrusions through the addition of pedestrian and bicycle traffic over the bridge. Signage, and new safety railings and paint, would slightly modify the view, but would enhance the aesthetics, particularly those of the existing railroad bridge, which has been degraded by time and vandalism. Because this is an established public recreational access point, recreationists would be the most sensitive viewer group to project-related changes. Vividness, intactness, and unity would all increase at this location as a result of project implementation. Because this view can also be seen from Highway 101 as it crosses Eureka Slough, travelers would also be exposed to the positive changes made to the aesthetics and visual resources associated with the project. It is anticipated that travelers and recreationists would enjoy the resulting changes in the quality

of the views when looking north toward the trail from this location. Project-related impacts on the visual environment as seen from KOP 1 would be less than significant and would result in a positive effect on the visual resource as summarized in Table 1.

8.2.2. Landscape Unit #2: Eureka Slough Crossing (Project Segment 2)

8.2.2.1. Visual Assessment Unit 2, Key Observation Point 2

KOP 2 illustrates the travelers' view of the proposed Eureka Slough crossing from the southbound lanes of Highway 101 just before it enters into Eureka. Image 2 illustrates how the presence of highway bridge railing, the existing railroad bridge, and distance detract from the unique visual qualities associated with Humboldt Bay in the distant background. This view is of the outer extent of north-Eureka's industrial and commercial development, and signals a return to urbanization after having passed by the coastal marshes and mudflats of Humboldt Bay. Travelers on Highway 101 are subject to these contrasting views, which lack intactness and unity. The highway bridge's safety rail obstructs much of the view, but it is also consistent with the linearity of the railroad crossing. The Highway 101 bridge is also slightly higher elevation than the railroad grade, thus Humboldt Bay and its confluence with Eureka Slough are visible. Vividness is moderately high due to the presence of the slough and railroad bridge. The proposed trail would follow the railroad corridor and bridge

Image 2 (VAU 2, KOP 2). View of Eureka Slough NCRA railroad bridge from Highway 101 south. View looking north.

crossing. Although travelers would have little time to look out over the project area it would still be visible from this perspective. Table 2 summarizes the anticipated effect of the proposed project on visual resources as seen from VAU 2.

Table 2. Anticipated Changes to Visual Quality in Visual Assessment Unit 2

	Vividness	Intactness	Unity	Total ((V+I+U)/3)	Resource Change (Qualitative)
Existing Condition[A]	5.5	4	4	4.5	
Proposed Condition[A]	5.5	5	5	5.2	
Visual Quality Difference				+0.7	Low (Positive)

[A]The visual quality ratings shown above are based on summertime daylight hours, which is the most likely time that travelers would pass through the area. Ratings are anticipated to vary minimally by season and time of day.

VAU 2 earns moderate ratings for intactness and unity, and a moderately high rating for vividness (i.e., memorability). The linearity of the proposed trail along the railroad corridor would be consistent with existing conditions and would improve the intactness and unity of the view by creating a more aesthetically pleasing continuous pattern character. It is anticipated that elements of the proposed project would enhance the aesthetics of visual resources in the project area as seen by travelers. Unity and intactness would improve. It is anticipated that the addition of signage to the landscape would have no discernible noticeable effect given the numerous visual intrusions present. Construction activities would be a temporary visual impact and not unlike maintenance equipment used in the Highway 101 corridor. Project-related impacts on the visual environment as seen from KOP 2 would be less than significant and would result in a positive effect on the visual resource as summarized in Table 2.

8.2.3. Landscape Unit #3: Eureka Slough North (Project Segment 3)

8.2.3.1. Visual Assessment Unit 3, Key Observation Point 3

VAU 3 illustrates the typical view that travelers on Highway 101 have of the coastal plain to the west looking toward Humboldt Bay on the west side of Eureka Slough. As shown in Image 3, views from KOP 3 are expansive with little or no vertical obstructions towards the proposed project alignment—which would be horizontal across the middle-ground of the image just beyond the paved road corridor—or Humboldt Bay in the background. Views such as this capture the naturalness of the coastal plain and the NWR, and while scenic, are somewhat common along this stretch of highway. Table 3 summarizes the anticipated effect of the proposed project on visual resources as seen from VAU 3

Image 3 (VAU 3, KOP 3). View of the coastal plain west of Eureka Slough from Highway 101 north. View looking northwest.

Table 3. Anticipated Changes to Visual Quality in Visual Assessment Unit 3

	Vividness	Intactness	Unity	Total ((V+I+U)/3)	Resource Change (Qualitative)
Existing Condition[A]	5.5	6	6	5.8	
Proposed Condition[A]	5.5	5.5	5.5	5.5	
Visual Quality Difference				-0.3	Low (Negative)

[A]The visual quality ratings shown above are based on summertime daylight hours, which is the most likely time that travelers would pass through the area. Ratings are anticipated to vary minimally by season and time of day.

The existing vividness, intactness, and unity of VAU 3 as seen from KOP 3 earns moderately high to high ratings. Views such as those shown in Image 3 are aesthetically pleasing and pattern elements (form, line, color, and texture) are generally harmonious, but such views are relatively common over the extent of the proposed trail alignment through Segment 3 and are not individually remarkable. Changes to the view, including vegetation removal and exposure of the trail to travelers along Highway 101, and installation of safety barriers such as cables to ensure separation of the trail from the highway to the east and the NWR to the

west, would be a human-made intrusion on the landscape. However, any such project features would be low profile (elevation) and linear, consistent with the other linear features in the VAU and over time, vegetation on the trail prism would return. The continuity of the pattern character and use of low-chroma and non-glare construction materials would lessen the effects of the trail on the unity of the coastal plain. Construction activities would be a temporary visual impact and not unlike maintenance equipment used in the Highway 101 corridor. Project-related impacts on the visual environment as seen from KOP 3 would be negative, but less than significant as summarized in Table 3.

8.2.4. Landscape Unit #4: Eureka Slough to CRC (Project Segment 4)

8.2.4.1. Visual Assessment Unit 4, Key Observation Point 4

VAU 4 illustrates typical views that neighbors may have of the proposed project area when looking from commercial businesses located on the south side of Highway 101. KOP 4 is located at the intersection of Airport Road and Highway 101. Image 4A shows existing conditions looking northwest towards Humboldt Bay. Image 4B is a post-project visual simulation. From this KOP, human-made intrusions on the landscape are readily apparent with vertical signage and lighting, and significant paved road corridors. The coastal plain and Humboldt Bay are apparent in the middle- and background of Image 4A, but these views are broken-up by the vertical trees and shrubs that have become established along the unused railroad corridor. The proposed trail would cross horizontally through this vantage point parallel to the highway. The highway and related infrastructure lowers intactness and unity although expansive views of the bay are still present. Table 4 summarizes the anticipated effect of the proposed project on visual resources as seen from VAU 4.