LITTLE RIVER TRAIL PROJECT

HUMBOLDT COUNTY, CALIFORNIA

DISTRICT 1 – HUM – 101 – PM 96.96-97.83

Federal Project No. 01-0J280

INITIAL STUDY

Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

September 2022

General Information About This Document

What is in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study with proposed Mitigated Negative Declaration (IS/MND), which examines the potential environmental effects of a proposed project on Route 101 and the adjacent Caltrans right of way in Humboldt County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of the project, and proposed avoidance, minimization, and/or mitigation measures. The IS/MND circulated to the public between August 15, 2022, and September 14, 2022. Comments received during this period are included in Appendix I.

Elsewhere throughout this document, a vertical line in the margin indicates a change made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated. Additional copies of this document and the related technical studies are available for review at the Caltrans District 1 Office. This document may be downloaded at the following website: https://ceqanet.opr.ca.gov/2022080249

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Coady Reynolds, North Region Environmental-District 1 Office of Local Assistance, 1656 Union Street, Eureka, CA 95501; (707) 684-6988 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

LITTLE RIVER TRAIL PROJECT

Install a Class I Pathway Adjacent to Route 101 in Humboldt County, from Post Mile 96.96 to Post Mile 97.83 Between the Communities of McKinleyville and Trinidad

INITIAL STUDY

Mitigated Negative Declaration

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA

Department of Transportation

September 19, 2022
Date of Approval

Darrell Cardiff
Darrell Cardiff, Branch Chief
District 1 Office of Local Assistance
California Department of Transportation
CEQA Lead Agency

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PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, California Public Resources Code

SCH Number: 2022080249

Project Description

The California Department of Transportation (Caltrans) proposes to install a Class I pathway along Route 101 in Humboldt County from Post Mile 96.96 to 97.83 between the communities of McKinleyville and Trinidad.

Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a MND for this project. This does not mean that Caltrans' decision regarding the project is final. This MND is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant impact on the environment for the following reasons:

- The project would have *No Effect* on Agriculture and Forest Resources, Energy, Land Use and Planning, Minerals, Population and Housing, Public Services, and Tribal Cultural Resources.
- The project would have *Less than Significant Impacts* to Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, Noise, Recreation, Transportation, Utilities and Public Service Systems, and Wildlife.
- With the following *mitigation measures* incorporated, the project would *Less than Significant Impacts* to Aesthetics, Air Quality, Biological Resources, and Hazards and Hazardous materials.
    - Mitigation Measure AR-1: Protection of Aesthetic Resources
    - Mitigation Measure AQ-1: Air Quality Protections
    - Mitigation Measure BIO-1: Protection of Special Status Amphibians and Reptiles
    - Mitigation Measure BIO-2: Protection of Birds from Debris Catchment
    - Mitigation Measure BIO-3: Protection of Sonoma Tree Vole
    - Mitigation Measure BIO-4A: Repurpose Large Wood for Salmonid Habitat

- Mitigation Measure BIO-4B: Replacement of Lost Riparian Habitat
- Mitigation Measure BIO-5: Replacement of Lost Sensitive Natural Communities and Upland ESHA
- Mitigation Measure BIO-6: Prevention of Spread of Invasive Species
- Mitigation Measure HAZ-1: Management of Potential Aerially Deposited Lead

Darrell Cardiff

Darrell Cardiff, Branch Chief
Office of Local Assistance–District 1
California Department of Transportation

September 19, 2022

Date

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List of Abbreviated Terms

Abbreviation	Description
AB	Assembly Bill
ACV	California Redwood Coast – Humboldt County Airport
ADL	Aerially Deposited Lead
AGR	Agriculture
AIA	Airport Influence Area
ALUCP	Airport Land Use Compatibility Plan
AQ	Air Quality
AQUA	Aquaculture
BAAQMD	Bay Area Air Quality Management District
BFE	Base Flood Elevation
BIO	Biology
BMPs	Best Management Practices
BSA	Biological Study Area
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CC	California Coastal
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CHP	California Highway Patrol
CIA	Cumulative Impact Analysis
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO_2	carbon dioxide
COLD	Cold water Freshwater Habitat
COMM	Commercial and Sport Fishing
CoNED	Coastal National Elevation Database
CR	Coastal Recreation
CSZ	Cascadia Subduction Zone
CTP	California Transportation Plan
CUPA's	Certified United Program Agencies
CWA	Clean Water Act

Abbreviation	Description
DAL	Dial-A-Lift
DAR	Dial-A-Ride
dB	decibels
dbh	Diameter at breast height
Department	Caltrans
DOT	Department of Transportation
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
EDR	Environmental Data Resources
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EO	Executive Order
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESHA	Environmentally Sensitive Habitat Area
EST	Estuarine Habitat
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FRSH	Freshwater Replenishment
GHG	greenhouse gas
GS	Geology and Soils
GWR	Groundwater Recharge
HAZ	Hazards and Hazardous Resources
HCAOG	Humboldt County Association of Governments
HCDEH	Humboldt County Department of Environmental Health
HCGP	Humboldt County General Plan
HFCs	hydrofluorocarbons
HMP	Hazard Mitigation Plan
HU	Hydrologic Unit
HWMA	Humboldt Waste Management Authority
HWQ	Hydrology and Water Quality
IND	Industrial
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
ISA	Initial Site Assessment
LSAA	Lake and Streambed Alteration Agreement
MAR	Marine Habitat
MIGR	Migration of Aquatic Organisms

Abbreviation	Description
MLD	Most Likely Descendent
MMTC02e	million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
MSE	Mechanically Stabilized Earth
N_2O	nitrous oxide
NAGPRA	Native American Graves Repatriation Act
NAHC	Native American Heritage Commission
NAV	Navigation
NC	North Coast
NCRWQCB	North Coast Regional Water Quality Control Board
NCUAQMD	North Coast Unified Air Quality Management District
ND	Negative Declaration
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
PDT	Project Development Team
PF	Public Facility
PFMC	Pacific Fishery Management Council
PM	Particulate Matter
PM(s)	post mile(s)
POP	Population and Housing
PPV	Peak Particle Velocity
PRC	Public Resources Code
RARE	Preservation of Rare and Endangered Species
RCAA	Define
RCEM	Road Construction Emissions Model
REC-1	Contact Water Recreation
REC-2	Non-contact Water Recreation
ROW	Right of Way
RWQCB	Regional Water Quality Control Board
SHELL	Shellfish Harvesting
SHPO	State Historic Preservation Officer
SMAQMD	Sacramento Metropolitan Air Quality Management District
SNC	Sensitive Natural Community
SONCC	Southern Oregon/Northern California Coast
SPWN	Spawning, Reproduction, and Early Development
SRA	State Responsibility Area
SWEL	Still Water Elevations
SWMP	Storm Water Management Plan

Abbreviation	Description
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
THVF	Temporary High Visibility Fencing
TMP	Transportation Management Plan
TWL	Total Water Levels
U	Unclassified
U.S. or US	United States
USACE	United States Army Corps of Engineers
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Change Research Program
VIA	Visual Impact Assessment
VMT	Vehicle Miles Travelled
WILD	Wildlife Habitat
WPCP	Water Pollution Control Program
WQ	Water Quality

Chapter 1. Proposed Project

1.1. Project History

A feasibility study for the Little River Trail was previously completed in 2014 by Redwood Community Action Agency (RCAA) with support from the State Coastal Conservancy. RCAA is currently leading the Caltrans Project Approval and Environmental Document (PA&ED) phase with funding from the State Coastal Conservancy and support from the California Department of Transportation (Caltrans) Pending funding, Caltrans has agreed to finalize design, conduct environmental permitting, and construct the Little River Trail. Caltrans would own and maintain the Little River Trail as a Caltrans facility. Caltrans is the lead agency under the California Environmental Quality Act (CEQA).

1.2. Project Description

The project would construct an approximately 1-mile Class I Bike Path (pedestrian and bicycle trail) from Scenic Drive to Clam Beach. The trail would be a paved pathway on top of the undeveloped vegetated surface and along the Route 101 Crannell Road off-ramp.

To accommodate the trail on the Little River Bridge, the project includes modifications to the bridge and realignment of the southbound travel lanes.

The project is being designed in accordance with the Caltrans Highway Design Manual, 7th Edition (Caltrans 2020). In addition, the project would be designed in accordance with other specific applicable standards, including the California Manual on Uniform Traffic Control Devices (Caltrans 2021) and the Americans with Disabilities Act Standards for Accessible Design (Department of Justice 2010).

Project Objective

The California Coastal Trail is a non-motorized Class 1 public pedestrian and bicycle route along the state's coastline spanning from Mexico to Oregon. The project would close a critical gap in the California Coastal Trail, resulting in improved access to communities, recreational areas, and coastal resources. Installation of this 1-mile trail would improve access and safety for pedestrian and bicycle users as well as create opportunities for nature study and recreation. The Little River Trail would extend the existing California Coastal Trail to include the stretch between Scenic Drive and Clam Beach Drive, crossing the Little

River (Exhibit 1, Appendix A). Pedestrians and bicyclists traveling this stretch are currently limited to Route 101, which is dangerous for alternative modes of transport.

Proposed Project

The project would construct an approximately 1-mile Class I Bike from Scenic Drive to Clam Beach. Project elements are described below.

Geotechnical Investigations

A Preliminary Foundation Report has been prepared for the Project and includes a review of geologic literature for the area, site reconnaissance and geologic mapping, results from shallow hand-auger borings, review of historic photos of Route 101 construction, review of proposed retaining wall concepts, and preliminary geotechnical recommendations (SHN 2021a). The Preliminary Foundation Report finds that the proposed trail alignment comprises highway fill related to the late-1960s highway alignment: unconsolidated alluvium, floodplain alluvium, beach/dune deposits, Falor Formation, and Franciscan Complex mélange. The Preliminary Foundation Report notes trail development will require removal of unsuitable (unstable) soils and imported fill and/or engineered fill and may require the use of geotextiles.

Consistent with the recommendations of the Preliminary Foundation Report, additional geotechnical investigations are required during the project design phase to obtain necessary information to support the retaining wall type selection and design. The investigation would occur north of Little River, between the trailhead at Scenic Drive and Little River. The geotechnical investigations would employ drill rigs and ancillary equipment and would require tree and vegetation removal along the trail alignment for access. Any excess sediments that result from geological investigations are expected to be relatively small in quantity and would either be spread onsite in upland areas away from water bodies or hauled offsite by the contractor for legal disposal or reuse.

Retaining Walls

Two retaining walls would be necessary to maintain accessible slopes, minimize the construction footprint, and facilitate crossing an existing culvert over an unnamed perennial tributary along the northern trail alignment between the trailhead at Scenic Drive and the Little River.

The final retaining wall designs would follow further geotechnical investigations and recommendations. Potential retaining wall types are summarized below and include soldier pile wall with ground anchors, cantilever soldier pile walls, and mechanically stabilized earth (MSE) wall. More than one retaining wall construction scenario may be included in the final design, which would also determine the final number, length, and heights of required retaining wall structures. The retaining wall structures would not be easily visible since there is no access or use on the west side of the trail.

At the existing culvert over an unnamed perennial tributary, a retaining wall would be constructed to prevent the trail embankment from encroaching into the stream. The retaining wall would be located approximately 10-feet upslope and upstream of an unnamed tributary, on top of the existing buried culvert. One large Sitka spruce would be removed to construct the retaining wall. Tree removal if further detailed under Vegetation Removal below.

Retaining walls would not be necessary on the sand slopes adjacent to portions of the southern end of the proposed trail alignment at the southbound Route 101 off-ramp between the Little River and Crannell Road.

Soldier Pile Wall with Ground Anchors

The soldier pile wall construction scenario would include a retaining wall on the western edge of the trail only. Soldier piles would be installed in a drilled hole approximately 18-feet below grade and anchored into the ground with horizontal ground anchors. Horizontal lagging would extend above and below grade. A structural concrete waler beam and concrete cap would be installed on top of the lagging, resulting in a total above grade height of approximately 8-feet, although final structure heights would vary based on-site-specific conditions and final designs. A safety railing would be attached to the structural concrete gap. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Cantilever Soldier Pile Wall 14-Foot Design Height

The 14-foot maximum design height cantilever soldier pile wall includes retaining structures on both the western and eastern edge of the trail. On the western edge, soldier piles would be installed in a drilled hole approximately 30-feet below grade and anchored into the ground. Horizontal lagging would be installed above and below grade, with a maximum exposed height limit of 14-feet. A concrete cap and safety railing would be installed on top of the lagging. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Cantilever Soldier Pile Wall 12-Foot Design Height

The 12-foot maximum design height cantilever soldier pile wall includes retaining structures on both the western and eastern edge of the trail. On the western edge, soldier piles would be installed in a drilled hole approximately 20-feet below grade and anchored into the ground. Lagging would be installed above and below grade, with a maximum height limit of 12-feet. A concrete cap and safety railing would be installed on top of the lagging. If necessary, a concrete retaining wall would also be constructed on the eastern edge of the trail with an above-grade height of approximately 6-feet. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Mechanically Stabilized Earth Wall

A MSE wall approximately 18-feet tall would be constructed on the eastern edge of the trail to retain the cut slope above and below grade. On the western edge of the trail, MSE wall panels approximately 16-feet tall would be installed to elevate and retain the trail. A safety railing would be installed at the top edge of the MSE wall.

Concrete Boardwalk Structure

Cast-in-drilled-holes piles approximately 16-feet tall would be installed below grade with a drill rig. The piles would be topped with bent caps approximately 2-feet tall to form the base of the trail. The bent caps would be topped with an 8-inch-thick concrete slab.

Grading and Fill

Grading would need to occur along the entire trail alignment to achieve accessible slopes and suitable trail width. Similarly, fill would be placed and compacted along the alignment to establish the trail prism.

Barrier Installation

South of the Little River, barriers would be installed to separate the trail from Route 101 or the Crannell Road off-ramp. End treatments or similar safety modifications would be installed at the end of the barriers.

Ancillary Trail Features Construction

Ancillary trail features, such as lookouts or other nature viewing areas, would be constructed adjacent to the primary alignment. Ancillary trail features may include benches, interpretive signage, and other features related to public access and education. Ancillary trail features would include up to three nature viewing areas that are anticipated for this project. The footprint of each nature viewing area, including the trail to access the area, would be approximately 1,000 square-feet. Each area would likely contain one to two benches, a picnic table, a trash/recycling receptacle, and interpretive signage.

US Route 101 Little River Crossing

The trail would cross the Little River via the existing Route 101 bridge. The existing travel lanes would be reconfigured to support the multi-use trail. Under the scenario with the greatest potential for environmental impacts under consideration, the bridge deck would be widened 2-feet on the western edge and travel lanes would be reconfigured. Other lane reconfiguration scenarios would not require bridge deck widening. Additional pilings or in-water work would not be required to support reconfiguring the travel lanes or widening the bridge deck. The existing lanes would be reconfigured to accommodate an 8- to 10-foot trail in addition to Caltrans standard shoulder and travel lane widths (Figure 1). As a result of the widening and lane shifts, the bridge, and portions of Route 101 immediately north and south of the bridge would need to be repaved and restriped. To accommodate lane shifts on the bridge, the existing vegetation in the median between the northbound and southbound lanes of Route 101 would be removed and replaced with pavement. The existing barrier between the travel lanes would be replaced and extended.

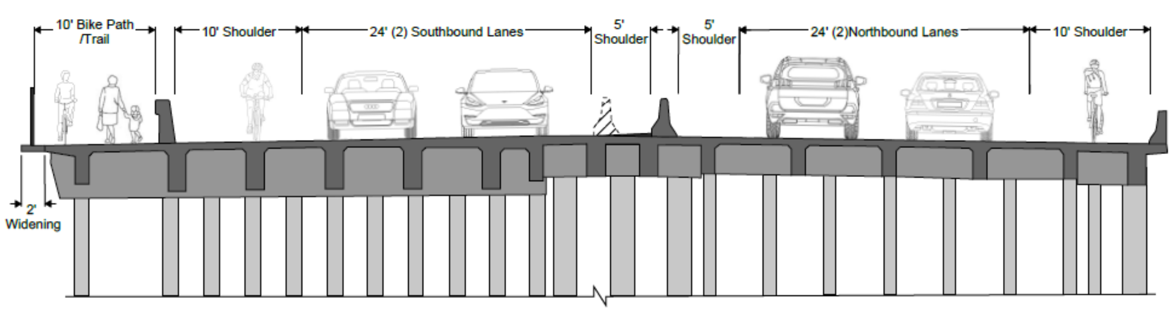

Figure 1. Conceptual Overview of Little River Bridge Design Approach

Bridge deck widening would include removing the existing concrete bridge barrier and installing additional concrete reinforcement and new barrier and railings to widen the bridge by approximately 2-feet. To widen the bridge, a temporary shoulder closure would be established with a k-rail for the duration of work. A temporary work platform and debris containment system would be installed below the existing bridge deck using a snooper truck on the bridge deck, which would require lane closure. Overhanging brackets to support the platform and debris containment system would be installed on the face of the existing edge girder using drilled-in anchors. The existing concrete barrier and edge of the deck would be removed by chipping. Existing reinforcement bars would be extended with mechanical couplers. Formwork would be installed below the edge of the bridge deck. Bridge reinforcement would be completed, followed by pouring a widened deck. Forms would be stripped, and the railing would be installed. The temporary work platform would be removed, and drill holes would be patched using a snooper truck from the bridge deck.

Temporary lane closures on the Route 101 Little River Bridge would be required for bridge widening, barrier construction, and striping. Temporary lane closures would follow Caltrans requirements for temporary roadway closures, including signage and public noticing.

Drainage and Stormwater Improvements

The Class 1 facility will be exempt from municipal separate storm sewer system (MS4) requirements. The trail would be constructed to mimic the existing site topography and be outsloped to the maximum extent feasible. In localized areas where outsloping is not feasible, traditional drainage inlets and storm drainage piping would be deployed to convey stormwater through the trail prism. Stormwater would be discharged through energy dissipation devices such as riprap aprons and/or outlet basins to prevent scour, protect the outlet structure, and minimize the potential for downstream erosion. Existing drainage inlets located adjacent to the Route 101 off-ramp and just north of the Little River Bridge in the highway median would need to be modified to accommodate planned improvements for this project. Additionally, trenching for storm drainpipes and related infrastructure is proposed in the following locations:

- New drainage inlets along Route 101 southbound off-ramp
- New drainage piping along Route 101 southbound off-ramp
- The existing drainage inlet located just north of the Little River bridge would be moved north approximately 150-feet along the Route 101, which would also require the installation of approximately 150-feet of new storm drain piping
- Nine new drainage inlets with downdrains along the retaining wall along the northern trail segment

Utility Relocation

One Caltrans streetlight located south of the Little River along the Route 101 off-ramp would be relocated outside the trail footprint in coordination with Caltrans.

Striping and Signage

The trail would include required striping and signage in order to comply with the California Manual on Uniform Traffic Control Devices (Caltrans 2021). Striping and directional signage would indicate two travel directions.

Signage to direct southbound cyclists to exit northbound Route 101 in Westhaven to access the trail may also be incorporated. Interpretive signage along the trail would promote education of the coastal resources and surrounding environment.

Trail Lighting

The project would include streetlight installation at both trailheads to improve safety in key locations. Street lighting would be designed to protect wildlife and nighttime views, including views of the night sky. The project would be designed to be consistent with the recommendations of the International Dark-Sky Association, which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project would use the minimum lumens necessary; and it would be directed downward, shielded, and at pedestrian level when feasible. This would help ensure lighting is contained within the site and does not cause significant lighting and glare impacts for surrounding land uses and sensitive habitat areas.

Trenching for the new streetlight pole at the southern end of the trail would include connecting the existing streetlight (at the California Highway Patrol weigh station to the proposed new streetlight pole location. The trench would be approximately 1-foot wide, 3-feet deep, and 310-feet long. The trench would be located under the trail before jogging to the east and cross through the southbound off ramp and then through an open vegetated area before connecting to the existing streetlight near the weigh station.

Trenching for the new streetlight at the northern end of the trail would connect the existing power pole to the proposed new streetlight pole location. The pathway of the trench is anticipated to be a straight line from the existing power pole to the proposed light. The trench would be approximately 1-foot wide, 3-feet deep, and 60-feet long.

Trailhead Development

Travel lanes at both trailheads would be divided to enhance user safety and discourage motorized vehicles from inadvertently entering the trail. Trailhead improvements would include signage pavement striping, parking stalls, walkways and sidewalks, and additional trail amenities such as benches or picnic tables. At the Scenic Drive trailhead, parking spaces may be delineated within the existing cul-de-sac footprint or adjacent areas. The existing Clam Beach parking area near the southern trailhead would continue to be used.

Additional parking at the southern trailhead is not proposed. Crosswalks and shoulder striping improvements may be installed along Clam Beach Road to improve safety between the existing parking area and the new trailhead in coordination with Caltrans and the County of Humboldt.

Mountable Apron at Southern Trailhead

A mountable apron would be constructed between the southern trailhead and the Route 101 southbound off-ramp at the southern terminus of the trail.

Construction Schedule

Construction could require up to two construction seasons. If feasible, vegetation clearing would occur first prior to construction, between September 16 and January 31 (outside of the bird nesting period). Construction would require up to 8 months (per year), beginning in March and concluding by October 15.

Construction Activities and Equipment

Equipment required for construction would include drill rigs, concrete mixer and pump trucks, all terrain forklifts, snooper truck, compressors, tracked excavators, loaders, backhoes, graders, bulldozers, dump trucks, skid steers, and pick-up trucks. Jackhammers or similar pieces of equipment may be necessary to support bridge widening. It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for trail construction. Trenching and ground disturbance in support of utility connection for relocated and new lighting is anticipated. Sheet pile installation for retaining walls would occur via vibratory methods; pile driving would not occur. Water would be used for dust control, compaction, and revegetation.

Construction Access

The project would be accessed via Route 101, Scenic Drive, and Clam Beach Drive. No new access roads would need to be constructed in order to implement the project.

Establish Exclusion Areas and Erosion Control

Sensitive biological areas would be protected with protective fencing prior to construction, except for areas that would be unavoidably impacted during construction. Erosion control Best Management Practices (BMPs) would also be installed prior to construction.

Vegetation Removal

Clearing and grubbing of vegetation would occur within the construction footprint, including tree removal north and south of the Little River. During project design, contractors mapped trees 6-inches in diameter at breast height (dbh) or greater. One hundred seventeen (117) trees that are 6-inch dbh or greater would be removed to clear the proposed alignment for trail installation, many of which are Sitka spruce (*Picea sitchensis*) and other native species. One larger Sitka spruce located approximately 10-feet from the unnamed tributary would also be removed and is accounted for in Table 1. Otherwise, no additional trees (e.g., riparian habitat) would need to be removed near the unnamed tributary. Final tree removal numbers by species may be adjusted as the design progresses.

Table 1. Trees 6-inch or Greater Diameter at Breast Height Proposed for Removal

Diameter at Breast Height	Alder	Spruce	Fir	Pine	Willow	Elderberry
6-inch	5		1	1		
8-inch	4		6	2		
10-ich	13	2	7	3	4	
12-inch	5	1	2	3		1
14-inch	8		2	2		
16-inch	9		2	1		
18-inch	1	1	1	3		
20-inch		1				
22-inch	2		1			
24-inch		3	1	5		
30-inch		2	1			
34-inch		1				
36-inch		3	2			
40-inch		1				

Diameter at Breast Height	Alder	Spruce	Fir	Pine	Willow	Elderberry
48-inch		2	1			
72-inch cluster			1			
Total	**47**	**17**	**28**	**20**	**4**	**1**

Stockpiling and Staging

Stockpiling and staging would occur in an existing graveled area east of Route 101, near Clam Beach Drive at the south end of the project (Exhibit 2-1, Appendix A). Stockpiling and staging would also occur within the cul-de-sac at the terminus of Scenic Drive at the north end of the project (Exhibit 2-2, Appendix A). Stockpiling and staging areas are located within the existing project area boundary in disturbed areas and would not require grading. Within the stockpiling and staging areas, BMPs would be used to prevent construction materials and hazardous materials from impacting the environment. Stockpiling and staging is not planned to occur on State Parks property.

Excess soils, aggregate road base, and construction materials would be stored on-site within designated stockpiling and staging areas. Excess materials may be re-used on-site for backfill and finished grading. Excess materials would not be stockpiled on-site once the project is complete. The contractor would haul additional excess materials off-site for beneficial reuse, recycling, or legal disposal.

Groundwater Dewatering

Groundwater dewatering is generally not expected to be required. However, if needed, temporary groundwater dewatering would involve pumping water out of a trench or excavation area. Groundwater would typically be pumped to a settling pond, settling tanks, or into a dewatering bag. The water may also be percolated back into the ground in uplands. Discharge to regulated waters would not occur.

Site Restoration and Closure

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas would be restored to pre-construction conditions or stabilized with a combination of grass seed (through broadcasting or hydroseeding), straw mulch, rolled erosion control fabric, and revegetation. Disturbed areas resulting from construction in the undeveloped area west of the Crannell Road off-ramp would be revegetated with appropriate species. Revegetation would include replanting and compliance monitoring if mitigation is required by resource agencies for impacts to sensitive habitats.

No-Build Alternative

This alternative would maintain the facility in its current condition and would not meet the purpose and need of the project. For each potential impact area discussed in Chapter 2, the No-Build alternative has been determined to have no impact. Under the No-Build alternative, no alterations to the existing conditions would occur and the proposed improvements would not be implemented.

Alternatives Considered but Eliminated from Further Consideration

Alternative alignments were considered for the southern trail segment between the Little River Bridge and Crannell road. All considered alignments were located entirely within the Caltrans right of way. Considered alternatives varied only slightly from the proposed Project. One alternative alignment located the trail south of the Little River in the vegetated area west of the off-ramp. However, this alignment was not chosen to minimize potential impacts to cultural and biological resources and due to existing topography constraints (steep slopes) near the Crannell Road trailhead. A second alternative alignment located the trail entirely adjacent to the off-ramp but did not provide the desired separation between the highway and trail in support of the project's safety and user experience objectives. Ultimately, the trail alignment south of the Little River combined the two alternative alignments. Nearest the Little River, the trail would be located in the vegetated area west of the off-ramp where the Caltrans right of way is wider and slopes are less steep. Toward the Crannel Road trailhead, the trail would be located adjacent to the off-ramp.

General Plan Description, Zoning, and Surrounding Land Uses

The project and surrounding lands are within the Coastal Zone within Humboldt County (Exhibit 3, Appendix A). The majority of the proposed project is located within Caltrans right-of-way with the exception of the northern section. The northern section would be located within the McKinleyville Area Plan of the Humboldt County Local Coastal Program. The area is zoned "U" for unclassified and designated as "PF" Public Facilities. The project would not change the existing land use or zoning designations in the project area.

1.3. Permits and Approvals Needed

The following table (Table 2) indicates the permitting agency, permits/approvals and status of permits required for the project.

Table 2. Agency Approvals

Agency	Permit/Approval	Status
California Department of Fish and Wildlife (CDFW)	Lake and Streambed Alteration Agreement	Not submitted – to be prepared during PS&E
State Water Resources Control Board (SWRCB)	Construction General Permit	Not submitted – to be prepared during PS&E
Regional Water Quality Control Board (RWQCB)	Clean Water Act Section 401 Water Quality Certification	Not submitted – to be prepared during PS&E
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 Permit	Not submitted – to be prepared during PS&E
National Marine Fisheries Service	Endangered Species Act Section 7 Consultation	Letter of Concurrence issued July 14, 2022
California State Parks	Section 4(f)	Complete
California Coastal Commission	Coastal Development Permit	Not submitted – to be prepared during PS&E
North Coast Unified Air Quality Management District (NCUAQMD)	National Emissions Standards for Hazardous Air Pollutants (NESHAP) Notification	Not submitted – to be prepared during PS&E
Special County Permit	Tree Removal	Not submitted – to be prepared during PS&E if required

1.4. Standard Measures and Best Management Practices Included in All Alternatives

Under CEQA, “mitigation” is defined as avoiding, minimizing, rectifying, reducing/ eliminating, and compensating for an impact. In contrast, Standard Measures and Best Management Practices (BMPs) are prescriptive and sufficiently standardized to be generally applicable, and do not require special tailoring for a project. They are measures that typically result from laws, permits, agreements, guidelines, and resource management plans. For this reason, the measures and practices are not considered “mitigation” under CEQA; rather, they are included as part of the project description in environmental documents.

The following section provides a list of project features, standard practices (measures), and Best Management Practices (BMPs) that are included as part of the project description. These avoidance and minimization measures are prescriptive and sufficiently standardized to be generally applicable and do not require special tailoring to a project situation. These are generally measures that result from laws, permits, guidelines, and resource management plans that are relevant to the project. They contain refinements in planning policies and implementing actions. These practices predate the project’s proposal and apply to all similar projects. For this reason, these measures and practices do not qualify as project mitigation, and the effects of the project are analyzed with these measures in place.

Standard Measures relevant to the protection of natural resources deemed applicable to the proposed project include the following:

Biological Resources

BR-1: General

Before start of work, as required by permit or consultation conditions, a Caltrans biologist or ECL would meet with the contractor to brief them on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, drilling site management, and how to identify and report regulated species within the project areas.

BR-2: Animal Species

A. To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week prior to vegetation removal. If an active nest is located, the biologist would coordinate with CDFW to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.

B. Bird Exclusion Plan would be prepared by a qualified biologist prior to construction. Exclusion devices would be limited to the Route 101 bridge and designed so they would not trap or entangle birds or bats. Exclusion devices would be installed outside of the breeding season (September 16 through January 31) to eliminate the re-occupancy of existing structures by migratory bird species that may attempt to nest on the structure during construction. On structures or parts of structure where it is not feasible to install bird exclusion devices, partially constructed and unoccupied nests within the construction area would be removed and disposed of on a regular basis throughout the breeding season (February 1 through September 15 with biologist discretion) to prevent their occupation. Nest removal would be repeated weekly under guidance of a qualified biologist to ensure nests are inactive prior to removal.

C. Pre-construction surveys for active raptor nests within one-quarter mile of the construction area would be conducted by a qualified biologist within one week prior to initiation of construction activities. Areas to be surveyed would be limited to those areas subject to increased disturbance because of construction activities (i.e., areas where existing traffic or human activity is greater than or equal to construction-related disturbance need not be surveyed). If any active raptor nests are identified, appropriate conservation measures (as determined by a qualified biologist) would be implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities near the active nest site until the young have fledged.

D. A qualified biologist would survey to assess conditions under and on the bridge for suitable bat habitat. The survey would be conducted in the year prior to construction. If conditions change and bats may use the bridge, additional avoidance and minimization measures would be applied, including but not limited to limited bridge work at night, installation of exclusion devices on bridge crevices suitable for roosting bats, and seasonal limitations for work conducted on the bridge. Additionally, a Bat Exclusion Plan would be prepared by a qualified biologist prior to construction. Exclusion devices would be designed so they would not trap or entangle bats or birds. The Plan would include guidelines for appropriate date of exclusion and temperature parameters based on bridge type, geographic location, and species present. At the direction of a qualified biologist, exclusion devices would be installed after the maternity season but before hibernation. If overlapping resources are present (e.g., nesting birds), coordination between the Bat Exclusion Plan and any other relevant plans would occur. Measures would be monitored by a qualified biologist.

E. To prevent attracting corvids (birds of the Corvidae family which include jays, crows, and ravens), no trash or foodstuffs would be left or stored on-site. All trash would be deposited in a secure container daily and disposed of at an approved waste facility at least once a week. Also, on-site workers would not attempt to attract or feed any wildlife.

BR-3: Invasive Species

Invasive non-native species control would be implemented. Measures would include:

- Straw, straw bales, seed, mulch, or other material used for erosion control or landscaping which would be free of noxious weed seed and propagules.
- All equipment would be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species. Project personnel would adhere to the latest version of the *California Department of Fish and Wildlife Aquatic Invasive Species Cleaning/Decontamination Protocol (Northern Region)* for all field gear and equipment in contact with water.

BR-4: Plant Species, Sensitive Natural Communities, and ESHA

A. Seasonally appropriate, pre-construction surveys for sensitive plant species would be completed (or updated) by a qualified biologist prior to construction in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018).

B. Prior to the start of work, Temporary High Visibility Fencing (THVF) and/or flagging would be installed around sensitive natural communities, environmentally sensitive habitat areas, rare plant occurrences, intermittent streams, and wetlands and other waters, where appropriate, and as shown in Figures 5-7 of the NES (Appendix D). No work would occur within fenced/flagged areas.

C. Where feasible, the structural root zone would be identified around each large-diameter tree (>2-foot DBH) directly adjacent to project activities, and work within the zone would be limited.

D. When possible, excavation of roots of large diameter trees (>2-foot DBH) would not be conducted with mechanical excavator or other ripping tools. Instead, roots would be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments or chainsaw). At a minimum, jagged roots would be pruned away to make sharp, clean cuts.

E. After completion, all superfluous construction materials would be completely removed from the site. The site would then be restored by regrading and stabilizing with a hydroseed mixture of native species along with fast growing sterile erosion control seed, as required by the Erosion Control Plan.

BR-5: Wetlands and Other Waters

A. Construction activities performed above the ordinary high-water mark of a watercourse that could potentially directly impact surface waters (i.e., soil disturbance that could lead to turbidity) would be performed during the dry season, typically between June through October, or as weather permits per the authorized contractor-prepared Storm Water Pollution Prevention Plan

(SWPPP), Water Pollution Control Program (WPCP),) and/or project permit requirements.

B. See **BR-4** for Temporary High Visibility Fencing (THVF) information.

Cultural Resources

CR-1: Caltrans would coordinate with the Wiyot Tribe and incorporate measures to protect tribal resources, including potential work windows associated with tribal ceremonies.

CR-2: An archeological monitor would be used during ground-disturbing activities. A tribal monitor would be used during ground-disturbing activities upon request by the Wiyot Tribe.

CR-3: If cultural materials are discovered during construction, work activity within a 60-foot radius of the discovery would be stopped and the area secured until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer (SHPO).

CR-4: If human remains and related items are discovered on private or State land, they would be treated in accordance with State Health and Safety Code § 7050.5. Further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) § 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD).

Human remains and related items discovered on federally owned lands would be treated in accordance with the Native American Graves Repatriation Act of 1990 (NAGPRA) (23 USC 3001). The procedures for dealing with the discovery of human remains, funerary objects, or sacred objects on federal land are described in the regulations that implement NAGPRA 43 CFR Part 10. All work in the vicinity of the discovery shall be halted and the administering agency’s archaeologist would be notified immediately. Project activities in the vicinity of the discovery would not resume until the federal agency complies with the 43 CFR Part 10 regulations and provides notification to proceed.

Geology, Seismic/Topography, and Paleontology

GS-1: The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and Best Management Practices (BMPs). New earthen slopes would be vegetated to reduce erosion potential.

GS-2: In the unlikely event that paleontological resources (fossils) are encountered, all work within a 60-foot radius of the discovery would stop, the area would be secured, and the work would not resume until appropriate measures are taken.

Greenhouse Gas Emissions

GHG-1: Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality.

GHG-2: Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.

GHG-3: Caltrans Standard Specification "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB).

GHG-4: Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.

GHG-5: All areas temporarily disturbed during construction would be revegetated with appropriate native species. Landscaping reduces surface warming and, through photosynthesis, decreases CO2. This replanting would help offset any potential CO2 emissions increase.

GHG-6: Pedestrian and bicycle access would be maintained on Route 101 during project activities.

Hazardous Waste and Material

HW-1: Per Caltrans requirements, the contractor(s) would prepare a project-specific Lead Compliance Plan (CCR Title 8, § 1532.1, the "Lead in Construction" standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

HW-2: When identified as containing hazardous levels of lead, traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision "Residue Containing Lead from Paint and Thermoplastic."

HW-3: If treated wood waste (such as removal of signposts or guardrail) is generated during this project, it would be disposed of in accordance with Standard Specification "Treated Wood Waste."

Traffic and Transportation

TT-1: Pedestrian and bicycle access would be maintained during construction.

TT-2: The contractor would be required to schedule and conduct work to avoid unnecessary inconvenience to the public and to maintain access to driveways, houses, and buildings within the work zones.

TT-3: A Transportation Management Plan (TMP) would be applied to the project.

Utilities and Emergency Services

UE-1: All emergency response agencies in the project area would be notified of the project construction schedule and would have access to Route 101 throughout the construction period.

UE-2: Caltrans would coordinate with utility providers to plan for relocation of any utilities to ensure utility customers would be notified of potential service disruptions before relocation.

Water Quality and Stormwater Runoff

WQ-1: The project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ) as amended by subsequent orders, which became effective July 1, 2013, for projects that result in a land disturbance of one acre or more, and the Construction General Permit (Order 2009-0009-DWQ).

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2009-0009-DWQ) or Water Pollution Control Program (WPCP) (projects that result in a land disturbance of less than one acre), that includes erosion control measures and construction waste containment measures to protect waters of the State during project construction.

The SWPPP or WPCP would identify the sources of pollutants that may affect the quality of stormwater; include construction site Best Management Practices (BMPs) to control sedimentation, erosion, and potential chemical pollutants; provide for construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the *Caltrans Storm Water Quality Handbooks:* Construction Site BMPs Manual to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.

The project SWPPP or WPCP would be continuously updated to adapt to changing site conditions during the construction phase.

Construction may require one or more of the following temporary construction site BMPs:

- Erosion control measures for areas of ground disturbance in and adjacent to Waters of the U.S. and State. Erosion control measures shall be implemented to reduce potential water quality degradation, dust, or erosion to areas adjacent to construction activities.

- Equipment shall be cleaned of deleterious materials before being delivered to the job site.

- Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations.

- Accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities would be removed by dewatering.

- Water generated from the dewatering operations would be discharged on-site for dust control and/or to an infiltration basin or disposed of offsite.
- Temporary sediment control and soil stabilization devices would be installed.
- Existing vegetated areas would be maintained to the maximum extent practicable.
- Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.
- Soil disturbing work would be limited during the rainy season.

WQ-2: The proposed SWPPP will include a waste management section that provides procedural and structural BMPs for collecting, handling, storing, and disposing wastes generated by project construction and to prevent the accidental release of pollutants. The contractor would also be required to submit a demolition and debris containment and management plan to the Caltrans Resident Engineer for approval prior to bridge demolition. All construction will be completed according to the most recent Caltrans Site Best Management Practices Manual to protect water quality including the following measures:

- A site-specific spill prevention plan to be included in the SWPPP will be implemented for potentially hazardous materials. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms will be constructed to prevent spilled materials from reaching surface water features.
- Equipment and hazardous materials will be stored in the staging area 500-feet to the west and away from surface water features.
- Vehicles and equipment used during construction will receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling will be conducted

within an adequate fueling containment area, at least 50-feet away from all streams and wetlands.

- Minimize sand and gravel (from new asphalt) entering storm drains, streets, and creeks by sweeping. Old or spilled asphalt must be recycled or disposed as approved by the resident engineer.

- All project materials will be prevented from entering streams. Silt fences will be installed until soils are stabilized or permanent controls are in place.

- Installment of netting or other similar method for debris catchment during bridgework will also be implemented to protect aquatic species. The debris catchment shall be implemented between September 16 and January 31 to avoid the nesting bird season.

WQ-3: The project would incorporate pollution prevention and design measures consistent with the 2016 Caltrans Storm Water Management Plan. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ) as amended by subsequent orders.

The project design may include one or more of the following:

- Vegetated surfaces would feature native plants, and revegetation would use the seed mixture, mulch, tackifier, and fertilizer recommended in the Erosion Control Plan prepared for the project.

- Where possible, stormwater would be directed in such a way as to sheet flow across vegetated slopes, thus providing filtration of any potential pollutants.

1.5. Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations. Separate environmental documentation supporting a Categorical Exclusion determination will be prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the National Marine Fisheries Service and the United States Fish and Wildlife Service—in other words, species protected by the Federal Endangered Species Act).

Chapter 2. CEQA Environmental Checklist

Environmental Factors Potentially Affected

The environmental factors noted below would be potentially affected by this project. Please see the CEQA Environmental Checklist on the following pages for additional information.

Potential Impact Area	**Impacted: Yes / No**
Aesthetics	Yes
Agriculture and Forest Resources	No
Air Quality	Yes
Biological Resources	Yes
Cultural Resources	Yes
Energy	No
Geology and Soils	Yes
Greenhouse Gas Emissions	Yes
Hazards and Hazardous Materials	Yes
Hydrology and Water Quality	Yes
Land Use and Planning	No
Mineral Resources	No
Noise	Yes
Population and Housing	No
Public Services	No
Recreation	Yes
Transportation	Yes
Tribal Cultural Resources	No
Utilities and Service Systems	Yes
Wildfire	Yes
Mandatory Findings of Significance	Yes

The CEQA Environmental Checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the project will indicate there are no impacts to a particular resource. A "No Impact" answer in the last column of the checklist reflects this determination. The words "significant" and "significance" used throughout the checklist and this document are only related to potential impacts pursuant to CEQA. The questions in the CEQA Environmental Checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project as well as standardized measures applied to all or most Caltrans projects (such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions [Section 1.4]), are an integral part of the project and have been considered prior to any significance determinations documented in the checklist or document.

Project Impact Analysis Under CEQA

CEQA broadly defines "project" to include *"the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment"* (14 CCR § 15378). Under CEQA, normally the baseline for environmental impact analysis consists of the existing conditions at the time the environmental studies began. However, it is important to choose the baseline that most meaningfully informs decision-makers and the public of the project's possible impacts. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record. The CEQA Guidelines require a "statement of the objectives sought by the proposed project" (14 CCR § 15124(b)).

CEQA requires the identification of each potentially "significant effect on the environment" resulting from the action, and ways to mitigate each significant effect. Significance is defined as "*Substantial or potentially substantial adverse change to any of the physical conditions within the area affected by the project*" (14 CCR § 15382). CEQA determinations are made prior to and separate from the development of mitigation measures for the project.

The legal standard for determining the significance of impacts is whether a "fair argument" can be made that a "substantial adverse change in physical conditions" would occur. The fair argument must be backed by substantial evidence including facts, reasonable assumption predicated upon fact, or expert opinion supported by facts. Generally, an environmental professional with specific training in an area of environmental review can make this determination.

Though not required, CEQA suggests Lead Agencies adopt thresholds of significance, which define the level of effect above which the Lead Agency will consider impacts to be significant, and below which it will consider impacts to be less than significant. Given the size of California and it's varied, diverse, and complex ecosystems, as a Lead Agency that encompasses the entire State, developing thresholds of significance on a state-wide basis has not been pursued by Caltrans. Rather, to ensure each resource is evaluated objectively, Caltrans analyzes potential resource impacts in the project area based on their location and the effect of the potential impact on the resource. For example, if a project has the potential to impact 0.10-acre of wetland in a watershed that has minimal development and contains thousands of acres of wetland, then a "less than significant" determination would be considered appropriate. In comparison, if 0.10-acre of wetland would be impacted that is located within a park in a city that only has 1.00-acre of total wetland, then the 0.10-acre of wetland impact could be considered "significant."

If the action may have a potentially significant effect on any environmental resource (even with mitigation measures implemented), then an Environmental Impact Report (EIR) must be prepared. Under CEQA, the lead agency may adopt a negative declaration (ND) if there is no substantial evidence that the project may have a potentially significant effect on the environment (14 CCR § 15070(a)). A proposed negative declaration must be circulated for public review, along with a document known as an Initial Study. CEQA allows for a "Mitigated Negative Declaration" in which mitigation measures are proposed to reduce potentially significant effects to less than significant (14 CCR § 15369.5).

Although the formulation of mitigation measures shall not be deferred until some future time, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar processes may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§15126.4(a)(1)(B)).

Per CEQA, measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (14 CCR § 15126.4(a)(3)). Under CEQA, mitigation is defined as avoiding, minimizing, rectifying, reducing, and compensating for any potential impacts (CEQA 15370). Regulatory agencies may require additional measures beyond those required for compliance with CEQA. Though not considered “mitigation” under CEQA, these measures are often referred to in an Initial Study as “mitigation”, Good Stewardship or Best Management Practices. These measures can also be identified after the Initial Study/Negative Declaration is approved.

CEQA documents must consider direct and indirect impacts of a project (CAL. PUB. RES. CODE § 21065.3). They are to focus on significant impacts (14 CCR § 15126.2(a)). Impacts that are less than significant need only be briefly described (14 CCR § 15128). All potentially significant effects must be addressed.

No-Build Alternative

For each of the following CEQA Environmental Checklist questions, the “No-Build” alternative has been determined to have "No Impact”. Under the “No-Build” alternative, no alterations to the existing conditions would occur and no proposed improvements would be implemented. The “No-Build” alternative will not be discussed further in this document.

2.1. Aesthetics

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect on a scenic vista?		✓		
Would the project: b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
Would the project: c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
Would the project: d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

Regulatory Setting

The California Environmental Quality Act (CEQA) establishes it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (CA Public Resources Code [PRC] Section 21001[b]).

Environmental Setting

The proposed Project is located in Humboldt County, adjacent to US Route 101. The portion of Route 101 that is paralleling the Project alignment is a four-lane (two lanes going both directions) highway. Typical views along US Route 101 within the confines of the Project footprint are comprised of forested areas, adjacent hillsides, and the Little River at the crossing. Coastal views are generally screened from view due to existing vegetation, however, limited coastal views are available at the Little River Crossing.

Discussion of CEQA Environmental Checklist Question 2.1—Aesthetics

A "*No Impact*" determination was made for Question b) listed within the CEQA Environmental Checklist—Aesthetics section. Determinations were based on scope, description, and locations of the proposed project and the Minor Visual Impact Assessment (VIA) completed for the project (Stantec 2022a) and is attached as Appendix B. See below for further discussion of the "*Less Than Significant Impact*" determination made for Questions a), c), and d).

a) Would the project have a substantial adverse effect on a scenic vista?

Important scenic vistas and resources in Humboldt County include those that are visible from major public roadways and public areas, such as views of the coast, forests, open space or agricultural lands, historic districts, landmarks, and cultural sites. Coastal views are assumed scenic vistas even though, to date, scenic resources in Humboldt County have not been mapped (Humboldt County 2017). As previously stated, the project is generally bordered on either side by forest and hillsides, but also transects the Little River; therefore, views of the waterway and the Pacific Ocean would occur following project implementation at that location. No other coastal views or scenic vistas are readily available as they are screened from view due to existing vegetation. Operation of the project would not introduce elements that would constitute visual intrusions into nor obscure or change the coastal views.

A Minor VIA was prepared for the project to document potential visual impacts caused by the proposed project and propose measures to lessen any detrimental impacts that are identified (Stantec 2022a). The Minor VIA determined that views of dense tree lines would be slightly changed, and project signage, streetlight and bike path infrastructure would slightly alter the character of the existing foreground from a somewhat naturalized, vegetated view to a slightly more built-form view and would reduce the intactness and unity of the view of the dense mature tree line in the background (Stantec 2022a). In addition, approximately 117 trees that are 6-inch dbh or greater would be removed to clear the proposed one-mile alignment for trail installation, many of which are Sitka spruce and other native species. The 117 trees to be removed would be located throughout the one-mile alignment, avoiding a significant visual change in any one area. Even though dense vegetation would remain, the removal of the mature trees would break the pattern of trees adjacent to the roadway and would result in more visibility of the sky, power lines, and potential ocean views. Because adjacent, similarly dense but differently sized vegetation would remain visible, this would not constitute substantial damage to scenic resources. These visual changes would not be significant, and lack of designation as a scenic vista do not constitute a significant visual concern.

Aside from the 2-foot widening of the Route 101 Little River Bridge, all proposed Project components would be located on relatively flat land and would typically be at ground level (e.g., the Class I trail itself) or at a relatively low height (e.g., retaining walls, barriers, and signage). Widening the Route 101 Little River Bridge deck would not result in a significant visual change Construction of the project would temporarily alter the visual character of the location, due to the presence of construction equipment and materials. To minimize disruption to visual character during construction and operation, Mitigation Measure AR-1 has been incorporated into the project, which includes consideration for construction materials, color palettes, plantings, and use of open safety barrier design to buffer the appearance of project features on the landscape and the effect on viewers, in particular, commuters on Route 101 who would have the greatest familiarity with the pre-project conditions. In addition, the use of cable safety barriers or rails as needed along the extent of the trail would be consistent with the existing safety features along Route 101. With the incorporation of Mitigation Measure AR-1, a less than significant impact with mitigation would occur.

c) Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.)

The project is expected to improve the scenic quality/character of the area by installation of a Class I multi-purpose trail which would attract multiple trail user groups to the area, deterring littering and other potential nuisance activities along the Route 101 corridor.

Temporary adverse visual impacts may occur from construction activities associated with the project. This impact would be short-term (approximately six months of construction) and less than significant. Tree removal would have a moderate visual impact on the existing visual character, as the existing trees are mature and help to soften the view by offsetting the scale and visual dominance of the roadway (Stantec 2022a). The remaining vegetation would continue to do so, but to a lesser extent. In the long-term the existing visual character along the project alignment would improve for the reasons mentioned above.

Visibility of the project would be limited to the immediate area in which viewers are located and would be obscured from other locations by topography and vegetation. Analysis of the views toward the project from adjacent public viewing areas (e.g., Little River State Beach and Moonstone Beach County Park) show that there would be little to no change in the view from beach areas (Stantec 2022a). For visitors and recreational users at Little River State Beach, the bike path added to the bridge would be barely noticeable and would not appear out of character with the existing roadway corridor (Stantec 2022a). The project would be visible to the north and south of the bridge mainly as the removal of a relatively thin, horizontal band of trees to accommodate the trail (Stantec 2022a). Given the sloped location and adjacent vegetation that would remain in view, this removal would likely be difficult to discern in views from the west. The tree removal along the trail segment would not be prominent to discern in coastal views, given the density of adjacent forest. The canopy of the trees both up- and down-slope from the trail would generally mask or otherwise offset the removal of trees for the trail (Stantec 2022a).

The project would be compatible with the existing visual character of the proposed project alignment and its surroundings and would not introduce any elements that would degrade existing visual character or quality. The addition of project components such as a multi-use trail, barriers, and retaining walls would have a low profile and occur in a manner consistent with the existing aesthetic of the surrounding area. As such, the visual character and quality of the proposed project would be similar to the existing visual character and quality of the project area in its current state. The impact would be less than significant.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The proposed project would include new streetlights at each trail head, which are not anticipated to result in substantial light and glare impacts. Lighting and glare associated with construction activities would be temporary and minimized with incorporation of minimization measures described below. New permanent sources of lighting would be designed to protect wildlife and nighttime views, including views of the night sky. The project would be designed to be consistent with the recommendations of the International Dark-Sky Association, which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project would use the minimum lumens necessary and it would be directed downward, shielded, and at pedestrian level when feasible. This would help ensure lighting is localized and would not cause significant lighting and glare impacts on adjacent land uses and sensitive habitat areas. Lighting along the bikeway is not anticipated to result in adverse effects to daytime or nighttime views in or adjacent to the project area. This potential impact would be less than significant.

Mitigation Measures

Mitigation Measure AR-1: Protection of Aesthetic Resources

The following activities shall be implemented during construction:

- Aesthetic treatment to the bridges/guardrails/retaining walls would be included, such as tribal patterns, to address context sensitivity.
- Temporary access roads, construction easements, and staging areas that were previously vegetated would be restored to a natural contour and revegetated with regionally appropriate native vegetation.
- Where feasible, guardrail terminals would be buried; otherwise, an appropriate terminal system would be used, if appropriate.
- Where feasible, construction lighting would be limited to within the area of work.
- Where feasible, the removal of established trees and vegetation would be minimized. Environmentally sensitive areas would have Temporary High Visibility Fencing (THVF) installed before start of construction to demarcate areas where vegetation would be preserved, and root systems of trees protected.
- Preserve existing trees, vegetation, and associated root systems to the maximum extent feasible.
- Protect existing trees outside of the clearing and grubbing limits from contractor's operations, equipment, and materials storage.
- Utilize staging areas that do not damage existing vegetation or require vegetation or tree removal.
- Revegetate disturbed soil areas with native and climatically appropriate species.

- Limit construction lighting to the area of work and avoid light trespass with the use of directional lighting, shielding, and other measures as needed. Artificial night lighting may be required. To reduce potential disturbance to sensitive resources, lighting would be temporary, and directed specifically on the portion of the work area actively under construction. Use of artificial lighting would be limited to Cal/OSHA work area lighting requirements.
- Minimize appearance of construction equipment and staging areas to the maximum extent feasible.
- Use contour grading and slope rounding to produce smooth, flowing contours consistent with site topography, to increase context sensitivity and reduce engineered appearance of slopes.
- Use construction materials that are visually compatible with the landscape (e.g., non-glare metal guard rails and low-chroma pavement consistent with colors found in the adjacent landscape).
- Use reflective road paint (if pavement is used) and highly reflective signs only as required by law.
- If applicable, make the barrier rails context sensitive with relief patterns and / or earth tone colors and apply architectural treatment.
- Use Caltrans Type 85 barriers on the bridge to maximize visibility of Little River, retain scenic views, and maintain consistency of new bridge rail design throughout the North Coast area.

2.2. Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project; the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
Would the project: b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
Would the project: c) Conflict with existing zoning or cause rezoning of forest land (as defined by Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				✓
Would the project: d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed Project. The Project area has no Important Farmlands as mapped by the Farmland Mapping and Monitoring Program of the California Department of Conservation (CDOC 2021). There is no land in agricultural production, land zoned for agricultural use, land designated (General Plan Land Use) for agriculture use, or land under Williamson Act contract within the project alignment (Humboldt County 2017). There is no forest land or timber harvesting in the Project vicinity, nor are there lands suitable for timber harvesting; therefore, the project would not encroach upon or affect timber harvesting or cause the rezoning of forest land. No impact to Agricultural or Forest Resources would occur.

2.3. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?		✓		
Would the project: b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?		✓		
Would the project: c) Expose sensitive receptors to substantial pollutant concentrations?			✓	
Would the project: d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

Regulatory Setting

The Federal Clean Air Act (CAA), as amended, is the primary federal law that governs air quality, while the California Clean Air Act is its corresponding state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and California Air Resources Board (CARB), set standards for the concentration of pollutants in the air.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA. In addition to this analysis, a parallel "conformity" requirement under the CAA also applies.

The project is located within the North Coast Air Basin (Air Basin) which is managed by the North Coast Unified Air Quality Management District (NCUAQMD). The NCUAQMD monitors air quality, enforces local, State, and federal air quality regulations for counties within its jurisdiction, inventories and assesses the health risks of Toxic Air Contaminants (TACs), and adopts rules that limit pollution.

For construction emissions, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be relatively short in duration, lasting less than one year. For project construction lasting more than one year or involving above average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to the stationary source thresholds (NCUAQMD 2019). As discussed in Section 3.2.1, construction of the project is expected to require approximately 16 months to complete (eight months per year beginning in March and concluding by October 15). Emissions related to construction were calculated using the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Emissions Model (RCEM) version 9.0 and are discussed below (also see Appendix C – RECM Modeling Information and Results).

Environmental Setting

The project is located in a rural part of northern California absent major emissions sources, adjacent to the Pacific Ocean. The largest existing source of emissions in the vicinity of the project area is traffic on Route 101, unpaved road dust, smoke from wood stoves, construction dust, open burning of vegetation, and airborne salts and other particulate matter naturally generated by ocean surf. The project is influenced by coastal fog throughout the year.

Discussion of CEQA Environmental Checklist Question 2.3—Air Quality

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

This impact relates to consistency with an adopted attainment plan. Humboldt County is designated 'attainment' for all National Ambient Air Quality Standards. With regard to the California Ambient Air Quality Standards, Humboldt County is designated attainment for all pollutants except PM_{10}. Humboldt County is designated as "non-attainment" for the state's PM_{10} standard.

PM_{10} refers to inhalable particulate matter with an aerodynamic diameter of less than 10 microns. PM_{10} includes emission of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} emissions include unpaved road dust, smoke from wood stoves, construction dust, open burning of vegetation, and airborne salts and other particulate matter naturally generated by ocean surf. Therefore, any use or activity that generates airborne particulate matter may be of concern to the NCUAQMD. The proposed project would create PM_{10} emissions in part through vehicles coming and going to the project site and the construction activity associated with the project.

To address non-attainment for PM_{10}, the NCUAQMD adopted a Particulate Matter Attainment Plan in 1995. This plan presents available information about the nature and causes of PM_{10} standard exceedances and identifies cost-effective control measures to reduce PM_{10} emissions to levels necessary to meet California Ambient Air Quality Standards. However, the NCUAQMD states that the plan, “should be used cautiously as it is not a document that is required in order for the District to come into attainment for the state standard.” (NCUAQMD 2022). Therefore, compliance with applicable NCUAQMD PM10 rules is applied as the threshold of significance for the purposes of analysis. NCUAQMD Rule 104 Section D, Fugitive Dust Emissions, is applicable to the project.

Rule 104, Section D – Fugitive Dust Emissions is used by the NCUAQMD to address non-attainment for PM10. Pursuant to Rule 104 Section D, the handling, transporting, or open storage of materials in such a manner, which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to covering open bodied trucks when used for transporting materials likely to give rise to airborne dust and the use of water during the grading of roads or the clearing of land. During earth moving activities, fugitive dust (PM_{10}) would be generated. The amount of dust generated at any given time would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Dust generation has the potential to cause a significant impact to the surrounding public if not properly managed. The project would implement Mitigation Measure AQ-1 which would limit dust generation and provide a pathway for the public to contact the NCUAQMD if dust was bothersome. With incorporation of Mitigation Measure AQ-1, potential air quality impacts would be less than significant.

Operation of the project would not include the handling, transporting or open storage of materials in which particulate matter may become airborne. Due to the absence of handling, transport or open storage of materials that would generate particulate matter, operation of the project is not expected to conflict with NCUAQMD's Rule 104 Section D. No impact from operation of the project would result.

> ***b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

This impact is related to regional criteria pollutant impacts. As identified in Section 9.3 a), Humboldt County is designated nonattainment of the State's PM_{10} standard. The County is designated attainment for all other state and federal standards. Potential impacts of concern will be exceedances of state or federal standards for PM10. Localized PM10 is of concern during construction because of the potential to emit fugitive dust during earth-disturbing activities.

Construction

Localized PM_{10}

The project would include clearing and grubbing, grading, barrier installation, asphalt paving, and paving activity. Generally, the most substantial air pollutant emissions would be dust generated from site clearing and grubbing and grading. If uncontrolled, these emissions could lead to both health and nuisance impacts. Construction activities would also temporarily generate emissions of equipment exhaust and other air contaminants. The project's potential impacts from equipment exhaust are assessed separately below.

The NCUAQMD does not have formally adopted thresholds of significance for fugitive, dust-related particulate matter emissions above and beyond Rule 104, Section D which does not provide quantitative standards. For the purposes of analysis, this document uses the Bay Area Air Quality Management District (BAAQMD) approach to determining significance for fugitive dust emissions from Project construction. The BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. If all appropriate emissions control measures recommended by BAAQMD are implemented for a project, then fugitive dust emissions during construction are not considered significant. BAAQMD recommends a specific set of "Basic Construction Measures" to reduce emissions of construction generated PM10 to less than significant. Without incorporation of these

Basic Construction Measures, the project's construction-generated fugitive PM10 (dust) would result in a potentially significant impact.

The Basic Construction Measure controls recommended by the BAAQMD are incorporated into Mitigation Measure AQ-1. These controls are consistent with NCUAQMD Rule 104 Section D, Fugitive Dust Emission and provide supplemental, additional control of fugitive dust emissions beyond that which would occur with Rule 104 Section D compliance alone. Therefore, with incorporation of Mitigation Measure AQ-1, the project would result in a less than significant impact for construction-period PM10 generation and would not violate or substantially contribute to an existing or projected air quality violation.

Construction Criteria Pollutants

For construction emissions, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be of relatively short duration, lasting less than one year. For project construction lasting more than one year or that involves above average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to the stationary source thresholds.

The NCUAQMD does not have established CEQA significance criteria to determine the significance of impacts that would result from projects such as the proposed project; however, the NCUAQMD does have criteria pollutant significance thresholds for new or modified stationary source projects proposed within the NCUAQMD's jurisdiction. NCUAQMD has indicated that it is appropriate for lead agencies to compare proposed construction emissions that last more than one year to its stationary source significance thresholds, which are:

- Nitrogen oxides – 40 tons per year
- Reactive organic gases – 40 tons per year
- PM10 – 15 tons per year
- Carbon monoxide – 100 tons per year.

If an individual project's emission of a particular criteria pollutant is within the thresholds outlined above, the project's effects concerning that pollutant are considered to be less than significant.

The SMAQMD's RECM version 9.0 was used to estimate air pollutant emissions from project construction (Appendix C). Construction of the project would require approximately

16 months to complete (from March to October 15 over two years). Material hauling volumes were obtained via the project's 30% design

Table 4 summarizes construction-related emissions. As shown in the table, the project's construction emissions would not exceed the NCUAQMD's stationary sources emission thresholds. Therefore, the project's construction emissions are considered to have a less than significant impact.

Table 4. Construction Regional Pollutant Emissions

Parameter	Emissions (ton per year)			
	ROG	NO_X	CO	PM_{10}
Project Construction over two construction seasons	0.61	6.14	5.91	0.60
NCUAQMD Stationary Source Thresholds	40	40	100	15
Significant Impact?	No	No	No	No

Operation

Following construction, the project would not include any stationary sources of air emissions. Vehicle trips associated with operation and maintenance of the proposed trail would include annual inspections, repaving, painting, and repairs as needed. Operation and maintenance of the project would generate less than one traffic trip per week on average. However, larger repairs to the trail may take several weeks to complete depending on the extent of damage and other circumstances. The project would not result in substantial long-term operational emissions of criteria air pollutants. Therefore, project-generated operational emissions would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment. The project's contribution to a cumulative impact would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Activities occurring near sensitive receptors should receive a higher level of preventative planning. Sensitive receptors include school-aged children (schools, daycare, playgrounds), the elderly (retirement community, nursing homes), the infirm (medical facilities/offices), and those who exercise outdoors regularly (public and private exercise facilities, parks).

Sensitive receptors near the project alignment include residential and recreational uses. There are no residences near the project; the nearest residence is located on the opposite side of Route 101. Moonstone beach, a popular county park, is located approximately 750-linear feet from the project boundary.

Project construction activities could occur over approximately 16 months (up to approximately eight months per year); however, the use of heavy-duty equipment is only estimated to occur over 79 working days in Year 1 and 79 working days in Year 2, based on default air quality modeling settings. Project construction is not expected to include intensive or prolonged construction equipment use for a long duration. Additionally, equipment use would be spread out over a linear project alignment, further reducing the duration of equipment use near individual receptor locations. Due to the short duration (no one area of prolonged or intense construction activity) the project would not result in the exposure of sensitive receptors to substantial pollutant concentrations. Therefore, the construction-related impact would be less than significant.

Following construction, the project would not include any stationary sources of air emissions or new mobile source emissions that would result in substantial long-term operational emissions of criteria air pollutants. In fact, project operation could potentially reduce vehicle-miles-traveled and therefore emissions. Therefore, project operation would not expose nearby sensitive receptors to substantial levels of pollutants. The operation-related impact would be less than significant.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The project would create limited exhaust fumes from gas- and diesel-powered equipment during construction. The likelihood of these odors and emissions reaching nearby receptors is influenced by atmospheric conditions, specifically wind direction. Due to the relative short-term nature of construction, distribution of activities, emissions or odors caused by construction, the project would not adversely affect a substantial amount of people. Therefore, a less than significant impact would result

Following construction, operations would not result in any major sources of odor or emissions. Therefore, there would be a less than significant impact from project operations.

Mitigation Measures

Mitigation Measure AQ-1: Air Quality Protections

Caltrans will include provisions in the construction bid documents that the contractor will implement a dust control program to limit fugitive dust emissions. The dust control program will include the following elements as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including non-workdays, until soils are stable.
- Soil piles for backfill will be marked and flagged separately from native topsoil stockpiles. These soil piles will also be surrounded by silt fencing, straw wattles, or other sediment barriers or will be covered unless they are to be immediately used.
- Equipment or manual watering will be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.

2.4. Biological Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?		✓		
Would the project: b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓	
Would the project: c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
Would the project: d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			✓	

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
Would the project: f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

Regulatory Setting

Within this section of the document (2.4. Biological Resources), the topics are separated into Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species, Threatened and Endangered Species, and Invasive Species. Plant and animal species listed as “threatened” or “endangered” are covered within the Threatened and Endangered sections. Other special status plant and animal species, including CDFW fully protected species, species of special concern, USFWS and NMFS candidate species, and California Native Plant Society (CNPS) rare and endangered plants are covered in the Plant and Animal sections.

Natural Communities

CDFW maintains records of sensitive natural communities (SNC) in the California Natural Diversity Database (CNDDB). SNC are those natural communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status taxa or their habitat.

Wetlands and Other Waters

“Waters” of the United States (including wetlands) and State are protected under several laws and regulations. The primary laws and regulations governing wetlands and other waters include:

- Federal Clean Water Act (CWA), 33 USC 1344
- Federal Executive Order for the Protection of Wetlands (EO 11990)
- State Sections 1600–1607 of the California Fish and Game Code (CFGC)
- State Porter-Cologne Water Quality Control Act, Section 3000 et seq.

Plant Species

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. The primary laws governing plant species include:

- Federal Endangered Species Act (FESA), United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402
- California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq.
- Native Plant Protection Act, California Fish and Game Code, Sections 1900–1913
- National Environmental Policy Act (NEPA), 40 C.F.R. Section 1500 through Section 1508
- California Environmental Quality Act (CEQA), California Public Resources Code, Sections 21000–2117

Animal Species

The USFWS, NMFS, and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special status animal species. The primary laws governing animal species include:

- NEPA, 40 C.F.R. Section 1500 through Section 1508
- CEQA, California Public Resources Code, Sections 21000–2117
- Migratory Bird Treaty Act, 16 U.S.C. Sections 703–712
- Fish and Wildlife Coordination Act, 16 U.S. Code Section 661
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Threatened and Endangered Species

The primary laws governing threatened and endangered species include:

- FESA, United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402
- CESA, California Fish and Game Code, Section 2050, et seq.
- CEQA, California Public Resources Code, Sections 21000–21177
- Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S. Code Section 1801

Section 9 of the Federal Endangered Species Act of 1973 (FESA) prohibits acts that result in the “take” of threatened or endangered species. As defined by the FESA, “endangered” refers to any species that is in danger of extinction throughout all or a significant portion of its current range. The term “threatened” is applied to any species likely to become endangered within the foreseeable future throughout all or a significant portion of its current range. “Take” is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Sections 7 and 10 of the FESA provide methods for permitting otherwise lawful actions that may result in incidental take of a federally listed species. The term “incidental take” refers to take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Incidental take is permitted under Section 7 for projects involving a federal action; Section 10 provides a process for non-federal actions. The act is administered by the USFWS and NMFS.

The California Endangered Species Act (CESA) (Section 2800 of the Fish and Game Code) prohibits take of state-listed species and protects native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, that are threatened with extinction or experiencing a significant decline, which if not halted, would lead to a threatened or endangered designation. CESA authorizes the California Department of Fish and Wildlife (CDFW) to issue incidental take permits for state-listed species, when specific criteria are met.

Invasive Species

The primary laws governing invasive species are Executive Order (EO) 13112 and NEPA.

Environmental Setting

A Natural Environment Study (NES) (Stantec 2022b) was prepared for the project to evaluate the project’s potential effects on sensitive biological resources, and is attached to this IS/MND as Appendix D. To comply with the provisions of various state and federal environmental statutes and Executive Orders, potential impacts to regulated habitats and special status plants and animals were investigated. Field reviews were conducted to identify existing habitat types and natural communities, potential jurisdictional waters and wetlands, rare species and/or factors indicating the potential for rare species (i.e., presence of suitable habitat), sensitive water quality receptors, and existing ambient noise levels. Airborne noise and water quality assessments were also examined to evaluate potential impacts to terrestrial and aquatic species from proposed construction activities.

The Biological Study Area (BSA) includes all areas that could be potentially impacted by the project plus a buffer to accommodate any changes to project limits and project design that may occur during project development. It includes the trail alignment, all areas associated with trail construction, and stockpiling and staging areas. The BSA is divided into two areas by the Little River, a wide and slow-moving estuarine perennial river bisecting the approximate center of the BSA. The northern upland terrace is forested and located adjacent to Route 101, occurring from Little River north to Scenic Drive. Estuarine-influenced vegetation and riparian wetlands are adjacent to the Little River and are downslope from the upland terrace. The section of the BSA south of Little River includes coastal scrub habitat located on a hillslope east of the active dunes at Little River Beach, which are outside (west) the BSA and project boundary.

Waters within the BSA include a perennial stream (Little River) and an unnamed perennial tributary to Little River. The Little River is a smaller watershed located between the Mad River and Redwood watersheds, and it flows approximately 19.6-river miles. The Little River within the BSA is along the Route 101 bridge corridor and has a wetted width of approximately 200-feet, depending on tidal influences and seasonal rains. From the BSA, the river bends to the north and continues to its confluence with the Pacific Ocean about 0.8-river mile away. Riparian wetlands and fresh emergent wetlands are located on either side of Little River, as well as in the extensive estuarine habitat on the west of the BSA.

An additional perennial creek (an unnamed tributary) flows into the estuarine area of the Little River north of the Route 101 bridge over Little River. Within the BSA, this unnamed tributary flows out of a Route 101 culvert which is approximately 48-inches diameter, constructed of concrete, and set at grade. Land uses in the immediate vicinity include Route 101 and a few lesser roads, and natural resources and recreation, including State Parks property on the adjacent public beaches that generally border the alignment to the west. Aside from Route 101, the area is generally undeveloped and does not include residential, commercial, or other public facilities.

RCAA conducted protocol-level botanical surveys in the BSA on April 14-15, May 20-21, August 27, and September 9, 2021, in general accordance with the *Protocols for Surveying* *and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018).

During September 1-3, 2020, Stantec biologists Sarah Tona and Jacqueline Phipps conducted a wetland delineation according to methodology described in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE 2010). Stantec biologists also evaluated features that may qualify as Coastal Act Waters. The biologists mapped vegetation following the technical approach and vegetation alliance classification system described in A Manual of California Vegetation, Second Edition (MCV) (Sawyer et al. 2009) and updated in the current online edition (CNPS 2021b). The biologists also performed a reconnaissance-level assessment for habitat for wildlife species during the field visit.

RCAA and Caltrans biologists conducted a survey for suitable habitat for special status bats and birds on July 6, 2021. The survey was conducted on foot and from the water in a kayak, and biologists used high-powered binoculars and flashlights to assess conditions of the bridge over Little River.

Resulting vegetation community mapping, wetland delineation, and special status plant mapping is including in Appendix A of this ISMND as follows:

- Vegetation mapping results – Exhibit 4-1 and 4-2
- Potential waters of the U.S. – Exhibit 5-1 through 5-4
- Potential Coastal Act waters – Exhibit 6-1 through 6-4
- Special status plant mapping – Exhibit 7-1 and 7-2

Plant Species

For this evaluation, special status plant species include plants that are (1) listed as threatened or endangered under the CESA or the ESA; (2) identified as state or federal candidate or proposed species for listing as threatened or endangered; (3) designated as rare by the CDFW; and/or (4) have a California Rare Plant Rank (CRPR) of 1, 2, or 3.

Regionally occurring special status plant species were identified based on a review of pertinent literature, the USFWS species list, California Natural Diversity Database (CNDDB) and California Native Plant Society database records, and the field survey results. The status of each special status plant species was verified using the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2021a) and the *State and Federally Listed Endangered, Threatened and Rare Plants of California* (CDFW 2021b).

All of the special status plant species identified during biological scoping were evaluated for their potential to occur in the BSA based on the expected geographic range and the presence of suitable habitat requirements (e.g., substrate, hydrology, vegetation type, disturbance). All special status species were evaluated according to the following guidelines:

- **Not likely to occur:** Habitat within the biological study area (BSA) does not satisfy the species' requirements and/or the project is not within the known or expected range of the species. Known occurrences have not been reported from the region. The species was not detected during protocol-level surveys. The species' presence within the BSA is very unlikely.
- **Low Potential:** Habitat within the BSA satisfies few of the species' requirements. Known occurrences have not been reported from the BSA. The species' presence within the BSA is not likely.
- **Moderate Potential:** Habitat within the BSA meets some of the species' requirements and known locations for the species are found within 10-miles of the project. Presence of the species within the BSA is moderately possible.
- **High Potential:** Habitat within the BSA meets most or all of the species' requirements and known locations of the species are within 5-miles of the project. Presence of the species within the BSA is highly likely.

Based on the habitat assessment, the BSA provides potential habitat for 48 special status plant species (See Table 3 in Appendix D). The plants listed in Table 3 are special status based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special status plants occurring on-site.

Protocol-level botanical surveys were conducted in April, May, August, and September of 2021 (Appendix E of the NES). Trailing black currant *(Ribes laxiflorum)* was found in the BSA but outside the area that would be impacted during construction; the species has a California Rare Plant Rank of 4.3 and is therefore not considered further in CEQA impact analysis. The surveys occurred during the identification period for special status plants species that have a low to high potential to be present in the BSA based on habitat and known records in the region. No other special status plants were found in the BSA and are not likely to occur.

Trailing black currant (*Ribes laxiflorum*)

Trailing black currant has a California Rare Plant Rank of 4.3 and is therefore not considered further in CEQA impact analysis. This species is normally found within north coast coniferous forest between 15- and 4,500-feet in elevation. This species blooms from March to July. This species occurs in the BSA. It was located during the 2021 botanical surveys. The occurrence consists of five individual plants in one location (Exhibit 7-1, Appendix A).

Animal Species

Record searches and habitat assessments were conducted to determine whether special status wildlife species have the potential to occur in the BSA. Species that were queried but do not have potential habitat in the project area are not discussed in this document because CEQA, FESA, and CESA only require analysis of species that could potentially be affected by a project. Of the 25 special status animal species that were queried to potentially occur within the BSA, habitat is present for 16 species (Stantec 2022b) excluding federally or state threatened or endangered species, which are discussed below. Special status wildlife species with the potential to occur in the BSA, based on queries and the rationale on whether or not there was potential habitat in the BSA, are discussed further below and include:

Fish or Lamprey

- Pacific lamprey (*Entosphenus tridentatus*) – Moderate potential
- Western brook lamprey (*Lampetra richardsoni)* – Present
- Coastal cutthroat trout (*Oncorhynchus clarkii)* – Present

Amphibians and Reptiles

- Northern red-legged Frog (*Rana aurora)* – Moderate potential
- Southern torrent salamander (*Rhyacotriton variegatus)* – Moderate potential
- Western pond turtle (*Actinemys marmorata)* – Moderate potential

Birds

- White-tailed kite (*Elanus leucurus*) – High potential
- Northern harrier (*Circus cyaneus*) – Moderate potential

- Vaux's swift (*Chaetura vauxi*) – Moderate potential
- Yellow warbler (*Setophaga petechia*) – Moderate potential
- Yellow-breasted chat (*Icteria virens*) – Moderate potential
- Purple martin (*Progne subis*) – Low potential

Bats and Other Mammals

- Townsend's big-eared bat (*Corynorhinus townsendii)* – Low potential
- Pallid bat (*Antrozous pallidus*) – Low potential
- White-footed vole (*Arborimus albipes*) – Moderate potential
- Sonoma red tree vole (*Arborimus pomo*) – Low potential

See Table 4 in Appendix D for a complete list of all special status animal species scoped to potentially occur in the BSA.

Threatened / Endangered Species

Record searches and habitat assessments were conducted to determine whether federally or state threatened, or endangered species have the potential to occur in the BSA. Species that were queried but do not have potential habitat in the project area are not discussed in this document because CEQA, FESA, and CESA only require analysis of species that could potentially be affected by a project. Of the 20 special status wildlife species with potential habitat in the BSA, habitat (or critical habitat) is present for four species. Threatened or endangered species with the potential to occur in the BSA, based on queries and the rationale on whether or not there was potential habitat in the BSA, are discussed further below and include:

Fish

- Southern Oregon/Northern California Coast (SONCC) Evolutionarily Significant Unit (ESU) coho salmon (*Oncorhynchus kisutch)* – High potential
- California Coastal (CC) ESU Chinook salmon (*Oncorhynchus tshawytscha)* – High potential

- Northern California (NC) Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss)* – Present

- Eulachon (*Thaleichthys pacificus)* – Moderate Potential

Birds

- Tricolored blackbird (*Agelaius tricolor)* – Moderate potential

See Table 4 in Appendix D for a complete list of all federally and state listed threatened and endangered species scoped to potentially occur in the BSA.

Pacific Salmon Essential Fish Habitat

Essential Fish Habitat (EFH) is defined by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) for federally managed species as "those waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity." The Little River and associated tributaries support EFH for species regulated under the federal Pacific Coast Salmon Fishery Management Plan.

EFH for the Pacific Coast Salmon Fishery means those waters and substrate necessary for salmon production needed to support a long-term sustainable salmon fishery and salmon contributions to a healthy ecosystem. To achieve that level of production, EFH must include all those streams, lakes, ponds, wetlands, and other currently viable water bodies, and most of the habitat historically accessible to salmon in Washington, Oregon, Idaho, and California. In the estuarine and marine areas, salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent of the Exclusive Economic Zone offshore of Washington, Oregon, and California north of Point Conception. Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the Pacific Fishery Management Council [PFMC]), and longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for several hundred years) (PFMC 2016).

Natural Communities

During the field visits vegetation mapping was conducted to identify which natural communities were present within the BSA. Several natural communities mapped in the BSA are considered sensitive by the CDFW (CDFW 2020). Sensitive natural communities in the

BSA includes coastal dune willow thickets, Pacific silverweed marshes, Sitka spruce forest, and slough sedge swards.

Riparian habitat is considered a sensitive natural community by CDFW and California Coastal Commission (CCC) and is present in the BSA. In addition to providing habitat for many wildlife species, riparian areas provide shade, sediment, nutrient or chemical regulation, stream bank stability, and input for large woody debris or organic matter to the channel, which are necessary habitat elements for fish and other aquatic species. Riparian habitat is present on either side of Little River in the BSA and include Pacific silverweed marshes, slough sedge swards, and coastal dune willow thickets. Descriptions of the communities are included below.

Forests and Woodlands: Sitka Spruce Forest Alliance

Sitka spruce forest alliance occurs above Little River beach south of the Little River, and as mature forest on an upland terrace north of Little River. This community is dominated by Sitka spruce with scattered Monterey pine (*Pinus radiata*) and Douglas fir (*Pseudotsuga menziesii*). The tree layer is sparse in the southern portion of the BSA, with only about 10 percent absolute tree cover. The shrub layer is dominated by about 8 percent absolute cover of coyote brush (*Baccharis pilularis*). The herbaceous layer is dense and dominated by European beachgrass (*Ammophila arenaria*), with yellow bush lupine (*Lupinus arboreus*) and sword fern (*Polystichum munitum*) common as well.

The Sitka spruce forest north of Little River occurs on an upland terrace and is a high-quality intact stand dominated by mature Sitka spruce trees at approximately 30 percent absolute cover. Red alder (*Alnus rubra*) and Hooker’s willow (*Salix hookeriana*) occur to a small extent in the subcanopy. The herbaceous layer is dominated by sword fern, bracken fern (*Pteridium aquilinum*), slough sedge (*Carex obnupta*), English ivy (*Hedera helix*), and California blackberry (*Rubus ursinus*).

Forests and Woodlands: Red Alder Forest Alliance

Red alder forest alliance occurs on the north side of Little River. Red alder is the sole dominant tree in the upland areas of the BSA; while in the lower elevation areas, red alders are co-dominant with Hooker’s willow. Shrubs in the understory include red elderberry (*Sambucus racemosa*), California blackberry, and Himalayan blackberry (*Rubus armeniacus*). The herbaceous layer contains sword fern and bracken fern in the upland areas and skunk cabbage (*Lysichiton americanus*), slough sedge, and small-fruited bulrush (*Scirpus microcarpus*) in the wetland areas.

Shrublands: Coastal Dune Willow Thickets Alliance

Coastal dune willow thickets alliance occurs in small patches throughout the BSA. Hooker's willow is dominant in the shrub layer and moderate to dense at about 60 percent absolute cover. Scattered wax myrtle (*Morella californica*), coast twinberry (*Lonicera involucrata*), and cascara sagrada (*Frangula purshiana*) are present as well. Slough sedge and sword fern are common in the herbaceous layer.

Shrublands: Coyote Brush Scrub Alliance

Coyote brush scrub alliance occurs intermixed with Sitka spruce forest and coastal dune willow thickets south of Little River in coastal scrub habitat. The shrub layer is fairly sparse, with only 8-10 percent absolute cover of coyote brush. Himalayan blackberry and California blackberry are common in the shrub layer as well. The herbaceous layer is dominated by European beachgrass and sword fern.

Herbaceous Vegetation: Slough Sedge Swards Alliance

Slough sedge swards alliance occurs along the edge and within the ordinary high-water mark of Little River. Little River is an estuarine feature adjacent to the Pacific Ocean and is tidally influenced. The slough sedge community is partially inundated by the Little River when the tide is high. The alliance is dominated by slough sedge, and no other plant species occurs in the small area adjacent to the river.

Herbaceous Vegetation: Pacific Silverweed Marshes Alliance

Pacific silverweed (*Argentina egedii*[1]) marshes alliance occurs on the north bank of the Little River, located between the slough sedge community and the coastal dune willow community on the river terrace. The community is dominated by Pacific silverweed and redtop (*Agrostis stolonifera*). Other common plants in the herbaceous community include bird's foot trefoil (*Lotus corniculatus*), Pacific aster (*Symphyotrichum chilense*), and Baltic rush (*Juncus balticus*).

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[1] Synonym to *Potentilla anserina* in Jepson eFlora (Jepson Flora Project 2021).

Herbaceous Vegetation: Non-Native Grassland

Non-native grassland occurs in small patches alongside Route 101 and side roads in the southern portion of the BSA. The vegetation was mowed, so plant identification was limited and is not categorized as a natural community. The community has a dense herbaceous cover dominated by fescue (*Festuca* sp.), carrot (*Daucus carota*), plantain (*Plantago* sp.), and bird's foot trefoil. This community also contains a narrow, vegetated ditch with hydrophytic vegetation, including rushes (*Juncus* spp.) and willow (*Salix* sp.) seedlings.

Wetlands and Other Waters

Waters within the BSA include a perennial stream (Little River) and an unnamed perennial tributary to Little River. The Little River is a smaller watershed located between the Mad River and Redwood watersheds, and it flows approximately 19.6-river miles. The Little River within the BSA is along the Route 101 bridge corridor and has a wetted width of approximately 200-feet, depending on tidal influences and seasonal rains. From the BSA, the river bends to the north and continues to its confluence with the Pacific Ocean about 0.8 river-mile away. Riparian wetlands and fresh emergent wetlands are located on either side of Little River, as well as in the extensive estuarine habitat on the west side of the BSA.

An additional perennial creek (an unnamed tributary) flows into the estuarine area of the Little River north of the Route 101 bridge over Little River. Within the BSA, this unnamed tributary flows out of a Route 101 culvert which is approximately 48 inches diameter, constructed of concrete, and set at grade.

Invasive Species

Invasive plants (including designated noxious weeds) are undesirable, non-native plants that commonly invade disturbed sites. Most species have been introduced from Europe and Asia and are known to degrade native wildlife habitat and plant communities. When disturbance results in the creation of habitat openings or in the loss of intact native vegetation, invasive plants may colonize the site and spread, often out-competing native species. Once established, they are very difficult to eradicate and could pose a threat to native species.

All non-native plant species observed in the BSA during the botanical survey were reviewed to determine their status as invasive plants according to the ratings in the California Invasive Plant Inventory produced by California Invasive Plant Council (Cal-IPC 2021). The California Invasive Plant Council categorizes non-native invasive plants into three categories of overall negative ecological impact in California: high, moderate, limited. The non-native plants were also reviewed to determine if any plants are on the California Department of Food and Agriculture list of Noxious Weeds (California Department of Food and Agriculture 2021). Table 2 in Appendix D lists the invasive plant species observed in the BSA during the 2021 botanical survey, which includes pampas grass near the northern trailhead at the end of Scenic Drive.

Discussion of CEQA Environmental Checklist Question 2.4a)— Biological Resources

"*No Impact*" determinations were made for Question e) and Question f) of the CEQA Environmental Checklist–Biological Resources section based on the scope, description, and location of the proposed project, as well as the NES prepared in 2022 (Stantec 2022b). The project would be constructed and operated entirely within the Caltrans right-of-way; therefore, local ordinances and policies pertaining to biological resources would not apply. The following discusses Questions a) through d) of the CEQA Environmental Checklist–Biological Resources section. Each question is discussed individually; however, it should be noted that some resources fall under more than one question. As such, where necessary, those resources are discussed multiple times throughout this section.

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries/NMFS?

Plant Species

Trailing Black Current

The trailing black current was observed outside the project disturbance boundary and is thus unlikely to be impacted by construction of the project. Additionally, trailing black current is California Rare Plant Rank 4.3. Only plant species with California Rare Plant Ranks of 1, 2, or 3 require mitigation under the CEQA guidelines, unless they are species of local significant. Thus, the trailing black current does not require mitigation as California Rare Plant Rank 4.3 species. The small population will be flagged for avoidance, which would be feasible given the planned project disturbance location. A less than significant impact would result.

Animal Species

Caltrans has determined that project activities would have “No Impact” on special status animal species that were queried but did not have potential habitat in the BSA (see Table 4 – Appendix D). Further discussion is provided below for special status wildlife species that could potentially occur in the project BSA.

Fish and Lamprey

Coastal cutthroat trout are found in coastal streams from the Eel River, Humboldt County, to Seward in southeastern Alaska. Some coastal cutthroat trout may spend their entire lives in freshwater, but most are anadromous, spending the summers in saltwater habitats. They prefer small, low gradient coastal streams and estuarine habitats. In California, coastal cutthroat trout begin to migrate up spawning streams from August to October, following the first substantial rainfall, and spawn in the late-winter to early-spring (Moyle 2002). Stream sections with small or moderate-sized gravel substrates are essential for spawning. The species was observed in the unnamed tributary during a site survey conducted in coordination with CDFW on June 1, 2021 (see Appendix F within Appendix D for the stream evaluation results).

Both the western brook lamprey and the Pacific lamprey are found in coastal streams and may seasonally use the BSA as a migratory corridor. Habitat requirements are similar to that of salmonids requiring clear, cold, water in little disturbed watersheds, as well as clean gravel near cover (e.g., boulders, riparian vegetation, logs) for spawning. Additionally, areas with low flow velocities and fine sediments are required for rearing juveniles called ammocoetes, which may take up to 5 years to mature before migrating to the ocean as adults. It has been observed that where western brook lamprey and Pacific lamprey co-occur, western brook lamprey may spawn within Pacific lamprey nests (superimposition), but western brook lamprey generally spawn further upstream than the Pacific lamprey (Moyle et al. 2015). Presence of either species within Little River was not verified by a survey but is likely. The western brook lamprey was observed in the unnamed tributary during the June 1, 2021, site survey (see Appendix F within Appendix D for the stream evaluation results). Presence of Pacific lamprey in the Unnamed Tributary was not verified but is likely given the habitat conditions present.

No in-water work would occur during project construction, and the existing culvert between Little River and the Unnamed Tributary would not be modified. Potential impacts on federally listed fish species caused by the proposed action include:

- Temporary increases in turbidity and suspended sediment from construction area stormwater runoff
- Exposure to hazardous chemicals/accidental spill of lubricants and fuels
- Alteration of riparian habitat
- Construction-related noise and visual effects

These impacts are discussed in greater detail in the salmonids section below. Impacts to coastal cutthroat trout, western brook lamprey, and Pacific lamprey would be equivalent to potential impacts to special status salmonids. Given the lack of in-water work and required Standard Measures for erosion and sedimentation control, prevention of accidental spills, and THVF (Standard Measures WQ-1, WQ-2, WQ-3, and BR-4B, potential impact to coastal cutthroat trout, western brook lamprey, and Pacific lamprey would be less than significant.

Amphibians and Reptiles

The streams and associated riparian habitat in and near the BSA provide potential habitat for three species of special concern: northern red-legged frog, southern torrent salamander, and western pond turtle. The riverine and upland habitat may also support breeding habitat for these species. Reconnaissance-level biological surveys did not locate these species in or adjacent to the BSA. According to CNDDB, the nearest known occurrence for northern red-legged frog is approximately 0.6-mile from the BSA. The nearest CNDDB occurrence for Southern torrent salamander is located approximately 3-miles from the BSA. A CNDDB occurrence for western pond turtle is located within the BSA.

The project could adversely affect special status amphibian and reptile species if individuals are present in the BSA during construction. Potential direct effects include harassment, injury, and mortality of individuals due to equipment and vehicle traffic. Indirect effects could occur if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. Vegetation removal may degrade upland habitat for western pond turtle. Trail lighting and human disturbance from trail use may also decrease special status amphibian and reptile use of the area.

Standard Measures WQ-1, WQ-2, WQ-3, and BR-1 (see Section 1.4) would be implemented to protect special status amphibians and reptiles; however, the potential for a significant impact remains. Mitigation Measures BIO-1 would be implemented reduce the potential impact to a less than significant level. Mitigation Measure BIO-1 requires pre-construction surveys and relocation of any observed individual special status amphibians and reptiles outside of the project disturbance boundary. With incorporation of the Standard Measures WQ-1, WQ-2, WQ-3 and BR-1 and Mitigation Measure BIO-1, a less than significant impact to amphibians and reptiles would result.

Special Status Birds and Other Migratory Birds

The forested, riparian, and shrubland habitats in the BSA and vicinity provide potential nesting habitat for special status birds and other migratory birds. The bridge supports nesting cliff swallows (*Petrochelidon pyrrhonota*), which are protected under the MBTA. Special status bird species that could use these habitats include northern harrier, Vaux's swift, purple martin, tricolored blackbird, white-tailed kite, yellow warbler, and yellow-breasted chat. RCAA and Stantec biologists did not incidentally observe any special status birds during reconnaissance level field surveys. According to the CNDDB, none of the bird species mentioned above have been recorded within 10-miles of the BSA. The online database, eBird, shows occurrences of every potential special status bird in or near the BSA, including northern Harrier 0.03-mile from the BSA (2021), Vaux's swift 0.10-mile from the BSA (2015), purple martin 0.03-mile from the BSA (2021), yellow warbler 0.09-mile from the BSA (2015), yellow-breasted chat 0.03-mile from the BSA (2018), and white-tailed kite within the BSA near the bridge over Little River (2020). Other protected birds including migratory birds may occur in the BSA.

Construction activities (e.g., vegetation removal, equipment noise, and bridge modifications) would occur during the bird breeding season (February 1 through September 15, as specified in Standard Measure BR-2(A)), depending on the species) and could disturb nesting birds in or adjacent to the BSA. Construction-related disturbance could result in the incidental loss of fertile eggs or nestlings or nest abandonment, which could affect local or regional populations of affected birds. Impacts on nesting birds could result from the following:

- Tree and shrub removal to accommodate the trail
- Ground disturbing activities (e.g., grubbing and grading) in woodlands that could affect ground-nesting birds
- Noise, vibrations, and presence of humans during construction activities
- Bridge modifications
- Debris catchment installation on bridge

- Trail lighting and disturbance from trail use after construction

Birds present in or adjacent to the BSA during non-breeding seasons would not be adversely impacted by construction activities due to their high mobility and available habitat outside of the BSA. They may be temporarily disturbed or precluded from using the area during construction. Additionally, the trail lighting and increased disturbance from trail use after construction may reduce protected bird use of the area.

Trail construction would result in a loss of approximately 0.14-acre of coastal dune willow thickets, 0.6-acre of coyote brush scrub, 0.47-acre of non-native grassland, 0.54-acre of red alder forest, and 1.21-acres of Sitka spruce forest. (Exhibit 4-1 and 4-2, Appendix A). Regulated vegetation communities would be replaced via required compensatory mitigation (see Section 4.2.4). Compensatory mitigation would occur on-site. Additional revegetation would occur along the trail margins as part of the project design. Thus, not all vegetation loss would be permanent. Abundant bird nesting and foraging habitat would be retained within the BSA, and similarly suitable habitat occurs in the project vicinity.

The project was designed to minimize removal of native vegetation to the greatest extent practicable. To minimize or avoid project-related effects on nesting birds, Standard Measure BR-2A, Standard Measure BR-2B, and Standard Measure BR-2C would be implemented. However, birds could still be caught in the debris catchment system on the Little River Bridge, resulting in a potentially significant impact. Mitigation Measure BR-2 has been incorporated into the project to reduce the potential impact to a less than significant level by requiring installation of debris catchment on the Little River Bridge outside of the nesting bird season to prevent nesting birds from getting entrapped in the debris catchment system while nesting.

Bats

Pallid Bat and Townsend's big-eared bat roost in crevices and cavities in a wide range of habitat types. The bridge over Little River does not contain suitable crevices or wood elements for day roosting bats or maternity colonies, and no significant sign of bat use (e.g., guano accumulation) was observed. There was minimal guano and urine staining on the pier walls, indicating that individual bats may use sections of the bridge as night roosts. It is recommended that an additional bat habitat survey should be performed the year prior to construction to verify that habitat elements and bridge use by bats have not changed. According to CNDDB, there are no known occurrences of pallid bat or Townsend's big-eared bat within 10-miles of the BSA.

Bats may roost individually in riparian vegetation or on the bridge at night. Due to the ability of individual bats to move away from disturbances, direct impacts on bats are not expected when the bats are not in a maternity colony. If bridge construction occurs at night, individual bats may be using the bridge as a night roost; however, individual bats will move to a new roost when disturbed, so impacts are not expected. Implementation of Standard Measure BR-2D would be implemented to ensure impacts on pallid bat and Townsend's big-eared bat remain less than significant (see Section 1.4). Standard Measure BR-2D requires pre-construction bat surveys, limited bridge work during nighttime hours, installation of bat exclusion devices on bridge crevices, and seasonal limitations. Additionally, implementation of Mitigation Measure AR-1 limits nighttime construction and night lighting. With the incorporation of Standard Measures BR-2D and Mitigation Measure AR-1, there would be a less than significant impact to special status bats with the incorporation of Mitigation Measure AR-1.

White-footed Vole and Sonoma Tree Vole

Deciduous vegetation in the red alder forests and riparian habitat in the BSA could provide potential habitat for the White-Footed Vole. Sonoma tree vole prefers redwood, grand fir, and Douglas fir dominated forests; however, they have been documented using Sitka spruce trees for nesting. Stantec biologists did not make any incidental observations of these species during the reconnaissance level survey. According to CNDDB, the nearest known occurrence for white-footed vole is 2.5-miles from the BSA, and the nearest CNDDB occurrence for Sonoma tree vole is approximately 7-miles from the BSA.

Direct impacts on these species could result from tree removal and vegetation removal. Temporary noise disturbance generated by construction could indirectly affect these species as well. Trail lighting and human disturbance from trail use may also decrease their use of the area, however abundant forested and riparian habitat would be available in the vicinity of the BSA. Avoidance and minimization measures provided below reduce the potential for adverse impacts on these species.

To avoid or minimize impacts to Sonoma tree vole, Mitigation Measure BIO-3 would be implemented. Mitigation Measure BIO-3 requires pre-construction survey and relocation of any observed active nests in coordination with CDFW. With the implementation of Mitigation Measure BIO-3, a less than significant impact to white-footed vole and Sonoma tree vole would occur.

Threatened and Endangered Species

Federally or state listed threatened or endangered species that could be potentially impacted by the project include three fish species and their critical habitats: SONCC ESU coho salmon, CC ESU Chinook salmon, and NC DPS steelhead ("salmonids"), and one bird species (Tricolored Blackbird). Eulachon were observed in the Little River in 2022 but are unlikely to be present in the unnamed tributary. The project area does not contain suitable habitats for all other federally or state threatened, or endangered species scoped within the project vicinity which include two insects, four species of fish, six bird species and one mammal and those species are not considered further (see Table 4 within Appendix D).

Special Status Fish - Salmonids and Eulachon

Construction of the proposed project could result in impacts to SONCC coho salmon, CC Chinook salmon, NC steelhead, eulachon, or their critical habitat. Impacts induce an adverse response in an organism due to physical, chemical, or biological alterations in the environment. The project does not include any in-water work in the Little River or the unnamed tributary. Channel or culvert modifications would not occur. Dewatering and fish relocation would not be required. However, the proposed action includes activities that potentially could result in impacts affecting federally listed fish species.

Potential impacts on federally listed fish species caused by the proposed action include

- Temporary increases in turbidity and suspended sediment from construction area stormwater runoff
- Exposure to hazardous chemicals/accidental spill of lubricants and fuels
- Alteration of riparian habitat
- Construction-related noise and visual effects

Turbidity Increases

Little River - The project does not involve any in-water work, but some ground disturbance would occur at the bridge ends at the top of the bank of the Little River. Construction along the bridge has the potential to result in debris falling into the Little River which could cause a potentially significant impact. Standard Measure WQ-2 would be implemented, requiring the installation of netting or other material for debris catchment. Additionally, loose ground materials have the potential to wash into receiving waters, which would be a potentially significant impact. With the installation of appropriate stormwater BMPs, and the implementation of Standard Measure WQ-1 (see Section 1.4), which includes implementation of a SWPPP, any potential turbidity impacts to special status salmonids in the Little River would be reduced to an insignificant level.

Unnamed Tributary - Construction of trail components adjacent to the unnamed tributary could result in sediment releases and short turbidity plumes during rain events if they occur during construction, or immediately after construction but before complete stabilization of any disturbed areas occurs. Installation of ESA fencing near the unnamed tributary as indicated in Exhibit 5-2 through 5-4, Appendix A, would greatly limit the ground disturbance footprint within proximity of the waterway and reduce the potential for undesired sedimentation. Given the thick vegetation along the banks of the creek would be protected with THVF fencing, the upslope distance of the disturbed soil from the culvert outlet (10-feet), the installation of appropriate stormwater BMPs, and the implementation of Standard Measure WQ-1 (see Section 1.4), which includes implementation of a SWPPP, any potential turbidity impacts would be reduced to an insignificant level. With these measures in place and given the temporary nature of the impact, increased turbidity would have a less than significant effect on SONCC ESU coho salmon, CC ESU Chinook salmon, and NC DPS Steelhead or their critical habitats.

Exposure to Hazardous Chemicals/Accidental Spill of Lubricants and Fuels

Little River and Unnamed Tributary - Listed salmonids could seasonally occur in the BSA during construction. Installation of THVF fencing surrounding waterways and wetlands would minimize the potential for accidental spills of potentially hazardous chemical and materials from construction activities to expose federally listed salmonids and their critical habitat, along with and other species. The THVF fencing near the unnamed tributary will buffer the waterway from heavy equipment and accidental spills (see Standard Measure WQ-1, Section 1.4), and the installation of a debris catchment during bridgework would buffer the waterway from debris entering the Little River (see Standard Measure WQ-2, Section 1.4). The project includes Standard Measure WQ-1 (Section 1.4), which includes preparation of a SWPPP and requirements to prevent and contain any large accidental spills of hazardous materials and minimize sediment from entering receiving waters. With the implementation of Standard Measure WQ-1 the exposure to hazardous chemicals/accidental spill of lubricants and fuels may affect, but would not significantly impact SONCC ESU coho salmon, CC ESU Chinook salmon, and NC DPS Steelhead or their critical habitats. The potential impact would be less than significant.

Alteration of Riparian Habitat

Little River - The Little River is designated critical habitat for SONCC ESU coho salmon, CC ESU Chinook salmon, and NC DPS steelhead. Riparian vegetation would not be permanently altered within the BSA along the Little River as part of the action. The small amount (2-feet) of increase in width of the existing bridge would be an insignificant increase in shading relative to the existing structure and compared to the large area of sunlight-exposed; shallow habitat and riparian vegetation; the high level of tidal flux; and the exchange of water and prey organisms that occurs in the Little River within the BSA. While minimal, the additional shading could provide a minor thermal refugia or even provide cover for salmonids during low flow conditions in the summer and fall months, potentially resulting in a positive effect. A less than significant impact would result.

Unnamed Tributary - At the unnamed tributary, which is designated critical habitat for SONCC ESU coho salmon and NC DPS Steelhead, vegetation removal would occur on top of the culvert only (i.e., upslope of the culvert outlet) and not alongside natural habitat or the banks of the unnamed tributary. No work would occur within or below the ordinary high-water mark at either location, which is the extent of designated critical habitat for SONCC ESU coho salmon and NC DPS Steelhead. Within the grading footprint upslope of the culvert, vegetation is predominantly a fern and shrub understory. One nearby Sitka spruce located above the culvert at the unnamed tributary would need to be removed and could increase solar exposure. However, given the local western-facing aspect and steep slope in the BSA and overall vegetative cover at this location, the amount of shading provided by this tree is minimal relative to the thick riparian vegetation along the banks of the unnamed tributary. No additional trees would be removed near the unnamed tributary. Per the recommendation of NMFS in the July 14, 2022 Letter of Concurrence, the single Sitka spruce would be repurposed for instream habitat enhancement. Caltrans would coordinate with stream restoration partners to place this tree, or appropriate portions of the root mass, in appropriate locations within a stream to provide habitat for coho and/or Chinook salmon. To reduce the potential impact of the removing the Sitka Spruce tree, this recommendation has been incorporated into the project as Mitigation Measure Bio-4A.

In accordance with Standard Measure BR-4B, THVF fencing would be installed, as shown in Exhibit 5-1 through 5-4, Appendix A, which would protect riparian vegetation from inadvertent construction-related disturbance. In general, the vegetation along the banks of the unnamed tributary below the culvert would not be disturbed, and the full canopy would remain. Vegetation removal approximately 10-feet east of the unnamed tributary would be upland only.

Mitigation Measure BIO-4B has also been incorporated into the Project to require a Habitat Mitigation Monitoring and Reporting Plan, replacement of removed riparian vegetation, and monitoring. Additionally, Standard Measure BR-4B limits the disturbance of nearby riparian habitats. Therefore, no permanent adverse changes to waters, substrates, food production, or availability of cover conditions that are necessary for rearing, migration, feeding, and growth of federally listed salmonids present are anticipated. With implementation of Mitigation Measure BIO-4B and exclusionary fencing (Standard Measure BR-4B), minor alterations of riparian habitat near the unnamed tributary would result in a less than significant impact to SONCC ESU coho salmon, CC ESU Chinook salmon, NC DPS Steelhead, eulachon, or their critical habitats.

Noise and Visual Effects

Little River and Unnamed Tributary – No pile driving would occur as part of the proposed project. A list of equipment likely used is described in Section 1.2. The loudest equipment would likely be used during the bridge deck widening, which may include the use of jackhammers above the Little River. In most cases, any startled salmonids, if present, would simply relocate away from the BSA, with the ability to return once the stressor has gone or fish become habituated to the stressor. If startled, special status fish migrating through the area would continue through the area rapidly or return from where it came until after the stressor is gone. Any effect resulting in a brief delay in feeding behavior is unlikely to reduce growth or survival and would be less than significant.

*Unnamed Tributary - S*heet piles would be installed near the unnamed tributary to construct the retaining wall via vibratory construction methods, not pile driving. Sheet piling would be approximately 100-feet in length and take up to approximately three days to completely install. Installation of the sheet piling would be approximately 30 feet upstream/upslope from the culvert opening. Installation of the sheet piling will not modify the channel or directly affect aquatic habitat; no in-water work will occur. Vibratory installation of the sheet piles could startle special status fish present in the culvert itself or the downstream habitat. The *Caltrans District 1, 2, and 4 NMFS Programmatic Biological Assessment for Routine Maintenance and Repair Activities* evaluated this activity under Project Action 20 – Install permanent temporary rock slop protection (RSP), sheet piles, and retaining walls (Caltrans 2010). The Biological Assessment and associated Biological Opinion address SONCC ESU coho salmon, CC ESU Chinook salmon, NC DPS Steelhead, and Eulachon.

The associated Biological Opinion (NMFS 2013) includes Additional Best Management Practices (ABMP) for Project Action 20. Construction of the project, including sheet pile installation via vibratory methods, does not conflict with any of the applicable ABMPs in the Biological Opinion. The sheet pile will be limited to the minimum length necessary (AMBP 20.1), the sheet pile will not extend into the active channel (AMBP 20.5), and temporary storage materials will not be placed in the 100-year floodplain during the rainy season (AMBP 20.6). The Biological Opinion also includes Project Limits to ensure protection of special status fish. Installation of the sheet pile via vibratory methods is consistent with all applicable Project Limits, summarized as follows:

- Sheet piles will be installed upslope of the unnamed tributary and not in designated critical habitat or anadromous waters; and

- Erosion control materials will not be placed in the wetted channel.

While Caltrans will seek project-specific approval from NMFS for construction of the trail, installation of the sheet piling via vibratory methods does not conflict with the existing guidance between the two agencies specific to the installation of sheet piling and the effect of the activity on special status fish. Additionally, NMFS and Caltrans have agreed on hydroacoustic thresholds generated by impact pile driving, but there is no formal agreement on criteria to be applied to vibratory pile driving (Caltrans 2020b). Vibratory pile-driving is considered to be a mitigation approach for avoiding or reducing potential effects of impact driving on fish and is not assessed for physical injuries to fish (Caltrans 2020b). According to Caltrans (2020), in general, installation of sheet piles using vibratory methods has been found to have noise levels well below the current accepted injury threshold of 183 decibels (dB) for small fish (see Caltrans (2020) Section I.6 for various examples). However, noise levels could exceed the current accepted threshold for behavioral effects (150 dB root mean square). Recent studies investigating the physical and behavioral impacts of pile driving noise on coho salmon and steelhead suggest that the current accepted thresholds are very conservative, with sound levels as high as 207dB found to have no discernable physical effects and minimal behavioral effects, being limited to an initial surprise reaction with no avoidance noted (Stantec 2022b).

In most cases, any startled salmonids, if present, would simply relocate away from the BSA, with the ability to come back once the stressor has gone or it becomes habituated to the stressor. In the case of salmon migrating through the area, if startled, it would most likely either continue through the area rapidly or return from where it came until the stressor is gone. Any effect resulting in a brief delay in feeding behavior is unlikely to reduce growth or survival and would be insignificant. Therefore, the magnitude of this effect would be considered insignificant because any behavioral change as a result of vibratory installation of sheet piles, or other elevated noise activities would likely be limited to the initial surprise reaction, temporarily seeking cover and avoidance. Additionally, given the potential for high-ambient noise levels with the adjacency of US 101, the lack of in-water work, the distance of work from the wetted channels (30 feet or more), and the types of equipment used, it is anticipated that the stressor of noise and visual effects would result in a less than significant effect to SONCC ESU Coho Salmon, California Coastal ESU Chinook Salmon, and Northern California DPS Steelhead or their critical habitats

Installation of the sheet piling would startle special status fish. Started special status fish would simply relocate away from the culvert until the temporary disturbance was complete. If startled, special status fish migrating through the area would continue through the area rapidly or return from where it came until after the stressor is gone. Any effect resulting in a brief delay in feeding behavior is unlikely to reduce growth or survival and would be less than significant.

Essential Fish Habitat

The project could affect essential fish habitat (EFH) for Pacific salmon managed under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Potential adverse effects of the proposed action on SONCC ESU coho salmon and CC ESU Chinook salmon EFH include a temporary increase in turbidity and suspended sediment from construction area stormwater runoff, accidental release of hazardous chemicals/accidental spill of lubricants and fuels, alteration of riparian habitat, and effects from construction-related noise and visual effects. These effects are described in detail in the section above.

Standard Measures described in Section 1.4 and mitigation measures presented in at the end of Section 2.4 would avoid and minimize the potential magnitude and duration of any identified impacts. Some construction activities could result in temporary and localized increases in turbidity and suspended sediment from stormwater runoff during and after construction, without causing significant long-term effects on salmonid habitat quality. All disturbed slopes would be re-vegetated to provide effective biofiltration treatment of stormwater runoff. No measurable, long-term adverse modification to waters, substrates, food production and availability, and changes in cover conditions from increased shading or vegetation removal are anticipated.

The effects of the project on the Pacific Coast salmon EFH would be the same as those discussed in the section above and may have minor, temporary effects on the EFH. Inclusion of standard measures and mitigation measures would reduce potentially effects to the EFH to a discountable level. The project is designed to minimize adverse effects and restore condition and function after construction. The potential effect to EFH would be less than significant.

Tricolored Blackbird

Construction of the proposed project could result in impacts to state-listed Tricolored Blackbird due to tree removal. This species breeds near freshwater in stands of dense emergent vegetation but may utilize tree species for foraging. With implementation of Standard Measure BR-2A, Standard Measure BR-2B, and Standard Measure BR-2C, which includes removal of vegetation outside of the bird breeding season, generation of a Bird Exclusion Plan to limit nesting potential, and pre-construction surveys to locate potential birds nesting in the construction area or within one-quarter mile of the construction area, potential impacts to Tricolored blackbird would be less than significant.

Discussion of CEQA Environmental Checklist Question 2.4b)—Biological Resources

> ***b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

Sensitive Natural Communities

Sensitive natural communities, including riparian habitat and upland Environmentally Sensitive Habitat Areas (ESHA) were surveyed and mapped by Stantec in 2021. Riparian habitat occurs on either side of Little River as the following vegetation communities: coastal dune willow thickets, Pacific silverweed marshes, and slough sedge swards (Exhibit 4-1 and 4-2, Appendix A). Coastal dune willow thickets also occur elsewhere in the BSA; however, only the community on the north bank of Little River functions as riparian habitat. Four of the seven vegetation communities mapped in the BSA are categorized as SNCs by CDFW: Sitka spruce forest, coastal dune willow thickets, Pacific silverweed marshes, slough sedge swards. Two of the SNCs, (Sitka spruce forest and coastal willow thickets) are further separated into high- and low- quality stands. Low-quality stands are not considered sensitive, and high-quality stands are considered SNCs (Table 3).

Table 3. Vegetation Communities in the Biological Study Area

Alliance	Total Area (acres)	SNCs (acres)	Upland ESHA (acres)
A Manual of California Vegetation Alliances[1]			
Forests and Woodlands			
Sitka spruce forest	4.42	3.19	3.19
Red alder forest	7.05	0	0
Shrublands			
Coastal dune willow thickets	0.96	0.71	0
Coyote brush scrub	1.36	0	0
Herbaceous Vegetation			
Slough sedge swards	0.08	0.08	0
Pacific silverweed marshes	0.11	0.11	0
Non-native grassland[2]	2.46	0	0

Notes:

1) A Manual of California Vegetation, available at: www.vegetation.cnps.org. (CNPS 2021)

2) Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986)

Sensitive natural communities mapped as CCC waters include coastal dune willow thickets, Pacific silverweed marshes, and slough sedge swards. Impacts and mitigation provided for CCC waters also apply to these SNCs. Impacts on SNCs that also qualify as CCC waters are considered in Question c) below and shown in Exhibits 6-1 through 6-4, Appendix A.

Impacts on riparian habitat (Exhibit 4-1 and 4-2, Appendix A) are included as impacts to CCC waters (which is described in Question c) below. No additional impacts on riparian habitat outside of the CCC waters boundaries would result.

Impacts on upland ESHAs include approximately 0.89-acre of permanent impacts and approximately 0.25-acre of temporary impacts (Exhibit 7-1 and 702, Appendix A). The SNC Sitka spruce forest is also considered an upland ESHA. Potential indirect impacts from construction include erosion, sedimentation, and accidental spills.

Standard Measure BR-4B would be implemented to avoid and/or minimize potential impacts to the identified SNC/upland ESHA (Sitka spruce), requiring THVF fencing to protect sensitive vegetation (see Section 1.4). However, impacts to SNCs/upland ESHA would result in a significant impact. Mitigation Measure BR-5 has been incorporated into the project to require on-site replacement of impacted SNCs/upland ESHA, reducing the impact to a less than significant level.

Invasive Species

All non-native plant species observed in the BSA during the botanical survey were reviewed to determine their status as invasive plants according to the ratings in the California Invasive Plant Inventory produced by California Invasive Plant Council (Cal-IPC). Nineteen species observed during the botanical surveys are considered to be invasive by Cal-IPC (see Table 2 in the NES, attached as Appendix D).

Project work, including but not limited to removal of vegetation, excavation, and grading, have the potential to inadvertently spread invasive vegetation. Spread of invasive vegetation can lead to new infestations which have the potential to outcompete established populations of native plant species and disrupt native ecosystem function. This would result in a potentially significant impact.

Mitigation Measure BIO-6 has been incorporated into the project to prevent the spread of invasive plants which includes requirements to clean equipment, utilize weed-free mulches or fill, and use of locally adapted native plant material and seed to the greatest extent practicable. With implementation of Mitigation Measure BIO-6, the project would not cause direct, indirect, or cumulative impacts to the spread of invasive species. A less than significant impact would occur.

Discussion of CEQA Environmental Checklist Question 2.4c)—Biological Resources

> ***c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

Wetlands and Other Waters

A delineation of potential waters of the U.S. and state occurred between September 1-3, 2020 (Stantec 2020a). Potential USACE and RWQCB jurisdictional waters include riparian wetland, riparian/fresh emergent wetland complex, fresh emergent wetland, vegetated ditch, and an unnamed tributary occupying a total of 2.92-acres. Potential CCC jurisdictional waters include riparian/fresh emergent wetland complex and riparian wetland (which includes the SNCs identified in Question b)). Potential Waters are summarized in Table 4.

Table 4. Potential Waters of the United States and State Summary

Potential Waters of the United States and State	Total Acreage	Total Linear Feet
Wetlands		
Riparian Wetland	0.07	N/A
Riparian /Fresh Emergent Wetland Complex	1.89	N/A
Fresh Emergent Wetland	0.19	N/A
Vegetated Ditch	0.02	N/A
Other Waters		
Perennial Stream	0.75	367
Total Potential Waters of the United States and State	**2.92**	**367**
Potential CCC jurisdictional 1-parameter wetlands		
Riparian/Fresh Emergent Wetland Complex	0.54	N/A
Riparian Wetland	0.64	N/A
Total Potential CCC-jurisdictional 1-parameter wetlands	**4.10**	**367**

Estimates of potential impacts to wetlands and Water of United States and state are from the 30% design. Final areas of impact are likely to adjust as the design progresses; however, efforts to avoid and minimize potential impacts will continue throughout the remainder of the design process.

USACE and RWQCB-jurisdictional Waters of the U.S. and State

The project would result in less than approximately 0.01-acre of temporary impacts on riparian wetland/fresh emergent wetland complex and riparian wetland. Permanent impacts would total approximately 0.01-acre of riparian wetland. Temporary impacts would result from construction access on either side of the trail alignment. Permanent impacts would result from grading and fill and retaining wall installation (Stantec 2020a). Permanent and temporary impacts on potential waters of the U.S. and state are shown in Exhibit 5-1 through 5-4 and Exhibit 6-1 through 6-4 of Appendix A. Potential indirect impacts from construction include erosion, sedimentation, and accidental spills leading to pollution.

CCC-jurisdictional Waters

The project would result in approximately 0.08-acre of temporary impacts, including 0.07-acre of riparian wetland, and approximately 0.01-acre of riparian/fresh emergent wetland complex. Permanent impacts would total approximately 0.20-acre of riparian wetland. Impacts on CCC waters are equivalent to impacts on waters of the U.S., except for an additional approximately 0.07-acre of temporary impacts on riparian wetlands and an additional approximately 0.19-acre of permanent impacts on riparian wetlands (Stantec 2020b). Temporary impacts would result from construction access on either side of the trail alignment. Permanent impacts would result from cut and fill and retaining wall installation. Impacts on potential CCC waters are shown in Exhibit 6-1 through 6-4 of Appendix A. Potential indirect impacts from construction include erosion, sedimentation, and accidental spills leading to pollution.

The project was designed to minimize impacts on potential waters of the U.S. to the extent practicable. No work would occur in the Little River or unnamed tributary channels. All impacts would occur on the far edges of aquatic resources, where the features extend slightly into the trail alignment. Standard Measure WQ-1, Standard Measure WQ-2, and Standard Measure BR-4B (described in Section 1.4) would be used to reduce or avoid the potential for erosion and sedimentation, prevent accidental spills that could affect water quality, and clearly delineate the edge of work areas and thereby avoid wetlands and Waters of the U.S. outside the construction area. To the extent practicable, the discharge of dredged or fill material into Waters of the U.S. (including wetlands) would be avoided. All permits (Section 404, 401, Lake and Streambed Alteration Agreement (LSAA) and CDP) would be acquired prior to project implementation, and all monitoring would be conducted in accordance with permits and other compliance documents.

Compensatory mitigation would be completed for all federal and state wetland impacts, as required by jurisdictional resource agencies. Final ratios required for compensatory mitigation will depend on the area and quality of impacted resources. Final ratios will be determined during future consultation between Caltrans and each agency, to the satisfaction of jurisdictional resource agencies and consistent with review and approval of the project's Habitat Mitigation and Monitoring Plan. Permanent USACE/RWQCB impacts are small (approximately 0.01-acre). CCC wetland impacts are also small (approximately 0.20-acre). Given the small area of wetland impacts, incorporation of Standard Measure WQ-1, Standard Measure WQ-2, and Standard Measure BR-4B and requirement for compensatory mitigation for all wetland impacts, the potential impact to wetlands would be less than significant.

Discussion of CEQA Environmental Checklist Question 2.4d)—Biological Resources

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Habitat corridors are segments of land that provide linkages between different habitats while also providing cover. On a broader level, corridors also function as avenues along which wide-ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters and threatened species can be replenished from other areas. Habitat corridors often consist of riparian areas along streams, rivers, or other natural features. Additionally, the rivers and streams themselves serve as migration corridors for anadromous fish.

Within the BSA, Little River and its associated riparian habitat provides a migration corridor for wildlife species, including anadromous fish traveling upstream from the ocean to their spawning ground. Similarly, the unnamed tributary within the BSA is also an anadromous migration corridor. Upland forest habitat within the BSA provides habitat and migration connectivity for wildlife and avian species.

Animal Species

Aquatic Species

No in-water work is proposed and therefore no temporary or permanent migration barrier would be created due to the project. Semi-aquatic species that utilize wetlands, such as amphibians, may be impacted by the project due to the proposed wetland fill. However, the area of permanent wetland impacts is small, and the project would not completely bisect a wetland or ditch feature to cause a barrier. Abundant wetlands exist within and adjacent to BSA. Therefore, suitable habitat would remain intact to enable movement and migration of semi-aquatic species. See Exhibit 5-1 through 5-4 of Appendix A for delineated Waters of the U.S., including wetlands. A less than significant impact would result.

Terrestrial Species

The project would remove approximately 117 trees along the one-mile Class I Bike Path, and thereby disrupt the contiguous forest in this location. Existing terrestrial wildlife in the project area include (but are not limited to) common species such as deer, raccoons, rabbits, skunks, and rodents. Special-status terrestrial species which have large territories, and thus move consistently, such as fishers are not likely to occur in the project area due to absence of suitable habitat. Other special status terrestrial species that may occur in the project area include two species of vole, which have a relatively smaller migration range as these species typically live within tree habitat. As assessed in Section 1.2, the project is located parallel to Route 101 and would cross the Little River. The presence of Route 101 likely deters terrestrial species because species would need to cross Route 101 to access the project area.

Trees removal would not occur within the Little River riparian corridor. Terrestrial wildlife migration across the Little River is currently limited to crossings via Route 101 or swimming across the river. Although the project would remove trees, it would not modify wildlife movement access the project area, which is already limited. Furthermore, dense forest exists adjacent (to the west) of the proposed trail, which will remain available to terrestrial species. The project would have a less than significant impact on the migration of terrestrial wildlife species.

Threatened and Endangered Species

The project would not include any in-stream work or proposed infrastructure within the Little River or unnamed tributary channels. Therefore, no modifications to existing access or in-stream migration corridors would result. No impact to threatened or endangered salmonids would result. Standard Measure BR-2 would be implemented, which requires vegetation to be removed outside of the bird breeding season, implementation of a Bird Exclusion Plan, and pre-construction surveys for nesting birds. With inclusion of Standard Measure BR-2, no impact to state-listed tricolored blackbird would result.

Invasive Species

Construction of the project would not cause an increase or spread of invasive species due to incorporation of Standard Measure BR-3 which requires that all erosion control material shall be free of noxious weed seed and propagules, and that all equipment will be cleaned thoroughly prior to entering the job site. Operation of the project would not substantially interfere with native plant species ability to migrate. A less than significant impact would occur.

Mitigation Measures

Mitigation Measure BIO-1: Protection of Special Status Amphibians and Reptiles

The following activities shall be implemented during construction:

- A qualified biologist will provide environmental awareness training for construction personnel prior to onset of work. The training will instruct construction personnel on how to recognize potential special status species.
- Within 7 days prior to the start of construction, a qualified biologist will conduct a pre-construction survey for special status amphibians within the disturbance footprint. Any special status amphibians found will be relocated to nearby suitable habitat outside of the disturbance footprint.
- If special status species are encountered in the BSA during construction and could be harmed by construction activities, work will stop in the area. A qualified biologist may relocate the individual(s) the shortest distance possible to a location containing habitat outside of the work area.
- If a western pond turtle nest is discovered during construction activities, a qualified biologist will flag the site and determine if construction activities can avoid affecting the nest. If the nest cannot be avoided, it will be excavated and relocated to a suitable location outside of the construction impact zone by a qualified biologist in coordination with CDFW.

Mitigation Measure BIO-2: Protection of Birds from Debris Catchment

The debris catchment installation on the Route 101 Little River Bridge shall occur outside of the nesting bird season to prevent nesting birds from getting entrapped in the device while nesting.

Mitigation Measure BIO-3: Protection of Sonoma Tree Vole

The following activities shall be implemented during construction:

- A qualified biologist will conduct a pre-construction survey of the BSA to locate and identify potential presence of these species. The survey should occur no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed.

- Consultation with CDFW would occur prior to surveys to determine if seasonal restrictions are appropriate for either species if a nest is located in a tree proposed for removal.
- If an active nest is found, a qualified biologist, in consultation with CDFW, will determine the extent of a construction-free buffer zone to be established around the nest or if seasonal restrictions would reduce impacts to the species.

Mitigation Measure BIO-4A: Repurpose Large Wood for Salmonid Habitat

The single Sitka spruce to be removed near the unnamed tributary culvert shall be repurposed for instream habitat enhancement. Caltrans shall coordinate with stream restoration partners to place this tree, or appropriate portions of the root mass, in appropriate locations within a stream to provide habitat for coho and/or Chinook salmon.

Mitigation Measure BIO-4B: Replacement of Lost Riparian Habitat

The following measures will be implemented to reduce potential impacts to riparian habitat in the BSA:

- A Habitat Mitigation and Monitoring Plan will be developed at a later date, and will include a plant palette, establishment period, watering regimen, and pest control measures.
- The width of the construction disturbance zone within the riparian habitat will be minimized through careful pre-construction planning.
- Exclusionary fencing will be installed along the boundaries of all riparian areas to be avoided to minimize impacts to riparian vegetation outside of the construction area.
- On-site restoration will occur in areas that have been disturbed during project construction. All native woody riparian plants 6 inches or greater dbh removed will be replanted with new plantings at a minimum 3:1 ratio. This replanting ratio will help establish at least one vigorous plant for each plant removed.
- Plant spacing intervals will be determined as appropriate based on-site conditions following construction and will be similar to undisturbed riparian habitat in the local area.

- Revegetation monitoring will be implemented in compliance with regulatory permit conditions and be initiated immediately following completion of the planting. The monitoring surveys will consist of a general site walkover evaluating the survival and health of riparian plantings, signs of drought stress, weed or herbivory problems, and the presence of trash or other debris. Eighty-five percent or greater survival of the total number of trees and shrubs (i.e., woody species) needed to meet required mitigation ratios, including planted and volunteer native species, will be considered a success at the end of a five-year monitoring period. If monitoring results indicate that revegetation efforts are not meeting established success criteria, corrective measures will be used.

Mitigation Measure BIO-5: Replacement of Lost Sensitive Natural Communities and Upland ESHA

The following measures will be implemented to reduce potential impacts to SNCs/upland ESHA in the BSA:

- The mitigation ratio for impacted SNCs/upland ESHA will be no less than 1:1. Mitigation shall occur onsite. Final mitigation ratios will be determined with jurisdictional agencies during future consultation with Caltrans. Specific mitigation parameters will be decided in coordination with the CCC and CDFW.

- A Habitat Mitigation and Monitoring Plan will be developed at a later date, and will include a plant palette, establishment period, watering regimen, and pest control measures.

- The width of the construction disturbance zone within the mapped SNC/upland ESHA habitat will be minimized through careful pre-construction planning.

- Exclusionary fencing will be installed to avoid and minimize impacts to SNCs/upland ESHA outside of the construction area.

- Plant spacing intervals will be determined as appropriate based on-site conditions following construction and will be similar to undisturbed riparian habitat in the local area.

- Revegetation monitoring will be implemented in compliance with regulatory permit conditions and be initiated immediately following completion of the planting. The monitoring surveys will consist of a general site walkover evaluating the survival and health of riparian plantings, signs of drought stress, weed or herbivory problems, and the presence of trash or other debris. Eighty-five percent or greater survival of the total number of trees and shrubs (i.e., woody species) needed to meet required mitigation ratios, including planted and volunteer native species, will be considered a success at the end of a five-year monitoring period. If monitoring results indicate that revegetation efforts are not meeting established success criteria, corrective measures will be used.

Mitigation Measure BIO-6: Prevention of Spread of Invasive Species

The following measures would be implemented to prevent the spread of invasive species:

- All equipment used for off-road construction activities will be cleaned prior to entering the BSA.
- Utilization of weed-free mulches.
- Seed mixes or other vegetative material used for revegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable, or sterile grass seed.
- Any construction equipment (including boots, waders, and hand tools) that may enter stream courses will be properly disinfected according to guidance provided by the State of California Aquatic Invasive Species Management Plan (CDFG 2008, U.S. Bureau of Reclamation 2012) prior to invasive work to prevent the spread of aquatic invasive species.

2.5. Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?			✓	
Would the project: b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?			✓	
Would the project: c) Disturb any human remains, including those interred outside of dedicated cemeteries?			✓	

Regulatory Setting

The term "cultural resources", as used in this document, refers to the built environment (e.g. structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under California state laws, cultural resources that meet certain criteria of significance are referred to by various terms including "archaeological resources," "historic resources," "historic districts," "historical landmarks," and "tribal cultural resources" as defined in PRC § 5020.1(j) and PRC § 21074(a). The primary state laws and regulations governing cultural resources include:

- California Historical Resources, PRC 5020 et seq.
- California Register of Historical Resources, PRC 5024 et seq. (codified 14 CCR § 4850 et seq.)
    - PRC 5024, Memorandum of Understanding: The MOU between Caltrans and the State Historic Preservation Officer streamlines the PRC 5024 process.
- California Environmental Quality Act, PRC § 21000 et seq. (codified 14 CCR § 15000 et seq.)

- Native American Historic Resource Protection Act, PRC § 5097 et seq.
- Assembly Bill (AB) 52, amends California Environmental Quality Act and the Native American Historic Resource Protection Act
  - An effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment.
  - Additional consultation guidelines and timeframes
- California Native American Graves Protection and Repatriation Act, CA Health and Safety Code 8010-8011

Environmental Setting

The environmental setting for cultural resources is centered around the APE established for the project (Exhibit 8, Appendix A). The APE for the project was established as two discontinuous units. Situated west of Route 101, APE Area 1 represents the area designated for the trail alignment and for the staging of materials and construction equipment. APE Area 2, east of Route 101, is identified solely for the staging of equipment and materials. Beginning at Post Mile (P.M.) 97.83, APE Area 1 extends southward to P.M 96.96, and measures approximately one mile long (north/south) by 198-foot wide (east/west) at its widest point. The ancillary staging area, APE Area 2, is situated on the east side of the northbound off-ramp at P.M. 96.98 and measures 173-foot long (north/south) by 87-foot wide (east/west).

The vertical APE is associated with the engineering and visual elements of the Project. The vertical APE for the trail bed ranges from 12-inches below grade to 10-feet below grade if the Project is located adjacent to the existing Crannell Road off-ramp and up to 15-foot if the Project is situated atop the undeveloped surface immediately west of the off-ramp, within the Caltrans ROW. The retaining walls will require disturbances up to -18 -foot below grade to seat the soldier piles. The cultural resources study area was established by DZC (2022) and constitutes a 0.5-mile buffer around the APE.

The APE lies within the pre-European contact ethnographic territory of the Yurok Tribe to the north and the Wiyot Tribe to the south. The APE passes through property formerly owned by the Beach family. As part of developing the ASR, DZC (2022) conducted an oral history with a Beach family descendant.

Historically, early settlers from Moonstone Beach down to Clam Beach made use of the surrounding timber, pasture, and mineral resources, while later residents and visitors enjoyed the recreational opportunities of the beachfront at Clam Beach and the rocky coves of Moonstone Beach. Clam Beach is where first the county wagon road, and then the Redwood Highway, reached the beach and has always been a major transportation corridor (Rhode 2008 cited in DZC 2022).

Discussion of CEQA Environmental Checklist Question 2.5—Cultural Resources

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

The ASR included evaluation of Bridge No. 04-0026, which is identified as a Category 5 Bridge on the Caltrans Historic Bridge Inventory and was previously determined ineligible for inclusion in the National Register of Historic Places. The ASR also recorded the former highway alignment through the APE, State Route 101. Portions of the former highway asphalt are visible west of the present-day highway. However, per Attachment 4 of the Programmatic Agreement between Caltrans and the Federal Highway Administration, Advisory Council on Historic Preservation, and the California State Historic Preservation Office Regarding Compliance with Section 106 of the National Historic Preservation Act and Attachment 4 of the 5024 Memorandum of Understanding between Caltrans and the California State Historic Preservation Office Regarding Compliance with Public Resource Code Section 5024 and Governor's Executive Order W-26-92, addended 2019., the former State Route 101 meets the definition of a Type 1 Resource is therefore exempt from recordation and evaluation (DZC 2022). Four historic-era isolates were also found during field investigations, including bottle and glass fragments. Non-native landscape plants were also identified. The isolated artifacts are domestic, industrial, or commercial in nature with little or no contextual associations. As with the former State Route 101 alignment, the historic-era isolates and non-native landscape plants are also exempt from recordation and evaluation. The ASR did not identify any structural remnants of the former Little River Motor Court The HPSR therefore concluded that no historical resources are present in the APE (DZC 2022). As such, there would be no impact to historical resources.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Archaeological impact analysis is based on the ASR prepared for the project. The ASR included review of prior cultural resource studies within the APE and surround vicinity, a June 4, 2020, request to the Native American Heritage Commission, outreach to tribes identified by the Native American Heritage Commission, and a pedestrian field survey. The ASR did not identify any surface constituents associated with nearby known cultural resource sites (DZC 2022). The HPSR included a Finding of No Historic Properties Affected (DZC 2022). While archaeological resources were not identified, the APE is in a culturally sensitive area, and inadvertent discovery could occur during construction. Standard Measures CR-1, CR-2, and CR-3 have been incorporated into the project to require coordination with appropriate tribal representatives, archaeology monitoring during ground-disturbing activities, and standard protocols for inadvertent discovery (see Section 1.4). With the incorporation of Standard Measures to protect cultural resources, any potential impact would be less than significant.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

While archaeological resources were not identified, the APE is in a culturally sensitive area, and inadvertent discovery of human remains could occur during construction. Standard Measure CR-4 has been incorporated into the project to address the potential inadvertent discovery of human remains (see Section 1.4). With the incorporation of Standard Measure CR-4, any potential impact would be less than significant.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.6. Energy

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?				✓
Would the project: b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the RCEM analysis conducted for the project (Appendix C). The proposed project would not increase highway capacity or provide congestion relief when compared to the No-Build alternative. The project would relocate existing streetlights near the Crannell Road off-ramp, and one new streetlight would be installed at the northern trailhead. The one new streetlight would result in negligible energy consumption. Operation of the project does not require fuel or other energy sources. Construction-related energy consumption would be temporary and would not have a noticeable effect on local and regional fuel supplies. Given this, potential impacts to energy are not anticipated.

2.7. Geology and Soils

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			✓	
ii) Strong seismic ground shaking?			✓	
iii) Seismic-related ground failure, including liquefaction?			✓	
iv) Landslides?			✓	
Would the project: b) Result in substantial soil erosion or the loss of topsoil?			✓	
Would the project: c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			✓	
Would the project: d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓
Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			✓	

Regulatory Setting—Geology and Soils

The primary laws governing geology and soils include:

- Historic Sites Act of 1935, 16 U.S.C. 461 et seq.
- CEQA, California Public Resources Code (PRC) 21000

Environmental Setting—Geology and Soils

A *Preliminary Foundation Report*, dated September 21, 2021, was prepared for the project in order to provide a preliminary characterization of site geologic and geotechnical conditions (SHN 2021a). The project shall be designed and constructed in conformance with the site-specific recommendations contained Preliminary Foundation Report prepared for the project.

The project area is in coastal Humboldt County; the project setting is defined by the occurrence of dynamic coastal processes within an active tectonic environment. The trail alignment extends northward from the north end of Clam Beach, across the Little River, and then traverses the coastal bluff before reaching the rocky headland at Westhaven. Clam Beach is a long, straight beach extending several miles south from the Project Area; except along the active beach slope, Clam Beach is largely covered with Holocene age sand dunes. The entire project area south of the Little River is veneered by loose (windblown) dune sand. North of the Little River crossing, conditions change dramatically as the alignment approaches (and crosses) the Trinidad fault, which results in the exposure of older, uplifted marine deposits (Falor Formation) and Franciscan Complex bedrock. The ascent from the Little River, toward a significant bedrock outcrop ("Princess Rock") at the southern end of

Westhaven, provided a hearty challenge for early road builders; as such, the northern end of the project area has been extensively graded, paved, and ultimately buried by fill materials. Construction of the current iteration of Route 101 occurred in the mid-1960's and extensive earthwork was involved, including complete burial of significant portions of the old roadbed.

The trail alignment appears to be crossed by one, and possibly two, strands of the Trinidad fault. The Trinidad fault is an active fault within the Mad River fault zone. The fault is a northwest striking, northeast-dipping thrust fault that thrusts Franciscan Complex mélange over the Pleistocene age Falor Formation. Princess Rock represents a large bedrock block within the mélange, directly northeast of the inferred fault trace.

Discussion of CEQA Environmental Checklist Questions 2.7 (a-e)—Geology and Soils

A "*No Impact*" determination was made for Question d) and Question e) listed within the CEQA Environmental Checklist—Geology and Soils section. Determinations were based on scope, description, soils within the project area, and locations of the proposed project. See below for further discussion of the "*Less Than Significant Impact*" determination made for Questions a) through d).

> ***a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:***
>
> > ***i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.***

The Alquist-Priolo Act (Public Resources Code Sections 2621–2630) was passed in 1972 to mitigate the hazard of surface faulting to structures designed for human occupancy. The purpose of the Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The project does not include structures designed for human occupancy.

The project area is located within the Mad River fault zone and the alignment crosses a mapped trace (or traces) of the Trinidad fault. The Trinidad fault is mapped within an Alquist-Priolo Fault Hazard Zone through the Trinidad area northwest of the Project Site, and as such is considered an active fault by the state. The state's Alquist-Priolo Zone ends at the northern end of the Project Area (the border between the Trinidad and Crannell 7.5' quadrangles) and the proposed trail is not within an Alquist-Priolo Zone. The rupture hazard, however, likely persists through the project area beyond the state mapping.

The project would be designed and constructed in conformance with the site-specific recommendations contained in the geotechnical report to be prepared for the project, and any subsequent project-related geotechnical reports. These recommendations would include, but not be limited to, pavement recommendations, site preparation, and retaining structures. The project's potential to cause or contribute to fault rupture related impacts would be less than significant as a result of both construction and operation.

ii) Strong seismic ground shaking?

The probability for the project site to experience strong ground shaking should be considered very high. Based on the record of historical earthquakes, coastal Humboldt County is one of the most seismically active regions in the continental United States. Over 60 earthquakes have produced discernable damage in the region since the mid-1800s.

The epicenters of at least 30 earthquakes with a magnitude greater than M5 have been recorded within a 60-mile radius of the site. The earthquake that would have had the greatest effect (closest distance/largest magnitude) on the project site occurred in 1992 and was an estimated M7.2 event centered near the town of Petrolia about 20-miles to the southwest.

Seismicity in the region is attributed primarily to the interaction between the Gorda and North American plates along the Cascadia subduction zone (CSZ) plate boundary. Rupture of the entire CSZ is expected to produce earthquakes with a maximum earthquake magnitude (MW) on the order of 9.0. A great subduction earthquake along the CSZ would generate long duration, very strong ground shaking at the project site.

The project would be designed and constructed in conformance with the site-specific recommendations contained in the geotechnical report to be prepared for the project, and any subsequent project-related geotechnical reports. These recommendations would include, but not be limited to, pavement recommendations, new embankment support, subgrade conditions, retaining structures, and bridge foundation recommendations, and corrosion protection. By following the recommendations contained in the geotechnical report, the construction and operation of the project would result in a less than significant impact.

iii) Seismic-related ground failure, including liquefaction?

Liquefaction occurs when strong earthquake ground motion produces excess pore pressures in loose, saturated soils resulting in the subsequent strength loss of affected sediments. Recently deposited and geologically young Holocene age sediments composed of non-cemented granular materials are most susceptible. Older materials or stiff fine-grained, cohesive sediments are generally not susceptible to liquefaction and its associated strength loss. Liquefaction potential increases with the strength and duration of seismic shaking events.

Low-lying areas along the Little River and adjacent floodplain and back-beach areas within the project area are inherently associated with a very high liquefaction potential during moderate or larger earthquakes. Geologically recent, loose, sandy alluvium and eolian material occurring along major rivers (where saturated conditions prevail) are the most susceptible materials to secondary seismic effects. The effects of liquefaction at the project site may include lateral spreading, fissuring, sand boils and irregular settlement patterns. Where the trail alignment gains elevation and reaches Falor Formation materials and engineered fill soils in the northern part of the alignment, the potential for liquefaction is reduced to a low level.

The project would be designed and constructed in conformance with the site-specific recommendations contained in the geotechnical report prepared for the project and any subsequent project-related geotechnical reports. Adherence to the recommendations in the geotechnical report during construction and operation would result in a less than significant impact with regard to seismic related liquefaction.

iv) Landslides?

The project is located between the communities of McKinleyville and Trinidad, paralleling Route 101 in Humboldt County and is generally flat. However, the project area does present limited potential for landslides because a portion of the project area is proposed to occur on land with a slope in excess of 15 percent. Project components would not present a landslide hazard nor increase landslide risk, and all constructed features would comply with the latest version of the California Building Code (CBC) and the site-specific recommendations contained in the geotechnical report prepared for the project. Retaining walls have been incorporated into the design to reduce erosion risk in areas with steep and unstable slopes. Adherence to the CBC and recommendations in the geotechnical report during construction and operation would result in a less than significant impact with regard to landslides.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Construction activities, including excavation, grading, soil compaction, and operation of heavy machinery would disturb soil and, therefore, have the potential to cause erosion. Erosion and sediment control would adhere to the Standard Measures listed in Section 1.4, including Standard Measure WQ-1, which requires the preparation of a SWPPP. BMPs to be implemented under the SWPPP may include silt fences, straw wattles, soil stabilization controls, and site watering for controlling dust. BMPs are designed to stabilize soils and minimize the potential transport of sediment to receiving waters during and post construction. Therefore, the potential soil erosion impact from construction would be less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The project would comply with the seismic requirements of the CBC. The project would be designed and constructed in conformance with the site-specific recommendations contained in the geotechnical report prepared for the project and any subsequent project-related geotechnical reports. Project adherence to the recommendations in the geotechnical report during construction and operation would result in a less than significant impact with regard to landslide, lateral spreading, subsidence, or collapse.

Mitigation Measures—Geology and Soils

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

Regulatory Setting—Paleontological Resources

Several sections of the California Public Resources Code protect paleontological resources, including Sections 5097.5 and 30244.

Environmental Setting—Paleontological Resources

Knowledge of the geological formations gleaned from the A *Preliminary Foundation Report*, dated September 21, 2021 (SHN 2021a), and cultural resources derived from the Archaeology Survey Report (DZC 2022), are the basis for determining the paleontological potential of projects.

This project lies within the Coast Ranges Geomorphic Province. The Coast Ranges are characterized by northwest-southeast trending mountains and valleys roughly parallel to the San Andreas Fault Zone. The cores of the mountains of the Coast Ranges are typically Mesozoic5 to Cenozoic6 in age (less than 250 million years old) and consist of metamorphic and sedimentary rocks.

The project area predominantly consists of artificial fill, alluvium (recent in age), beach/dune sand deposits, Falor formation from the early to middle Pleistocene age consisting of pebbly, conglomerate sandstone and silt marine sediments (predominantly in the middle part of the project area), and Fransiscan complex mélange, cretaceous-Jurassic in age consisting of individual blocks of graywacke sandstone, mudstone, conglomerate greenstone, chert and serpentinite (predominantly located in the northern portion of the project area) (SHN 2021a).

Paleontological resources are considered to be scientifically relevant if they provide new data on fossil animals, distribution, evolution, or other scientifically important information. Fill material is not considered sensitive and would not contain fossils. Alluvium is ranked low because these sediments are too young to contain fossils. The Falor formation and Franciscan complex mélange contain sedimentary rocks which may contain fossils.

A paleontological field survey of the project area was not conducted; however, it is anticipated that encountering fossils during project construction is of low potential due to the abundant fill material and alluvium. It is possible that fossils are within the project area.

Discussion of CEQA Environmental Checklist Question 2.9 (f)—Paleontological Resources

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Paleontological resources are the remains or traces of prehistoric animals and plants. Paleontological resources, which include fossil remains and geologic sites with fossil-bearing strata, are non-renewable and scarce and are a sensitive resource afforded protection under environmental legislation in California. Under California PRC § 5097.5, unauthorized disturbance or removal of a fossil locality or remains on public land is a misdemeanor. State law also requires reasonable mitigation of adverse environmental impacts that result from development of public land and affect paleontological resources (PRC § 30244).

It is unlikely that project construction would impact potentially significant paleontological resources as, the area south of the Little River is entirely covered with loose eolian sand, the Little River contains recent alluvial deposits, and associated with the veneer of recent sand dunes, and the area north of Little River contains loose sand, suggesting reworked dune or nearshore sands. The area north of Little River was also previously graded with artificial fill for early road construction. Installation of retaining walls may require drilling up to 30-feet below grade. Although no paleontological resources are known to exist within the Project footprint, the possibility of encountering a paleontological resource cannot be completely discounted. Caltrans Standard Specification 14-7.03 would be followed, requiring that if unanticipated discoveries of paleontological resources occur during construction excavations, all work within a 60-feet radius of the discovery should be halted until the find has been evaluated by Caltrans, consistent with Standard Measure GS-2 (see Section 1.4). Work may resume immediately outside that radius. The project is not anticipated to destroy a unique paleontological resource/site or geologic feature. Given this, it was determined the project would have a less than significant impact on Paleontological Resources.

Mitigation Measures—Paleontological Resources

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.8. Greenhouse Gas Emissions

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
Would the project: b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values— "the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the *Energy Policy and Conservation Act of 1975 (42 USC Section 6201*) and *Corporate Average Fuel Economy (CAFE) Standards*. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. EPA, in conjunction with the National Highway Traffic Safety Administration (NHTSA), is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

Assembly Bill 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (CARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires the CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. The CARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor's 2030 and 2050 GHG reduction goals.

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012): Orders State entities under the direction of the Governor, including the CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015): Establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs the CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e).[2] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016: Codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016: Declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's

[2] GHGs differ in how much heat each trap in the atmosphere (global warming potential or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

AB 134, Chapter 254, 2017: Allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled, to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires the CARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

EO B-55-18 (September 2018): Sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

EO N-19-19 (September 2019): Advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs the CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

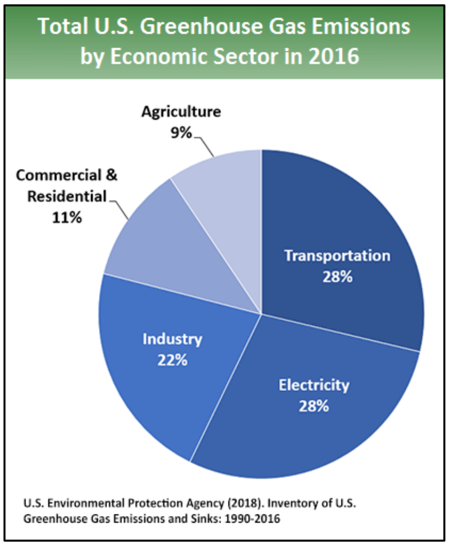
Environmental Setting

The proposed project is in a rural area. Route 101 is the main transportation route to and through the area for both passenger and commercial vehicles. Traffic counts are low, and Route 101 is rarely congested near the project area. The Humboldt County Association of Governments (HCAOG) guides transportation development. The Humboldt County General Plan Circulation, Safety, and Traffic elements informs GHGs in the project area.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the state, as required by H&SC Section 39607.4.

National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change (see Figure 2). The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO2e GHG emissions in 2016, 81% consist of CO_2, 10% are CH_4, and 6% are N_2O; the balance consists of fluorinated gases (U.S. EPA 2018a). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.



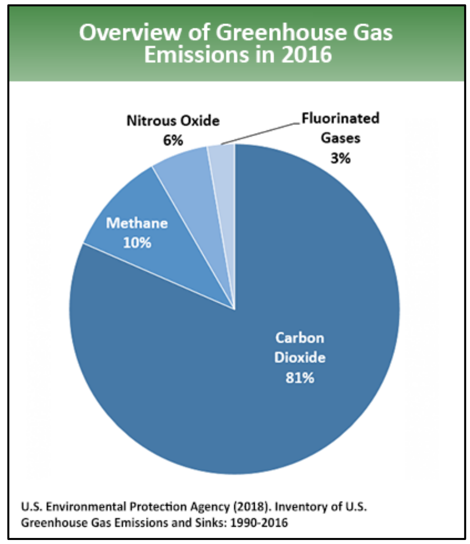


Figure 2. U.S. 2016 GHG Gas Emissions

State GHG Inventory

The CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 MMTCO2e for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (see Figure 2) (CARB 2019a).

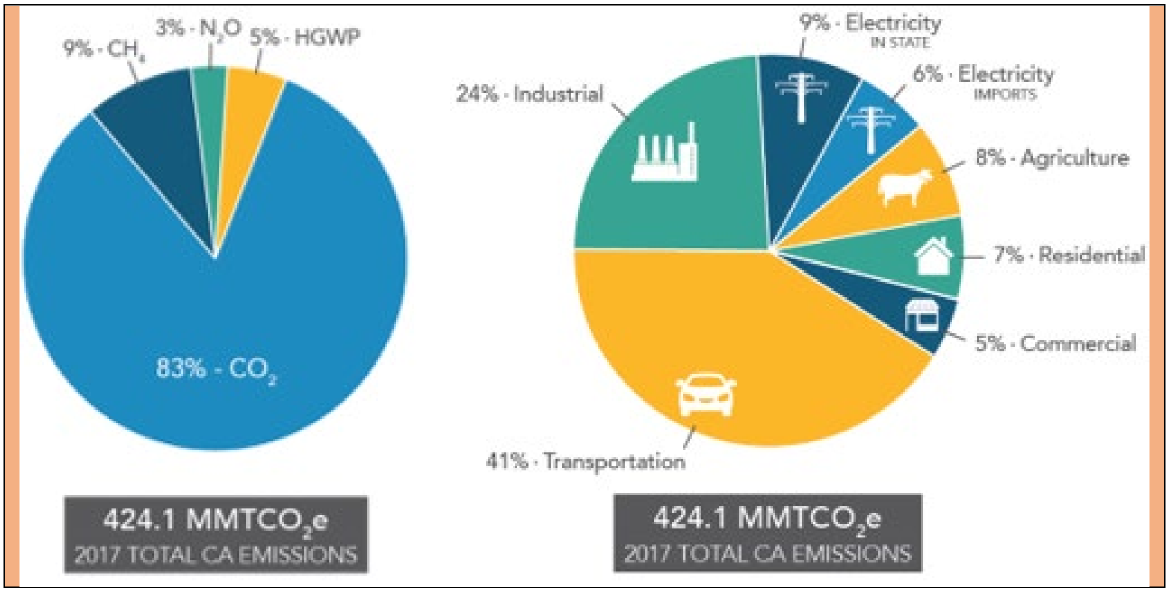


Figure 3. California 2017 Greenhouse Gas Emissions

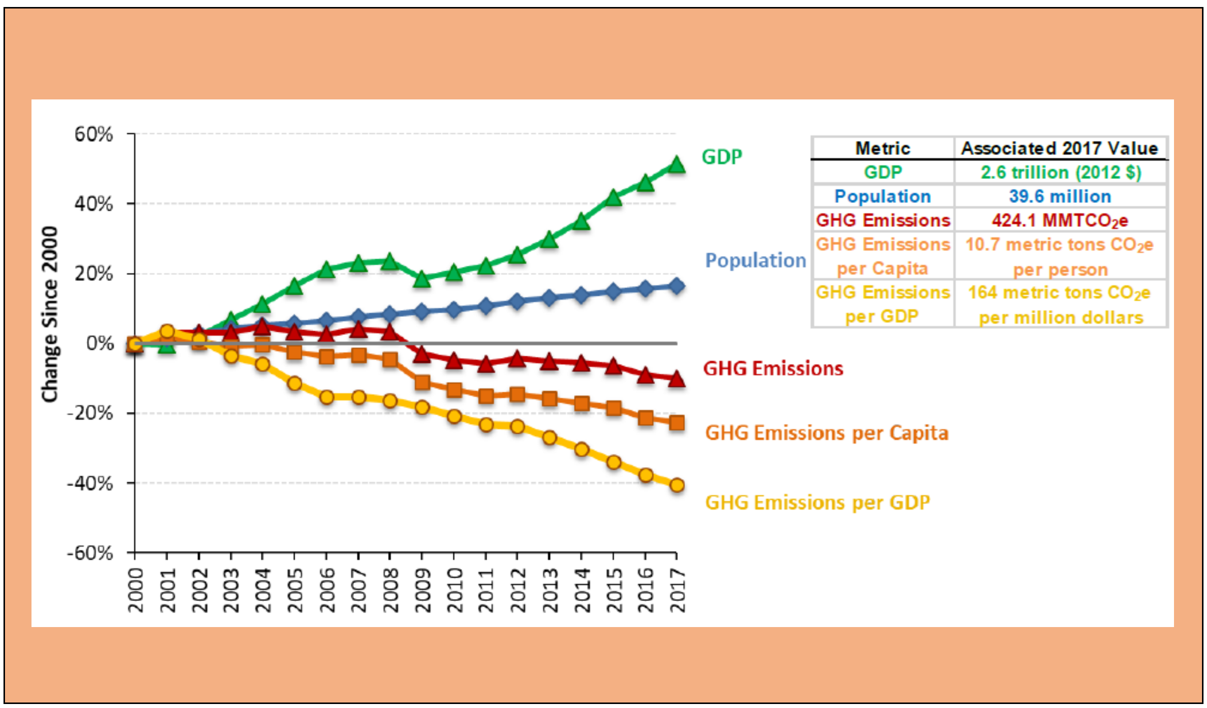


Figure 4. Change in California GDP, Population, and GHG Emissions Since 2000 (Source: CARB 2019b)

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The CARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans

ARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is not included in an MPO, rather it is considered a rural non-MPO Regional Transportation Planning Agency area led by the HCAOG. The RTP/SCS for the project area is the Regional Transportation Plan (RTP) Variety in Rural Options of Mobility (VROOM) 2022-2042. The policies in the RTP VROOM serve to guide the development of a sustainable transportation landscape in which people can safely, comfortably, and reliably get to the places they want to go. Additionally, the Humboldt County Draft Climate Action Plan inventoried GHG emissions at the county level and set targets for reductions in GHG emissions. The regional GHG reduction target for Humboldt County is 40 percent below 1990 levels by 2030, and 60 percent below 1990 levels by 2040 (Humboldt County and RCEA 2015).

Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Public Resources Code § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (Cleveland National Forest Foundation *v.* San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines §§ 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

The purpose of the proposed project is to close a critical gap in the California Coastal Trail, resulting in improved access to communities, recreation areas, and coastal resources. The project and will not increase the vehicle capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on [route or location], no increase in vehicle miles traveled (VMT) would occur due to construction of the project. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase. Their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Emissions related to construction were calculated using the SMAQM Road Construction Emissions Model version 9.0 (Appendix C).

All construction contracts include Caltrans Standard Specifications Sections 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

CEQA Conclusion

While the proposed project will result in GHG emissions during construction, it is anticipated the project will not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction GHG-reduction measures, the impact would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals (see Figure 5) that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to fifty percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

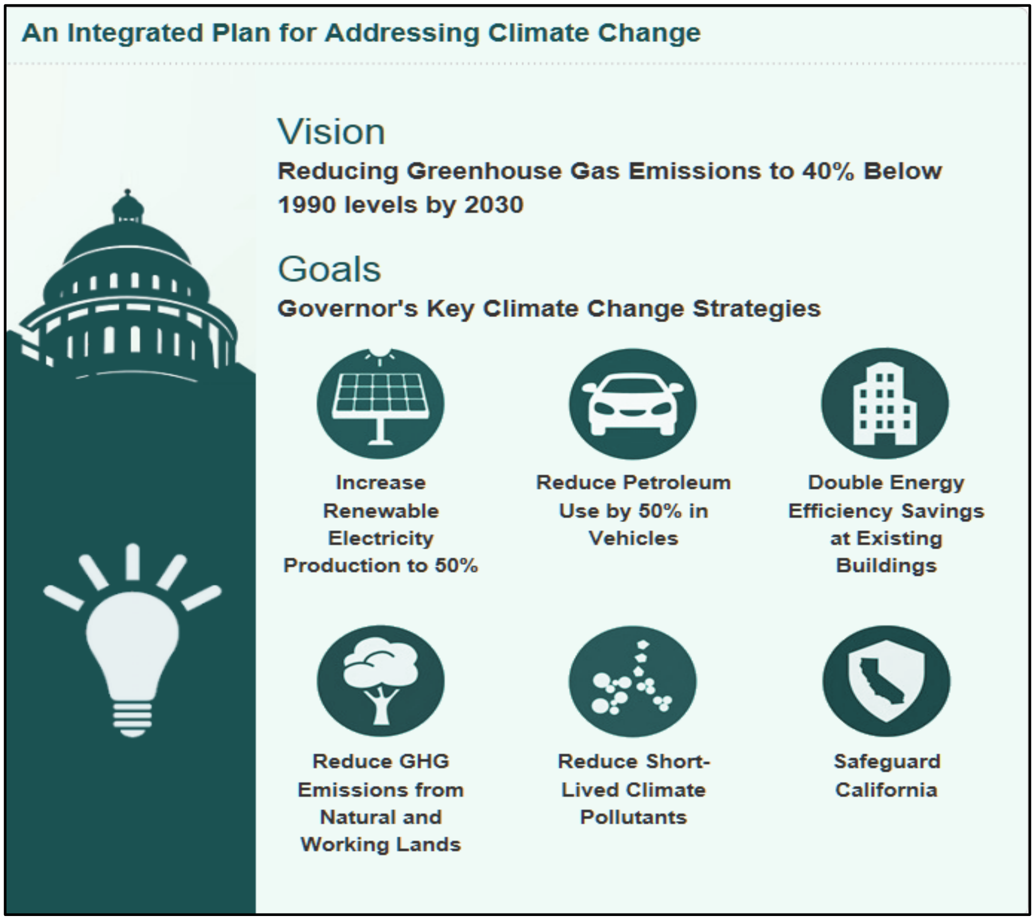


Figure 5. California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO_2 reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, rather than continuing to expand capacity on existing roadways, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding And Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives And Other Initiates

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

The following standard measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project (as listed in Section 1.4).

GHG-1: Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality.

GHG-2: Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.

GHG-3: Caltrans Standard Specification "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB).

GHG-4: Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.

GHG-5: All areas temporarily disturbed during construction would be revegetated with appropriate native species. Landscaping reduces surface warming and, through photosynthesis, decreases CO2. This replanting would help offset any potential CO2 emissions increase.

GHG-6: Pedestrian and bicycle access would be maintained on Route 101 during project activities.

Adaptation Strategies

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges, combined with a rising sea level, can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the President every four years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. Ch. 56A § 2921 et seq.). The Fourth National Climate Assessment, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The *U.S. DOT Policy Statement on Climate Adaptation* in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (U.S. DOT 2011).

FHWA Order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events, December 15, 2014*) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political,

> and/or economic factors. These factors include, but are not limited to, ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise, and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions to state agencies on how to incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California—An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017 to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California.* The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure*—Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence*—Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization*—Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Efforts

The project will result in development of a multi-modal trail, supporting active and non-motorized transportation. The project will also close a critical gap in the California Coastal Trail and is therefore regionally significant. The project will not increase parking and is generally VMT reducing.

Sea-Level Rise

A Sea Level Rise Vulnerability Assessment and Adaptation Report was prepared for the project (GHD 2021). The purpose of the report was to evaluate the coastal hazards associated with the proposed trail alignment, specifically sea level rise (SLR) and fluvial flooding. The majority of the land around the proposed trail is comprised of forested hills with elevations above 20-feet based on topography data from USGS 2020 Coastal National Elevation Database (CoNED). The lower-lying areas include the Little River State Beach, and the land directly adjacent to the Little River, from the beach to the river crossing. This area is characterized by a relatively wide, sandy beach backed by a vegetated dune system. Elevations along the proposed trail alignment are mostly higher than 20-feet, except for a short segment located just north of the Little River crossing, in which the proposed trail elevation will be approximately 15.5-feet.

Water levels that include wave setup and runup are defined as total water levels, or TWL. The TWL is included some flood zone classifications defined by FEMA for coastal areas (GHD 2021). However, only a portion of the project is within the Flood Zone A classification. The majority of the project is not located within a classified FEMA flood zone. Areas adjacent to the project to the west, i.e. the beach, are considered in Flood Zone VE, which is defined as a coastal area subject to storm waves (i.e. wave runup) and with a 1% or greater chance of flooding in a given year. In addition, Zone VE includes a Base Flood Elevation (BFE), which is defined as the extreme elevation corresponding to a 100-year flood event. Portions of the southern Little River State Beach area are classified as Zone VE, with a BFE of 17-feet.

The proposed trail is setback approximately 1,700- to 1,900-feet from the open coast shoreline, with a substantial dune system acting as a buffer. It is unlikely that wave energy will propagate upstream in the lower reaches of the Little River due to the alignment of the river channel and wide beach area. Due to the significant vertical and horizontal setback from these coastal dynamics (i.e. wave setup and runup) the trail alignment is less vulnerable to TWL, and it is more appropriate to consider still water levels in combination with SLR to determine the project's vulnerability to SLR.

The Project has an anticipated design life of 25-50 years, which generally corresponds to a year 2050-2075 timeframe when assuming the proposed project will be implemented by a baseline year of 2025. The SLR projections chosen to represent the site are the "medium-high risk aversion" scenario, as a conservative measure, which estimates 1.0-, 2.3-, and 4.0-feet of SLR by 2030, 2050, and 2070; respectively. The potential timing of these scenarios varies with probability. For example, a 2.3-feet SLR scenario is more likely to occur in 2070 than in 2050. These SLR projections and corresponding scenarios provide a conservative estimate of potential water levels for the project site over the design life. There is only a 0.5% chance that SLR exceeds 4-feet before 2070.

Although the shoreline appears to be stable and the Little River State Beach has been documented as being an accretionary shoreline region by (Hapke et al. 2006), SLR is expected to result in shoreline retreat along the coast. As the sea level rises, the shoreline recedes with sediment from the upper profile being deposited offshore. Using this technique and for a profile across the Little River State Beach, a scenario with 2- to 4-foot of SLR may result in 200- to 350-foot of shoreline retreat. Given the setback from the shoreline to the trail alignment, this long-term shoreline retreat does not pose a significant hazard to the trail, but would likely alter the dynamics of the beach, dune, and Little River in the project vicinity. The current beach width between the wet-dry shoreline and the vegetated dunes is approximately 200- to 300-feet (as measured from the 04/30/2019 Google Earth aerial). Therefore, these rates of SLR would erode the beach and a portion of the dune system. The rate of shoreline retreat through the dune system and eventual interaction with the river channel would result in complicated and likely abrupt morphological responses (e.g. dune breaches and river mouth shifts). It would be unlikely that this scenario would develop over the Project design life.

The project's vulnerability to SLR was evaluated by combining the baseline tidal and flood elevations with the projected rates of sea level rise. The FEMA still water elevations (SWEL) estimates for North Spit tidal gauge were used to represent extreme ocean water levels in the lower reach of the Little River. The water levels and FEMA estimated flood elevations are shown in combination with SLR in Table 5.

Table 5. FEMA Still Water Elevations (SWEL) with Sea Level Rise (feet, NAVD88)

Time Horizon	SLR Projections: Med-High Risk	MHHW + SLR	50% SWEL + SLR	1% SWEL + SLR
2030	1.0	7.5	9.5	11.2
2050	2.3	8.8	10.8	12.5
2070	4.0	10.5	12.5	14.2
2100	7.6	14.1	16.1	17.8

Within the projects design life, the projected extreme water levels with SLR range from 12.5-feet to 14.2-feet for a 2-year return period and 100-year return period storm; respectively. These water levels are shown relative to a cross section through the Project site in Figure 6. During the projects design life, the Project has a very low exposure to extreme still water levels. The 100-year SWEL with SLR is not expected to reach the low point at the trail, which is about 15.5-feet while the SWEL with SLR is 14.2-feet.

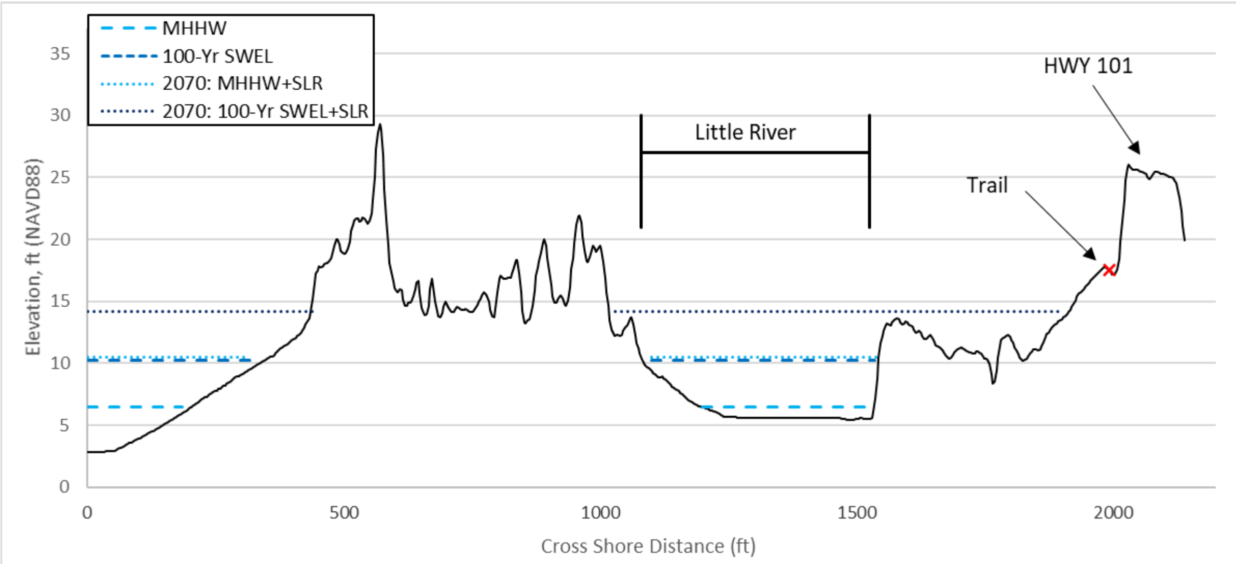


Figure 6. Cross Section of Proposed Trail Low Point Relative to Extreme Water Levels with Sea Level Rise

The proposed trail alignment is not expected to experience major flooding due to sea level rise over the design life of 25-50 years. The overall vulnerability of the trail to coastal hazards with SLR is low with a low point just north of the Little River bridge crossing having the greatest exposure. This low point, at an elevation of approximately 15.5-feet, is still a foot above the 1% SWEL with sea level rise in 2070. The trail is setback far enough from the high-water beach shoreline, and the vegetated dunes provide protection such that it is not exposed to wave action or direct extreme water levels (i.e. TWLs). An extreme flood event (fluvial) would be the greatest concern with an estimated water level elevation (BFE) of 19- to 20-feet. The flooded area with consideration of SLR would likely be similar to Zone A around the Little River as shown in the FEMA FIRM (Exhibit 9 in Appendix A). In addition, it is important to note that the 100-year return period fluvial event (i.e. BFE) is representative of a high intensity, but infrequent event that may lead to temporary flooding, episodically.

The overall sensitivity of the trail is also low, meaning that if flooding did occur along the trail at any point, the trail would not sustain significant damage or warrant any major repairs. It is also worth noting that the probability associated with the OPC medium-high sea level rise projections is 0.5%, and the probability of a 100-year storm occurring is 1%; thus, the likelihood that these events occur together within the next 50 years is extremely low.

Based on the findings of this vulnerability study, the proposed trail is not particularly vulnerable to SLR induced flooding, and the project would not exacerbate sea level rise.

Floodplains

The proposed project is within the Little River watershed, which is a tributary to the Pacific Ocean. Elevations of the proposed trail alignment are mostly higher than 20-feet, except for a short segment located just north of the Little River bridge crossing is proposed to be 15.5-feet. The project area is within the FEMA Flood Zone X, an area of minimal flood hazard, and a small portion of the project overlaps into Flood Zone A, a special flood hazard area without base flood elevation, at the Route 101/Little River bridge. The bridge deck is elevated above the FEMA Flood Zone elevation and appropriately placed to avoid flood impacts, evidenced by the absence of any recent bridge flooding by the Little River.

The proposed project would not result in floodplain encroachment or risk at the bridge location due to the project's predominant location outside of special flood hazard areas, and proposed placement at the same height of the existing bridge. If it were deemed necessary to increase the elevation of the bridge to avoid climate change impacts (unlikely), then the elevation of the proposed trail would also be increased.

Wildfire

The project corridor is located within State Responsibility Area (SRA). The project area is within lands classified as moderate and high fire hazard severity zones (CALFIRE 2022). The project would create a paved trail and would widen the existing bridges and is not expected to exacerbate wildfire risks. Standard fire prevention measures would be implemented during construction, including:

- The names and emergency telephone numbers of the nearest fire suppression agencies would be posted at a prominent place at the job site.
- Fires occurring within and near the project limits would be immediately reported to the nearest fire suppression agency by using the emergency phone numbers retained at the job site and by dialing 911. Performance of the work would be in cooperation with fire prevention authorities.
- Project personnel would be prevented from setting open fires that are not part of the work.
- Fires caused directly or indirectly by job site activities would be extinguished and escape of fires would be prevented.
- Materials resulting from clearing and grubbing would be disposed of or managed to prevent accumulation of flammable material.
- These measures would minimize wildfire risk during construction. The project would not result in changes to the highway facilities or environment that could exacerbate fire risk.

2.9. Hazards and Hazardous Materials

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
Would the project: b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		✓		
Would the project: c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
Would the project: d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
Would the project: e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	
Would the project: g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			✓	

Regulatory Setting

The primary laws governing hazardous materials include:

- California Health and Safety Code, Chapter 6.5
- Porter-Cologne Water Quality Control Act, § 13000 et seq.
- CFR Titles 22, 23, and 27
- CCR Title 8, Section 1532.1
- CCR Title 8, Section 1529
- Title 40 CFR Section 61, Subparts A and M

Environmental Setting

The project is generally located in an undeveloped portion of the Caltrans ROW, west of Route 101. North of the Little River, in a forested area. South of the Little River, the project is located along the Crannell Road off-ramp and in the adjacent undeveloped area. The project also includes the Route 101 Little River bridge. In some locations, the project area includes the historic highway alignment and remnant pavement. An *Initial Site Assessment* (ISA) was prepared in 2021 (SHN 2021b) to identify potential hazardous materials that could be present within the limits of the proposed Project, and is attached as Appendix G. The ISA determined that the project may disturb aerially deposited lead (ADL) in shoulder soils, as well as lead in paint associated with roadway striping at the Little River Bridge (SHN 2021b). The ISA did not identify other known sources of potential contamination within, or in proximity to the project area.

Discussion of CEQA Environmental Checklist Question 2.9—Hazards and Hazardous Materials

"No Impact" determinations for Question c) and Question d) in this section are based on the scope, description, and location of the proposed project, in addition to the Initial Site Assessment prepared for the project (SHN 2021b).

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction of the project would include the transport and use of common hazardous materials inherent to the construction process, including petroleum products such as fuel and lubricants for construction equipment and vehicles, paints, concrete curing compounds, and solvents for construction of project improvements. These materials are commonly used during construction, are not acutely hazardous, and would be used in relatively small quantities.

Hazardous materials storage, handling, and transportation must comply with an interconnected matrix of local, state, and federal laws. Hazardous materials used during construction of the Project will be subject to applicable regulations, including California Health and Safety Code Section 25531, Division 20, Chapter 6.5, and other standards enforced by the various departments and boards under the California Environmental Protection Agency (Cal/EPA). The project will be subject to Cal/EPA hazardous materials regulations consolidated under the state's Unified Program enforced by the Department of Toxic Substances Control (DTSC), the State Water Resources Control Board (SWRCB), North Coast Regional Water Quality Control Board (NCRWQCB), North Coast Unified Air Quality Management District (NCUAQMD), and the Department of Resources Recycling and Recovery (CalRecycle). The Cal/EPA administers the Unified Program via local Certified Unified Program Agencies (CUPAs). The CUPA for Humboldt County is the Humboldt County Division of Environmental Health (HCDEH). The HCDEH Hazardous Materials Unit has jurisdiction over the Project area and is tasked with local CUPA inspections and compliance. Project activities involving the transport, use, storage, and disposal of hazardous materials will be in accordance with established rules and regulations.

Worker exposure to hazardous materials is regulated by California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) and requires worker safety protections. Cal/OSHA enforces hazard communication regulations which require worker training and hazard information (signage/postings) compliance. In addition, hazard communication compliance includes procedures for identifying and labeling hazardous substances, communicating information related to hazardous substances storage, handling, and transportation; and preparation of health and safety plans to protect employees.

The Caltrans standard specifications require the management of hazardous materials to comply with applicable laws, rules, and regulations. Under the Caltrans standard specifications, the contractor would be required to contain hazardous materials and avoid exposure to workers, the public, and surrounding environment during construction. An appropriate facility would be utilized for legal disposal of any hazardous materials generated during construction.

Project construction would be required to implement stormwater management requirements during construction in accordance with the Water Quality Standard Measures and Best Management Practices, including Standard Measure WQ-1 (see Section 1.4). Stormwater management requirements for addressing materials management would be required, including proper material delivery and storage, spill prevention and control, and management of concrete and other wastes, as described in Section 2.10 – Hydrology and Water Quality / Impact (a).

The established regulatory framework, BMPs, and requisite construction protocols provide appropriate risk mitigation and hazard protections, thus the Project would not create a significant hazard to the public or environment from hazardous materials. Because Caltrans and its contractors would be required to comply with existing and future hazardous materials laws and regulations addressing the transport, storage, use, and disposal of hazardous materials, the potential to create a significant hazard to the public or the environment during project construction would be less than significant.

Following construction, operation of the project would require intermittent maintenance and repair, which could involve hazardous materials such as fuel in mowers or other equipment. The operational risk posed by intermittent maintenance and repair of the facility specific to hazardous materials is low. The potential to create a significant hazard to the public or the environment during project operation would be less than significant.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As identified in the project ISA (SHN 2021b), ADL may be present in soil along the current and former highway alignments and may have been incorporated into the fill prism during grading for the current Route 101 highway configuration. Additionally, lead is present in roadway striping at the Little River Bridge (Geocon 2010 cited in SHN 2021b).

Depending on the location of excavation and soil disturbance established during future design phases, workers may potentially be exposed to ADL during Project activities that disturb soil and create dust, such as earthmoving, driving on dry exposed soil, or other dust-generating work. Exposure to ADL impacted soil or groundwater could result in a potentially significant impact could occur. With implementation of Mitigation Measure HAZ-1, exposure risk would be avoided or minimized, and a less than significant impact would occur. Mitigation Measure HAZ-1 requires pre-construction soil borings to characterize soil and/or groundwater for ADL, in anticipation of construction activities. Additionally, Standard Measure also implement Mitigation Measure AQ-1 which establishes dust control measures. Given the requirements of Mitigation Measure HAZ-1, Mitigation Measure AQ-1, Standard Measure HW-1 and Standard Measure GS-1 required for soil management onsite, the potential hazard associated with the disturbance of soil containing ADL would be less than significant with mitigation.

Modification of the Little River Bridge to accommodate the shared use pathway along the western side of the southbound travel lane would include impaction of bridge guardrails, road surface, roadway striping, and bridge structural elements. In 2010, suspect Asbestos Containing Materials (ACM) and suspect Lead Based Paint (LBP) associated with the Little River Bridge were assessed by Geocon, Inc. (Geocon). Geocon characterized the Little River Bridge for suspect ACM in compliance with the USEPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations, per Title 40 CFR Section 61, Subparts A and M. Suspect LBP at Little River Bridge was evaluated in compliance with 8 CCR 1532.1. Based on the findings of the 2010 Geocon survey, no ACM was identified at Little River Bridge; however, striping associated with the bridge roadway was found to contain lead.

Roadway striping that may be impacted by Project construction along with Little River Bridge would be properly removed in accordance with Cal/OSHA regulations prior to other project construction. Waste generated as a result of lead paint removal would be characterized and disposed of in accordance with DTSC regulations. With adherence to the worker protection rules enforced by Cal/OSHA and DTSC waste disposal requirements, the potential hazard associated with the disturbance of ADL and lead in roadway striping would be less than significant.

The project would utilize heavy machinery to perform construction-related tasks including grading, excavation, and transportation of materials. During any construction project involving operation of equipment, there is the possibility for an accident to occur, and fuel to be released onto the soil. A potentially significant impact could result from an accidental spill, especially in proximity to a wetland or waterway. This potential impact is addressed under Mitigation Measure HWQ-1 (see Section 2.10 – Hydrology and Water Quality). Mitigation Measure HWQ-1 includes requirements to avoid accidental spills from heavy equipment during construction.

Under Mitigation Measure HWQ-1, equipment shall not be refueled within 100-feet of any perennial wetlands or waterways as well as other requirements as described in Mitigation Measure HWQ-1 to protect the environment from the accidental release of hazardous materials. With the incorporation of Mitigation Measure HWQ-1, any potential impact would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The project's southern terminus at Little River State Beach is located approximately 1.8 miles north of the California Redwood Coast – Humboldt County Airport (ACV). The ACV is covered by the 2021 Airport Land Use Compatibility Plan (ALUCP) prepared for the Humboldt County Airport Land Use Commission (ALUC) by ESA. Per the ALUCP, the southernmost portion of the project alignment (approximately 0.2-miles) is located within the ACV Airport Influence Area (AIA) Review Area 2 (ESA 2021). The AIA Review Area 2 denotes the area around ACV where airspace protection and overflight notification policies apply (County of Humboldt 2021).

The project includes the construction of a shared use trail along an existing highway corridor. The project construction would include pedestrian wayfinding and safety infrastructure, including lighting, signage, guardrails, and fencing. Project infrastructure would generally be limited to several feet above ground level, with the exception of trail lighting, which would comply with Review Area 2 design criteria. Project elements would not impede the airspace protection area established around ACV. The project does not include any elements that would interfere with the airspace protection and overflight notification policies, or otherwise conflict with the Review Area 2 constraints.

The project would connect several public access coastal recreation areas be consistent with current public usage of the area. The Project would not create additional residential or commercial buildings. The project would not include a residential or commercial ownership transfer; thus, overflight notifications would not apply to the project.

The project does not include construction of structures which would approach any protected airspace or otherwise impact the air traffic operations of ACV. As the project would not result in a safety hazard or excessive noise and would not conflict with the requirements of the ALUCP AIA Review Area 2, no impact would result.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The project is located in an unincorporated area of Humboldt County covered under the Humboldt County Emergency Operations Plan (EOP). The Humboldt County EOP identifies the emergency response and evacuation policies and procedures for hazards related to earthquake, tsunami, extreme weather, flooding/flash flooding, landslides, transportation accidents, hazardous materials, interface wildlife fire, energy shortage, offshore toxic spill, civic disturbance, terrorist activities, and national security (County of Humboldt 2015). The Humboldt County EOP establishes a structure for Humboldt County Operation Area agencies to respond to large-scale emergencies requiring multiagency participation or activation of the Humboldt County Emergency Operations Center (EOC) (Humboldt County 2015). Hazard mitigation and risk assessment strategies for Humboldt County Operation Area are formalized in the Humboldt County Operational Area Hazard Mitigation Plan (HMP).

The project would provide an alternate transportation route for pedestrians and nonmotorized traffic along Route 101. Thus, once constructed the project would create an alternative evacuation route for users near the project alignment.

Temporary lane closure to Route 101 during Project construction on Little River Bridge (04 0026) is anticipated. If required, lane closure would be up to 0.25-miles in length to safely demarcate and separate Project construction work along and near the Little River Bridge. Lane closure at Little River Bridge would be in effect for a discrete portion of the overall project construction, as lane closure would not be required during project construction at other locations along the Project alignment. Signage, notifications, and timing for lane closure, as applicable, would be established in accordance with Caltrans requirements. Emergency response vehicles would not be significantly impeded during lane closures.

The project would not impair implementation or physically interfere with the established Humboldt County EOP or HMP. Once constructed, operational use of the project would not modify transportation along Route 101. Thus, emergency response or evacuation via Route 101 would not change compared to existing conditions. As the project would not impair implementation of an emergency response plan or evacuation plan, the potential impact related to the temporary closure of a single lane of Route 101 during construction would be less than significant.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Wildland fire is addressed in Section 2.20 (Wildfire). As noted in Section 2.20, the project would not expose people or structures to a significant risk from wildland fires, thus a less than significant impact would result. Please see Section 2.20 for further discussion of the project as it relates to wildland fire risks.

Mitigation Measures

Mitigation Measure HAZ-1: Management of Potential Aerially Deposited Lead

Prior to project construction, the following shall occur:

- Pre-construction soil borings will be completed to characterize soil and potentially groundwater (depending on the nature of work in the specific area) for lead in anticipation of implementation of construction activities.
- Proposed soil borings and/or grab groundwater sample locations shall be determined following identification of the areas and depths of soil excavation and dewatering activities.
- Laboratory analytical results of soil and potentially groundwater samples collected from the borings shall be used to ascertain whether health and safety concerns are present for construction workers, and to determine potential soil and/or groundwater handling and disposal options.
- Findings of the soil borings and/or grab groundwater samples to be included in the Lead Compliance Plan (Standard Measure HW-1).

2.10. Hydrology and Water Quality

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			✓	
Would the project: b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				✓
Would the project: c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;			✓	
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			✓	
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			✓	
(iv) impede or redirect flood flows?			✓	
Would the project: d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

Regulatory Setting

The primary laws and regulations governing hydrology and water quality include:

- Federal Clean Water Act (CWA), 33 USC 1344
- Federal Executive Order for the Protection of Wetlands (EO 11990)
- State Sections 1600–1607 of the California Fish and Game Code (CFGC)
- State Porter-Cologne Water Quality Control Act, § 13000 et seq.

Environmental Setting

Hydrology

Hydrology in the project area is primarily driven by the Little River, which is a perennial stream that drains westward and bisects the project area. Average annual precipitation is approximately 47 inches and most precipitation falls as rain between the months of October and May.

The project is within the Mad-Redwood Hydrologic Unit (HU) and within the Little River watershed, which is a tributary to the Pacific Ocean. The Little River is located immediately north of the Mad River and south of small coastal drainages within the City of Trinidad; Big Lagoon is located north of Trinidad. The Little River watershed is approximately 40.5 square-miles and drains from the Coast Range to the east to the Pacific Ocean to the west, with perennial and intermittent tributaries contributing flow within the watershed. The majority of the project area is located outside the FEMA 100-year floodplain (Exhibit 9, Appendix). A small portion of the project north of the Little River bridge is within Flood Zone A, which is defined as a special flood hazard area subject to a 100-year flood. Flood Zone A does not contain an estimated base flood elevation (BFE) and therefore based on a comparison of the existing topography and the floodplain defined by FEMA, the fluvial base BFE for the site is estimated to be approximately 19- to 20-feet (GHD 2021).

The Unnamed Tributary drains into the Little River approximately 1,700-feet from the mouth. Based upon topography and aerial imagery, the contributing unnamed tributary watershed is assumed to be small (less than one square mile).

Both the lower Little River and lower unnamed tributary can be considered estuarine areas which form a transition zone between the river systems and the ocean, where freshwater features are influenced by the tide and the influx of saline water. Culverts under Route 101 provide additional hydrology through additional unnamed perennial streams and overflow water during rain events.

Water Quality

The Little River is listed on the Clean Water Act Section 303(d) list due to impairment to water quality by indicator bacteria (SWRCB 2020). The U.S. EPA enforces regulations that require the establishment of TMDLs for 303(d) waterbodies to attain and maintain water quality standards. The overall goal of establishing a TMDL is to ensure that all "beneficial uses" are protected, and water quality objectives are met. Water quality objectives and beneficial uses are identified for all the water bodies in the North Coast Region in the *Water Quality Control Plan, for the North Coast Region (Basin Plan)* (NCRWQCB 2018).

Existing beneficial uses listed in the *Basin Plan* for the Little River Hydrologic Area include, but are not limited to,

- Agriculture (AGR)
- Industrial (IND)
- Groundwater Recharge (GWR)
- Freshwater Replenishment (FRSH)
- Navigation (NAV)
- Non-contact Water Recreation (REC2)
- Commercial and Sport Fishing (COMM)
- Cold Water Freshwater Habitat (COLD)
- Wildlife Habitat (WILD)
- Preservation of Rare and Endangered Species (RARE)

- Marine Habitat (MAR)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and Early Development (SPWN)
- Estuarine Habitat (EST)
- Aquaculture (AQUA)

The *Basin Plan* has identified narrative water quality objective for bacteria in waters with beneficial uses of REC-1 (Water Contact Recreation) and SHELL (Shellfish Harvesting). The project area does not contain these existing beneficial uses; therefore, the water quality objectives are not applicable.

Discussion of CEQA Environmental Checklist Question 2.10—Hydrology and Water Quality

A "No Impact" determination was made for Questions b), Question d), and Question e) listed within the CEQA Environmental Checklist Hydrology and Water Quality section. Determinations were based on scope, description, size, and location of the proposed project. See below for further discussion of the "*Less Than Significant Impact*" determination made for Questions a) and Question c).

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The project has the potential to result in temporary impacts to water quality during construction activities, including vegetation removal, grading and bridge width expansion. However, these potential impacts would be minimized with implementation of Standard Measure WQ-1 (see Section 1.4) which includes preparation and implementation of a SWPPP or Water Pollution Control Program (WPCP). The SWPPP or WPCP would include a site-specific spill prevention plan, requirement that equipment be maintained and staged 500-feet from surface water features, implementation of sediment control and soil stabilization methods (such as coir rolls), and minimization of disturbance to vegetation and preservation of vegetation to remain.

In accordance with Standard Measure WQ-2, netting or other similar method for debris catchment would be installed during bridgework to prevent materials from entering the Little River. The project would also implement Standard Measure WQ-2, which would incorporate pollution prevention and design measures consistent with the *2016 Caltrans Storm Water*

Management Plan and therefore would also comply with the Caltrans Statewide NPDES Permit. The Plan requires utilizing native plants in revegetation efforts, and direction of stormwater to sheet flow across vegetated slopes thus providing filtration of any potential pollutants. With implementation of Standard Measure WQ-1, Standard Measure WQ-2 and Standard Measure WQ-3, potential impacts to water quality leading to degradation of surface water would be less than significant.

The Little River is listed as impaired for bacterial indicator pollution under Section 303(d) of the Clean Water Act and is managed under the Coastal Streams Pathogen TMDL Project to collect data to help understand bacterial sources and hot spots. The proposed project would not generate any sources of bacterial pollution that could potentially enter receiving waters. Therefore, the project would not conflict with the TMDL currently being implemented to improve understanding and management of bacterial pollution.

The project would not utilize groundwater during construction or operation. However, the trail would displace impervious earth with pervious pavement, and thereby reduce surface area for soil infiltration. As a component of design, the trail would be sloped to enable stormwater to drain adjacent to it where it would infiltrate and recharge groundwater supplies. Therefore, the project would have a less than significant impact on groundwater quality.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

(i) result in substantial erosion or siltation on- or off-site?

The project does not include any in-stream work and therefore would not alter the course of a stream or river. All construction-related ground disturbance would be revegetated and/or covered with straw or other material to ensure minimal sediment transport and potential erosion in accordance with Standard Measure WQ-1 (see Section 1.4). The trail would be sloped to drain stormwater adjacent to it. The project would also place gravel adjacent to the paved areas to improve drainage. Due to incorporation of standard water quality protection BMPs and project design, construction and operation of the project would not result in substantial erosion or siltation on- or off-site, and a less than significant impact would result.

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The project is not anticipated to substantially increase the rate or amount of surface runoff in a matter which would result in flooding on- or off-site because of the size and location of the project. The trail would displace a linear area of groundcover, as opposed to a centralized, larger area, and therefore spread out the effects of impervious ground cover. Stormwater generated from the trail would drain adjacent to it and infiltrate naturally. Soils in the project area, particularly adjacent to the proposed trail are comprised of Samoa-Clam Beach complex (0 to 50 percent slopes) and Lepoil-Espa-Candy Mountain complex (15 to 50 percent slopes). Both soil types are excessively drained non-hydric soils, with restrictive layers more than 80 inches below ground surface (Stantec 2022b). Due to the linear design of the project, available areas of infiltration adjacent to the trail, and suitable well-drained soils, the project would not result in a substantial increase in the rate or amount of surface runoff which would result in flooding on- or off-site. A less than significant impact would result.

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

See response to Question c-ii) above. The project contains appropriate soils for natural onsite drainage. Additionally, there is no stormwater drainage infrastructure in the project area that the project could potentially overwhelm. A less than significant impact would result.

(iv) impede or redirect flood flows?

The trail would displace a corridor of trees, however that corridor would not substantially redirect potential flood flows. No infrastructure is proposed for the project that would impede or redirect flood flows.

Under a 100-year fluvial flood scenario that would result in a BFE of 19- to 20-feet, a small, low- lying segments of the trail (at approximately 15.5-feet) located north of the Route 101 bridge would likely experience flooding. The Route 101 Little River Bridge deck is at an elevation above 20-feet; thus, the trail will be well above the fluvial BFE of the Little River. South of the Little River, the proposed trail alignment is not vulnerable to a 100-year storm (GHD 2021). Therefore, although flooding may occur in a very limited area in the northern portion of the proposed project under the 100-year flood scenario. In this small area, the trail would not impede or redirect flood flows. No flooding is anticipated at the bridge or southern portion of the project. A less than significant impact would result.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.11. Land Use and Planning

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Physically divide an established community?				✓
Would the project: b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

"No Impact" determinations in this section for Question a) and Question b) are based on the scope, description, and location of the proposed project, as well as review of the Humboldt County General Plan, Trinidad Local Coastal Plan (LCP) (northern portion of project area) and McKinleyville LCP (southern portion of project area) dated October 23, 2017, and April 2007 (for both LCPs), respectively. Potential impacts to land use and planning are not anticipated because the project would not divide an established community and would not conflict with a land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The County's General Plan land use designations that overlap the project footprint include Coastal Recreation (CR) and Public Facility (PF). County zoning that overlaps the project footprint includes Coastal Recreation (CR) and Unclassified (U). Therefore, the project is consistent with land use designations, zoning, community plans, and other land use controls, and no impact to land use or planning would result.

2.12. Mineral Resources

Question:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
Would the project: b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				✓

"No Impact" determinations in this section are based upon the scope, description, and location of the proposed project. As there are no designated mineral resource areas of state or regional importance in the project area, and the project would not impede the extraction of any known mineral resources (Division of Mine Reclamation 2016), there would be no impact.

2.13. Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in: a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
Would the project result in: b) Generation of excessive groundborne vibration or groundborne noise levels?			✓	
Would the project result in: c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

Regulatory Setting

The primary laws governing noise are CEQA and NEPA.

Environmental Setting

Current noise in the project area is consistent with the noise associated by street and highway traffic, along Route 101 and adjacent local roadways.

Discussion of CEQA Environmental Checklist Question 2.13—Noise

A "No Impact" determination was made for Question c) listed within the CEQA Environmental Checklist—Noise section. Determinations were based on scope, description, and locations of the proposed project in relation to existing airports. See below for further discussion of the "Less Than Significant Impact" determination made for Questions a) and b).

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Current noise conditions on and near the Project Area consist of local traffic along Route 101, as well as the adjacent local roadways along the proposed alignment. There are no sensitive receptors, including residences, in or near the project area. The nearest school is located in approximately 2.6-miles south.

The proposed Project is located within the jurisdiction of the McKinleyville and Trinidad Bay Area Plans. However, neither plan provides noise thresholds. Therefore, the Humboldt County General Plan noise policies are used to inform impact analysis related to noise.

Construction

Construction of the Project would result in a temporary noise increase associated with the use of construction equipment. As the Project is linear in nature, the noise associated with construction activities would move along the alignment as work is conducted, resulting in intermittent increases at each of the adjacent sensitive receptors during the construction phase that would shift as construction progresses. Construction activities would be limited to daytime work hours between 7:00 a.m. to 7:00 p.m., Monday through Friday with occasional work on Saturdays. Furthermore, Humboldt County has not established construction-related noise standards. As the construction phase would be temporary and construction activities would be intermittent and limited to between 7:00 a.m. and 7:00 p.m., potential noise impacts generated during the construction phase would be less than significant.

Operation

Once the Project is constructed, recreational users would not generate a significant amount of noise. Noise associated with the operation of the shared use pathway would generally consist of typical human speech, sporadic dog barks, and use of non-motorized modes of transportation including bicycles, scooters, and skateboards. The use of motors, pumps, or other mechanical appurtenance capable of creating a stationary noise source would not occur. Therefore, operation would not result in noise levels exceeding the County's noise standards for residential units or public ROW land uses. No operational impact would result.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

The project area or surrounding vicinity does not include any residences or buildings that could be damaged by vibratory equipment. Project-related activities would not involve the use of explosives or other intensive construction techniques that could generate significant ground borne vibration or noise. No pile driving is anticipated; however, the Project may utilize a vibratory roller, large bulldozer, and jackhammer.

Vibratory construction methods would be used to install sheet piling near the unnamed tributary, associated with the planned retaining wall. The retaining wall would be approximately 100-feet in length and require approximately three days to install. Potential biological effects to special status fish related to the vibratory sheet piling installation are evaluated in Section 2.4 – Biological Resources. The sheet piling would be installed in an undeveloped, forested environment. There are no existing sensitive receptors or buildings that could be impacted by the vibratory construction methods for sheet pile installation.

Noise impacts from ground borne noise to humans are anticipated to be minor. Minor vibration adjacent to mechanized equipment and road/trail treatments during construction work would be generated only on a short-term basis. Groundborne vibration and noise would have a less than significant impact.

Following construction, operation of the project would not result in substantial sources of groundborne vibration or groundborne noise. Project operation would not generate vibration, except in instances where larger repairs to the shared use pathway might be required. These conditions would be short-term and temporary (taking from one to several weeks to complete depending on the extent of damage or other circumstances). No operational impact would result.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project

2.14. Population and Housing

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓
Would the project: b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

"No Impact" determinations in this section are based upon the scope, description, and location of the proposed project for Question a) and Question b). The project involves the construction and operation of a Class I pathway and would not directly or indirectly induce substantial unplanned population growth in the area by constructing housing or creating new employment, nor would it induce population growth by providing new access or opening a new area to development. As the proposed project would not involve acquisition of land occupied by homes or residences and would not result in displacement of people or housing, potential impacts on population and housing are not anticipated.

2.15. Public Services

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. As a non-motorized transportation facility, the project would not necessitate any related new or altered public service facilities. The project would solely be used for recreational purposes. Given the nature of the proposed pathway, the project would not result in a significant adverse effect on the service ratios for the California Highway Patrol (CHP), sheriff, police, or fire departments. The proposed project may result in a slight increase in motorized and non-motorized traffic in the vicinity, as the shared use pathway is anticipated to draw users for recreational and transportation purposes. However, the Project would facilitate an increase in bicycle, foot, and other non-motorized travel in the vicinity as well. The project is not expected to substantially increase the need for patrols by local law enforcement or emergency services. The project may ultimately have the beneficial effect of reducing the need for patrol by encouraging more public use and discouraging unwanted activity in the area. No impact with respect to fire and law enforcement would result.

As stated above in Section 2.14 (Population and Housing), the Project would not directly or indirectly induce population growth. The student population within the community is anticipated to remain the same as existing. No new or expanded schools would be required and no impact to schools would result.

The project would present a new passive recreational opportunity by increasing connectivity within the community and encouraging residents in the vicinity to utilize the Class I Bikeway for non-motorized travel. The project would not result in the increased use of existing parks or other public facilities as it would not induce population growth. As the project would provide an additional recreational opportunity in the community and would not increase the population, it is anticipated that there would be sufficient service ratios with regard to parks. No expansion of recreational facilities would be required. No impacts to parks would result. Overall, potential impacts to Public Services are not anticipated to occur.

2.16. Recreation

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

Regulatory Setting

The primary law governing recreation is CEQA.

Environmental Setting

As a rural area, Humboldt County has a wealth of outdoor recreational opportunities. More than 20% of the County's 2.3 million acres are protected open space, forests, and recreation areas. Within the County boundaries, there are federal and state parks, 16 County parks and beaches operated by the Humboldt County Parks Division, recreational areas and reserves, city parks, and parks operated by special districts and non-profit organizations. The project is located within a rural area. The proposed trail alignment parallels Route 101 to the east and Moonshine Beach and Little River State Beach to the west. Access to both of those beaches would be accessible from both the northern and southern ends of the proposed Class I trail.

Discussion of CEQA Environmental Checklist Question 2.16—Recreation

a, b) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the

facility would occur or be accelerated, or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?

The project would construct a Class I trail, which would have a long-term positive effect on recreation by increasing recreational opportunities between the communities of McKinleyville and Trinidad. The Humboldt Bay Trail project has been identified as a high-priority regional project by the HCAOG for several years. Once 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 proposed bike path would increase non-motorized transportation in the area making it convenient and safer for people to travel along the Route 101 corridor.

The proposed project would not lead to an increase in the use of recreational facilities that would contribute to the physical deterioration of other recreational facilities. The project would enhance the existing trail system and would have an overall beneficial impact to the regional trail system. Increasing visibility and usage among public use facilities may deter illegal activity, such as illegal dumping or camping, thereby enhancing public safety and the overall health of the trail corridor. Trails are generally low maintenance facilities, and the additional wear-and-tear would be minimal.

The would be a recreational facility that could encourage the construction of other recreational facilities, predominantly other connecting trails, or trail-related facilities, although a significant amount of connecting trail has already been constructed. Future connecting and related trail and recreational facility projects with the potential to cause significant environmental impacts would be subject to CEQA review and other environmental regulations enacted to protect the environment.

At the southern end, the Caltrans right-of-way boarders California State Parks property at Little River State Beach. Addition of the proposed multi-modal trail access at this location is anticipated to reduce the demand for vehicular parking in the State Beach parking area by creating multi-modal access alternatives. Use of Caltrans right-of-way for the paved trail would avoid project-related permanent impacts on Little River State Beach property, and the existing parking area (State Parks property) along Clam Beach Drive would not be expanded. Work in the State Beach parking area and the new trailhead would be coordinated in advance between Caltrans, State Parks, and the County. The State Beach’s existing parking area would be enhanced by installing crosswalks, directional and/or interpretative signage upgrades, and the addition of shoulder striping along Clam Beach Road. These improvements would not require ground disturbance or roadway widening.

The multi-modal trail would be a compatible use of and benefit to the Little River State Beach lands. By closing a critical gap in the California Coastal Trail, the project promotes coastal resources, nature study, and multi-modal transportation while maintaining the visual and ecological integrity of the project area.

Clam Beach Drive, including public beach access parking at the southernmost end of the project area, would remain open during project construction. Staging would be in Caltrans right-of-way on the east side of Route 101. Construction activities related to noise, the appearance of equipment on the landscape (visual resources), and the movement of equipment throughout the project area (accessibility) would have a minimal effect on recreational users in this area. A less than significant impact is expected to occur.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.17. Transportation

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			✓	
Would the project: b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?				✓
Would the project: c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
Would the project: d) Result in inadequate emergency access?			✓	

Regulatory Setting

The primary laws and regulations governing transportation and traffic are CEQA, 23 CFR 652, 49 CFR 27, 29 USC 794, and the Americans with Disabilities Act (42 USC § 12101).

Environmental Setting

The main roadway in the project area is Route 101 for the majority of the alignment. At the southern extent of the project the alignment does intersect with Clam Beach drive which provides access to several local roadways and the beach to the west. Similarly, at the northern extent, the alignment intersects with Scenic Drive, which provides access to adjacent local streets. As specified in the Humboldt County Regional Transportation Plan, all streets, roadways, and highways in Humboldt County are open to bicycle use (HCAOG 2018).

Public Transit

The Humboldt Transit Authority, Redwood Transit System route has one stop immediately adjacent to the project area at the northern extent of the alignment, at the Scenic Drive & Moonstone Beach Road stop. No other stops are located within the project footprint, but the Redwood Transit System Route would utilize Route 101 along the extent of the Project. Dial-A-Ride (DAR) services are available in the project site through the Humboldt Transit Authority. Paratransit is a form of transportation service that is more flexible and personalized than fixed route or commuter transit service. Paratransit is tailored to the needs of disabled and elderly individuals. Paratransit services include DAR, Dial-A-Lift (DAL), and non-emergency medical transportation services (HCAOG 2017).

DAR and DAL are discount transportation services available to seniors and/or the disabled with a doctor's verification of disability. These services are also available to individuals over the age of 72, regardless of their medical condition. A reservation must be made to utilize either DAR or DAL.

Discussion of CEQA Environmental Checklist Question 2.17—Transportation and Traffic

> ***a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

The proposed multi-use trail would provide increased opportunities and routes for safe non-motorized travel between the communities of Trinidad and McKinleyville. The project is expected to increase recreational use levels in the project area, which could result in minor amounts of additional motorized and non-motorized traffic. However, the proposed project could reduce motorized traffic levels by providing a safe, alternative modes of travel between the communities of Trinidad, McKinleyville, and communities beyond. At the Scenic Drive trailhead, parking spaces may be delineated within the existing cul-de-sac footprint. The existing Clam Beach parking area near the southern trailhead would continue to be used. Additional parking at the southern trailhead is not proposed.

Construction

Construction would result in vehicle trips by construction workers and haul-truck trips for material off-haul and deliveries. The anticipated haul truck route to the project area would be from Route 101 from the north and south, as well as Scenic Drive and Clam Beach Drive.

Construction-related traffic would be temporary, would vary on a daily basis, and would be spread out over the course of a workday and work week.

The number of construction-related vehicles traveling to and from the project area would vary on a daily basis. Because the project's contribution of construction traffic would be temporary (approximately eight months per year for up to two years) and distributed throughout a workday, roadway segments in the vicinity of the construction sites would have sufficient capacity to accommodate the temporary increase in construction traffic. The temporary construction impact on the circulation system would be less than significant.

In accordance with Caltrans requirements, the construction contractor would be required to obtain an encroachment permit from Caltrans for any portion of work completed within the Route 101 ROW or for access to the project site from the State accessed-controlled ROW. The construction contractor's encroachment permit application would include a proposed temporary traffic control plan, and, if necessary, would include plans for re-routing of vehicles, bicycles, and pedestrians. Traffic controls would be required in accordance with the County and Caltrans standards, and contractors would be required to comply with the general conditions of the encroachment permit. Therefore, through compliance with local requirements, construction activities would not result in substantial adverse effects or conflicts with the local roadway system. The impact would be less than significant.

Operation and Maintenance

Once complete, the proposed project is not expected to significantly increase vehicle traffic on local streets, as it is not intended to increase the area's population or redirect traffic patterns. The project may actually decrease vehicle trips within the area by encouraging non-motorized forms of travel (walking, bicycling, skateboarding, rollerblading, etc.). Any potential increase in traffic generated by public visitation to the proposed trail and associated access areas would likely be offset by increased non-motorized travel to and from the area by trail users. The project would not conflict with effective circulation system performance or intersection level of service standards. The project would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system; other modes of transportation, including mass transit and non-motorized travel; and (3) other components of the transportation system, such as intersections, streets, pedestrian paths, and bicycle paths. Therefore, a less than significant impact would result.

b) Determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of

Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Pursuant to SB 743 and the current CEQA Guidelines, evaluation of a project's potential transportation impact requires consideration of vehicle miles traveled (VMT), which refers to the amount and distance of automobile travel attributable to a project. Section 15064.3, subdivision (b), of the CEQA Guidelines lists the criteria for analyzing transportation impacts from proposed projects. The criteria are broken into four categories, including land use projects, transportation projects, qualitative analysis, and methodology. Transportation projects that reduce, or have no impact on, VMT should be presumed to cause a less than significant transportation impact. This section was recently added by the state legislature in an attempt to separate CEQA's purpose and role from traffic or other issues related to ease of use of single occupancy vehicles.

Examples of projects that result in the potential to increase VMT include:

- Changes in land use
- Expanded roadways (e.g., new roads, additional lanes)
- Private development
- Expanded public service facilities, such as new police stations, new fire stations, or new administrative buildings
- Residential development, such as a new sub-division

The trail includes none of the above listed elements and does not include any component that could be characterized as resulting in a potential increase to VMT. To the contrary, the project will promote non-motorized transportation. By its very nature, the project is VMT-reducing. Per the California Office of Planning and Research's (OPR) guidelines for evaluating transportation impacts in CEQA, for roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements (OPR 2019). By promoting multi-modal transportation, the project would reduce VMT throughout the project area and would thus not result in an environmental impact under CEQA. Instead, the Project would result in an environmental benefit by reducing the existing VMT.

PRC 21099 (b) (1), upon which the CEQA VMT guidance is based, specifically states the purpose of the VMT criteria is to promote, "the development of multimodal transportation networks," consistent with the fundamental goals and objectives of the project. Similarly, the OPR guidance notes the overall purpose of updating CEQA to include VMT analysis is to help achieve California's long-term criteria pollution and greenhouse gas emission goals, based on four strategies that include, "plan and build communities to reduce vehicular greenhouse gas emissions and provide more transportation options (OPR 2019)," which is also directly supported by the project's goals and objectives related to non-motorized transportation.

Other applicable considerations in the OPR guidance note the criteria for determining the significance to transportation impacts must promote the development of multimodal transportation networks. The core goal and objectives of the project promote the development of a multi-modal trail, closing a critical gap in the California Coastal Trail.

Because the proposed project would not increase the length of roadway, add new roadways, or increase the number of travel lanes, there would be no increase in VMT. By promoting non-motorized transportation, the project would reduce VMT through the project area.

Thus, the project is consistent and entirely on par with the expectations of the OPR guidance for evaluating transportation impacts in CEQA. Lastly, the OPR guidance clarifies that when evaluating impacts to multimodal transportation networks, lead agencies generally should not treat the addition of new transit users as an adverse impact. Therefore, any success the project ultimately achieves to increasing multi-modal transit should not be considered an environmental impact under CEQA. The impact would be less than significant.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The trail would cross the Little River via the existing Route 101 bridge. The existing travel lanes would be reconfigured to support the multi-use trail. The bridge deck would be widened two feet on the western edge. The existing lanes would be reconfigured to accommodate a 10-foot trail in addition to Caltrans standard shoulder and travel lane widths. In compliance with Caltrans standards for a Class I Bikeway, segments of the trail adjacent to roadways would be separated by at least five feet. The proposed trail along Route 101 would meet all Caltrans safety requirements and is proposing a physical barrier to enhance safety and separate trail users from vehicles traveling on Route 101. Therefore, no potentially hazardous roadway design features would be introduced by the project.

The trail would be ADA-accessible and include warning signage and markings both on the trail and the approaching vehicular way as applicable. In addition, signage would be added along the trail warning users of curves, bends, and any other hazardous situations. Speed control would occur via through signage and other visual cues; speed bumps or other surface irregularities are not permitted to control the speed of bicycles or other non-motorized vehicles.

The proposed trail may have potential conflicts between users who are stationary, such as birdwatchers, and bicyclists due to the difference in these activities. However, since the proposed trail would have striping, signage, unpaved shoulders on both sides, and scenic vista viewing areas, which could be used by birdwatchers and other uses who want to get out of the main travel lanes, substantial safety related conflicts between trail users and birdwatchers (or other stationary individuals) would be avoided.

The proposed project would not substantially increase hazards due to a design feature; therefore, the impact is less than significant.

d) Would the project result in inadequate emergency access?

The proposed trail would be adjacent to Route 101. Emergency access to the project area already exists from Route 101 and would continue to exist under the proposed project during both construction and operation. To support bridge widening and Route 101 lane configuration, temporary lane closures would occur. Emergency response vehicles would not be significantly impeded during lane closures. Since the trail corridor is already served by emergency and law enforcement personnel, the trail would not slow or hinder emergency response, the trail would not require additional emergency services, and there would be emergency access to all trail segments; therefore, a less than significant impact would result.

Following construction, all properties along the project alignment would continue to have emergency access. No operational impact on emergency access would result.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.18. Tribal Cultural Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k), or				✓
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				✓

"No Impact" determinations in this section are based on the outcomes of the AB 52 consultation governing tribal cultural resources (Chapter 532, Statutes of 2014), as documented in the ASR dated June 2, 2022 (DZC 2022). AB 52 consultation letters were sent by mail on August 27, 2020, to the following Native American representatives:

- Josefina Cortez, Chairperson, The Bear River Band of the Rohnerville Rancheria.

- Erika Cooper, THPO, The Bear River Band of the Rohnerville Rancheria.
- (3) Jesse Lopez, THPO Assistant, The Bear River Band of the Rohnerville Rancheria.
- (4) Claudia Brundin, Chairperson, Blue Lake Rancheria.
- (5) Janet Eidsness, THPO, Blue Lake Rancheria.
- (6) Jacob Pounds, Assistant THPO, Blue Lake Rancheria.
- (7) Garth Sundberg, Chairperson, Cher-Ae-Heights Indian Community of the Trinidad Rancheria.
- (8) Rachel Sundberg, Chairperson, Cher-Ae-Heights Indian Community of the Trinidad Rancheria.
- (9) Rosie Clayburn, THPO, Yurok Tribe of the Yurok Reservation.
- (10) Joe James, Chairperson, Yurok Tribe.
- (11) Ted Hernandez, Chairperson, Wiyot Tribe.
- (12) Amanda O'Connell, THPO, Tolowa Dee Ni' Nation.
- (13) Leann McCallum, Chairperson, Tolowa Dee Ni' Nation.
- (14) Virgil Moorehead, Chairperson, Big Lagoon Rancheria.
- (15) M. Lindgren, Tsurai Ancestral Society.
- (16) Christa Stewart, THPO, The Elk Valley Rancheria.
- (17) Kevin Mealue, Cultural Resource Specialist, The Elk Valley Rancheria.
- (18) Dale Miller, Chairperson, Elk Valley Rancheria.

On August 28, 2020, Caltrans documented receipt of communications from the Wiyot Tribe noting their association to members related to the Beach family and requesting archaeological monitoring during the 2020 geotechnical investigation. On September 5, 2020, the Bear River Band of the Rohnerville Rancheria also responded and requesting tribal monitoring for 2020 geotechnical investigation. Both archaeological and tribal monitoring did occur as requested during the 2020 geotechnical (and wetland) investigations, as documented in the ASR (DZC 2022). During construction of the project, archaeology and tribal monitoring would occur, as required under Standard Measure CR-2 (see Section 1.4).

No additional correspondence for recipient Native American representatives occurred. Tribal cultural resources were not identified as a result of the AB 52 process. The AB 52 process is complete. Potential impacts to Tribal cultural resources would therefore not result. Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.19. Utilities and Service Systems

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities—the construction or relocation of which could cause significant environmental effects?			✓	
Would the project: b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				✓
Would the project: c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
Would the project: d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
Would the project: e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			✓	

Regulatory Setting

The primary law governing utilities and service systems is CEQA.

Environmental Setting

The solid waste provider in the project area is the Humboldt Waste Management Authority (HWMA). HWMA trucks transport 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. Power poles and lines in the project area are serviced by Pacific Gas & Electric. The project area is generally undeveloped, and no additional utility services exist (e.g., water, sewer).

Discussion of CEQA Environmental Checklist Question 2.19—Utilities and Service Systems

A "*No Impact*" determination was made for Questions b) and c) listed within the CEQA Environmental Checklist—Utilities section. Determinations were based on scope, description, and location of the proposed project which does not include drinking or wastewater services. See below for further discussion of the "*Less Than Significant Impact*" determination made for Questions a), d), and e).

> ***a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities—the construction or relocation of which could cause significant environmental effects?***

The proposed project does not involve the use or construction of any facilities that would require new water, wastewater, electrical, natural gas, or telecommunications utilities. The project would be designed to maintain existing drainage patterns and would typically have a two percent or less cross slope to allow surface water to flow off the shared use pathway surface. In cases where the trail's fill prism encroaches into the existing drainage ditch, the drainage ditch may need to be reconstructed at approximately the same grade and depth, but at a location (horizontally) offset from the original position. Cross drains or culverts under the shared use pathway or boardwalk crossings would be located at low spots in the topography to convey surface drainage across the trail prism. The construction of these improvements has been evaluated throughout this IS/MND. Existing streetlights along the Crannell Road off-ramp would be relocated in the same general area, and one new streetlight would be installed at the northern trailhead. No stormwater drainage improvements beyond these mentioned would be required. A less than significant impact would result.

d, e) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

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 of Humboldt 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. These facilities have sufficient capacity to serve the project's solid waste disposal needs; therefore, a less than significant impact would result.

2.20. Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the project: a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			✓	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or may result in temporary or ongoing impacts to the environment?				✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			✓	

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these very high fire hazard severity zones.

Regulatory Setting

The primary law governing wildfire is CEQA.

Environmental Setting

The Project is located entirely within a SRA and is situated on lands classified as either moderate or high fire severity areas. The northern portion of the shared use pathway is located within a moderate fire severity area, which is typical of the surrounding coastal region. The southern portion of the alignment, from Litter River to the project southern terminus, is within a narrow strip of land designated as a high fire severity area, which includes the Route 101 highway corridor and westerly dunes along Little River State Beach. The project alignment is not located within any lands classified as very high fire severity zones. The nearest land classified as a very high fire hazard severity zone is approximately 12-miles east of the Project alignment (CAL FIRE 2022).

Discussion of CEQA Environmental Checklist Question 2.20—Wildfire

The "No Impact" determination in this section was made for Question c) and is based on the scope, description, and location of the proposed project. The project corridor is located within State Responsibility Area (SRA). The project is within lands classified as moderate and high fire hazard severity zones (CALFIRE 2022). The project would widen or replace existing bridges and would not require new infrastructure that would exacerbate fire risks. The proposed work would not impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, or expose people or structures to significant risks; therefore, potential wildfire impacts are not anticipated.

If located in or near State Responsibility Areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

See Section 2.9(f) (Hazards) for discussion of the project's effect on emergency response and evacuation plans. The project would not impair implementation or physically interfere with an established emergency response or evacuation plan. Once constructed, the project would not modify transportation along Route 101, thus emergency response or evacuation via Route 101 would not be impeded. As the project includes lane closures, a less than significant impact would result.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The trail would be generally located in the Caltrans ROW along Route 101 within a varied topographical area. Coastal forest and dune vegetation are present along the alignment. The vegetated portions could be susceptible to wildfire during project construction or operation, as a result of accidental ignition.

During construction, all hazardous materials and construction equipment would be appropriately used and stored pursuant to all required State and local regulations. During operation, the Project would not house any pollutants within the project area that may be released if a wildfire occurred. Furthermore, the project does not include any structures built for human occupancy. Trail users would be within the area for a short period of time given the purpose is for passive recreational use.

Due to the temporary nature of construction, the minimal amount of pollutants anticipated to be stored during construction, the project's location outside an area of very high fire severity risk, and lack of structures to be used for human occupancy, it is not anticipated to exacerbate wildfire risks beyond existing conditions or increase exposure pollutants or the spread of wildfire. A less than significant impact would result.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The Project is located within an undeveloped stretch of land between the Pacific coastline and Route 101 highway corridor. As such, there are no downslope structures that could be impacted by the Project. Following a wildfire, erosion within the Project Area could occur due to the loss of vegetation. The Project Area is near the coastline, and the Project's contribution to the Little River and unnamed tributary watersheds is proportionally very small. Unstable slopes would be protected by constructed retaining walls. The Project Area does not otherwise include steep slopes that would be susceptible to post-fire landslides. Additionally, the Project does not significantly alter drainage patterns (see Section 2.10 – Hydrology and Water Quality). Any potential impact would be less than significant.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.21. Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have the potential to 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, substantially 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) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means 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) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			✓	

Discussion of CEQA Environmental Checklist Question 2.21—Mandatory Findings of Significance

California Environmental Quality Act of 1970 (CEQA) requires preparation of an Environmental Impact Report (EIR) when certain specific impacts may result from construction or implementation of a project. The analysis indicated the potential impacts associated with this project would not require an EIR. Mandatory Findings of Significance are not required for projects where an EIR has not been prepared.

a) Does the project have the potential to 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, substantially 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?

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 air quality, biological resources, cultural 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 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.)

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. The project has been planned and designed to avoid significant environmental impacts. As discussed in the analysis throughout Section 2 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 would be less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

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 would be less than significant.

2.22. Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this proposed project. A cumulative impact assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time (CEQA, § 15355).

Cumulative impacts to resources may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

Per Section 15130 of CEQA, a Cumulative Impact Analysis (CIA) discussion is only required in "…situations where the cumulative effects are found to be significant." An EIR is required in all situations when a project might result in a "significant" direct, indirect, or cumulative impact on any resource. Upon analysis of the proposed project, mitigation measures have been developed to reduce potential significant impacts to be less than significant. There are no resource categories on which the project might have a "significant" direct, indirect, or cumulative impact. Given this, an EIR and CIA were not required for this project.

Chapter 3. Agency and Public Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization and/or mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings, interagency coordination meetings, and public outreach meetings lead by Redwood Community Action Agency and the Trinidad Coastal Land Trust. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

The following agencies, organizations, and individuals were consulted in the preparation of this environmental document.

Chapter 4. Coordination with Resource Agencies

GHD environmental staff Andrea Hilton corresponded via email with Mike Kelly at the National Marine Fisheries Service (NMFS) on July 27 and 28, 2021 to confirm a hydroacoustic assessment would not be required for the project, related to widening the Little River bridge and other informal details related to crossing options for the unnamed tributary. Jen Olsen of the California Department of Fish and Wildlife (CDFW) was included on the email correspondence.

Caltrans provided the draft project plans to NMFS for review and has engaged in ongoing technical assistance with NMFS to inform the design process.

4.1. Coordination with Property Owners

The Trinidad Coastal Land Trust presently owns the northern portion of the trail, nearest the Scenic Drive trailhead. The Trinidad Coastal Land Trust has been an engaged partner in the project since its inception, leading public outreach efforts alongside Redwood Community Action Agency.

4.2. Circulation

This Initial Study/Proposed Mitigated Negative Declaration was publicly circulated for 30 days, from August 15, 2022 to 5:00 p.m. on September 14, 2022. The Initial Study/Proposed Mitigated Negative Declaration was provided to the State Clearinghouse on August 11, 2022 along with the Notice of Circulation. The Notice of Intent to Adopt the Initial Study/Proposed Mitigated Negative Declaration was published in the *Eureka Times Standard* on August 11, 2022. The Initial Study/Proposed Negative Declaration was distributed to involved federal, state, and local agencies and Native American representatives via certified mail on August 11, 2022 as listed in Section 5 – Distribution List.

Chapter 5. List of Preparers

The following individuals performed the environmental work on the project:

California Department of Transportation, District 1

Coady Reynolds	Environmental Planner
Darrell Cardiff	Senior Environmental Planner

Redwood Community Action Agency

Denise Newman	Project Coordinator
Susannah Ferson	Botanist

GHD

Andrea Hilton	Environmental Planner
Misha Schwarz	Sr. Environmental Planner
Josh Wolf	Sr. Engineer
Nathan Sanger	Engineer
Kerry McNamee	Environmental Planner
Scott Harris	Environmental Scientist

DZC Archaeology & Cultural Resource Monitoring

Dimitra Zalvarvis-Chase	Principal Investigator for Historical & Prehistoric Archaeology

Stantec Consulting Services Inc.

Connie MacGregor	Senior Environmental Lead
Sara Tona	Biologist
David Pluth	Fisheries Biologist
Josh Hohn	Visual Resources

SHN

Gary Simpson	Geosciences Director

Chapter 6. Distribution List

Federal and State Agencies

U.S. Army Corps of Engineers
Attn: Kasey Sirkin
P.O. Box 4863
Eureka, CA 95502

California Regional Water Quality Control Board
Attn: Ryan Bey, North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

California Coastal Commission
Attn: Melissa Kramer
1385 8th Street, # 130
Arcata, CA 95521

California Department of Fish and Wildlife
Attn: Gregory O'Connell
619 Second Street
Eureka, CA 95501

Regional/County/Local Agencies

Humboldt County Planning and Building Department
Attn: John Ford
3015 H Street
Eureka, CA 95501

Humboldt County Department of Public Works
Attn: Thomas Mattson
1106 Second Street
Eureka, CA 95501

City of Trinidad
Attn: Eli Naffah

P. O. Box 390
Trinidad, CA 95570

McKinleyville Community Services District
Attn: Patrick Kaspari
1656 Sutter Road
McKinleyville CA 95519

Local Elected Officials

Steve Madrone, 5th District Supervisor
Humboldt County Board of Supervisors
825 5th Street, Room 111
Eureka, CA 95501

Interested Groups, Organizations and Individuals

Trinidad Coastal Land Trust
Attn: Carol Vander Meer
P.O. Box 457
Trinidad, CA 95570

Redwood Community Action Agency
Attn: Denise Newman
904 G Street
Eureka, CA 95501

Humboldt Trails Council
P.O. Box 7164
Eureka, CA 95502

Utilities, Service Systems, Businesses, and Other Property Owners

Humboldt Bay Municipal Water District
Attn: John Friedenbach
P.O. Box 95
Eureka, CA 95502

Chapter 7. References

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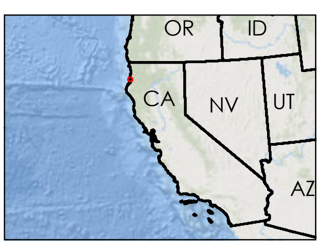
Appendix A. Exhibits



Biological Study Area (22.93 acres)

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:24,000

N

Notes
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2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Project Location
T08N, R01E, Sec. 31, T07N, R01E,
Sec. 6 and 7 Crannell, California USGS 7.5' Quad

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
Redwood Community Action Agency
Little River Trail Project

185705051

Figure No.
1

Title
Project Location

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure_1_Project_Location_NES.mxd Revised: 2021-09-20 By: tmooney

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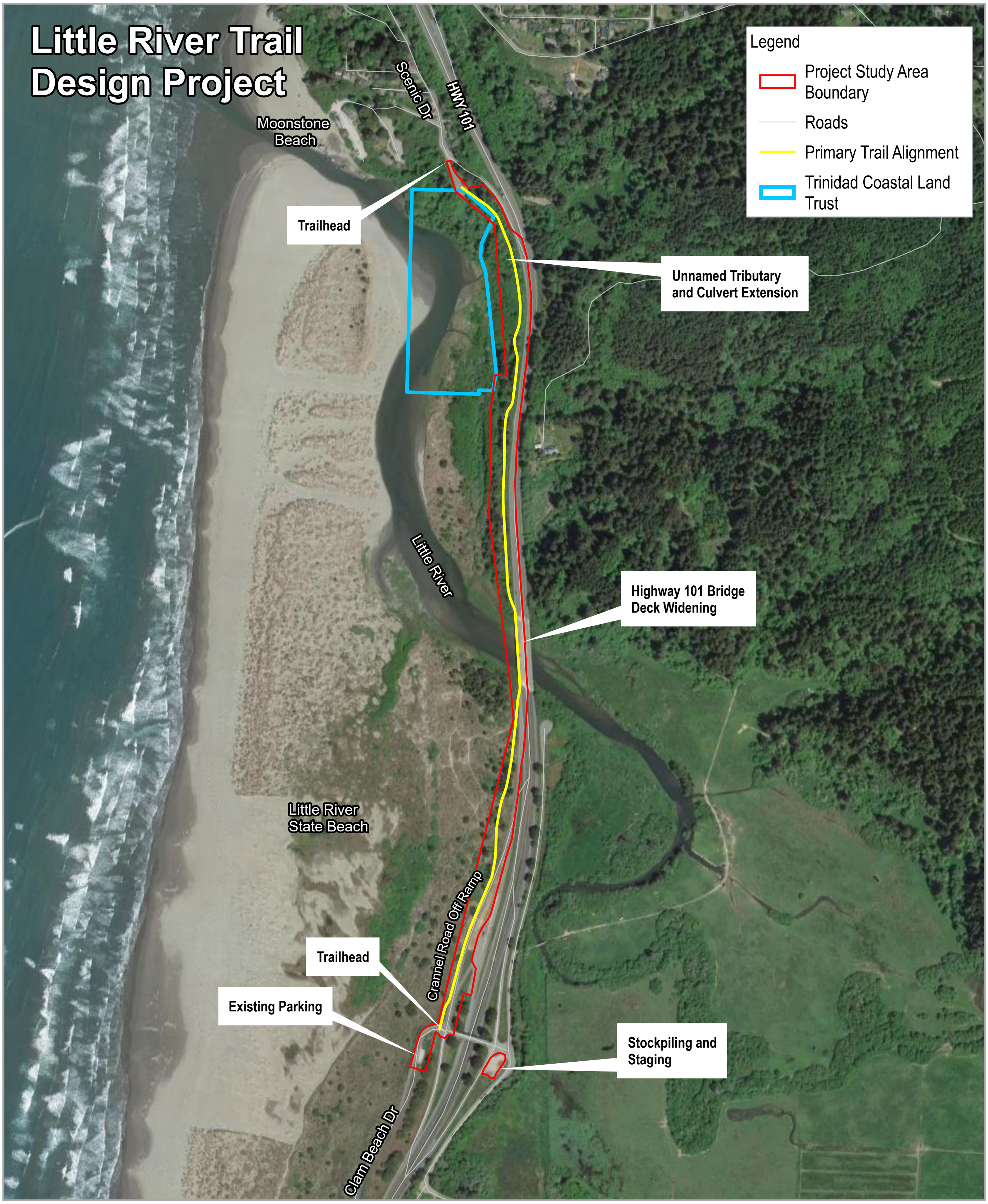

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Feet

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

GHD

Redwood Community Action Agency
Little River Trail Project Description

Project Overview

Project No. **11212216**
Revision No. **-**
Date **9/3/2021**

FIGURE 2

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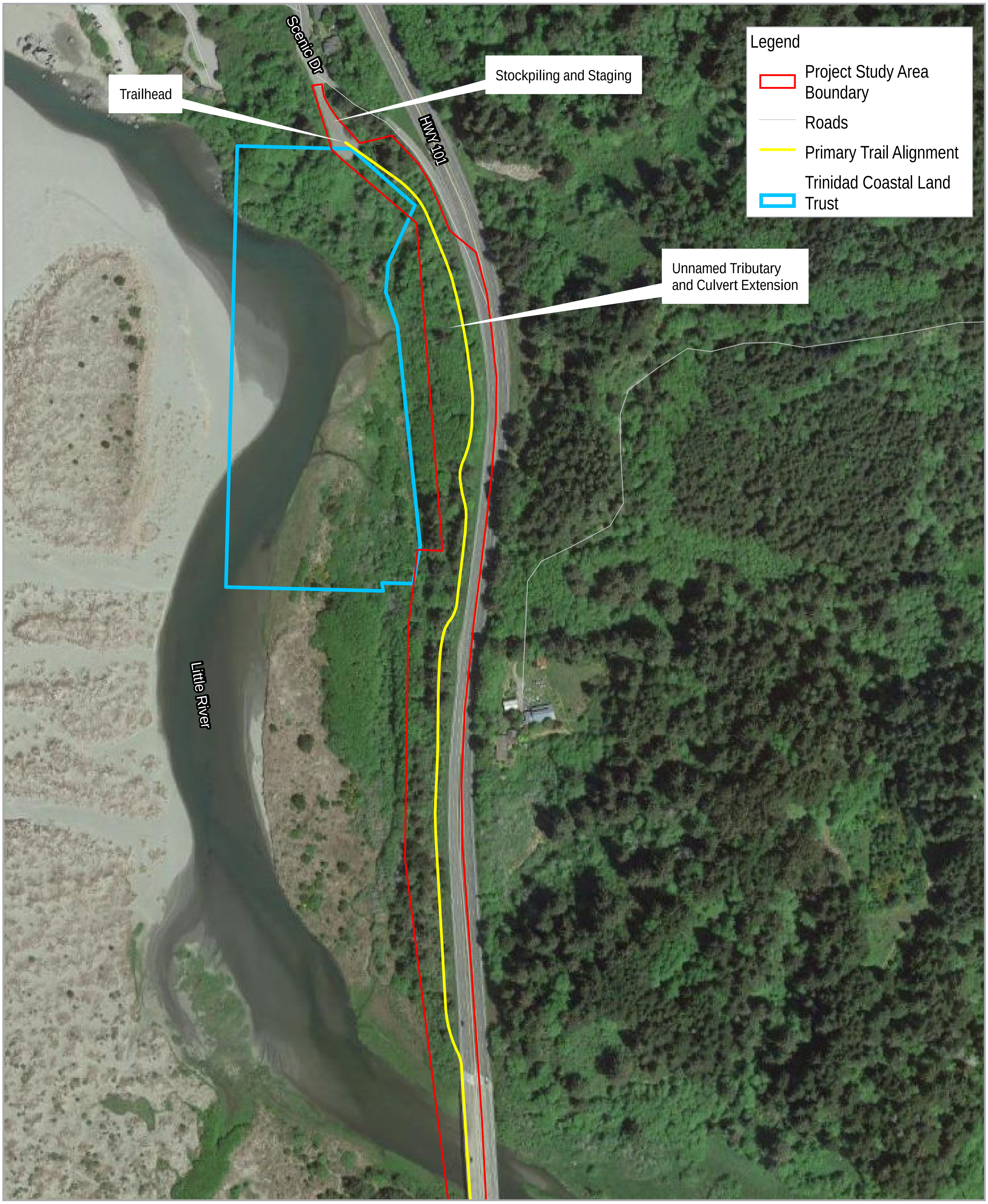
Data source: Google Maps Sat: © OpenStreetMap (and) contributors, CC-BY-SA. Created by: zporteous



Paper Size ANSI A

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Feet

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

Redwood Community Action Agency
Little River Trail Project Description

Northern Project Overview

Project No. 11212216
Revision No. -
Date 11/3/2021

FIGURE 3

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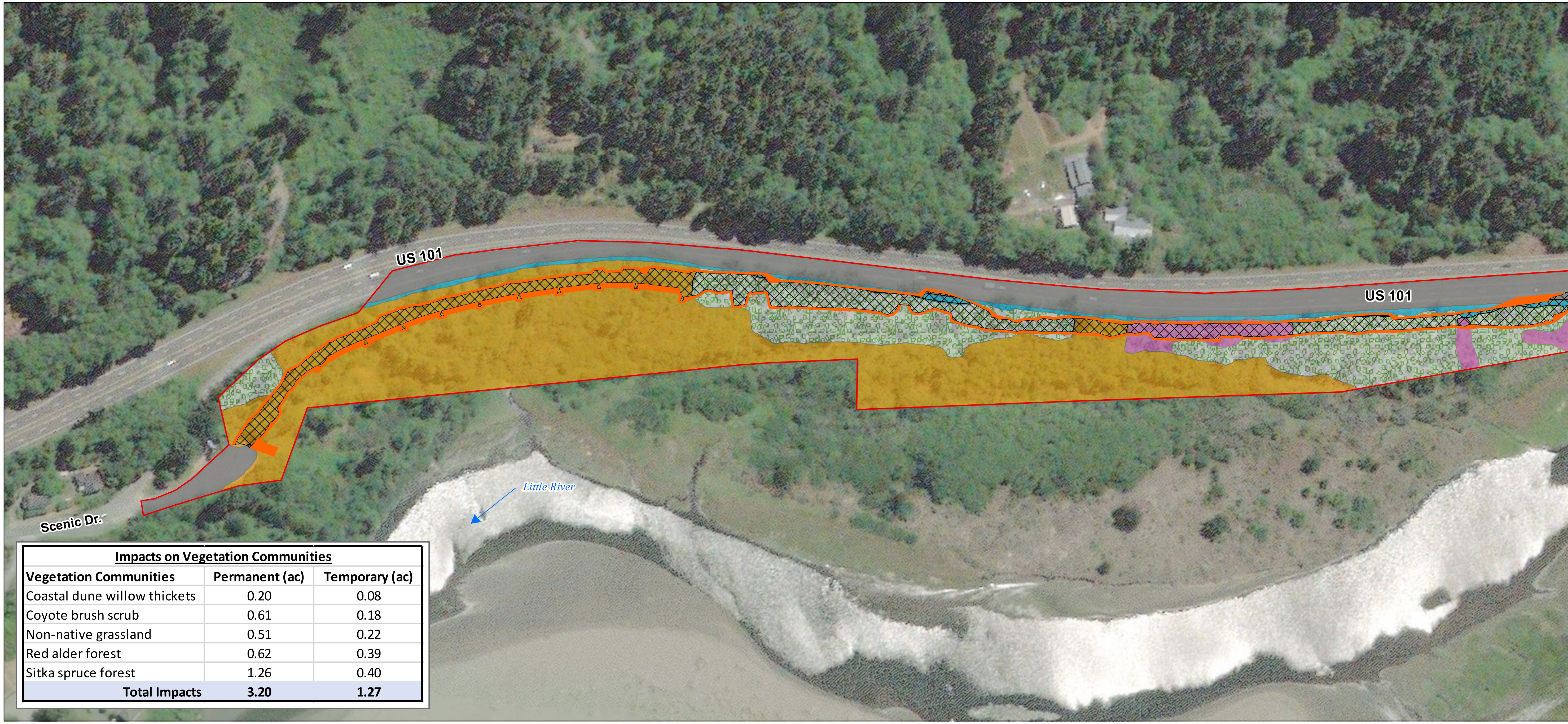
Print date: 03 Nov 2021 - 15:21

Data source: Google Maps Sat: © OpenStreetMap (and) contributors, CC-BY-SA. Created by: zporteous



Impacts on Vegetation Communities		
Vegetation Communities	**Permanent (ac)**	**Temporary (ac)**
Coastal dune willow thickets	0.20	0.08
Coyote brush scrub	0.61	0.18
Non-native grassland	0.51	0.22
Red alder forest	0.62	0.39
Sitka spruce forest	1.26	0.40
Total Impacts	**3.20**	**1.27**

Biological Study Area (22.93 acres)
Permanent Impacts (3.20 acres)
Temporary Impacts (1.27 acres)
Riverine (0.69 acre)
Barren (5.45 acres)

Vegetation Communities

Coastal dune willow thickets (0.96 acre)
Coyote brush scrub (1.36 acres)
Non-native grassland (2.81 acres)
Pacific silverweed marshes (0.11 acre)
Red alder forest (7.05 acres)
Sitka spruce forest (4.42 acres)
Slough sedge swards (0.08 acre)

0 100 200 Feet
(At original document size of 11x17)
1:2,400

N

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
4

Title
Impacts on Vegetation Communities

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

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Impacts on Vegetation Communities		
Vegetation Communities	**Permanent (ac)**	**Temporary (ac)**
Coastal dune willow thickets	0.20	0.08
Coyote brush scrub	0.61	0.18
Non-native grassland	0.51	0.22
Red alder forest	0.62	0.39
Sitka spruce forest	1.26	0.40
Total Impacts	**3.20**	**1.27**

Biological Study Area (22.93 acres)
Permanent Impacts (3.20 acres)
Temporary Impacts (1.27 acres)
Riverine (0.69 acre)
Barren (5.45 acres)

Vegetation Communities

Coastal dune willow thickets (0.96 acre)
Coyote brush scrub (1.36 acres)
Non-native grassland (2.81 acres)
Pacific silverweed marshes (0.11 acre)
Red alder forest (7.05 acres)
Sitka spruce forest (4.42 acres)
Slough sedge swards (0.08 acre)

0 100 200 Feet
(At original document size of 11x17)
1:2,400

N

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project 185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
4

Title
Impacts on Vegetation Communities

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure4_veg_impacts_NES.mxd Revised: 2022-01-24 By: tmooney

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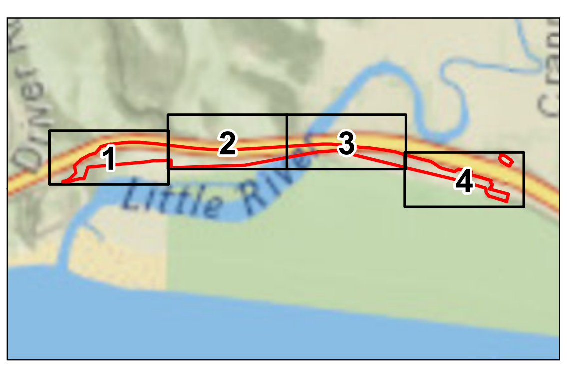

Biological Study Area (22.93 acres)
Map Reference Point
Culvert
OHWM
ESA Fencing
Permanent Impacts (0.01 acre)
Temporary Impacts (<0.01 acre)

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre, 367 linear feet)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

This delineation of waters of the United State is subject to verification by the United States Army Corps of Engineers (USACE). Statnec advises all parties that the delineation is preliminary until the USACE provides a written verification.

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States

Page 1 of 4

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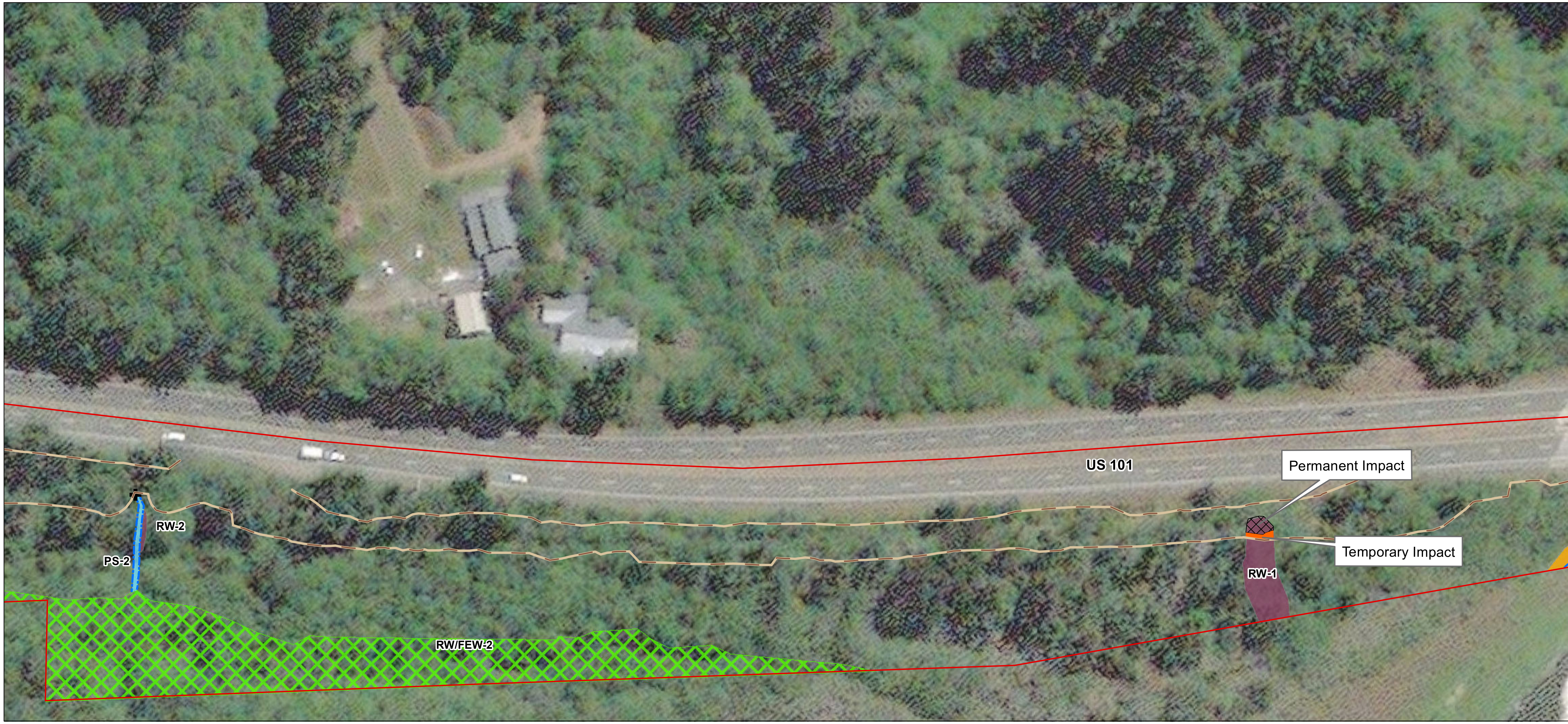

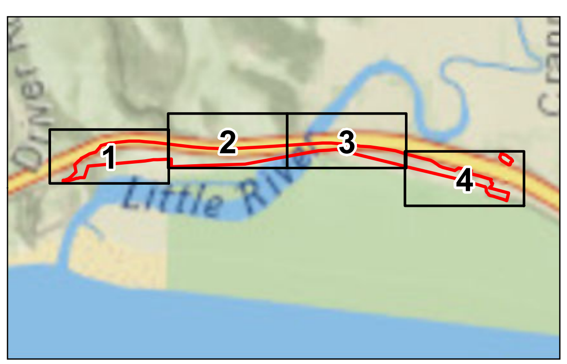

Biological Study Area (22.93 acres)
Map Reference Point
Culvert
OHWM
ESA Fencing
Permanent Impacts (0.01 acre)
Temporary Impacts (<0.01 acre)

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre, 367 linear feet)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

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Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
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3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project 185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States

Page 2 of 4

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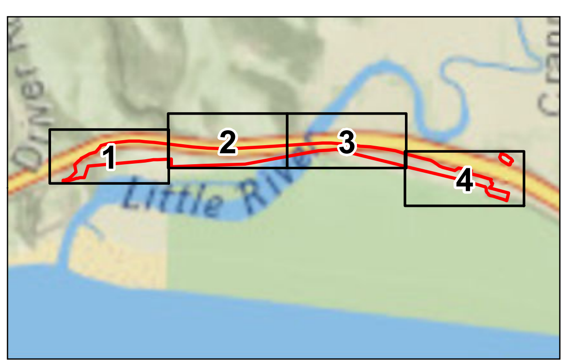

Biological Study Area (22.93 acres)
Map Reference Point
Culvert
OHWM
ESA Fencing
Permanent Impacts (0.01 acre)
Temporary Impacts (<0.01 acre)

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
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Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre, 367 linear feet)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

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Notes
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NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States

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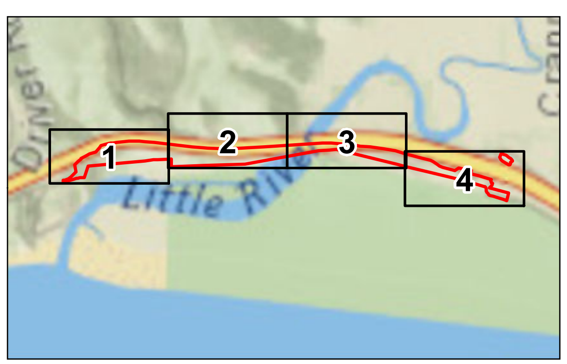

Biological Study Area (22.93 acres)

Map Reference Point

Culvert

OHWM

ESA Fencing

Permanent Impacts (0.01 acre)

Temporary Impacts (<0.01 acre)

Potential Waters of the United States

Wetlands

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Other Waters

Perennial Stream (0.75 acre, 367 linear feet)

0 50 100 Feet

(At original document size of 11x17)
1:1,200

N

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Notes
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NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States

Page 4 of 4

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Impacts on Potential Waters of the United States							
Temporary							
Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	<0.01	-	-	E2SS	41.01641	-124.10783
	Subtotal	**<0.01**					
RW-1	Riparian Wetland	<0.01	-	-	E2SS	41.02176	-124.10757
	Subtotal	**<0.01**					
	Total Temporary Impacts on Wetlands	**<0.01**					
	Total Temporary Impacts on Potential Waters of the United	**<0.01**					
Permanent							
Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW-1	Riparian Wetland	0.01	-	-	E2SS	41.02176	-124.10757
	Subtotal	**0.01**					
	Total Permanent Impacts on Wetlands	**0.01**					
	Total Permanent Impacts on Potential Waters of the United	**0.01**					
	Total Impacts on Potential Waters of the United States	**0.01**					

Potential Waters of the United States							
Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-1	Riparian / Fresh Emergent Wetland Complex	0.02	-	-	E2SS	41.02697	-124.10801
RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
FEW-2	Fresh Emergent Wetland	0.02	-	-	E2EM	41.02002	-124.10721
	Subtotal	**0.19**					
RW-1	Riparian Wetland	0.07	-	-	E2SS	41.02176	-124.10757
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	**0.02**	-	-	E2EM	41.01561	-124.10775
	Total Wetlands	**2.17**					
Other Waters							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
PS-1	Perennial Stream	0.05	130	15	E1UB	41.02694	-124.10791
PS-2	Perennial Stream	0.01	96	5	E2SB	41.02478	-124.10759
PS-3	Perennial Stream	0.69	141	285	E1UB	41.02033	-124.10713
	Total Other Waters	**0.75**	**367**				
Total Potential Waters of the United States		**2.92**	**367**				

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States
Summary

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Potential Coastal Act Waters

Biological Study Area (22.93

Map Reference Point

Culvert

Ordinary High Water Mark

ESA Fencing

Permanent Impacts (0.20 acre)

Temporary Impacts (0.08 acre)

3-Parameter Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)

Fresh Emergent Wetland (0.19 acre)**

Riparian Wetland (0.07 acre)*

Vegetated Ditch (0.02 acre)

Streams

Perennial Stream (0.75 acre, 367 linear feet)

1-Parameter Wetlands

Riparian / Fresh Emergent Wetland Complex (0.54 acre)

Riparian Wetland (0.64 acre)*

Streams

Perennial Stream (0.75 acre, 367 linear feet)

*Riparian wetlands also qualify as sensitive natural communities (coastal dune willow thickets).

**Fresh emergent wetlands also qualify as sensitive natural communities (Pacific silverweed marshes and slough sedge swards).

0 50 100 Feet

(At original document size of 11x17)
1:1,200

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

"Coastal Act Waters" are wetlands, coastal waters, and streams regulated under the California Coastal Act. This delineation of waters of the State is subject to verification by the California Coastal Commission (CCC). Statnec advises all parties that the delineation is preliminary until the CCC provides a written verification.

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
6

Title
Impacts on Coastal Act Waters

Page 1 of 4

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure6_CCC_wos_impacts.mxd Revised: 2022-01-24 By: tmooney

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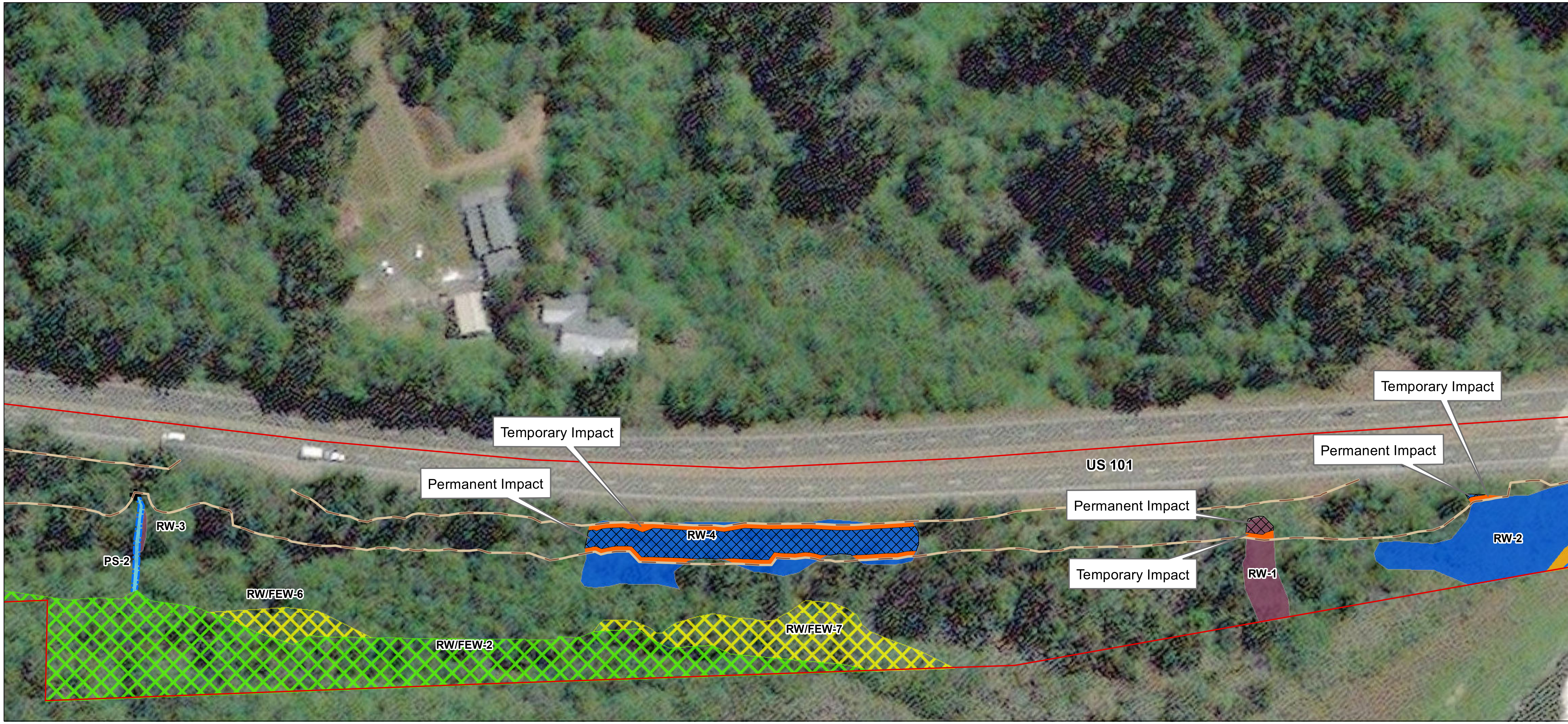
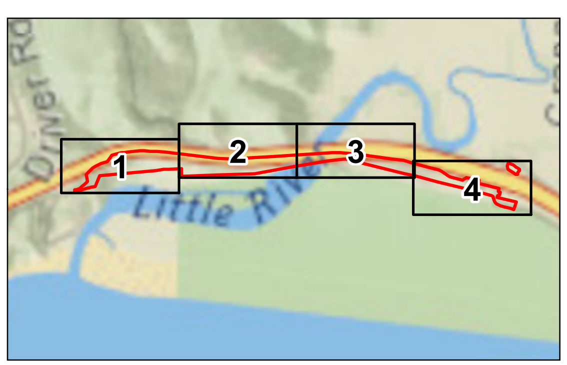


Potential Coastal Act Waters



- Biological Study Area (22.93
- Map Reference Point
- Culvert
- Ordinary High Water Mark
- ESA Fencing
- Permanent Impacts (0.20 acre)
- Temporary Impacts (0.08 acre)

3-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (1.89 acres)
- Fresh Emergent Wetland (0.19 acre)**
- Riparian Wetland (0.07 acre)*
- Vegetated Ditch (0.02 acre)

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

1-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (0.54 acre)
- Riparian Wetland (0.64 acre)*

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

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**Fresh emergent wetlands also qualify as sensitive natural communities (Pacific silverweed marshes and slough sedge swards).

0 50 100 Feet

(At original document size of 11x17)
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N

Notes

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Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
6

Title
Impacts on Coastal Act Waters

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure6_CCC_wos_impacts.mxd Revised: 2022-01-24 By: tmooney

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4. Delineation Date: September 1-3, 2020

Potential Coastal Act Waters

- Biological Study Area (22.93
- Map Reference Point
- Culvert
- Ordinary High Water Mark
- ESA Fencing
- Permanent Impacts (0.20 acre)
- Temporary Impacts (0.08 acre)

"Coastal Act Waters" are wetlands, coastal waters, and streams regulated under the California Coastal Act. This delineation of waters of the State is subject to verification by the California Coastal Commission (CCC). Stantec advises all parties that the delineation is preliminary until the CCC provides a written verification.

3-Parameter Wetlands

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- Fresh Emergent Wetland (0.19 acre)**
- Riparian Wetland (0.07 acre)*
- Vegetated Ditch (0.02 acre)

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

1-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (0.54 acre)
- Riparian Wetland (0.64 acre)*

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

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N

Project Location
Humboldt County, California

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IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
6

Title
Impacts on Coastal Act Waters

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure6_CCC_wos_impacts.mxd Revised: 2022-01-24 By: tmooney

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Potential Coastal Act Waters

- Biological Study Area (22.93
- Map Reference Point
- Culvert
- Ordinary High Water Mark
- ESA Fencing
- Permanent Impacts (0.20 acre)
- Temporary Impacts (0.08 acre)

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3-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (1.89 acres)
- Fresh Emergent Wetland (0.19 acre)**
- Riparian Wetland (0.07 acre)*
- Vegetated Ditch (0.02 acre)

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

1-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (0.54 acre)
- Riparian Wetland (0.64 acre)*

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

*Riparian wetlands also qualify as sensitive natural communities (coastal dune willow thickets).

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0 50 100 Feet

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1:1,200

N

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Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
6

Title
Impacts on Coastal Act Waters

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Impacts on Potential Coastal Act Waters

Temporary Impacts

3-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	<0.01	-	-	E2SS	41.01641	-124.10783
	Subtotal	**<0.01**					
RW-1	Riparian Wetland	<0.01	-	-	E2SS	41.02176	-124.10757
	Subtotal	**<0.01**					
	Total Temporary Impacts on 3-Parameter Wetlands	**<0.01**					

1-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-4	Riparian / Fresh Emergent Wetland Complex	0.01	-	-	E2SS	41.01613	-124.10788
	Subtotal	**0.01**					
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02105	-124.10746
RW-4	Riparian Wetland	0.07	-	-	E2SS	41.02105	-124.10746
	Subtotal	**0.07**					
	Total Temporary Impacts on 1-Parameter Wetlands	**0.08**					
	Total Temporary Impacts on Potential Coastal Act Waters	**0.08**					

Permanent Impacts

3-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW-1	Riparian Wetland	0.01	-	-	E2SS	41.02176	-124.10757
	Subtotal	**0.01**					
	Total Permanent Impacts on 3-Parameter Wetlands	**0.01**					

1-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02105	-124.10746
RW-4	Riparian Wetland	0.19	-	-	E2SS	41.02105	-124.10746
	Subtotal	**0.19**					
	Total Permanent Impacts on 1-Parameter Wetlands	**0.19**					
	Total Permanent Impacts on Potential Coastal Act Waters	**0.20**					
	Total Impacts on Potential Coastal Act Waters	**0.28**					

Potential Coastal Act Waters

3-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-1	Riparian / Fresh Emergent Wetland Complex	0.02	-	-	E2SS	41.02697	-124.10801
RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
FEW-2	Fresh Emergent Wetland	0.02	-	-	E2EM	41.02002	-124.10721
	Subtotal	**0.19**					
RW-1	Riparian Wetland	0.07	-	-	E2SS	41.02176	-124.10757
RW-3	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	0.02	-	-	E2EM	41.01561	-124.10775
	Total 3-Parameter Wetlands	**2.17**					

1-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-4	Riparian / Fresh Emergent Wetland Complex	0.17	-	-	E2SS	41.01613	-124.10788
RW/FEW-5	Riparian / Fresh Emergent Wetland Complex	0.06	-	-	E2SS	41.02606	-124.10767
RW/FEW-6	Riparian / Fresh Emergent Wetland Complex	0.07	-	-	E2SS	41.02437	-124.10784
RW/FEW-7	Riparian / Fresh Emergent Wetland Complex	0.24	-	-	E2SS	41.02295	-124.10786
	Subtotal	**0.54**					
RW-2	Riparian Wetland	0.29	-	-	E2SS	41.02105	-124.10746
RW-4	Riparian Wetland	0.35	-	-	E2SS	41.02105	-124.10746
	Subtotal	**0.64**					
	Total 1-Parameter Wetlands	**1.18**					

Other Waters

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
PS-1	Perennial Stream	0.05	130	15	E1UB	41.02694	-124.10791
PS-2	Perennial Stream	0.01	96	5	E2SB	41.02478	-124.10759
PS-3	Perennial Stream	0.69	141	285	E1UB	41.02033	-124.10713
	Total Other Waters	**0.75**	**367**				
	Total Potential Coastal Act Waters	**4.10**	**367**				

Stantec

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
Redwood Community Action Agency
Little River Trail Project

185705051

Figure No.
6

Title
Impacts on Coastal Act Waters

Summary

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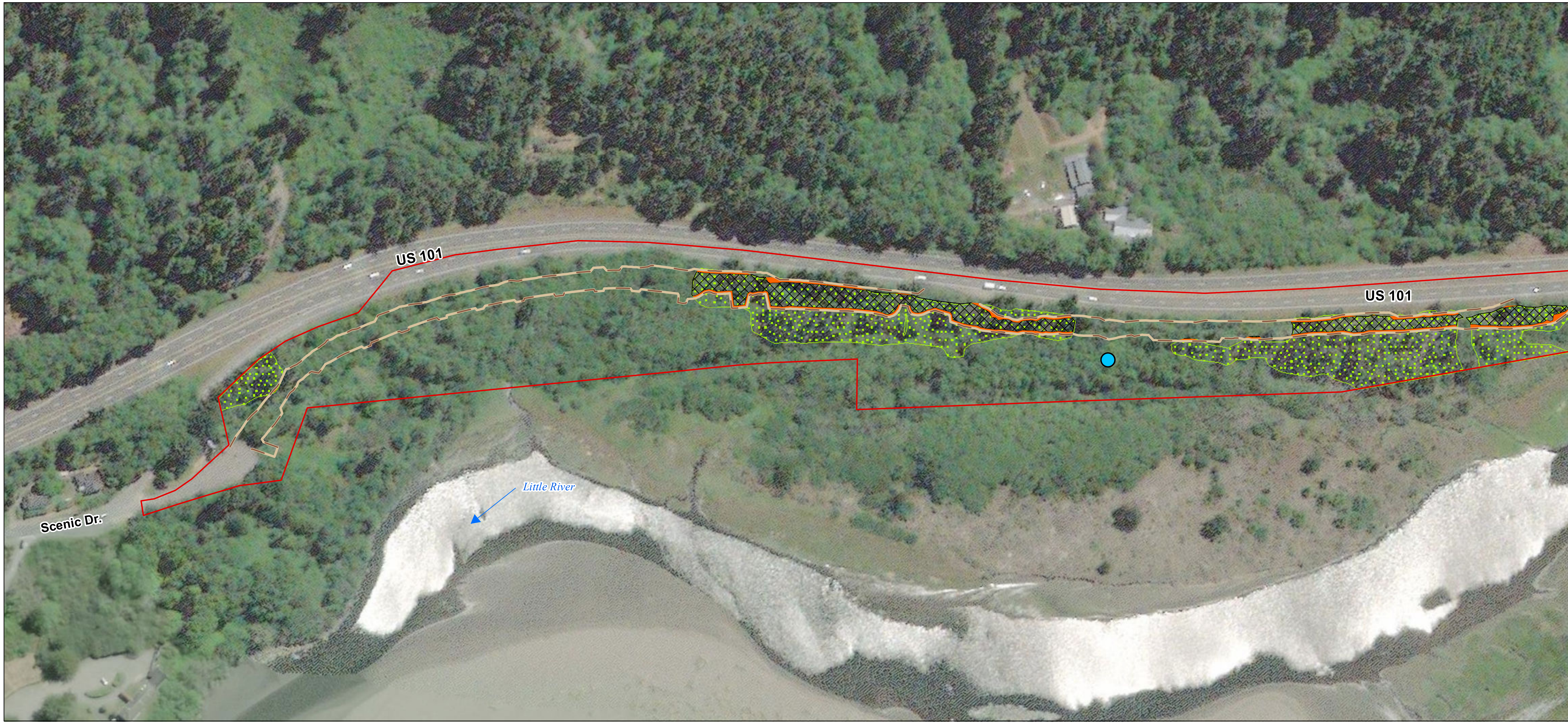

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

Biological Study Area (22.93 acres)

Upland ESHA (3.19 acres)*

ESA Fencing

Permanent Impacts (0.89 acre)

Temporary Impacts (0.25 acre)

Special Status Plant

Trailing black currant

*Upland ESHA also qualifies as sensitive natural communities (Sitka spruce forest).

0 100 200 Feet
(At original document size of 11x17)
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N

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
7

Title
Special Status Plant Location and Impacts on Upland Environmentally Sensitive Habitat Areas

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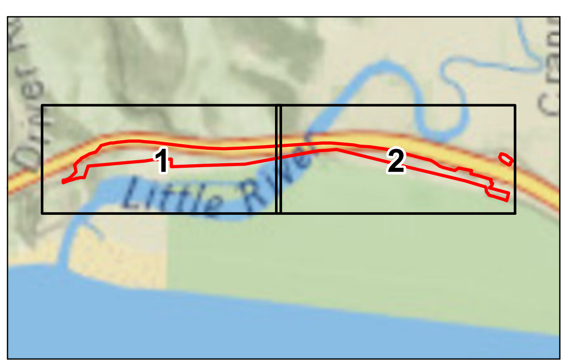

Biological Study Area (22.93 acres)

Upland ESHA (3.19 acres)*

ESA Fencing

Permanent Impacts (0.89 acre)

Temporary Impacts (0.25 acre)

Special Status Plant

Trailing black currant

*Upland ESHA also qualifies as sensitive natural communities (Sitka spruce forest).

Notes

1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet NAD 1983 StatePlane California I FIPS 0401 Feet

2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

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Project Location Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project 185705051

Redwood Community Action Agency
Little River Trail Project

Figure No. 7

Title

Special Status Plant Location and Impacts on Upland Environmentally Sensitive Habitat Areas

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Appendix B. Visual Impact Assessment

VISUAL IMPACT ASSESSMENT
Little River Trail
December 2021

California Department of Transportation
District 1, Humboldt County, Route 101
01-HUM-101-96.96-97.83
Federal Project No. 01-0J280

Prepared by: ______________________________ Date: March 28, 2022

Dani Althaus
Environmental Planner
Stantec Consulting Services Inc.
100 California Street, Suite 1000
San Francisco CA 94111-4575 US

Approved by: Laura Lazzarotto ______________ Date: 6/17/2022

Laura Lazzarotto
PLA #4045
Caltrans District Landscape Architect
North Region Landscape Architecture
District 1

Statement of Compliance: Produced in compliance with National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements, as appropriate, to meet the level of analysis and documentation that has been determined necessary for this project.

VISUAL IMPACT ASSESSMENT

Little River Trail

PURPOSE OF STUDY AND ASSESSMENT METHOD

The purpose of this visual impact assessment (VIA) is to document potential visual impacts caused by the proposed Little River Trail Project (project) and propose measures to lessen any detrimental impacts that are identified. Visual impacts are demonstrated by identifying visual resources in the project area, measuring the amount of change that would occur as a result of the project, and predicting how the affected public would respond to or perceive those changes. This VIA follows the guidance outlined in the publication *Visual Impact Assessment for Highway Projects* published by the Federal Highway Administration (FHWA) in March 1981.

Industry-standard methods were used to help ensure the accuracy of photo-simulations and other project representations that inform the subsequent analysis. These methods included the following:

- A field survey was conducted August 13, 2021, to obtain project key view simulation photography using a full-frame digital camera equipped with a fixed 50mm lens. This lens produces images that closely approximates what the human eye sees in focus within a fixed view.
- Construction of a three-dimensional digital model of the proposed project improvements using preliminary engineering files.
- Composition of simulated views that overlay existing, removed, and proposed project elements within the corridor.

As shown in Figure 1, three key views (KVs) were selected to depict visual changes to the project area:

- KV 1 is located on Clam Beach Drive and U.S. Highway 101 (US 101) looking north-northeast from the proposed location of the southern trailhead. This provides a view of the project from Clam Beach Drive, where the southern portion of the project would be visible from highway viewers.
- KV 2 is located at the US 101 Clam Beach Drive off-ramp looking southwest. This provides a view of the project from the US 101 off-ramp, where the project would be visible on the west side of the road.
- KV 3 is located on US 101 looking south-southwest. This is representative of viewers traveling along US 101. The project would be visible and extend across the view.

In addition, a character view (CV), which is not relied upon in the formal visual analysis as a KV, serves to supplement discussions of visual character.

Conditions visible in photographs collected reflect a marine layer typical for the project area during this time of year, as well as smoke from nearby wildfires inland from the area.

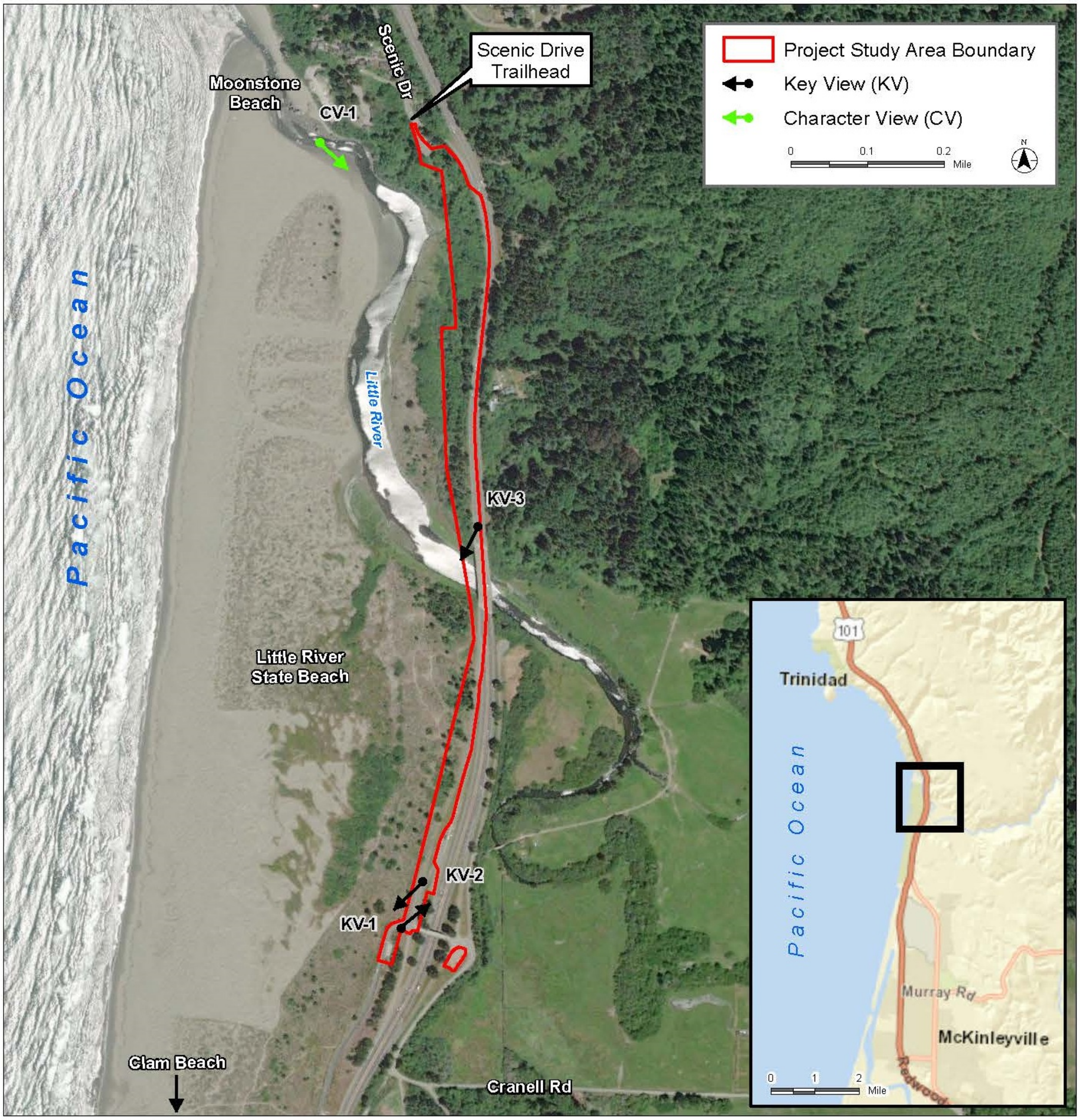

Figure 1: Project Location and Viewpoints

PROJECT DESCRIPTION

The project proposes to construct an approximately 1-mile Class I Bike Path (i.e., pedestrian and bicycle trail) from Scenic Drive to Clam Beach. The trail would be a paved pathway, alternating between an approximately 10-foot-wide trail (5 feet per travel lane) with 2-foot-wide shoulders on either side and an approximately 8-foot-wide trail (4 feet per travel lane) with 2-

foot-wide shoulders on either side, depending on-site constraints. The trail would cross the Little River via the existing US 101 bridge, which would be widened to accommodate the additional width required for the trail.

The project is being designed in accordance with the California Department of Transportation (Caltrans) Highway Design Manual, 7th Edition (Caltrans 2020). In addition, the project would be designed in accordance with other specific applicable standards, including the California Manual on Uniform Traffic Control Devices (Caltrans 2021a) and the Americans with Disabilities Act Standards for Accessible Design (Department of Justice 2010).

The project includes the components described below. These details are consistent with the project as described in the November 2021 draft of the Natural Environment Study being prepared for the project.

Geotechnical Investigations

A Preliminary Foundation Report has been prepared for the Project and includes a review of geologic literature for the area, site reconnaissance and geologic mapping, results from shallow hand auger borings, review of historic photos of US 101 construction, review of proposed retaining wall concepts, and preliminary geotechnical recommendations (SHN 2021). The Preliminary Foundation Report the proposed trail alignment is comprised of highway fill related to the modern, late 1960s highway alignment, unconsolidated alluvium, floodplain alluvium, beach/dune deposits, Falor Formation, and Franciscan Complex mélange. The Preliminary Foundation Report notes trail development will require removal of unsuitable (unstable) soils and imported fill and/or engineered fill and may require geotextiles.

Consistent with the recommendations of the Preliminary Foundation Report, additional geotechnical investigations are required during the project design phase in order to obtain necessary information to support retaining wall type selection and design. The investigation would occur north of Little River, between the Scenic Drive trailhead and the Little River. The geotechnical investigations would employ drill rigs and ancillary equipment and would require tree and vegetation removal along the trail alignment for access. Any excess sediments that result from geological investigations are expected to be relatively small in quantity and would be hauled offsite by the contractor for legal disposal or reuse.

Retaining Walls

Two retaining walls would be necessary to maintain accessible slopes and minimize the construction footprint along the northern trail alignment between the Scenic Drive trailhead and the Little River. The final retaining wall design would follow further geotechnical investigations. Construction scenarios for the retaining walls are summarized below and include a soldier pile wall with ground anchors, cantilever soldier pile walls, a mechanically stabilized earth (MSE) wall, and a concrete boardwalk structure. More than one retaining wall construction scenario may be included in the final design, which would also determine the final number, length, and heights of required retaining wall structures. The retaining wall structures would not be easily visible since there is no access or use on the west side of the trail.

The location and stationing of retaining walls may adjust in the future as the design progresses. However, based on the 30% design, the northern retaining wall is proposed from Station 50+41 to Station 57+86.

The trail would cross an existing culvert (perennial unnamed tributary) at Station 46+06. To separate the trail from the culvert outlet, a second retaining wall would be constructed near the unnamed tributary (Station 45+86 to Station 46+38), ensuring the trail does not encroach into the stream. The retaining wall would be located approximately ten feet upslope and upstream of the unnamed tributary, on top of the existing buried culvert. One large Sitka spruce would be removed in order to construct the retaining wall.

Retaining walls would not be necessary on the sand slopes adjacent to portions of the southern end of the proposed trail alignment (the southbound US 101 off-ramp between the Little River and Crannell Road). Based on field reconnaissance, the subject sand slopes adjacent to US 101 have gradients slightly steeper than the angle of repose due to root reinforcement associated with significant ground cover vegetation (SHN 2021).

Soldier Pile Wall with Ground Anchors

The soldier pile wall construction scenario would include a retaining wall on the western edge of the trail only. Soldier piles would be installed in a drilled hole approximately 18 feet below grade and anchored into the ground with horizontal ground anchors. A lagging would extend above the soldier piles, above grade. A structural concrete water beam and concrete cap would be installed on top of the lagging, resulting in a total above grade height of approximately 8 feet, although final structure heights would vary based on-site-specific conditions and final designs. A safety railing would be attached to the structural concrete gap. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Cantilever Soldier Pile Wall 14-Foot Design Height

The 14-foot maximum design height cantilever soldier pile wall includes retaining structures on both the western and eastern edge of the trail. On the western edge, solider piles would be installed in a drilled hole approximately 30 feet below grade and anchored into the ground. A lagging would be installed on top of the solider piles above grade, with a maximum height limit of 14 feet. A concrete cap and safety railing would be installed on top of the lagging. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Cantilever Soldier Pile Wall 12-Foot Design Height

The 12-foot maximum design height cantilever soldier pile wall includes retaining structures on both the western and eastern edge of the trail. On the western edge, solider piles would be installed in a drilled hole approximately 20 feet below grade and anchored into the ground. Lagging would be installed on top of the solider piles above grade, with a maximum height limit of 12 feet. A concrete cap and safety railing would be installed on top of the lagging. A concrete retaining wall would also be constructed on the eastern edge of the trail with an above-grade height of approximately 6 feet. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

Mechanically Stabilized Earth Wall

An MSE wall approximately 18 feet tall would be constructed on the eastern edge of the trail to retain the cutslope above and below grade. On the western edge of the trail, MSE wall panels approximately 16 feet tall would be installed below existing grade to elevate and retain the trail. The MSE wall would be capped with structural concrete and a safety railing.

Concrete Boardwalk Structure

Cast-in-drilled-hole piles approximately 16 feet tall would be installed below grade with a drill rig. The piles would be topped with bent caps approximately 2 feet tall to form the base of the trail. The bent caps would be topped with an 8-inch-thick concrete slab.

Grading and Fill

Grading would need to occur along the entire trail alignment to achieve accessible slopes and suitable trail width. Similarly, fill would be placed and compacted along the alignment to establish the trail prism.

Barrier Installation

South of the Little River, barriers may be installed to separate the trail from US 101 or the Crannell Road off-ramp. Crash cushions or similar safety modifications may be installed at the end of the barriers in coordination with Caltrans.

Ancillary Trail Features Construction

Ancillary trail features, such as lookouts or other nature viewing areas, would be constructed adjacent to the primary alignment. Ancillary trail features may include benches, interpretive signage, and other features related to public access and education. Ancillary trail features would include up to three nature viewing areas are anticipated for this project, preliminarily being located at Stations 19+50, 34+00, and 59+50. These areas would not be visible from US 101.The footprint of each nature viewing area, including the trail to access the area would be approximately 1,000 square feet in size. Each area would likely contain one to two benches, a picnic table, a trash/recycling receptacle, and interpretive signage.

US Route 101 Little River Crossing

The trail would cross the Little River via the existing US 101 bridge. The existing travel lanes would be reconfigured to support the multiuse trail. The bridge deck would be widened two feet on the western edge. Additional pilings or in-water work would not be required to support reconfiguring the travel lanes or widening the bridge deck. The existing lanes would be reconfigured to accommodate a 10-foot trail in addition to Caltrans standard shoulder and travel lane widths (Figure 1). As a result of the widening and lane shifts, the bridge and portions of US 101 immediately north and south of the bridge would need to be repaved and restriped. To accommodate lane shifts on the bridge, the existing vegetation in the median between the northbound and southbound lanes of US 101 in these areas would be removed and replaced with pavement. The existing barrier between the travel lanes would be replaced and extended.

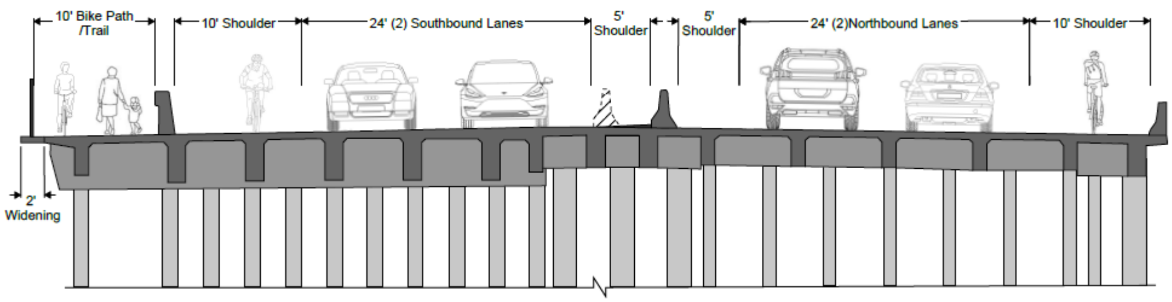

Figure 2: Conceptual Overview of Little River Bridge Design Approach

Bridge deck widening would include removing the existing concrete bridge barrier and installing additional concrete reinforcement, a new barrier, and railings to widen the bridge by approximately 2 feet. To widen the bridge, a temporary shoulder closure would be established with a k-rail for the duration of work. A temporary work platform and debris containment system would be installed below the existing bridge deck using a snooper truck on the bridge deck, which would require lane closure. Overhanging brackets to support the platform and debris containment system would be installed on the face of the existing edge girder using drilled-in anchors. The existing concrete barrier and edge of the deck would be removed by chipping. Existing reinforcement bars would be extended with mechanical couplers. Formwork would be installed below the edge of the bridge deck. Bridge reinforcement would be completed, followed by pouring a widened deck. Forms would be stripped, and the railing would be installed. The temporary work platform would be removed, and drill holes would be patched using a snooper truck from the bridge deck.

Temporary lane closures on the US 101 Little River Bridge would be required for bridge widening, barrier construction, and striping. Temporary lane closures would follow Caltrans requirements for temporary roadway closures, including signage and public noticing.

Drainage and Stormwater Improvements

The Class 1 facility will be exempt from municipal separate storm sewer system requirements. The trail would be constructed to mimic the existing site topography and be outsloped to the maximum extent feasible. In localized areas where outsloping is not feasible, traditional drainage inlets and storm drainage piping would be deployed to convey stormwater through the trail prism. Stormwater would be discharged through energy dissipation devices such as riprap aprons and/or outlet basins to prevent scour, protect the outlet structure, and minimize the potential for downstream erosion. A drainage inlet located adjacent to the US 101 off-ramp and one located just north of the Little River Bridge in the highway median would need to be modified to accommodate planned improvements for this project. Additionally, trenching for storm drain pipes and related infrastructure is proposed in the following locations:

- New drainage inlets along US 101 southbound off-ramp from Station 7+50, Station 10+50, and Station 13+60;
- New drainage piping along US 101 southbound off-ramp from Station 7+50 to Station 13+60;
- The existing drainage inlet located just north of the Little River bridge (at Station 32+20) would be moved north approximately 150 feet along the US 101, which would also require the installation of approximately 150 feet of new storm drain piping from Station 32+20 to Station 33+70; and
- Two drainage inlets with downdrains along the retaining wall at Station 50+50, Station 53+00, and Station 55+50, along the northern trail segment.

Utility Relocation

One Caltrans streetlight located approximately at Station 16+60 south of the Little River along the US 101 off-ramp would be relocated outside the trail footprint in coordination with Caltrans.

Striping and Signage

The trail would include required striping and signage in order to comply with the California Manual on Uniform Traffic Control Devices (Caltrans 2021a). Striping and directional signage would indicate two travel directions.

Signage to direct southbound cyclists to exit northbound US 101 in Trinidad to access the trail may also be incorporated. Interpretive signage along the trail would promote education of the coastal resources and surrounding environment.

Trail Lighting

The project would include streetlight installation at either trailhead and in key locations to improve safety. Any exterior lighting would be designed to protect wildlife and nighttime views, including views of the night sky. The project would be designed to be consistent with the recommendations of the International Dark-Sky Association, which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project would use the minimum lumens necessary; and it would be directed downward, shielded, and at pedestrian level when feasible. This would help ensure lighting is contained within the site and does not cause significant lighting and glare impacts for surrounding land uses and sensitive habitat areas.

Trenching for the new streetlight pole at the southern end of the trail would include connecting the existing streetlight (at the California Highway Patrol weigh station) at Station 9+60 to the proposed new streetlight pole location at Station 5+40. The trench would be approximately 1 foot wide, 3 feet deep, and 310 feet long. Between station 5+40 and 7+60 the trench would be located under the trail. At station 7+60 the trench would turn to the east and cross through the southbound off ramp and then through an open vegetated area before connecting to the existing street light near the weigh station.

Trenching for the new streetlight pole at the northern end of the trail would connect to the existing power pole at Station 60+20 to the proposed new streetlight pole location at Station 60+30. The pathway of the trench is anticipated to be a straight line from the existing power pole to the proposed light pole. The trench would be approximately 1 foot wide, 3 feet deep, and 60 feet long.

Trailhead Development

Travel lanes at both trailheads would be divided to enhance user safety and discourage motorized vehicles from inadvertently entering the trail. Trailhead improvements would include signage, striping for parking, and additional trail amenities such as benches or picnic tables. At the Scenic Drive trailhead, parking spaces may be delineated within the existing cul-de-sac footprint. The existing Clam Beach parking area near the southern trailhead would continue to be used. At the southern trailhead on the western side of US 101 off-ramp at Clam Beach Drive, a bulb-out would be constructed adjacent to the bike path.

Additional parking at the southern trailhead is not proposed. Crosswalks and shoulder striping improvements may be installed along Clam Beach Road to improve safety between the existing parking area and the new trailhead in coordination with Caltrans and Humboldt County.

Mountable Apron at Southern Trailhead

A mountable apron would be constructed between the southern trailhead and the US 101 southbound off-ramp.

Construction Schedule

Construction would occur within a single construction season. If feasible, vegetation clearing would occur first prior to construction, between September 2 and February 14 (outside of the special-status bird nesting period). Construction would require up to 8 months, beginning in March, and concluding by October 15. The year of planned construction has not yet been determined, pending the allocation of funding for the project.

Construction Activities and Equipment

Equipment required for construction would include drill rigs, concrete mixer and pump trucks, all terrain forklifts, snooper truck, compressors, tracked excavators, backhoes, graders, bulldozers, dump trucks, skid steers, and pick-up trucks. Jackhammers or similar pieces of equipment may be necessary to support bridge widening. It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for trail construction. Trenching and ground disturbance in support of utility connection for relocated and new lighting is anticipated. Water would be used for dust control, compaction, and revegetation.

Construction Access

The project would be accessed via US 101, Scenic Drive, and Clam Beach Drive. No new access roads would need to be constructed to implement the project.

Establish Exclusion Areas and Erosion Control

Sensitive biological areas would be excluded with protective fencing prior to construction, except for areas that would be unavoidably impacted during construction. Erosion control Best Management Practices (BMPs) would also be installed prior to construction.

Vegetation Removal

Clearing and grubbing of vegetation would occur within the construction footprint, including tree removal north of the Little River. During project design, contractors mapped trees 6 inches in diameter at breast height (dbh) or greater. One hundred seventeen (117) trees that are 6-inch dbh or greater would be removed to clear the proposed alignment for trail installation, many of which are Sitka spruce (*Picea sitchensis*) and other native species. One larger Sitka spruce near the unnamed tributary would also be removed. Otherwise, no additional trees (riparian habitat) would need to be removed near the unnamed tributary. Final tree removal numbers by species may be adjusted as the design progresses.

Stockpiling and Staging

Stockpiling and staging would occur in an existing graveled area east of US 101, near Clam Beach Drive at the south end of the project. Stockpiling and staging would also occur within the cul-de-sac at the terminus of Scenic Drive at the north end of the project. Stockpiling and staging areas are located within the existing project area boundary in developed areas and would not require grading. Within the stockpiling and staging areas, BMPs would be used to prevent construction materials and hazardous materials from impacting the environment. Stockpiling and staging is not planned to occur on State Parks property.

Excess soils, aggregate road base, and construction materials would be stored on-site within designated stockpiling and staging areas. Excess materials may be re-used on-site for backfill and finished grading. Excess materials would not be stockpiled on-site once the project is complete. The contractor would haul additional excess materials off-site for beneficial reuse, recycling, or legal disposal.

Groundwater Dewatering

Groundwater dewatering is generally not expected to be required. However, if needed, temporary groundwater dewatering would involve pumping water out of a trench or excavation area. Groundwater would typically be pumped to a settling pond, Baker tanks (or other similar type of settling tank), or into a dewatering bag. The water may also be percolated back into the ground in the uplands. Discharge to regulated waters would not occur.

Site Restoration and Closure

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas would be restored to pre-construction conditions or stabilized with a combination of grass seed (through broadcasting or hydroseeding), straw mulch, rolled erosion control fabric, and revegetation. Disturbed areas resulting from construction in the undeveloped area west of the Crannell Road off-ramp would be revegetated with appropriate native species. Revegetation would include replanting and compliance monitoring if mitigation is required by resource agencies for impacts to sensitive habitats.

PROJECT LOCATION AND SETTING

The project location and setting provides the context for determining the type of changes to the existing visual environment. The proposed project is located on US 101 between post miles 96.96 and 97.83, between the communities of McKinleyville and Trinidad in Humboldt County, California. The project study area is approximately 1 mile long and is located alongside US 101 and the Pacific Ocean. It is shown on the Crannell, California U.S. Geological Survey 7.5′ quadrangle (Figure 1). The northern extent of the project study area is located near where Scenic Drive intersects with US 101, while the southern extent is located at Clam Beach Drive. The entire alignment would be located within the Caltrans right-of-way, with the exception of the most northern section, which would be located within the Trinidad Coastal Land Trust property. Caltrans would acquire the right-of-way from the Trinidad Coastal Land Trust property, either in fee or in as a permanent easement. The project is located in both the State and Appeal Zone jurisdiction of the Coastal Zone; thus, a consolidated Coastal Development Permit would be submitted to the California Coastal Commission.

The landscape is characterized by a stream floodplain and fresh emergent wetland/riparian habitat that is associated with the Little River. The topography raises up to an upland terrace south, north, and east of the Little River. Little River generally has a broad floodplain, except near the US 101 bridge where it is steep. The elevation ranges from 0 to about 80 feet above mean sea level. The land use within the project corridor is primarily US 101 and a few other roads, natural resources, and recreation on the adjacent public beaches and the Little River State Beach that generally border the alignment to the west. Aside from US 101, the project area is generally undeveloped and does not include residential, commercial, or other public facilities. The project corridor is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way; and it is determined by topography, vegetation, and viewing distance.

Humboldt County and the project area are located along the Pacific Ocean coastline, which allows for a wide range of scenic vistas from US 101, beaches, state parks, and coastal access points. The entire length of US 101 in Humboldt County is listed in Sections 263.1 through 263.8 of the California Streets and Highways Code as eligible for scenic highway designation (Caltrans 2021b).

VISUAL RESOURCES AND RESOURCE CHANGE

Visual resources of the project setting are defined and identified below by assessing visual character[1] and visual quality[2] in the project corridor. Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that compose the project corridor before and after the construction of the proposed project.

Of the project components described in the Project Description, the most visible would be the segments of the proposed trail added to the Little River Bridge and the area adjacent to the US 101 southbound off-ramp at Clam Beach Drive, including the new southern trailhead. Trailhead design features, new barriers along the bridge and in the median, and vegetation removal west of US 101 and within the highway median north and south of the bridge would be visible, as described further in this section.

The visual character of the proposed project would be compatible with the existing visual character of the corridor. The linear form, color, and materials of the new bike path and associated striping, signage, lighting, and materials are similar in form, color, and material to the existing roadway. The existing roadway and metal guard rail and barrier are shades of gray; new walls and concrete and metal barriers and striping of the roadway and bike path would present a much lighter grey and uniform texture, with additional lighting, signage, and striping. The bike path and striping would increase the visual dominance of the roadway with the addition of a light gray vertical concrete barrier and bike path. On the south end of the project, the construction of the bike path, bulb out, signage, and concrete barrier would change the form of the roadway edge on the side of the roadway from varied and natural to fixed. Construction is anticipated to represent a slight reduction in compatibility of visual character due to removal of mature vegetation west of US 101. However, vegetation is dense in this area; and surrounding vegetation would remain.

The visual quality of the existing corridor would not be substantially altered by the proposed project. The bike path and concrete barrier would present a taller, much lighter gray and uniform texture than the existing metal guard rail. The bike path and the associated lighting, signage, and striping would increase the visual dominance of the roadway and increase the vividness, intactness, and unity of the setting. Permanent removal of mature vegetation along US 101 to the west is expected. However, visual quality is expected to remain equivalent to the existing corridor; and vividness of views may remain similar due to open views from US 101 and the surrounding dense vegetation that would remain.

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[1] A project site's visual character is informed by basic attributes such as form, line, color, and texture. Depending on a view's elements and composition, concepts such as dominance, scale, diversity, and continuity may also be incorporated into descriptions of visual character. These attributes serve as the basis for discussion of a project's compatibility with existing visual character.

[2] Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project area, Vividness is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements. Intactness is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions. Unity is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

Temporary changes, including construction and grading activities, would temporarily reduce visual quality; this reduction in quality would be addressed with minimization measures coordinated with rehabilitation of vegetated areas (see Avoidance and Minimizations Measures).

Resource Change (changes to visual resources as measured by changes in visual character and visual quality) would be moderate.

VIEWERS AND VIEWER RESPONSE

Neighbors, visitors, and highway users would be affected by the proposed project to varying degrees.

Neighbors include residents at the north end of the project on Scenic Drive. Views to the project from Scenic Drive are heavily screened by existing vegetation, and viewers are expected to have low viewer exposure and a moderate viewer sensitivity to visual change.

Visitors include viewers who have traveled to Moonstone Beach County Park, Little River State Beach, Clam Beach County Park, Moonstone Crossing Winery on Moonstone Cross Road, and other local businesses. Visitors are expected to have low viewer exposure due to the screening of existing vegetation from the beaches and businesses to the project location. Visitors are expected to have a low viewer sensitivity to visual changes.

Highway users is the largest group of viewers and includes workers (e.g., commuters), tourists, and residents. Workers and residents would experience a high viewer exposure due to longer duration of exposure and because a moderate level of visual change is expected following completion of the work. Tourists are likely to have lower viewer sensitivity to visual change because the viewer group is not anticipated to be highly familiar with the visual conditions of the existing location. Highway users overall would have a moderate viewer exposure due to travel speeds and because the focus of passenger travelers is anticipated to be on views beyond the roadway.

It is anticipated that the average response of all viewer groups would be moderate-low.

Additional users of the project include the recreationists who would eventually use the pedestrian and bicycle trail. This VIA does not assess impacts to views from the trail since there are no existing comparative views on which to base such assessment. Recreationists would have relatively higher sensitivity and response to visual change.

Any future visual change to viewer experience along the trail would be assessed against the baseline existing conditions proposed by project design. Under such conditions, cleared vegetation would provide intermittently unobstructed views toward the ocean, while retained vegetation would, in many areas (particularly north of the bridge) serve to screen views of the highway from the trail. Views by recreationists of project facilities would primarily include design features as described, including trailhead facilities and, atop retaining walls and along the bridge, picket fencing consisting of steel balusters (spaced for low opacity so that viewers can see through the rods to the area beyond). However, trail and bridge infrastructure beneath the trail itself, such as an MSE wall or wall panels other retaining walls, backfill, or any outward facing architectural treatment included in final engineering and design would be below grade or otherwise out of pedestrian and bicyclist fields of view.

VISUAL IMPACT

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. Resource change in VIAs ranges from low to high. This rating is considered in the context of presumed response from the primary viewer group or groups in the area in order to determine the overall impact for each representative view.

Build Alternative

Temporary construction impacts and visual changes would be greater than permanent visual changes associated with the project due to temporary lane closures, the appearance of construction equipment, materials staging, and construction light and glare. Disturbed areas resulting from construction in the undeveloped area west of the Crannell Road off-ramp would be revegetated with appropriate native species.

Three KVs were selected that would most clearly demonstrate the permanent change to visual resources from the project (Figure 1). The KVs also represent the viewer groups that have the highest potential to be affected by the project considering exposure and sensitivity.

Key View 1—Existing Visual Condition

The existing view from KV 1 is located on Clam Beach Drive and US 101 looking north-northeast from the proposed location of the southern trailhead. Figure 3 provides a view of the project from Clam Beach Drive, where the southern portion of the project would be visible to roadway viewers. Primary viewers here would be visitors traveling to Clam Beach and other coastal areas.

The visual environment is comprised of the roadway and related infrastructure, including the metal guard rail and fence, signage, streetlights and other infrastructure in the distance, trees and vegetation on both sides of the roadway, and views of a line of dense mature tree vegetation in the background. The trees and vegetation on both sides of the roadway and vegetation in the median soften the appearance of the infrastructure by introducing texture, color, and reducing the apparent scale and dominance of the roadway elements. The color palette is dominated by the gray of the roadway. Vegetation adjacent to the roadway and in the background introduces greens, browns, yellows, and seasonal variations of color in the spring and fall months.

Existing visual conditions exhibit a moderate vividness, with no unique built features and a notable line of dense mature trees in the background. Views have a moderate-low degree of intactness. The linear components of the roadway and off-ramp appear bounded by vegetation; however, signage and fencing in the foreground and streetlights in the background extend into the view's backdrop, which appears otherwise entirely vegetated. Views have moderate unity, with coherent composition of an off ramp and roadside vegetation elements.

Key View 1—Resource Change

The visual conditions at KV 1 would be altered by the addition of the bike path and associated grading, guard rail, concrete barrier, traffic bulb-out, striping, signage, and streetlight. The bike path, concrete barrier, and guard rail would be similar in color to the adjacent roadway infrastructure; but it would have different form, line, color, and texture of the natural vegetation it would replace. The project also introduces a new form of scale and dominance in the view and would slightly alter the character of the existing view from a somewhat naturalized, vegetated view to a slightly more built-form view, particularly with the obstruction caused by the new streetlight pole, addition of the traffic bulb out, and signage. The intactness and unity of the view of the dense mature tree line in the distance would be reduced. The overall level of resource change is expected to be moderate.

Figure 3: KV 1 Existing View and Simulated Conditions. The view is to the north-northeast from the top of the US 101 off-ramp at Clam Beach Drive.

Key View 2—Existing Visual Condition

The existing view from KV 2 is located at the US 101 Clam Beach Drive off-ramp looking southwest (Figure 4) toward the proposed trail. This provides a view of the project from the US 101 off-ramp, where the project would be visible on the west side of the road. Because this view approximates that from the highway, the primary viewers here would be highway users. The visual environment is comprised of the roadway and related infrastructure and the vegetation adjacent to the roadway, such as the grasses, berm, natural vegetation, and trees. The grasses, trees, and natural landscape provide a moderate degree of texture. The color palette is dominated by the gray of the roadway. Vegetation adjacent to the roadway introduces greens, browns, yellows, with some seasonal variations of color in the spring and fall months.

Existing visual conditions exhibit a moderate vividness, with no unique built features but some variety vegetation. Views have a moderate-low degree of intactness and unity due to the multilinear character of the roadway intersection and the signs and fencing appearing from this vantage point outside of the roadway corridor.

Key View 2—Resource Change

The visual conditions at this KV would be altered by the addition of the bike path and associated grading, a concrete barrier, traffic bulb-out, striping, signage, and streetlight. The bike path, concrete barrier, and guard rail would be similar in color to adjacent roadway infrastructure; however, the project would be different in form, line, color, and texture of the natural vegetation it would replace. The project also introduces a new form of scale and dominance in the view and would slightly alter the character of the existing view from a somewhat naturalized vegetated view to a slightly more built-form view with a mostly linear character, particularly with the addition of the vertical concrete barrier that introduces a thick, white band across the view, the traffic bulb out, striping, and signage. The overall level of resource change is expected to be moderate.

Figure 4: KV 2 Existing View and Simulated Conditions. The view is to the southwest from the US 101 Clam Beach Drive off-ramp.

Key View 3—Existing Visual Condition

KV 3 is located on US 101 looking south-southwest toward the Little River bridge and proposed trail. This is representative of viewers traveling along US 101. The project would be visible and extend across the view (Figure 5). The primary viewers here would be highway users, which likely include neighbors in nearby residential areas who have just entered the highway.

The visual environment is comprised of the roadway and related infrastructure, including the metal guard rail and fence, signage, streetlights, mature trees, vegetation, and grasses adjacent to the roadway. The trees, vegetation, and grasses adjacent to the roadway soften the appearance of the infrastructure by introducing texture and color and reducing the apparent scale and dominance of the infrastructure elements. The color palette is dominated by the gray of the roadway, and vegetation adjacent to the roadway introduces greens, browns, yellows, and seasonal variations of color in the spring and fall months.

Existing visual conditions exhibit a moderate vividness, intactness, and unity. The visible built features are not memorable, but the roadside vegetation reduces the scale of the roadway and introduces texture. The overall composition of the view is coherent, showing a highway corridor bounded by a more natural-appearing landscape.

Key View 3—Resource Change

The visual conditions at KV 3 would be altered by the removal of mature trees in the view and the addition of the bike path, guard rail, striping, and signage. The bike path, concrete barrier, and guard rail would be similar in color to adjacent roadway infrastructure. The construction of the project would necessitate the removal of mature trees in the view. Although the dense vegetation would remain, the removal of the mature trees would break the pattern of trees framing the roadway and result in more visibility of the sky, power lines, and potential ocean views. The overall level of resource change is expected to be moderate.

Figure 5: KV 3 Existing View and Simulated Conditions. The view is to the south-southwest from the southbound lane of US 101, just north of the Little River Bridge.

Summary of Visual Impacts

Scenic Vistas

Important scenic vistas and resources in Humboldt County include those that are visible from major public roadways and public areas, such as views of the coast, forests, open space or agricultural lands, historic districts, landmarks, and cultural sites. Coastal views are assumed scenic vistas even though, to date, scenic resources in Humboldt County have not been mapped (Humboldt County 2017). US 101 in the project area is an eligible Scenic Highway. However, scenic vistas have not been established in the project corridor; views of the coast are not visible from the project; and the project would not introduce elements that would constitute visual intrusions into nor obscure or change the coastal views.

As shown in the views from KV 1 and KV 3, views of the dense tree lines would be slightly changed. In the view from KV 1, the project signage, streetlight, and bike path infrastructure slightly alter the character of the existing foreground from a somewhat naturalized, vegetated view to a slightly more built-form view and would reduce the intactness and unity of the view of the dense mature tree line in the background. In addition, approximately 117 trees that are 6-inch dbh or greater would be removed to clear the proposed one-mile alignment for trail installation, many of which are Sitka spruce and other native species. The 117 trees to be removed would be located throughout the one-mile alignment, avoiding a significant visual change in a single location only. As shown in the view from KV 3, even though dense vegetation would remain, the removal of the mature trees would break the pattern of trees adjacent to the roadway and would result in more visibility of the sky, power lines, and potential ocean views. Because adjacent, similarly dense but differently sized vegetation would remain visible, this would not constitute substantial damage to scenic resources. These visual changes would not be significant, and lack of designation as a scenic vista do not constitute a significant visual concern.

Scenic Resources

The US 101 within the project corridor is eligible for designation as a State Scenic Highway. However, there are no officially designated scenic roadways within the project alignment; and no scenic resources or views in the project corridor have been designated as such. In addition, the project is not located near any rock outcroppings or historic buildings. The project would not affect these types of scenic resources.

Visual Character

Highway users would experience short-term visual impacts, adding visual intrusion and disturbances to the project area due to presence of construction equipment and machinery stationed within the project limits. Tree removal, as shown in the view from KV 3, would have a moderate visual impact on the existing visual character, as the existing trees are mature and help to soften the view by offsetting the scale and visual dominance of the roadway. The remaining vegetation would continue to do so, but to a lesser extent.

Visibility of the project would be limited to the immediate area in which viewers are located and would be obscured from other locations by topography and vegetation. Views toward the project from adjacent public viewing areas (e.g., Little River State Beach and Moonstone Beach County Park) show that there would be little to no change in the view from beach areas. For visitors and recreational users at Little River State Beach, the bike path added to the bridge would be barely noticeable and would not appear out of character with the existing roadway corridor. The project would be visible to the north and south of the bridge mainly as the removal of a relatively thin, horizontal band of trees to accommodate the trail. Given the sloped location and adjacent vegetation that would remain in view, this removal would likely be difficult to discern in views from the west. The northern trail segment would be even more difficult to discern in coastal views, such as that from Character View 1 (Figure 6), located along the southern edge of Moonstone Beach County Park. From here, tree removal associated with the trail would potentially be detectable but not prominently visible given the density of adjacent forest. The canopy of the trees both up- and down-slope from the trail would generally mask or otherwise offset the removal of trees for the trail.

Figure 6. Character view looking east toward the project area.

As such, the visual character and quality of the proposed project would be similar to the existing visual character and quality of the project area in its current state.

Light and Glare

The proposed project would include a new streetlight at each trail head, which are not anticipated to result in substantial light and glare impacts. Lighting and glare associated with construction activities would be temporary and minimized with incorporation of minimization measures described below. New permanent sources of lighting would be designed to protect wildlife and nighttime views, including views of the night sky. The project would be designed to be consistent with the recommendations of the International Dark-Sky Association, which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project would use the minimum lumens necessary and it would be directed downward, shielded, and at pedestrian level when feasible. This would help ensure lighting is localized and would not cause significant lighting and glare impacts on adjacent land uses and sensitive habitat areas. Lighting along the bikeway is not anticipated to result in adverse effects to daytime or nighttime views in or adjacent to the project area.

Conclusion

Resource Change (i.e., changes to visual resources as measured by changes in visual character and visual quality) is anticipated to be moderate. Construction of the proposed project would temporarily change views experienced by drivers, pedestrians, and other people in the project area since construction equipment would be visible from neighboring areas. However, because these impacts are temporary, they are not considered substantial. Visual character and quality of the proposed project would be similar to the existing visual character and quality of the project area in its current state. Overall visual impacts as a result of proposed project implementation would be moderate-low, as the viewer response would be moderate-low for residents, visitors, and highway users.

No Build Alternative

The No-Build Alternative would maintain the existing conditions and no work would be conducted to construct an approximately 1-mile Class I bike path (i.e., pedestrian and bicycle trail) from Scenic Drive to Clam Beach. Vegetation and tree removal would not occur. Visual change would not occur.

AVOIDANCE AND MINIMIZATION MEASURES

Avoidance and minimization measures have been identified that can lessen visual impacts caused by the project. This section describes additional avoidance and/or minimization measures to address specific visual impacts. These would be designed and implemented with the concurrence of Caltrans' District 1 Landscape Architect.

The following avoidance and minimization measures designed to avoid or minimize visual impacts would be incorporated into the project:

- Preserve existing trees, vegetation, and associated root systems to the maximum extent feasible.
- Protect existing trees outside of the clearing and grubbing limits from contractor's operations, equipment, and materials storage.

- Utilize staging areas that do not damage existing vegetation or require vegetation or tree removal.
- Revegetate disturbed soil areas with native and climatically appropriate species.
- Limit construction lighting to the area of work and avoid light trespass with the use of directional lighting, shielding, and other measures as needed.
- Minimize appearance of construction equipment and staging areas to the maximum extent feasible.
- Use contour grading and slope rounding to produce smooth, flowing contours consistent with site topography, to increase context sensitivity and reduce engineered appearance of slopes.
- Use construction materials that are visually compatible with the landscape (e.g., non-glare metal guard rails and low-chroma pavement consistent with colors found in the adjacent landscape).
- Use reflective road paint (if pavement is used) and highly reflective signs only as required by law.

In addition to the above avoidance and mitigation measures, the following considerations could, depending upon final design, further help the project integrate into its aesthetic surroundings and enhance viewer experience along the trail:

- Make the barrier rails context sensitive with relief patterns and / or earth tone colors and apply architectural treatment.
- Use Caltrans Type 85 barriers on the bridge to maximize visibility of Little River, retain scenic views, and maintain consistency of new bridge rail design throughout the North Coast area.

As with the avoidance and mitigation measures, implementation of any of the above approaches would be initiated with the concurrence of Caltrans' District 1 Landscape Architect.

REFERENCES

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Department of Justice. 2010. 2010 ADA Standards for Accessible Design. Online: https://www.ada.gov/2010ADAstandards_index.htm. Accessed November 10, 2021.

Humboldt County. 2017. General Plan Environmental Impact Report. Online: https://humboldtgov.org/626/Draft-Environmental-Impact-Report-EIR. Accessed November 5, 2021.

SHN. 2021. Preliminary Foundation Report for the Proposed Little River Trail, Clam Beach to Westhaven, Humboldt County, California, Revision 2. Prepared for GHD.

Appendix C. Road Construction Emissions Modeling Information and Results

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Little River Trail Project

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.78	6.60	7.74	2.33	0.33	2.00	0.71	0.29	0.42	0.02	1,649.81	0.42	0.04	1,672.11
Grading/Excavation	4.08	38.10	42.14	3.79	1.79	2.00	2.01	1.59	0.42	0.09	8,883.28	2.47	0.19	9,003.00
Drainage/Utilities/Sub-Grade	3.41	32.51	33.04	3.40	1.40	2.00	1.69	1.28	0.42	0.07	6,838.57	1.56	0.09	6,903.76
Paving	1.26	17.18	12.03	0.62	0.62	0.00	0.54	0.54	0.00	0.03	2,903.63	0.73	0.07	2,942.76
Maximum (pounds/day)	4.08	38.10	42.14	3.79	1.79	2.00	2.01	1.59	0.42	0.09	8,883.28	2.47	0.19	9,003.00
Total (tons/construction project)	0.61	5.91	6.14	0.60	0.26	0.34	0.31	0.24	0.07	0.01	1,296.37	0.33	0.02	1,311.98

Notes:

Project Start Year ->	2023
Project Length (months) ->	18
Total Project Area (acres) ->	3
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	Yes

Phase	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	200	40
Grading/Excavation	83	0	150	0	720	40
Drainage/Utilities/Sub-Grade	0	0	0	0	600	40
Paving	0	13	0	30	480	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Little River Trail Project

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.02	0.13	0.15	0.05	0.01	0.04	0.01	0.01	0.01	0.00	32.67	0.01	0.00	30.04
Grading/Excavation	0.32	3.02	3.34	0.30	0.14	0.16	0.16	0.13	0.03	0.01	703.56	0.20	0.02	646.86
Drainage/Utilities/Sub-Grade	0.24	2.25	2.29	0.24	0.10	0.14	0.12	0.09	0.03	0.00	473.91	0.11	0.01	434.03
Paving	0.04	0.51	0.36	0.02	0.02	0.00	0.02	0.02	0.00	0.00	86.24	0.02	0.00	79.29
Maximum (tons/phase)	0.32	3.02	3.34	0.30	0.14	0.16	0.16	0.13	0.03	0.01	703.56	0.20	0.02	646.86
Total (tons/construction project)	0.61	5.91	6.14	0.60	0.26	0.34	0.31	0.24	0.07	0.01	1296.37	0.33	0.02	1,190.22

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model **Version 9.0.0**
Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Little River Trail Project	
Construction Start Year	2023	Enter a Year between 2014 and 2040 (inclusive)
Project Type	1	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	18.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	1	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	1.00	mile
Total Project Area	3.00	acres
Maximum Area Disturbed/Day	0.20	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing			
	Grading/Excavation	20.00	57.00	26.00
	Drainage/Utilities/Sub-Grade			
	Paving			
Asphalt	Grubbing/Land Clearing			
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving	20.00	13.00	

Mitigation Options

On-road Fleet Emissions Mitigation		Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation		Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		1.80		1/1/2023
Grading/Excavation		7.20		2/25/2023
Drainage/Utilities/Sub-Grade		6.30		10/2/2023
Paving		2.70		4/11/2024
Totals (Months)		18		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions / **User Input**	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		5	150.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.03	0.40	2.98	0.11	0.05	0.02	1,714.99	0.00	0.27	1,795.36
Grading/Excavation (grams/mile)	0.03	0.40	2.98	0.11	0.05	0.02	1,714.99	0.00	0.27	1,795.36
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,703.62	0.00	0.27	1,783.46
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.01	0.13	1.04	0.04	0.02	0.01	567.14	0.00	0.09	593.71
Tons per const. Period - Grading/Excavation	0.00	0.01	0.08	0.00	0.00	0.00	44.92	0.00	0.01	47.02
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.01	0.08	0.00	0.00	0.00	44.92	0.00	0.01	47.02

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions / **User Input**	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		1	30.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.03	0.40	2.98	0.11	0.05	0.02	1,714.99	0.00	0.27	1,795.36
Grading/Excavation (grams/mile)	0.03	0.40	2.98	0.11	0.05	0.02	1,714.99	0.00	0.27	1,795.36
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,703.62	0.00	0.27	1,783.46
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.03	0.21	0.01	0.00	0.00	112.01	0.00	0.02	117.26
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	3.33	0.00	0.00	3.48
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	3.33	0.00	0.00	3.48

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
User Input				
Miles/ one-way trip		20		
One-way trips/day		2		
No. of employees: Grubbing/Land Clearing		5	10	200.00
No. of employees: Grading/Excavation		18	36	720.00
No. of employees: Drainage/Utilities/Sub-Grade		15	30	600.00
No. of employees: Paving		12	24	480.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.02	0.91	0.07	0.05	0.02	0.00	317.66	0.00	0.01	319.68
Grading/Excavation (grams/mile)	0.02	0.91	0.07	0.05	0.02	0.00	317.66	0.00	0.01	319.68
Draining/Utilities/Sub-Grade (grams/mile)	0.01	0.87	0.07	0.05	0.02	0.00	311.85	0.00	0.01	313.77
Paving (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grubbing/Land Clearing (grams/trip)	1.04	2.75	0.29	0.00	0.00	0.00	68.26	0.07	0.03	79.50
Grading/Excavation (grams/trip)	1.04	2.75	0.29	0.00	0.00	0.00	68.26	0.07	0.03	79.50
Draining/Utilities/Sub-Grade (grams/trip)	1.01	2.70	0.28	0.00	0.00	0.00	67.05	0.07	0.03	77.97
Paving (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.03	0.46	0.04	0.02	0.01	0.00	141.57	0.00	0.00	142.71
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.00	0.00	0.00	0.00	2.80	0.00	0.00	2.83
Pounds per day - Grading/Excavation	0.11	1.67	0.14	0.07	0.03	0.01	509.65	0.01	0.01	513.75
Tons per const. Period - Grading/Excavation	0.01	0.13	0.01	0.01	0.00	0.00	40.36	0.00	0.00	40.69
Pounds per day - Drainage/Utilities/Sub-Grade	0.09	1.33	0.11	0.06	0.03	0.00	416.94	0.01	0.01	420.21
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.01	0.09	0.01	0.00	0.00	0.00	28.89	0.00	0.00	29.12
Pounds per day - Paving	0.07	1.03	0.08	0.05	0.02	0.00	328.05	0.01	0.01	330.56
Tons per const. Period - Paving	0.00	0.03	0.00	0.00	0.00	0.00	9.74	0.00	0.00	9.82
Total tons per construction project	0.02	0.26	0.02	0.01	0.00	0.00	81.80	0.00	0.00	82.45

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
User Input								
Grubbing/Land Clearing - Exhaust		1		5	5		8.00	40.00
Grading/Excavation - Exhaust		1		5	5		8.00	40.00
Drainage/Utilities/Subgrade		1		5	5		8.00	40.00
Paving		1		5	5		8.00	40.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.03	0.40	2.98	0.11	0.05	0.02	1,714.99	0.00	0.27	1,795.36
Grading/Excavation (grams/mile)	0.03	0.40	2.98	0.11	0.05	0.02	1,714.99	0.00	0.27	1,795.36
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.00	0.11	0.05	0.02	1,703.62	0.00	0.27	1,783.46
Paving (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.04	0.31	0.01	0.00	0.00	151.24	0.00	0.02	158.32
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.01	0.00	0.00	0.00	2.99	0.00	0.00	3.13
Pounds per day - Grading/Excavation	0.00	0.04	0.31	0.01	0.00	0.00	151.24	0.00	0.02	158.32
Tons per const. Period - Grading/Excavation	0.00	0.00	0.02	0.00	0.00	0.00	11.98	0.00	0.00	12.54
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.04	0.31	0.01	0.00	0.00	150.23	0.00	0.02	157.27
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.02	0.00	0.00	0.00	10.41	0.00	0.00	10.90
Pounds per day - Paving	0.00	0.04	0.32	0.01	0.00	0.00	149.35	0.00	0.02	156.34
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	4.44	0.00	0.00	4.64
Total tons per construction project	0.00	0.01	0.06	0.00	0.00	0.00	29.82	0.00	0.00	31.22

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.20	2.00	0.04	0.42	0.01
Fugitive Dust - Grading/Excavation		0.20	2.00	0.16	0.42	0.03
Fugitive Dust - Drainage/Utilities/Subgrade		0.20	2.00	0.14	0.42	0.03

Off-Road Equipment Emissions

Grubbing/Land Clearing	Default Number of Vehicles	Mitigation Option Override of	Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Crawler Tractors	0.44	2.24	5.12	0.20	0.18	0.01	758.27	0.25	0.01	766.45
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Excavators	0.19	3.26	1.55	0.08	0.07	0.01	500.11	0.16	0.00	505.50
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Grubbing/Land Clearing	pounds per day	0.75	6.10	7.39	0.30	0.28	0.01	1,357.01	0.42	0.01	1,371.08
	Grubbing/Land Clearing	tons per phase	0.01	0.12	0.15	0.01	0.01	0.00	26.87	0.01	0.00	27.15

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0		Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Crawler Tractors	0.44	2.24	5.12	0.20	0.18	0.01	758.27	0.25	0.01	766.45
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Excavators	0.57	9.77	4.65	0.23	0.21	0.02	1,500.32	0.49	0.01	1,516.49
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Graders	0.38	1.69	4.65	0.15	0.14	0.01	640.86	0.21	0.01	647.76
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rollers	0.31	3.70	3.22	0.18	0.16	0.01	508.22	0.16	0.00	513.69
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Rubber Tired Loaders	0.27	1.51	2.65	0.09	0.08	0.01	605.56	0.20	0.01	612.10
	2		Model Default Tier	Scrapers	1.57	12.27	16.57	0.65	0.60	0.03	2,940.26	0.95	0.03	2,971.94
	2		Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.30	4.46	3.07	0.15	0.14	0.01	603.15	0.20	0.01	609.64
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment

If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	3.96	36.26	40.66	1.67	1.54	0.08	7,655.26	2.45	0.07	7,737.21
Grading/Excavation	tons per phase	0.31	2.87	3.22	0.13	0.12	0.01	606.30	0.19	0.01	612.79

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Air Compressors	0.25	2.41	1.68	0.09	0.09	0.00	375.26	0.02	0.00	376.65
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Generator Sets	0.29	3.67	2.62	0.12	0.12	0.01	623.04	0.03	0.00	625.09
	1		Model Default Tier	Graders	0.37	1.67	4.39	0.14	0.13	0.01	640.67	0.21	0.01	647.57
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Pumps	0.32	3.72	2.66	0.13	0.13	0.01	623.04	0.03	0.00	625.13
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Rough Terrain Forklifts	0.10	2.29	1.37	0.04	0.04	0.00	333.77	0.11	0.00	337.37
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Scrapers	1.55	12.09	15.94	0.63	0.58	0.03	2,939.17	0.95	0.03	2,970.84
	2		Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.29	4.47	2.98	0.14	0.13	0.01	603.36	0.20	0.01	609.85
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	3.33	31.14	32.62	1.32	1.25	0.07	6,271.40	1.55	0.05	6,326.28
Drainage/Utilities/Sub-Grade	tons per phase	0.23	2.16	2.26	0.09	0.09	0.00	434.61	0.11	0.00	438.41

Paving	Default Number of Vehicles	Mitigation Option Override of	Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*	Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Pavers	0.18	2.89	1.74	0.08	0.07	0.00	455.16	0.15	0.00	460.07
	1		Model Default Tier	Paving Equipment	0.16	2.57	1.50	0.07	0.07	0.00	394.47	0.13	0.00	398.72
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Rollers	0.44	5.55	4.57	0.24	0.22	0.01	762.44	0.25	0.01	770.65
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.29	4.47	2.90	0.13	0.12	0.01	603.53	0.20	0.01	610.03
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
				pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Paving	pounds per day	1.19	16.09	11.43	0.56	0.51	0.02	2,314.23	0.73	0.02	2,338.60
	Paving	tons per phase	0.04	0.48	0.34	0.02	0.02	0.00	68.73	0.02	0.00	69.46
Total Emissions all Phases (tons per construction period) =>			0.59	5.63	5.97	0.25	0.23	0.01	1,136.51	0.33	0.01	1,147.80

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

Appendix D. Natural Environment Study

Little River Trail Project

Natural Environment Study

Humboldt County, California

Township 8N, Range 1E, Section 31, Township 7N, R1E Sections 6 and 7

USGS *Crannell, California* 7.5-Minute Quadrangle

01-HUM-101-96.96-97.83

Federal Project No. 01-0J280

March 2022 (Revised May 2022)

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study
Little River Trail Project

Humboldt County, California
Township 8N, Range 1E, Section 31
Township 7N, R1E Sections 6 and 7
USGS *Crannell, California* 7.5-Minute Quadrangle
01-HUM-101-96.96-97.83
Federal Project No. 01-0J280

STATE OF CALIFORNIA
Department of Transportation

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All figures are located in Appendix A

Appendices

Acronyms and Abbreviations

°C, ºF	degrees Celsius, degrees Fahrenheit
BA/EFHA	Biological Assessment/Essential Fish Habitat Assessment
BMP	best management practice
BSA	biological study area
Caltrans	California Department of Transportation
CCC	California Coastal Commission
CCC waters	waters within California Coastal Commission jurisdiction
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Humboldt County
CWA	Clean Water Act of 1977, as amended
dB	decibles
dbh	diameter at breast height
DPS	distinct population segment
EFH	essential fish habitat
EO	Executive Order
ESA	environmentally sensitive area
ESHA	environmentally sensitive habitat areas
ESU	evolutionarily significant unit
FESA	federal Endangered Species Act of 1973
FMP	Fisheries Management Plan
LCP	Local Conservation Plan
MBTA	Migratory Bird Treaty Act
MSFCMA	Magnuson Stevens Fishery Conservation and Management Act
MSE	mechanically stabilized earth
NES	Natural Environment Study
NMFS	National Oceanic and Atmospheric Administration National Marine Fisheries Service
project	Little River Trail Project
PFMC	Pacific Fisheries Management Council
RCAA	Redwood Community Action Agency
RWQCB	Regional Water Quality Control Board
SONCC	Southern Oregon/Northern California coast
Stantec	Stantec Consulting Services Inc.
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
US 101	U.S. Route 101
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service

Summary

The Redwood Community Action Agency and the California Department of Transportation is planning to implement the Little River Trail Project (project) between the communities of McKinleyville and Trinidad in Humboldt County. The 1-mile-long Class 1 trail would provide a non-motorized connection between Clam Beach Drive at the southern end and Scenic Drive at the northern end and would close a critical gap in the California Coastal Trail system. Stantec Consulting Services Inc. (Stantec) prepared this Natural Environment Study (NES) to evaluate the project's potential effects on sensitive biological resources. The project occurs in the California Coastal Zone; therefore, the study also evaluates biological resources managed by the California Coastal Commission (CCC), including waters within CCC jurisdiction (CCC waters) and Environmentally Sensitive Habitat Areas (ESHAs).

This NES will be submitted to the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) for review under Section 7 of the federal Endangered Species Act (FESA) to address potential impacts to federally listed fish species and their critical habitat. A biological study area (BSA) was selected to evaluate potential effects and includes all project components as well as a buffer to allow for changes in the final project design. The BSA also serves as the action area for this effort.

Stantec conducted a delineation of wetlands and waters to determine whether potential waters of the United States (U.S.) and state and CCC waters were present in the BSA. Potentially jurisdictional waters mapped within the BSA include riparian wetland, riparian/fresh emergent wetland complex, fresh emergent wetland, vegetated ditch, and perennial stream. Potential waters of the U.S. total 2.92 acres (367 linear feet) and potential CCC waters total 4.10 acres (367 linear feet). Construction activities adjacent to the trail would temporarily impact less than 0.01 acre of potential waters of the U.S. and state and 0.08 acre of CCC waters. Grading and fill associated with the trail would permanently impact 0.01 acre of potential waters of the U.S. and state and 0.20 acre of CCC waters. Replacement of riparian vegetation would occur on-site at ratios acceptable to jurisdictional resource agencies in accordance with the project's Habitat Mitigation and Monitoring Plan. Cumulative impacts are not anticipated.

Stantec conducted vegetation mapping in the BSA, which included designating ESHAs, sensitive natural communities, and riparian habitat. Stantec delineated the limits of these resources in the BSA and designated upland ESHAs, which excludes potential waters of the U.S. and state, and CCC waters (described above). Stantec determined that all sensitive natural communities are either CCC waters or upland ESHAs, thus, impacts on sensitive natural communities are included in those sections. Impacts on riparian habitat outside of potential waters of the U.S. and CCC waters are not anticipated. Implementation of the project would result in the direct loss and indirect disturbance of upland ESHAs. Construction activities would temporarily impact 0.25 acre of upland ESHAs and would permanently impact 0.89 acre of upland ESHAs. Replacement of ESHAs would occur on-site at ratios acceptable to jurisdictional resource agencies in accordance with the project's Habitat Mitigation and Monitoring Plan. Cumulative impacts are not anticipated.

Redwood Community Action Agency conducted a botanical survey in April, May, August, and September 2021. The survey located one special status plant occurrence in the BSA: trailing black currant (*Ribes laxiflorum*), California Rare Plant Rank 4.3. No other special status plant species were found during the protocol-level survey. Direct impacts would not occur since the

occurrence is outside of the construction footprint. Avoidance measures would prevent indirect impacts to the species and cumulative impacts are not anticipated.

All non-native plant species observed in the BSA during the botanical survey were reviewed to determine their status as invasive plants according to the ratings in the California Invasive Plant Inventory produced by California Invasive Plant Council (Cal-IPC). Nineteen species observed during the botanical surveys are considered to be invasive by Cal-IPC. Conservation measures will be applied during construction to prevent the spread of invasive plants. Direct, indirect, and cumulative impacts are not anticipated with the application of invasive plant conservation measures.

Based on the review of habitat requirements and the results of the field assessments, the BSA has potential habitat for 20 special status wildlife species. Wildlife species are summarized below by taxonomic group, including fish, amphibians and reptiles, birds, bats, and mammals (excepting bats).

Fish species with the potential to occur include Southern Oregon/Northern California coast (SONCC) evolutionarily significant unit (ESU) coho salmon (*Oncorhynchus kisutch pop. 2*), California Coastal ESU Chinook salmon (*Oncorhynchus tshawytscha pop. 17*), Northern California Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss irideus pop. 16*), coastal cutthroat (*Oncorhynchus clarkii clarkii*), southern DPS eulachon (*Thaleichthys pacificus*), western brook lamprey (*Lampetra richardsoni*), and Pacific lamprey (*Entosphenus tridentatus*). The following fish species were evaluated and determined not likely to occur or be affected by the project: southern DPS green sturgeon (*Acipenser medirostris*) and tidewater goby (*Eucyclogobius newberryi*). Potential direct and indirect effects on fish species include turbidity increases, exposure to hazardous chemicals or accidental spill of lubricants and fuels, alteration of riparian habitat, and construction-related noise and visual disturbances. Cumulative effects are not anticipated. Conservation measures to prevent spills, erosion, and sedimentation are provided to prevent impacts. Avoidance measures, including a preconstruction survey and debris catchment for bridge work, will be implemented to further avoid impacts.

The study determined that SONCC ESU coho salmon and California Coastal ESU Chinook salmon essential fish habitat (EFH) is present in the BSA. Potential effects on EFH include a temporary increase in turbidity and suspended sediment from construction area stormwater runoff, accidental release of hazardous chemicals/accidental spill of lubricants and fuels, alteration of riparian habitat, and effects from construction-related noise and visual effects. Measures provided for fish species will also serve to reduce impacts on EFH.

This NES will be submitted to NMFS for review under Section 7 of the FESA to address potential impacts to federally listed fish species and their critical habitats, including Northern California DPS steelhead, California Coastal ESU Chinook salmon, SONCC ESU coho salmon and southern DPS eulachon. With the implementation of conservation and avoidance measures contained in this NES, take of these species would be avoided. A determination of “May Effect, Not Likely to Adversely Affect” was made for Northern California DPS steelhead, California Coastal ESU Chinook salmon, and the SONCC ESU coho salmon. Additionally, due to the discountable probability of presence within the BSA, a “No Effect” determination was made for the southern DPS green sturgeon, southern DPS eulachon, and tidewater goby.

Special status amphibians and reptiles with the potential to occur include Northern red-legged frog (*Rana aurora),* Southern torrent salamander (*Rhyacotriton variegatus*), and Western pond turtle (*Emys marmorata*). Potential direct effects include harassment, injury, and mortality of individuals due to equipment and vehicle traffic. Indirect effects could occur if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. Vegetation removal may degrade upland habitat for Western pond turtle. Trail lighting and human disturbance from trail use may also decrease special status amphibian and reptile use of the area. Avoidance and minimization measures, including a pre-construction survey, would reduce the potential for adverse impacts on these species.

Special status birds with the potential to occur include the following species:

- Tricolored blackbird (*Agelaius tricolor*)
- White-tailed kit (*Elanus leucurus*)
- Northern harrier (*Circus cyaneus*)
- Vaux's swift (*Chaetura vauxi*)
- Purple martin (*Progne subis*)
- Yellow warbler (*Setophaga petechia*)
- Yellow-breasted chat (*Icteria virens*)

The riparian and forested habitats in and near the BSA and the bridge over the Little River provide nesting habitat for special status birds and other protected raptors and migratory birds. Cliff swallows (*Petrochelidon pyrrhonota*) were observed nesting on the bridge and are protected under the Migratory Bird Treaty Act. Direct impacts could occur if active nests are present and disturbed during project construction. Avoidance measures, including pre-construction surveys and a nest exclusion device to be placed on the bridge, would prevent direct impacts. Indirect and cumulative impacts are not anticipated.

Special status bats with the potential to occur include pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*). Due to the absence of suitable habitat for maternity colonies and the ability of individual roosting bats to move away from disturbances, direct, indirect, or cumulative impacts are not anticipated. However, an avoidance measure is provided that details the need for a bat survey in the year prior to construction to determine if site conditions have changed and if bats may use the bridge for maternity colonies. Additional measures will be provided if habitat conditions have changed.

Special status mammals (except bats) with the potential to occur include white-footed vole (*Arborimus albipes*) and Sonoma tree vole (*Arborimus pomo*). Direct impacts on these species could result from tree removal and vegetation removal. Temporary noise disturbance generated by construction could indirectly affect these species as well. Trail lighting at the northern trailhead and human disturbance from trail use may also decrease their use of the area; however, abundant forested and riparian habitat would be available in the vicinity of the BSA. Avoidance and minimization measures, including a pre-construction survey, would reduce the potential for adverse impacts on these species.

The following permits may be required:

- Nationwide Permit 14 (Linear Transportation Projects) obtained from U.S. Army Corps of Engineers under Section 404.

- Authorization under a Clean Water Act Section 401 Water Quality Certification obtained from the North Coast Regional Water Quality Control Board.

- Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of perennial streams, notification of streambed alteration will be submitted to the California Department of Fish and Wildlife (CDFW); and, if required, a streambed alteration agreement will be obtained from CDFW.

- Coastal Development permit from the California Coastal Commission (consolidated with the County of Humboldt).

Chapter 1. Introduction

On behalf of the Redwood Community Action Agency (RCAA) and California Department of Transportation (Caltrans), Stantec Consulting Services Inc. (Stantec) prepared this Natural Environment Study (NES) to evaluate the potential effects on sensitive biological resources associated with implementing the Little River Trail Project (project).

1.1. Project Location

The project is located between the communities of McKinleyville and Trinidad in Humboldt County (County). The project's biological study area (BSA), which also serves as the project's action area for this effort, is approximately 1 mile long, located alongside the west side of U.S. Route 101 (US 101) and east of the Pacific Ocean. The BSA is shown on the *Crannell, California,* U.S. Geological Survey 7.5′ quadrangle (Figure 1, Appendix A). The northern extent of the BSA is located where Scenic Drive cumulates at US 101, while the southern extent is located at Clam Beach Drive. The entire alignment would be located within the Caltrans right-of-way, with the exception of the most northern section, which would be located within Trinidad Coastal Land Trust owned property (Figure 2, Appendix A). The project is located in both the State and Appeal Zone jurisdictions of the Coastal Zone; therefore, a consolidated Coastal Development Permit would be submitted to the California Coastal Commission.

1.2. Project History

1.2.1. PROJECT'S PURPOSE AND NEED

The California Coast Trail is a mixed-use trail (e.g., pedestrian, bicycle, equestrian) composed of a braided network of trails along the state's coastline spanning from Mexico to Oregon. The project would close a critical gap in the local Hammond Coastal Trail and greater California Coastal Trail, resulting in improved access to communities, recreational areas, and coastal resources. Installation of this 1-mile trail would improve access and safety for pedestrian and bicycle users as well as improve opportunities for nature study and recreation. The Little River Trail would extend the existing California Coastal Trail to include the stretch between Scenic Drive and Clam Beach Drive, crossing the Little River (Figure 2, Appendix A). Pedestrians and bicyclists traveling this stretch are currently limited to US 101, which is dangerous for alternative modes of transport. A feasibility study for the Little River Trail was previously completed in 2014 by RCAA with support from the State Coastal Conservancy. Pending funding, Caltrans has agreed to finalize design, conduct environmental permitting, and construct the Little River Trail. Caltrans would own and maintain the Little River Trail as a Caltrans facility.

1.3. Project Description

The project would construct an approximately 1-mile Class I Bike Path (pedestrian and bicycle trail) from Scenic Drive to Clam Beach. The trail would be a paved pathway, alternating between an approximately 10-foot-wide trail (5 feet per travel lane) with 2-foot-wide shoulders on either side and an approximately 8-foot-wide trail (4 feet per travel lane) with 2-foot-wide shoulders on either side, depending on-site constraints. The trail would cross the Little River via the existing US 101 bridge, which would be widened up to 2 feet to accommodate the additional width required for the trail. South of the Little River, the trail alignment would be located into and/or on top of the undeveloped vegetated surface and along the US 101 Crannell Road off-ramp within the Caltrans right-of-way.

In order to accommodate the trail on the bridge, the project also includes modifications to the US 101 Little River Bridge and realignment of the southbound travel lanes. Stationing referenced throughout Section 1.3. (Project Description) is shown in the 30% project design in Appendix B.

The project is being designed in accordance with the Caltrans Highway Design Manual, 7th Edition (Caltrans 2020). In addition, the project would be designed in accordance with other specific applicable standards, including the California Manual on Uniform Traffic Control Devices (Caltrans 2021) and the Americans with Disabilities Act Standards for Accessible Design (Department of Justice 2010).

1.3.1. GEOTECHNICAL INVESTIGATIONS

A Preliminary Foundation Report has been prepared for the Project and includes a review of geologic literature for the area, site reconnaissance and geologic mapping, results from shallow hand-auger borings, review of historic photos of US 101 construction, review of proposed retaining wall concepts, and preliminary geotechnical recommendations (SHN 2021). The Preliminary Foundation Report finds that the proposed trail alignment comprises highway fill related to the late-1960s highway alignment: unconsolidated alluvium, floodplain alluvium, beach/dune deposits, Falor Formation, and Franciscan Complex mélange. The Preliminary Foundation Report notes trail development will require removal of unsuitable (unstable) soils and imported fill and/or engineered fill and may require the use of geotextiles.

Consistent with the recommendations of the Preliminary Foundation Report, additional geotechnical investigations are required during the project design phase in order to obtain necessary information to support retaining wall type selection and design. The investigation would occur north of Little River, between the Scenic Drive trailhead and the Little River. The geotechnical investigations would employ drill rigs and ancillary equipment and would require tree and vegetation removal along the trail alignment for access. Any excess sediments that result from geological investigations are expected to be relatively small in quantity and would be hauled offsite by the contractor for legal disposal or reuse.

1.3.2. RETAINING WALLS

Two retaining walls would be necessary to maintain accessible slopes, minimize the construction footprint, and facilitate crossing an existing culvert over an unnamed tributary along the northern trail alignment between the Scenic Drive trailhead and the Little River. The final retaining wall design would follow further geotechnical investigations and recommendations. Construction scenarios for the retaining walls are summarized below and include a soldier pile wall with ground anchors, cantilever soldier pile walls, mechanically stabilized earth (MSE) wall, and a concrete boardwalk structure. More than one retaining wall construction scenario may be included in the final design, which would also determine the final number, length, and heights of required retaining wall structures. The retaining wall structures would not be easily visible since there is no access or use on the west side of the trail.

The location and stationing of retaining walls may adjust in the future as the design progresses. However, based on the 30% design, the northern retaining wall is proposed from Station 50+41 to Station 57+86.

The trail would cross an existing culvert (perennial unnamed tributary) at Station 46+06. To separate the trail from the culvert outlet, a second retaining wall would be constructed near the unnamed tributary (Station 45+86 to Station 46+38,), helping ensure that the trail does not encroach into the stream. The retaining wall would be located approximately 10 feet upslope and upstream of the unnamed tributary, on top of the existing buried culvert. One large Sitka spruce would be removed in order to construct the retaining wall (see Section 1.3.18. – Vegetation Removal).

Retaining walls would not be necessary on the sand slopes adjacent to portions of the southern end of the proposed trail alignment at the southbound US 101 off-ramp between the Little River and Crannell Road. Based on field reconnaissance, the subject sand slopes adjacent to US 101 have gradients slightly steeper than the angle of repose due to root reinforcement associated with significant ground cover vegetation (SHN 2021).

1.3.2.1. Soldier Pile Wall with Ground Anchors

The soldier pile wall construction scenario would include a retaining wall on the western edge of the trail only. Soldier piles would be installed in a drilled hole approximately 18 feet below grade and anchored into the ground with horizontal ground anchors. Horizontal lagging would extend above and below grade. A structural concrete waler beam and concrete cap would be installed on top of the lagging, resulting in a total above grade height of approximately 8 feet, although final structure heights would vary based on-site-specific conditions and final designs. A safety railing would be attached to the structural concrete gap. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

1.3.2.2. Cantilever Soldier Pile Wall 14-Foot Design Height

The 14-foot maximum design height cantilever soldier pile wall includes retaining structures on both the western and eastern edge of the trail. On the western edge, soldier piles would be installed in a drilled hole approximately 30 feet below grade and anchored into the ground. Horizontal lagging would be installed above and below grade, with a maximum exposed height limit of 14 feet. A concrete cap and safety railing would be installed on top of the lagging. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

1.3.2.3. Cantilever Soldier Pile Wall 12-Foot Design Height

The 12-foot maximum design height cantilever soldier pile wall includes retaining structures on both the western and eastern edge of the trail. On the western edge, soldier piles would be installed in a drilled hole approximately 20 feet below grade and anchored into the ground. Lagging would be installed above and below grade, with a maximum height limit of 12 feet. A concrete cap and safety railing would be installed on top of the lagging. If necessary, a concrete retaining wall would also be constructed on the eastern edge of the trail with an above-grade height of approximately 6 feet. Temporary sheet piling would be installed on the western and eastern edge of the trail to facilitate the drilling process for the soldier piles and construction of the retaining wall.

1.3.2.4. Mechanically Stabilized Earth Wall

A MSE wall approximately 18 feet tall would be constructed on the eastern edge of the trail to retain the cutslope above and below grade. On the western edge of the trail, MSE wall panels approximately 16 feet tall would be installed to elevate and retain the trail. A safety railing would be installed at the top edge of the MSE wall.

1.3.3. CONCRETE BOARDWALK STRUCTURE

Cast-in-drilled-holes piles approximately 16 feet tall would be installed below grade with a drill rig. The piles would be topped with bent caps approximately 2 feet tall to form the base of the trail. The bent caps would be topped with an 8-inch-thick concrete slab.

1.3.4. GRADING AND FILL

Grading would need to occur along the entire trail alignment to achieve accessible slopes and suitable trail width. Similarly, fill would be placed and compacted along the alignment to establish the trail prism.

1.3.5. BARRIER INSTALLATION

South of the Little River, barriers would be installed to separate the trail from US 101 or the Crannell Road off-ramp. End treatments or similar safety modifications would be installed at the end of the barriers.

1.3.6. ANCILLARY TRAIL FEATURES CONSTRUCTION

Ancillary trail features, such as lookouts or other nature viewing areas, would be constructed adjacent to the primary alignment. Ancillary trail features may include benches, interpretive signage, and other features related to public access and education. Ancillary trail features would include up to three nature viewing areas that are anticipated for this project, preliminarily being located at Stations 19+50, 34+00, and 59+50. The footprint of each nature viewing area, including the trail to access the area, would be approximately 1,000 square feet. Each area would likely contain one to two benches, a picnic table, a trash/recycling receptacle, and interpretive signage.

1.3.7. US ROUTE 101 LITTLE RIVER CROSSING

The trail would cross the Little River via the existing US 101 bridge. The existing travel lanes would be reconfigured to support the multi-use trail. Under the scenario with the greatest potential for environmental impacts under consideration, the bridge deck would be widened 2 feet on the western edge. Other lane reconfiguration scenarios would not require bridge deck widening. For all scenarios considered, additional pilings or in-water work would not be required to support reconfiguring the travel lanes or widening the bridge deck. The existing lanes would be reconfigured to accommodate a 10-foot trail in addition to Caltrans standard shoulder and travel lane widths (Illustration 1). As a result of the widening and lane shifts, the bridge and portions of US 101 immediately north and south of the bridge would need to be repaved and restriped. To accommodate lane shifts on the bridge, the existing vegetation in the median between the northbound and southbound lanes of US 101 would be removed and replaced with pavement. The existing barrier between the travel lanes would be replaced and extended.

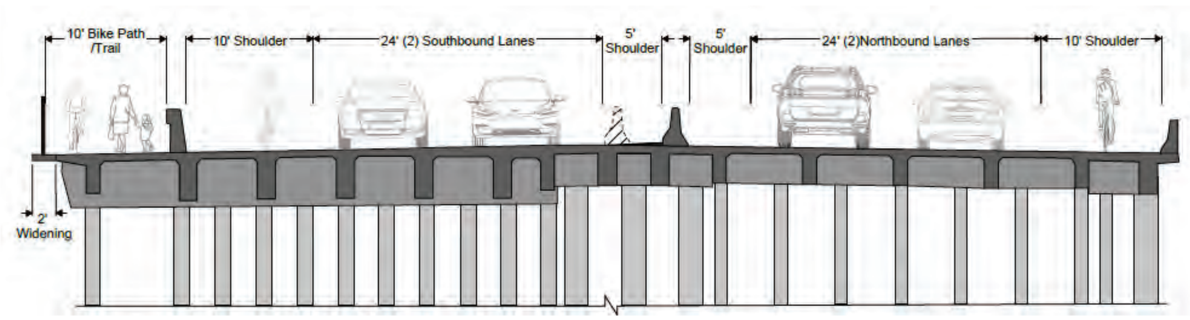


Illustration 1. Conceptual Overview of Little River Bridge Design Approach

Bridge deck widening would include removing the existing concrete bridge barrier and installing additional concrete reinforcement and new barrier and railings to widen the bridge by approximately 2 feet. To widen the bridge, a temporary shoulder closure would be established with a k-rail for the duration of work. A temporary work platform and debris containment system would be installed below the existing bridge deck using a snooper truck on the bridge deck, which would require lane closure. Overhanging brackets to support the platform and debris containment system would be installed on the face of the existing edge girder using drilled-in anchors. The existing concrete barrier and edge of the deck would be removed by chipping. Existing reinforcement bars would be extended with mechanical couplers. Formwork would be installed below the edge of the bridge deck. Bridge reinforcement would be completed, followed by pouring a widened deck. Forms would be stripped, and the railing would be installed. The temporary work platform would be removed, and drill holes would be patched using a snooper truck from the bridge deck.

Temporary lane closures on the US 101 Little River Bridge would be required for bridge widening, barrier construction, and striping. Temporary lane closures would follow Caltrans requirements for temporary roadway closures, including signage and public noticing.

1.3.8. DRAINAGE AND STORMWATER IMPROVEMENTS

The Class 1 facility will be exempt from municipal separate storm sewer system requirements. The trail would be constructed to mimic the existing site topography and be outsloped to the maximum extent feasible. In localized areas where outsloping is not feasible, traditional drainage inlets and storm drainage piping would be deployed to convey stormwater through the trail prism. Stormwater would be discharged through energy dissipation devices such as riprap aprons and/or outlet basins to prevent scour, protect the outlet structure, and minimize the potential for downstream erosion. A drainage inlet located adjacent to the US 101 off-ramp, and one located just north of the Little River Bridge in the highway median would need to be modified to accommodate planned improvements for this project. Additionally, trenching for storm drainpipes and related infrastructure is proposed in the following locations:

- New drainage inlets along US 101 southbound off-ramp from Station 7+50, Station 10+50, and Station 13+60

- New drainage piping along US 101 southbound off-ramp from Station 7+50 to Station 13+60

- The existing drainage inlet located just north of the Little River bridge (at Station 32+20) would be moved north approximately 150 feet along the US 101, which would also require the installation of approximately 150 feet of new storm drain piping from Station 32+20 to Station 33+70

- Two drainage inlets with down drains along the retaining wall at Station 50+50, Station 53+00, and Station 55+50, along the northern trail segment

1.3.9. UTILITY RELOCATION

One Caltrans streetlight located approximately at Station 16+60 south of the Little River along the US 101 off-ramp would be relocated outside the trail footprint in coordination with Caltrans.

1.3.10. STRIPING AND SIGNAGE

The trail would include required striping and signage in order to comply with the California Manual on Uniform Traffic Control Devices (Caltrans 2021). Striping and directional signage would indicate two travel directions.

Signage to direct southbound cyclists to exit northbound US 101 in Westhaven to access the trail may also be incorporated. Interpretive signage along the trail would promote education of the coastal resources and surrounding environment.

1.3.11. TRAIL LIGHTING

The project would include streetlight installation at either trailhead or to improve safety in key locations. Any exterior lighting would be designed to protect wildlife and nighttime views, including views of the night sky. The project would be designed to be consistent with the recommendations of the International Dark-Sky Association, which includes standards for fixtures, shielding, wattage, placement, height, and illumination levels. To comply with these requirements, lighting for the project would use the minimum lumens necessary; and it would be directed downward, shielded, and at pedestrian level when feasible. This would help ensure lighting is contained within the site and does not cause significant lighting and glare impacts for surrounding land uses and sensitive habitat areas.

Trenching for the new streetlight pole at the southern end of the trail would include connecting the existing streetlight (at the California Highway Patrol weigh station) at Station 9+60 to the proposed new streetlight pole location at Station 5+40. The trench would be approximately 1 foot wide, 3 feet deep, and 310 feet long. Between station 5+40 and 7+60 the trench would be located under the trail. At station 7+60 the trench would turn to the east and cross through the southbound off ramp and then through an open vegetated area before connecting to the existing streetlight near the weigh station.

Trenching for the new streetlight at the northern end of the trail would connect the existing power pole at Station 60+20 to the proposed new streetlight pole location at Station 60+30. The pathway of the trench is anticipated to be a straight line from the existing power pole to the proposed light. The trench would be approximately 1 foot wide, 3 feet deep, and 60 feet long.

1.3.12. TRAILHEAD DEVELOPMENT

Travel lanes at both trailheads would be divided to enhance user safety and discourage motorized vehicles from inadvertently entering the trail. Trailhead improvements would include signage, striping for parking, and additional trail amenities such as benches or picnic tables. At the Scenic Drive trailhead, parking spaces may be delineated within the existing cul-de-sac footprint. The existing Clam Beach parking area near the southern trailhead would continue to be used.

Additional parking at the southern trailhead is not proposed. Crosswalks and shoulder striping improvements may be installed along Clam Beach Road to improve safety between the existing parking area and the new trailhead in coordination with Caltrans and the County of Humboldt.

1.3.13. MOUNDABLE APRON AT SOUTHERN TRAILHEAD

A mountable apron would be constructed between the southern trailhead and the US 101 southbound off-ramp.

1.3.14. CONSTRUCTION SCHEDULE

Construction could require up to two construction seasons. If feasible, vegetation clearing would occur first prior to construction, between September 2 and February 14 (outside of the special status bird nesting period). Construction would require up to 8 months, beginning in March and concluding by October 15.

1.3.15. CONSTRUCTION ACTIVITIES AND EQUIPMENT

Equipment required for construction would include drill rigs, concrete mixer and pump trucks, all terrain forklifts, snooper truck, compressors, tracked excavators, backhoes, graders, bulldozers, dump trucks, skid steers, and pick-up trucks. Jackhammers or similar pieces of equipment may be necessary to support bridge widening. It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for trail construction. Trenching and ground disturbance in support of utility connection for relocated and new lighting is anticipated. Water would be used for dust control, compaction, and revegetation.

1.3.16. CONSTRUCTION ACCESS

The project would be accessed via US 101, Scenic Drive, and Clam Beach Drive. No new access roads would need to be constructed in order to implement the project.

1.3.17. ESTABLISH EXCLUSION AREAS AND EROSION CONTROL

Sensitive biological areas would be excluded with protective fencing prior to construction, except for areas that would be unavoidably impacted during construction. Erosion control Best Management Practices (BMPs) would also be installed prior to construction.

1.3.18. VEGETATION REMOVAL

Clearing and grubbing of vegetation would occur within the construction footprint, including tree removal north of the Little River. During project design, contractors mapped trees 6 inches in diameter at breast height (dbh) or greater. One hundred seventeen (117) trees that are 6-inch dbh or greater would be removed to clear the proposed alignment for trail installation, many of which are Sitka spruce (*Picea sitchensis*) and other native species (Table 1). One larger Sitka spruce location approximately 10 feet from the unnamed tributary would also be removed and is accounted for in Table 1. Otherwise, no additional trees (e.g., riparian habitat) would need to be removed near the unnamed tributary. Final tree removal numbers by species may be adjusted as the design progresses.

Table 1. Trees 6-inch or Greater Diameter at Breast Height Proposed for Removal

Diameter at Breast Height	Alder	Spruce	Fir	Pine	Willow	Elderberry
6-inch	5	—	1	1	—	—
8-inch	4	—	6	2	—	—
10-ich	13	2	7	3	4	
12-inch	5	1	2	3	—	1
14-inch	8	—	2	2	—	—
16-inch	9	—	2	1	—	—
18-inch	1	1	1	3	—	—
20-inch	—	1	—	—	—	—
22-inch	2		1		—	—
24-inch	—	3	1	5	—	—
30-inch	—	2	1	—	—	—
34-inch	—	1	—	—	—	—
36-inch	—	3	2	—	—	—
40-inch	—	1		—	—	—
48-inch	—	2	1	—	—	—
72-inch cluster	—	—	1	—	—	—
Total	**47**	**17**	**28**	**20**	**4**	**1**

1.3.19. STOCKPILING AND STAGING

Stockpiling and staging would occur in an existing graveled area east of US 101, near Clam Beach Drive at the south end of the project (Figure 2, Appendix A). Stockpiling and staging would also occur within the cul-de-sac at the terminus of Scenic Drive at the north end of the project (Figure 3, Appendix A). Stockpiling and staging areas are located within the existing project area boundary in disturbed areas and would not require grading. Within the stockpiling and staging areas, BMPs would be used to prevent construction materials and hazardous materials from impacting the environment. Stockpiling and staging is not planned to occur on State Parks property.

Excess soils, aggregate road base, and construction materials would be stored on-site within designated stockpiling and staging areas. Excess materials may be re-used on-site for backfill and finished grading. Excess materials would not be stockpiled on-site once the project is complete. The contractor would haul additional excess materials off-site for beneficial reuse, recycling, or legal disposal.

1.3.20. GROUNDWATER DEWATERING

Groundwater dewatering is generally not expected to be required. However, if needed, temporary groundwater dewatering would involve pumping water out of a trench or excavation area. Groundwater would typically be pumped to a settling pond, settling tanks, or into a dewatering bag. The water may also be percolated back into the ground in uplands. Discharge to regulated waters would not occur.

1.3.21. SITE RESTORATION AND CLOSURE

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas would be restored to pre-construction conditions or stabilized with a combination of grass seed (through broadcasting or hydroseeding), straw mulch, rolled erosion control fabric, and revegetation. Disturbed areas resulting from construction in the undeveloped area west of the Crannell Road off-ramp would be revegetated with appropriate species. Revegetation would include replanting and compliance monitoring if mitigation is required by resource agencies for impacts to sensitive habitats.

1.4. Conservation Measures

Conservation measures will be incorporated into the project to minimize potential effects on federally listed species and other biological resources. This section describes project design modifications proposed to minimize the anticipated temporary and permanent effects associated with the project. Species-specific conservation measures are provided in Chapter 4.

1.4.1. PROJECT DESIGN MODIFICATIONS FOR AVOIDANCE AND MINIMIZATION

1.4.1.1. Conservation Measure #1 – Erosion and Sedimentation Control

Erosion control measures implemented during construction of the project will conform to the provisions in Section 21 of the Caltrans Standard Specifications (Caltrans 2018) and any special provisions included in the contract for the project. Special provisions include the preparation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will describe and illustrate the types and locations of BMPs in the project site to be implemented and would require regular inspections and a Rain Event Action Plan.

Erosion control measures to be included in the SWPPP will include the following:

- To the maximum extent practicable, activities that potentially increase soil erosion in the BSA will be restricted to the summer and early fall period to minimize the potential for stormwater transport of sediment to surface water features. Construction activities that take place during the late fall, winter, or spring (e.g., vegetation removal prior to bird nesting periods) will use temporary erosion and sediment control structures that will be in place and operational at the end of each construction day and maintained until permanent erosion control structures are installed, if necessary.

- Areas where vegetation need to be removed will be identified in advance of ground disturbance and limited to only those areas that have been approved. Exclusionary fencing will be installed around sensitive habitats, as shown in Figures 5-7, Appendix A.

- Approved fabric barriers will be installed to prevent the discharge of contaminants (e.g., sediment, oil, and grease), when equipment is working adjacent to or over waterways.

- Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch will be applied to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within 24 hours, as forecasted by the National Weather Service, weed-free mulch will be applied to all exposed areas upon completion of the day's activities. Soils will not be left exposed during the rainy season.

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

- Sediment control measures will be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated with native species.

1.4.1.2. Conservation Measure #2 – Prevention of Accidental Spills

The proposed SWPPP will include a waste management section that provides procedural and structural BMPs for collecting, handling, storing, and disposing wastes generated by project construction and to prevent the accidental release of pollutants. The contractor would also be required to submit a demolition and debris containment and management plan to the Caltrans Resident Engineer for approval prior to bridge demolition. All construction will be completed according to the most recent Caltrans Site Best Management Practices Manual to protect water quality including the following measures:

- A site-specific spill prevention plan to be included in the SWPPP will be implemented for potentially hazardous materials. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms will be constructed to prevent spilled materials from reaching surface water features.

- Equipment and hazardous materials will be stored in the staging area 500 feet to the west and away from surface water features.

- Vehicles and equipment used during construction will receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling will be conducted within an adequate fueling containment area, at least 50 feet away from all streams and wetlands.

- Minimize sand and gravel (from new asphalt) entering storm drains, streets, and creeks by sweeping. Old or spilled asphalt must be recycled or disposed as approved by the resident engineer.

- All project materials will be prevented from entering streams. Silt fences will be installed until soils are stabilized or permanent controls are in place.

- Installment of netting or other similar method for debris catchment during bridgework will also be implemented to protect aquatic species.

1.4.1.3. Conservation Measure #3 – Air Quality/Dust Control

Caltrans will include provisions in the construction bid documents that the contractor will implement a dust control program to limit fugitive dust emissions. The dust control program will include the following elements as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including non-workdays, until soils are stable.

- Soil piles for backfill will be marked and flagged separately from native topsoil stockpiles. These soil piles will also be surrounded by silt fencing, straw wattles, or other sediment barriers or will be covered unless they are to be immediately used.

- Equipment or manual watering will be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.

1.4.1.4. Conservation Measure #4 – Replacement of Lost Riparian Habitat

The following measures will be implemented to reduce potential impacts to riparian habitat in the BSA:

- A habitat mitigation and monitoring plan will be developed at a later date.

- The width of the construction disturbance zone within the riparian habitat will be minimized through careful pre-construction planning.

- Exclusionary fencing will be installed along the boundaries of all riparian areas to be avoided to minimize impacts to riparian vegetation outside of the construction area.

- On-site restoration will occur in areas that have been disturbed during project construction. All native woody riparian plants 6 inches or greater dbh removed will be replanted with new plantings at a minimum 3:1 ratio. This replanting ratio will help establish at least one vigorous plant for each plant removed.

- Plant spacing intervals will be determined as appropriate based on-site conditions following construction and will be similar to undisturbed riparian habitat in the local area.

- Revegetation monitoring will be implemented in compliance with regulatory permit conditions and be initiated immediately following completion of the planting. The monitoring surveys will consist of a general site walkover evaluating the survival and health of riparian plantings, signs of drought stress, weed or herbivory problems, and the presence of trash or other debris. Eighty-five percent or greater survival of the total number of trees and shrubs (i.e., woody species) needed to meet required mitigation ratios, including planted and volunteer native species, will be considered a success at the end of a five-year monitoring period. If monitoring results indicate that revegetation efforts are not meeting established success criteria, corrective measures will be used.

1.4.1.5. Conservation Measure #5 – Prevention of Spread of Invasive Species

The following measures will be implemented to prevent the spread of invasive species:

- All equipment used for off-road construction activities will be inspected, cleaned, and verified to be weed-free prior to entering the BSA.
- If project implementation calls for weed-free mulches or fill.
- Seed mixes or other vegetative material used for revegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable.
- Any construction equipment (including boots, waders, and hand tools) that may enter stream courses will be properly disinfected or cleaned according to guidance provided by the State of California Aquatic Invasive Species Management Plan (CDFG 2008, U.S. Bureau of Reclamation 2012) prior to instream work to prevent the spread of aquatic invasive species.

1.4.1.6. Conservation Measure #6 – Environmentally Sensitive Area Fencing

The following measures will be implemented to avoid impacts on Environmentally Sensitive Areas.

- Exclusionary fencing will be installed along the boundaries of all Environmentally Sensitive Areas (ESAs) to minimize impacts to ESA's outside of the construction area (Figures 5-7, Appendix A).

Chapter 2. Study Methods

2.1. Regulatory Requirements

2.1.1. FEDERAL REGULATORY REQUIREMENTS

2.1.1.1. Endangered Species Act

Section 9 of the Federal Endangered Species Act of 1973 (FESA) prohibits acts that result in the "take" of threatened or endangered species. As defined by the FESA, "endangered" refers to any species that is in danger of extinction throughout all or a significant portion of its current range. The term "threatened" is applied to any species likely to become endangered within the foreseeable future throughout all or a significant portion of its current range. "Take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Sections 7 and 10 of the FESA provide methods for permitting otherwise lawful actions that may result in incidental take of a federally listed species. The project includes the use of federal funds; therefore, a Section 7 consultation will be requested. The term "incidental take" refers to take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Incidental take is permitted under Section 7 for projects involving a federal action; Section 10 provides a process for non-federal actions. The act is administered by the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS).

2.1.1.2. Clean Water Act

The objective of the Clean Water Act of 1977, as amended, (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Discharge of dredged or fill material into waters of the U.S., including jurisdictional wetlands, is regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA (33 U.S. Code [USC] 1251-1376) under a permitting process. Applicants for Section 404 CWA permits are also required to obtain water quality certification or waiver through the local Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA (33 USC 1341).

USACE regulations implementing Section 404 define "waters of the U.S." as intrastate waters, including lakes, rivers, streams, wetlands, and natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce. "Wetlands" are defined for regulatory purposes as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 Code of Federal Regulations [CFR] 328.3; 40 CFR 230.3). To comply with the USACE policy of no net loss of wetlands, discharge into wetlands must be avoided and minimized to the extent practicable. For unavoidable impacts, compensatory mitigation is typically required to replace the loss of wetland functions in the watershed.

2.1.1.3. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg. "Take" is defined as pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (USFWS 2017). Migratory birds, as defined by the MBTA, include all species native to the U.S. or its territories that occur as a result of natural biological or ecological processes (1,093 total species), with exceptions for some species including upland game birds like quail and grouse (USFWS 2020a).

Executive Order (EO) 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, directs federal agencies that are taking actions that have or are likely to have a negative effect on migratory birds to develop and implement a Memorandum of Understanding with USFWS to promote conservation of migratory bird populations. This EO further implements the MBTA and requires coordination between the USFWS and federal agencies.

2.1.1.4. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) takes immediate action to conserve and manage fishery resources found off the coasts of the U.S. and the anadromous species and Continental Shelf fishery resources of the U.S. by exercising sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone of the U.S., and exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in the special areas.

Public Law 104-297, the Sustainable Fisheries Act of 1996, amended the MSFCMA to establish new requirements for EFH descriptions in federal fishery management plans. In addition, the MSFCMA established procedures designed to identify, conserve, and enhance EFH for those species regulated under a federal fisheries management plan. Pursuant to the MSFCMA,

- Federal agencies must consult with National Marine Fisheries Service (NMFS) on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect essential fish habitat (EFH).

- NMFS must provide conservation recommendations for any federal or state action that would adversely affect EFH.

- Federal agencies must provide a detailed response in writing to the NMFS within 30 days after receiving EFH conservation recommendations. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the effect of the activity on EFH. In the case of a response that is inconsistent with the NMFS EFH conservation recommendations, the federal agency must explain its reasons for not following the recommendations.

EFH has been defined for the purposes of the MSFCMA as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” NMFS has further added the following interpretations to clarify this definition:

- “Waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish where appropriate.

- “Substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities.

- "Necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem.

- "Spawning, breeding, feeding, or growth to maturity" covers the full life cycle of a species.

- "Adverse effect" means any effect that reduces quality and/or quantity of essential fish habitat, and may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey or reduction in species fecundity), or site-specific or habitat-wide effects, including individual, cumulative, or synergistic consequences of actions.

EFH consultation with the NMFS is required regarding any federal agency action that may adversely affect EFH, including actions that occur outside EFH, such as certain upstream and upslope activities.

2.1.1.5. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940, as amended (16 USC 668-668c), prohibits take of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) or any part, nests, or eggs unless federally permitted. The act also prohibits human-induced alterations around an unoccupied nest site if upon return of the eagle, the alterations result in adverse impacts on the eagle (USFWS 2018).

USFWS is charged with implementing the Bald and Golden Eagle Protection Act to ensure that any authorized take of bald and golden eagles is compatible with their preservation. Levels of take must be consistent with the goal of maintaining stable, or increasing, breeding populations.

2.1.1.6. Executive Order 11990 (Wetlands)

EO 11990 is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. It requires federal agencies to follow avoidance, mitigation, and preservation procedures with public input before proposing new construction in wetlands.

2.1.1.7. Executive Order 13112 (Invasive Species)

EO 13112 directs federal agencies to use relevant programs and authorities to:

- prevent the introduction of invasive species;

- detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner;

- monitor invasive species populations accurately and reliably;

- provide for restoration of native species and habitat conditions in ecosystems that have been invaded;

- conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species;

- promote public education on invasive species and the means to address them; and
- not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, in accordance with guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

2.1.1.8. Executive Order 11988 (Floodplain Management)

EO 11988 requires federal agencies to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development.

2.2. California Regulatory Requirements

2.2.1. CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) (Section 2800 of the Fish and Game Code) prohibits take of state-listed species and protects native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, that are threatened with extinction or experiencing a significant decline, which if not halted, would lead to a threatened or endangered designation. CESA authorizes the California Department of Fish and Wildlife (CDFW) to issue incidental take permits for state-listed species, when specific criteria are met.

2.2.2. PORTER-COLOGNE WATER QUALITY CONTROL ACT

The Porter-Cologne Water Quality Control Act authorizes the State Water Resources Control Board to oversee water rights and water quality policy and establishes nine RWQCBs to protect and enhance water quality at the regional and local levels. In addition to preparing water quality control plans to designate beneficial uses of water bodies in each region, these boards issue waste discharge requirements for activities that result in pollutant or nuisance discharges that may affect surface or groundwater, including isolated wetlands not subject to USACE jurisdiction.

2.2.3. COASTAL WATERS ACT

The California Coastal Act was enacted by the State Legislature in 1978 to provide long-term protection of California's coastal zone. The Coastal Act also established the California Coastal Commission (CCC). The CCC 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. Under the Coastal Act, new development that requires a coastal development permit either from the CCC or the appropriate local government includes any project in the coastal zone that results in a change in the density or intensity of use of land and any project that results in a change in the intensity of use of water, or of access thereto. The Coastal Act requires every city and county lying partly or wholly within the designated coastal zone to prepare a Local Conservation Plan (LCP). Coastal Act policies constitute the standards used by the CCC in its coastal development permit decisions and for the review of LCPs. The current LCP for the region is provided in the McKinleyville Area Plan and Trinidad Area Plan of the

Humboldt County Local Coastal Program (Humboldt County 2007a, Humboldt County 2007b). These policies are also used by the CCC to review federal activities that affect the coastal zone.

The California Coastal Act requires that most development avoid and buffer wetland resources. Policies include:

- **Section 30231**, which requires the maintenance and restoration (if feasible) of the biological productivity and quality of wetlands appropriate to maintain optimum populations of marine organisms and for the protection of human health.

- **Section 30233**, which limits the filling of wetlands to identified high priority uses, including certain boating facilities, public recreational piers, restoration, nature study, and incidental public services (such as burying cables or pipes). Any wetland fill must be avoided unless there is no feasible, less environmentally damaging alternative; and authorized fill must be fully mitigated.

The CCC regulations define “wetlands” as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and will also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats (14 California Code of Regulations Section 13577).

The California Coastal Act also provides for the designation of environmentally sensitive habitat areas (ESHAs). An ESHA is any area in which plant or animal life, or their habitats, are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. The California Coastal Act states that ESHAs will be protected against any significant disruption of habitat values, and only uses dependent on those resources will be allowed within those areas. Development in areas adjacent to ESHAs, parks, and recreation areas will be sited and designed to prevent impacts which would significantly degrade those areas and will be compatible with the continuance of those habitat and recreation areas.

2.2.4. CALIFORNIA FISH AND GAME CODE

The California Fish and Game Code provides several provisions for the protection of waters of the state and the State’s plant, fish, and wildlife resources, including the following relevant sections:

- **Sections 1900-1913 (Native Plant Protection Act):** The Native Plant Protection Act prohibits the taking, possessing, or sale within the state of any plants that the California Department of Fish and Wildlife (CDFW) has determined are rare, threatened, or endangered. The CDFW has the authority to enforce the provisions of this act and authorize measures to salvage native plants that may otherwise be affected by project activities, if deemed appropriate.

- **Sections 3500-3516 (Game Birds and Birds of Prey):** CDFW protects game birds, birds of prey, migratory birds, and fully protected birds from take or possession, except as otherwise provided by the code (e.g., incidental take under CESA).

- **Sections 3511, 4700, 5050, and 5515 (Fully Protected Species):** California statutes accord a “fully protected” status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be “taken,” even with an incidental take permit.

- **Section 1602, Lake or Streambed Alteration:** Section 1602 governs construction activities that substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the CDFW as providing a fish or wildlife resource. Under Section 1602, a Streambed Alteration Agreement must be obtained from the CDFW prior to the initiation of construction activities that will affect drainages under CDFW jurisdiction and that are determined by the CDFW to have the potential to adversely affect a fish or wildlife resource.

2.2.5. COUNTY TREE ORDINANCE

Humboldt County Code Section 313-64 describes major vegetation removal (in part) as the removal of trees within a total aggregate contiguous or non-contiguous area or areas exceeding 6,000 square feet, measured as the total of the area(s) located directly beneath the tree canopy. (Formerly Section CZ#A314-20(D)(2)).

Major vegetation removal may be permitted with a special permit in all zones, as an accessory use associated with a specified principal or conditionally permitted use. Major vegetation removal may be permitted with a special permit in conjunction with or prior to the establishment of a principal or conditionally permitted use. (Formerly Section CZ#A314-20(B)).

2.3. Studies Required

2.3.1. BIOLOGICAL STUDY AREA

The BSA includes all areas that could be potentially impacted by the project plus a buffer to accommodate any changes to project limits and project design that may occur during project development (Figures 2 and 3, Appendix A). It includes the trail alignment, all areas associated with trail construction, and stockpiling and staging areas. For the purposes of this effort, the BSA is equivalent to the action area.

2.3.2. BACKGROUND RESEARCH

Special status plant and wildlife species and sensitive habitats that may occur in the BSA were determined, in part, by reviewing natural resource agency databases, literature, and other relevant sources. The following information sources were reviewed:

- U.S. Geological Survey *Crannell, California* 7.5-minute quadrangle

- Aerial photography of the biological study area and vicinity

- U.S. Fish and Wildlife list of endangered and threatened species that may occur in the vicinity of the project (Appendix C)
- National Oceanic and Atmospheric Administration National Marine Fisheries Service list of endangered and threatened fisheries resources that may occur in the vicinity of the project obtained March 16, 2022 (Appendix C)
- California Natural Diversity Database and California Native Plant Society records for the *Crannell, California* 7.5-minute quadrangle and the seven surrounding quadrangles (Appendix D) (CDFW 2022, CNPS 2022)
- California Wildlife Habitat Relationships System (CDFW 2013)
- eBird occurrences (The Cornell Lab of Ornithology 2021)
- Other pertinent databases and literature, including the online *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2022), *The Jepson manual: vascular plants of California* (Baldwin et al. 2012), and Jepson eFlora (Jepson Flora Project (eds.) 2021).

Original USFWS, NMFS, California Natural Diversity Database (CNDDB), and California Native Plant Society (CNPS) queries are provided in Appendices B and C. Stantec biologists developed a list of special status species that could occur or are known to occur in the BSA and vicinity based on background research. After the field visits, Stantec biologists further refined the list to identify species that could occur in the BSA.

2.3.3. FIELD REVIEWS AND SURVEY METHODS

During September 1-3, 2020, Stantec biologists Sarah Tona and Jacqueline Phipps conducted a wetland delineation according to methodology described in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE 2010). Stantec biologists also evaluated features that may qualify as CCC waters. The biologists mapped vegetation following the technical approach and vegetation alliance classification system described in A Manual of California Vegetation, Second Edition (MCV) (Sawyer et al. 2009) and updated in the current online edition (CNPS 2021). The biologists also performed a reconnaissance-level assessment for habitat for special status plant and wildlife species during the field visit.

RCAA conducted a botanical survey in the BSA on April 14-15, May 20-21, August 27, and September 9, 2021, in general accordance with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018).

RCAA and Caltrans biologists conducted a survey for suitable habitat for special status bats and birds on July 6, 2021. The survey was conducted on foot and from the water in a kayak, and biologists used high-powered binoculars and flashlights to assess conditions of the bridge over Little River.

2.4. Personnel and Survey Dates

The following is a list of personnel and tasks performed during visits to the project site:

- Sarah Tona and Jacqueline Phipps, Stantec, wetland delineation survey, vegetation mapping, and reconnaissance-level habitat assessment, September 1-3, 2020.
- Susannah Ferson, Andres Rodriquez, and Calvin Brekeen IV, RCAA, botanical survey, April 14-15 and May 20-21, 2021.
- Nicholas Simpson, CDFW, Denise Newman, RCAA, and Andrea Hilton, GHD for anadromy evaluation of the unnamed tributary on June 1, 2021.
- Denise Newman, RCAA, and Christa Unger, Caltrans, bridge survey for birds and bats, July 6, 2021.
- Denise Newman, Susannah Ferson, and Candace Reynolds, RCAA, late-season botanical survey, August 27 and September 9, 2021.

2.5. Agency Coordination and Professional Contacts

Stantec biologists obtained a list (Consultation Code 08EACT00-2021-SLI-0411 [Appendix C]) of federally listed, proposed, and candidate species with the potential to occur in the vicinity of the BSA. The list was electronically obtained from the USFWS Arcata Fish and Wildlife Office Information for Planning and Consultation planning tool on July 19, 2021, and updated on March 16, 2022.

Stantec biologists electronically obtained a list of federally listed fishes that have the potential to occur in the BSA (Appendix C) from the NMFS West Coast Region kmz tool on July 19, 2021, and updated on March 16, 2022.

GHD environmental staff Andrea Hilton corresponded via email with Mike Kelly at NMFS on July 27 and 28, 2021 to confirm a hydroacoustic assessment would not be required for the project, related to widening the Little River bridge and other informal details related to crossing options for the unnamed tributary. Jen Olsen of CDFW was included on the email correspondence.

Caltrans provided the draft project plans to NMFS for review and has engaged in ongoing technical assistance with NMFS to inform the design process.

2.6. Limitations That May Influence Results

All field studies were conducted in accordance with applicable protocols. Therefore, no limitations that may influence the results of field studies associated with this project are known to have occurred.

Chapter 3. Results: Environmental Setting

3.1. Description of Existing Physical and Biological Conditions

3.1.1. BIOLOGICAL STUDY AREA

Under Section 7 consultations, the action area includes those areas of land, water, and air to be affected directly or indirectly by the federal action and not merely the immediate footprint of the project activities (50 CFR 402.02). The action area is determined in part by the proposed project activities; site geography; topography and hydrology; and an understanding of the distribution, habitat requirements, phenology, and vulnerability of special status species potentially occurring in the action area. For the purposes of the Section 7 consultation, the BSA area depicted in Figure 2 (Appendix A) is the same area as the action area; and the term BSA is used for the remainder of this effort. The BSA encompasses the anticipated footprint of the proposed construction activity, construction staging and storage areas, and portions of waterways outside the immediate construction footprint that may be impacted.

The BSA is bisected about midpoint by the Little River, a wide, slow moving, estuarine perennial stream. The northern upland terrace is forested and located adjacent to US 101, occurring from Little River north to Scenic Drive. Estuarine-influenced vegetation and riparian wetlands are adjacent to the Little River and are downslope from the upland terrace. The section of the BSA south of Little River includes coastal scrub habitat located on a hillslope east of the active dunes at Little River Beach, which are outside the BSA and project boundary.

Land uses in the immediate vicinity include US 101 and a few lesser roads, and natural resources and recreation, including State Parks property on the adjacent public beaches that generally border the alignment to the west. Aside from US 101, the area is generally undeveloped and does not include residential, commercial, or other public facilities.

3.1.2. PHYSICAL CONDITIONS

The topography of the BSA is generally characterized as stream floodplain and fresh emergent wetland/riparian habitat that is associated with the Little River. The topography rises up to an upland terrace south, north, and east of the Little River. The Little River generally has a broad floodplain, except near the US 101 bridge, where it is steep. The elevation ranges from 0 to about 80 feet above mean sea level.

Climate conditions for the BSA summarized below are based on historical data collected between 1971 and 2020 at the Arcata-Eureka Airport (Western Regional Climate Center 2020):

- ***Type:*** Mediterranean Summer Fog with cool wet winters and cool foggy summers.
- ***Precipitation:*** Average annual precipitation is approximately 47 inches. Most precipitation falls as rain between the months of October and May.
- ***Air Temperature:*** Air temperatures range between an average January high of 56 degrees Fahrenheit (ºF), and an average August high of 64 ºF. The year-round average high temperature is approximately 60 ºF.

- ***Growing Season:*** The growing season (i.e., 50 percent probability of air temperature 28 ºF or higher) is 354 days.

Hydrology in the BSA is primarily driven by the Little River, which is an estuarine perennial stream that drains westward and bisects the BSA. Estuaries form a transition zone between river systems and the ocean, where freshwater features are influenced by the tide and the influx of saline water. Culverts under US 101 provide additional hydrology through unnamed perennial streams and overflow water during rain events.

The custom soil resources report for the Humboldt and Del Norte Area, California, shows three soil map units within the BSA (Natural Resources Conservation Service 2021). These soil map units are described below:

- **Fluvaquents, 0 to 2 percent slopes (131).** This is a poorly drained hydric soil associated with alluvium derived from mixed sources in overflow stream channels. The depth to a restrictive layer is more than 80 inches.

- **Samoa-Clam Beach complex, 0 to 50 percent slopes (155).** This soil complex consists of two soil types. Samoa is an excessively drained non-hydric soil associated with eolian and marine sand derived from mixed sources on sand dunes. The depth to a restrictive layer is more than 80 inches. Clambeach is very poorly drained hydric soil associated with eolian and marine sand derived from mixed sources in deflation basins. The depth to a restrictive layer is more than 80 inches.

- **Lepoil-Espa-Candy Mountain complex, 15 to 50 percent slopes (258).** This soil complex consists of well-drained non-hydric soils associated with mixed marine deposits derived from sedimentary rock on marine terraces. The depth to the restrictive layer is more than 80 inches. Hydric minor components occur in drainage ways and on marine terraces.

3.1.3. BIOLOGICAL CONDITIONS

3.1.3.1. Vegetation Communities

Vegetation mapping followed the technical approach and vegetation alliance classification system described in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) and updated in the current online edition (CNPS 2021) or in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), as appropriate.

Descriptions of these communities are provided below and shown on Figure 4, Appendix A.

Forests and Woodlands: Sitka Spruce Forest Alliance

Sitka spruce forest alliance occurs above Little River beach south of the Little River, and as mature forest on an upland terrace north of Little River. This community is dominated by Sitka spruce with scattered Monterey pine (*Pinus radiata*) and Douglas fir (*Pseudotsuga menziesii*). The tree layer is sparse in the southern portion of the BSA, with only about 10 percent absolute tree cover. The shrub layer is dominated by about 8 percent absolute cover of coyote brush (*Baccharis pilularis*). The herbaceous layer is dense and dominated by European beachgrass

(*Ammophila arenaria*), with yellow bush lupine (*Lupinus arboreus*) and sword fern (*Polystichum munitum*) common as well.

The Sitka spruce forest north of Little River occurs on an upland terrace and is a high-quality intact stand dominated by mature Sitka spruce trees at approximately 30 percent absolute cover. Red alder (*Alnus rubra*) and Hooker's willow (*Salix hookeriana*) occur to a small extent in the subcanopy. The herbaceous layer is dominated by sword fern, bracken fern (*Pteridium aquilinum*), slough sedge (*Carex obnupta*), English ivy (*Hedera helix*), and California blackberry (*Rubus ursinus*).

Forests and Woodlands: Red Alder Forest Alliance

Red alder forest alliance occurs on the north side of Little River. Red alder is the sole dominant tree in the upland areas of the BSA; while in the lower elevation areas, red alders are co-dominant with Hooker's willow. Shrubs in the understory include red elderberry (*Sambucus racemosa*), California blackberry, and Himalayan blackberry (*Rubus armeniacus*). The herbaceous layer contains sword fern and bracken fern in the upland areas and skunk cabbage (*Lysichiton americanus*), slough sedge, and small-fruited bulrush (*Scirpus microcarpus*) in the wetland areas.

Shrublands: Coastal Dune Willow Thickets Alliance

Coastal dune willow thickets alliance occurs in small patches throughout the BSA. Hooker's willow is dominant in the shrub layer and moderate to dense at about 60 percent absolute cover. Scattered wax myrtle (*Morella californica*), coast twinberry (*Lonicera involucrata*), and Cascara sagrada (*Frangula purshiana*) are present as well. Slough sedge and sword fern are common in the herbaceous layer.

Shrublands: Coyote Brush Scrub Alliance

Coyote brush scrub alliance occurs intermixed with Sitka spruce forest and coastal dune willow thickets south of Little River in coastal scrub habitat. The shrub layer is fairly sparse, with only 8-10 percent absolute cover of coyote brush. Himalayan blackberry and California blackberry are common in the shrub layer as well. The herbaceous layer is dominated by European beachgrass and sword fern.

Herbaceous Vegetation: Slough Sedge Swards Alliance

Slough sedge swards alliance occurs along the edge and within the ordinary high water mark of Little River. Little River is an estuarine feature adjacent to the Pacific Ocean and is tidally influenced. The slough sedge community is partially inundated by the Little River when the tide is high. The alliance is dominated by slough sedge, and no other plant species occurs in the small area adjacent to the river.

Herbaceous Vegetation: Pacific Silverweed Marshes Alliance

Pacific silverweed (*Argentina egedii*[1]) marshes alliance occurs on the north bank of the Little River, located between the slough sedge community and the coastal dune willow community on the river terrace. The community is dominated by Pacific silverweed and redtop (*Agrostis stolonifera*). Other common plants in the herbaceous community include bird's foot trefoil (*Lotus corniculatus*), Pacific aster (*Symphyotrichum chilense*), and Baltic rush (*Juncus balticus*).

Herbaceous Vegetation: Non-Native Grassland

Non-native grassland occurs in small patches alongside US 101 and side roads in the southern portion of the BSA. The vegetation was mowed, so plant identification was limited and is not categorized as a natural community. The community has a dense herbaceous cover dominated by fescue (*Festuca* sp.), carrot (*Daucus carota*), plantain (*Plantago* sp.), and bird's foot trefoil. This community also contains a narrow, vegetated ditch with hydrophytic vegetation, including rushes (*Juncus* spp.) and willow (*Salix* sp.) seedlings.

3.1.3.2. Common Wildlife

Mixed conifer forest, hardwood forest, shrubland, riparian, and estuarine habitats in the BSA provide habitat for a variety of common wildlife species. During the site visit conducted in September 2020, Stantec biologists observed song sparrow (*Melospiza melodia*), Brandt's cormorant (*Phalacrocorax penicillatus*), and cliff swallow (*Petrochelidon pyrrhonota).* Roosevelt elk (*Cervus canadensis roosevelti*) or black-tailed deer (*Odocoileus hemionus)* forage and bed in the area, indicated by scat and bed down areas throughout the BSA. Other common mammals that may forage and den in the area include gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), and black bear (*Ursus americanus*). Reptiles may occur near Little River and other aquatic features in the BSA, including Western toad (*Anaxyrus boreas*), Pacific treefrog (*Pseudacris regilla),* and bullfrog (*Lithobates catesbeianus*). Common reptiles in the area that may occur in the forest and shrublands include Western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), and gopher snake (*Pituophis catenifer*). River otters (*Lontra canadensis)* are commonly seen in estuarine systems and may occur in and along Little River.

3.1.3.3. Habitat Connectivity

Habitat corridors are segments of land that provide linkages between different habitats while also providing cover. On a broader level, corridors also function as avenues along which wide-ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas. Habitat corridors often consist of riparian areas along streams, rivers, or other natural features. Additionally, the rivers and streams themselves serve as migration corridors for anadromous fish.

Within the BSA, Little River and its associated riparian habitat provides a migration corridor for wildlife species, including anadromous fish traveling upstream from the ocean to their spawning ground. Similarly, the unnamed tributary within the BSA is also an anadromous migration

[1] Synonym to *Potentilla anserina* in Jepson eFlora (Jepson Flora Project 2021).

corridor (PS-2 on Page 2 of Figure 5, Appendix A). Upland forest habitat within the BSA provides habitat and migration connectivity for wildlife and avian species.

3.1.3.4. Invasive Species

Invasive plants (including designated noxious weeds) are undesirable, non-native plants that commonly invade disturbed sites. Most species have been introduced from Europe and Asia and are known to degrade native wildlife habitat and plant communities. When disturbance results in the creation of habitat openings or in the loss of intact native vegetation, invasive plants may colonize the site and spread, often out-competing native species. Once established, they are very difficult to eradicate and could pose a threat to native species.

All non-native plant species observed in the BSA during the botanical survey were reviewed to determine their status as invasive plants according to the ratings in the California Invasive Plant Inventory produced by California Invasive Plant Council (Cal-IPC 2021). The California Invasive Plant Council categorizes non-native invasive plants into three categories of overall negative ecological impact in California: high, moderate, limited. The non-native plants were also reviewed to determine if any plants are on the California Department of Food and Agriculture list of Noxious Weeds (California Department of Food and Agriculture 2021). Table 2 shows the invasive plant species observed in the BSA during the 2021 botanical survey.

Table 2. Invasive Plant Species in the Biological Study Area

Scientific Name	Common Name	Cal-IPC/CDFA[1]
Agrostis stolonifera	creeping bent/redtop bent	Limited/-
Ammophila arenaria	European beachgrass	High/-
Anthoxanthum odoratum	sweet vernal grass	Limited/-
Avena fatua	wild oats	Moderate/-
Brassica rapa	field mustard	Limited/-
Bromus diandrus	ripgut brome	Moderate/-
Bromus hordeaceus	soft brome	Limited/-
Cirsium vulgare	bull thistle	Moderate/-
Cortaderia jubata	Jubata grass	High/Noxious
Cotoneaster pannosus	silverleaf cotoneaster	Moderate/-
Cytisus scoparius	Scotch broom	High/Noxious
Delairea odorata	cape ivy	High/Noxious
Digitalis purpurea	purple foxglove	Limited/-
Festuca arundinacea	reed fescue	Moderate/-
Foeniculum vulgare	fennel	Moderate/-
Genista monspessulana	French broom	High/Noxious
Geranium dissectum	wild geranium	Limited/-
Hedera helix	English ivy	High/-
Holcus lanatus	common velvet grass	Moderate/-
Hypochaeris radicata	rough cat's-ear	Moderate/-
Ilex aquifolium	English holly	Limited/-

Scientific Name	Common Name	Cal-IPC/CDFA[1]
Plantago lanceolata	English plantain	Limited/-
Rubus armeniacus	Himalayan blackberry	High/-
Rumex acetosella	sheep sorrel	Moderate/-

Notes:
1) Ratings
California Invasive Plant Council (Cal-IPC)
High: These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
Moderate: These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
Limited: These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.
California Department of Food and Agriculture (CDFA)
Noxious: listed as a noxious weed by CDFA.

3.2. Regional Species and Habitats and Natural Communities of Concern

3.2.1. HABITATS AND NATURAL COMMUNITIES OF CONCERN

3.2.1.1. Tree Resources

One hundred seventeen (117) upland trees (6 inches or greater dbh) would be removed to accommodate trail construction. Tree species proposed for removal include red alder, Sitka spruce, and Monterey pine. Tree removal would not occur within riparian habitats. According to Humboldt County Code, this would be considered major vegetation removal and would require a special permit prior to tree removal.

3.2.1.2. Waters of the United States and State and California Coastal Commission Waters

Waters within the BSA include a perennial stream (Little River) and an unnamed perennial tributary to Little River. Riparian wetlands and fresh emergent wetlands are located on either side of Little River, as well as in the extensive estuarine habitat on the west side of the BSA (Figure 5 and 6, Appendix A).

3.2.1.3. Sensitive Natural Communities

Several natural communities mapped in the BSA are considered sensitive by the CDFW (CDFW 2020). Sensitive natural communities in the BSA include coastal dune willow thickets, Pacific silverweed marshes, Sitka spruce forest, and slough sedge swards (Figure 4, Appendix A).

Riparian habitat is considered a sensitive natural community by USACE, CDFW, and CCC and is present in the BSA. In addition to providing habitat for many wildlife species, riparian areas provide shade, sediment, nutrient or chemical regulation, stream bank stability, and input for large woody debris or organic matter to the channel, which are necessary habitat elements for fish and other aquatic species. Riparian habitat is present on either side of Little River in the

BSA and include Pacific silverweed marshes, slough sedge swards, and coastal dune willow thickets (Figure 4, Appendix A).

3.2.1.4. Upland Environmentally Sensitive Habitat Areas

Upland ESHAs within the BSA include all sensitive natural communities that are not waters of the U.S. or CCC waters (Figure 7, Appendix A).

3.2.2. SPECIAL STATUS PLANTS

For the purpose of this evaluation, special status plant species include plants that are (1) listed as threatened or endangered under the CESA or the FESA; (2) identified as state or federal candidate or proposed species for listing as threatened or endangered; (3) designated as rare by the CDFW; and/or (4) have a California Rare Plant Rank (CRPR) of 1, 2, 3, or 4.

Regionally occurring special status plant species were identified based on a review of pertinent literature, the USFWS species list, CNDDB and California Native Plant Society database records, and the field survey results. The status of each special status plant species was verified using the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2021a) and the *State and Federally Listed Endangered, Threatened and Rare Plants of California* (CDFW 2021b).

All of the special status plant species identified (Table 3) were evaluated for their potential to occur in the BSA based on the expected geographic range and the presence of suitable habitat requirements (e.g., substrate, hydrology, vegetation type, disturbance). Federally listed species that may potentially occur in the BSA were given an effects determination (i.e., no effect, may affect, not likely to adversely affect). All special status species were evaluated according to the following guidelines:

- **Not likely to occur:** Habitat within the biological study area (BSA) does not satisfy the species' requirements and/or the project is not within the known or expected range of the species. Known occurrences have not been reported from the region. The species was not detected during protocol-level surveys. The species' presence within the BSA is very unlikely.

- **Low Potential:** Habitat within the BSA satisfies few of the species' requirements. Known occurrences have not been reported from the BSA. The species' presence within the BSA is not likely.

- **Moderate Potential:** Habitat within the BSA meets some of the species' requirements and known locations for the species are found within 10 miles of the project. Presence of the species within the BSA is moderately possible.

- **High Potential:** Habitat within the BSA meets most or all of the species' requirements and known locations of the species are within 5 miles of the project. Presence of the species within the BSA is highly likely.

Based on the habitat assessment, the BSA provides potential habitat for 48 special status plant species. Only one special status plant species was observed in the BSA during the protocol-level botanical survey; the remainder were not observed and are not likely to occur in the BSA.

Table 3. Special Status Plants and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area

Common Name *Scientific Name*	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Federal or State Listed Species				
Menzies' wallflower *Erysimum menziesii*	FE/SE/1B.1	Coastal dunes. Elevation: 0-100 feet. Bloom: March-April.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No effect.***
beach layia *Layia carnosa*	FE/SE/1B.1	Coastal dunes, sandy scrub. Elevation: 0-200 feet. Bloom: March-July.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No effect.***
western lily *Lilium occidentale*	FE/SE/1B.1	Coastal bluff scrub, bogs and fens, north coast coniferous forest. Elevation: 0-600 feet. Bloom: June-July.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No effect.***
Other Special status Species				
Pink sand-verbena *Abronia umbellata* var. *breviflora*	–/–/1B.1	Coastal dunes. Elevation: 0-30 feet. Bloom: June-October.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Sea-watch *Angelica lucida*	–/–/4.2	Coastal bluff scrub, coastal dunes, coastal scrub, marshes, and swamps. Elevation: 0-50 feet. Bloom: April-September.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Twisted horsehair lichen *Bryoria spiralifera*	–/–/1B.1	North coast coniferous forest. Elevation: 0-100 feet. Bloom: Not applicable.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Bolander's reed grass *Calamagrostis bolanderi*	–/–/1B.1	Bogs and fens, coastal scrub, marshes and swamps, meadows and seeps, north coast coniferous forest. Elevation: 0-400 feet. Bloom: May-August.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Seaside bittercress *Cardamine angulata*	–/–/2B.2	Lower montane coniferous forest and North Coast coniferous forest. Elevation: 100-3,000 feet. Bloom: March-July.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Northern clustered sedge *Carex arcta*	–/–/2B.2	Bogs and fens, and north coast coniferous forest. Elevation: 200-4,600 feet. Bloom: June-September.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period, and therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Lagoon sedge *Carex lenticularis* var. *limnophila*	–/–/2B.2	Bogs and fens, marshes, swamps, and north coast coniferous forest. Elevation: 0-20 feet. Bloom: June-August.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Bristle-stalked sedge *Carex leptalea*	–/–/2B.2	Bogs, fens, marshes, seeps, and swamps. Elevation: 0-2,300 feet. Bloom: March-July.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Lyngbye's sedge *Carex lyngbyei*	–/–/2B.2	Marshes and swamps. Elevation: 0-30 feet. Bloom: April-August.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Deceiving sedge *Carex saliniformis*	–/–/1B.2	Mesic habitat, coastal prairie, coastal scrub, meadows, seeps, and swamps. Elevation: 0-750 feet. Bloom: May-June.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Green yellow sedge *Carex viridula* ssp. *viridula*	–/–/2B.3	Bogs, fens, marshes, and swamps. North coast coniferous forest. Elevation: 0-5,250 feet. Bloom: July-September.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Humboldt Bay owl's-clover *Castilleja ambigua* var. *humboldtiensis*	–/–/1B.2	Marshes and swamps. Elevation: 0-10 feet. Bloom: April-August.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Oregon coast paintbrush *Castilleja litoralis*	–/–/2B.2	Sandy habitat, coastal bluff scrub, coastal dunes, and coastal scrub. Elevation: 49-325 feet. Bloom: June-July.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Mendocino Coast paintbrush *Castilleja mendocinensis*	–/–/1B.2	Coastal bluff scrub, closed-cone coniferous forest, coastal dunes, coastal prairie, and coastal scrub. Elevation: 0-525 feet. Bloom: April-August.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Point Reyes bird's-beak *Chloropyron maritimum* ssp. *palustre*	–/–/1B.2	Marshes and swamps. Elevation: 0-30 feet. Bloom: June-October.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Pacific golden saxifrage *Chrysosplenium glechomifolium*	–/–/4.3	North coast coniferous forest, riparian forest. Elevation: 30-700. Bloom: February-June.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Naked flag moss *Discelium nudum*	–/–/2B.2	Coastal bluff scrub. Elevation: 30-160 feet. Bloom: Unknown.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal bluff scrub habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Black crowberry *Empetrum nigrum*	–/–/2B.2	Costal bluff scrub, coastal prairie. Elevation: 30-650 feet. Bloom: April-June.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal bluff scrub habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Coast fawn lily *Erythronium revolutum*	–/–/2B.2	Mesic, streambanks, bogs and fens, north coast coniferous forest. Elevation: 0-5,250 feet. Bloom: March-July.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Minute pockey moss *Fissidens pauperculus*	–/–/1B.2	North Coast coniferous forest. Elevation: 30-3,350 feet. Bloom: Not applicable.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Pacifica gilia Gilia capitata ssp. pacifica	–/–/1B.2	Coastal bluff scrub, chaparral openings, coastal prairie, valley and foothill grassland. Elevation: 15-5,400 feet. Bloom: April-August.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal bluff scrub habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Dark-eyed gilia *Gilia millefoliata*	–/–/1B.2	Coastal dunes Elevation: 0-100 feet. Bloom: April-July.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Sierra rush *Juncus nevadensis* var. *inventus*	–/–/2B.2	Bogs, fens, and swamps. Elevation: 0-30 feet. Bloom: July-November.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Small groundcone *Kopsiopsis hookeri*	–/–/2B.3	North Coast coniferous forest. Elevation: 300-2,900 feet. Bloom**:** April-August.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Seaside pea *Lathyrus japonicus*	–/–/2B.1	Coastal dunes. Elevation: 0-100 feet. Bloom: May-August.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Marsh pea *Lathyrus palustris*	–/–/2B.2	Bogs and ferns, coastal prairie, coastal scrub, lower montane coniferous forest, marshes, and swamps. Elevation: 0-320 feet. Bloom: March-August.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Heart-leaved twayblade *Listera cordata*	–/–/4.2	Bogs and fens, north coast coniferous forest. Elevation: 15-4,500 feet. Bloom: February-July.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Inundated bog club-moss *Lycopodiella inundata*	–/–/2B.2	Bogs and ferns, lower montane coniferous forest, marshes, and swamps. Elevation: 15-300 feet. Bloom: Not applicable.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Running pine *Lycopodium clavatum*	–/–/4.1	Marshes and swamps, north coast coniferous forest. Elevation: 150-4,200 feet. Bloom: Not applicable.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Northern bungleweed *Lycopus uniflorus*	–/–/4.3	Marshes and swamps. Elevation: 15-6,500 feet. Bloom: July-September.	HP	Not likely to occur. Swamp habitat in the western portion of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Leafy stemmed miterwort *Mitellastra caulescens*	–/–/4.2	Meadows and seeps, north coast coniferous forest. Elevation: 15-5,400 feet. Bloom: April-October.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Woodnymph *Moneses uniflora*	–/–/2B.2	Broadleafed upland forest, north coast coniferous forest. Elevation: 330-3,600 feet. Bloom: May-August.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Howell's montia *Montia howellii*	–/–/2B.2	Vernally mesic, sometimes roadsides. Meadows and seeps, North coast coniferous seeps, and vernal pools. Elevation: 0-2,750 feet. Bloom: March-May.	HP	Not likely to occur. Seep habitat in north coast coniferous forest provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Wolf's evening-primrose *Oenothera wolfii*	–/–/1B.1	Coastal bluff scrub, coastal dunes, coastal prairie, and lower montane coniferous forest. Elevation: 0-2,600 feet. Bloom: May-October.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal dune habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Seacoast ragwort *Packera bolanderi var. bolanderi*	–/–/2B.2	Coastal scrub, north coast coniferous forest, sometimes roadside. Elevation: 100-2,100 feet. Bloom: May-July.	HP	Not likely to occur. North coast coniferous forest and coastal scrub throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
California pinefoot *Pityopus californicus*	–/–/4.2	North coast coniferous forest, lower montane coniferous forest. Elevation: 50-7,500 feet. Bloom: May-August.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Nodding semaphore grass *Pleuropogon refractus*	–/–/4.2	Meadows and seeps, north coast coniferous forest. Elevation: 0-5,200 feet. Bloom: April-July.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Oregon Polemonium *Polemonium carneum*	–/–/2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. Elevation: 0-6,000 feet. Bloom: April-September.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal scrub habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Trailing black currant *Ribes laxiflorum*	–/–/4.3	North coast coniferous forest. Elevation: 15-4,500 feet. Bloom: March-July.	**P**	**Present.** This species occurs in the BSA. It was located during the 2021 botanical surveys. ***No impact with avoidance measures.***
Tracy's Romanzoffia *Romanzoffia tracyi*	–/–/2B.3	Rocky habitat, coastal bluff scrub, and coastal scrub. Elevation: 50-100 feet. Bloom: March-May.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal scrub habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Maple leaved checkerbloom *Sidalcea malachroides*	–/–/4.2	North coast coniferous forest, riparian woodland. Elevation: 0-2,300 feet. Bloom: April-August.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State/ CRPR)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Siskiyou checkerbloom *Sidalcea malviflora* ssp. *patula*	–/–/1B.2	Coastal bluff scrub, coastal prairie, and North Coast coniferous forest. Elevation: 50-2,900 feet. Bloom: May-August.	HP	Not likely to occur. North coast coniferous forest and coastal scrub throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Coast checkerbloom *Sidalcea oregana* ssp*. eximia*	–/–/1B.2	Lower montane coniferous, meadows and seeps, and north coast coniferous forest. Elevation: 15-4,400 feet. Bloom: June-August.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Scouler's catchfly *Silene scouleri* ssp*. scouleri*	–/–/2B.2	Coastal bluff scrub, coastal prairie, valley, and foothill grassland. Elevation: 0-2,000 feet. Bloom: June-August.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal bluff scrub habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***
Methuselah's beard lichen *Usnea longissima*	–/–/4.2	Broadleaf upland forest, north coast coniferous forest. Elevation: 160-4,500 feet. Bloom: Not applicable.	HP	Not likely to occur. North coast coniferous forest throughout the majority of the BSA provides suitable habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

Common Name *Scientific Name*	Status[1] (Fed/State/ CRPR)	General Habitat Description	Habitat Present/ Absent[2]	Rationale
Alpine marsh violet *Viola palustris*	–/–/2B.2	Bogs and fens, coastal scrub. Elevation: 0-500 feet. Bloom: March-August.	HP	Not likely to occur. The southern portion of the BSA contains suitable coastal scrub habitat for the species. The species was not located during protocol-level botanical surveys performed during the species' bloom period and, therefore, was presumed absent. ***No impact.***

1) **Status Codes:**
Federal: Federal Threatened (FT)
State: State Threatened (ST); State Fully Protected (FP); State Species of Special Concern (SSC).
CRPR Codes and Extensions:
1A Plants presumed extirpated in California and either rare or extinct elsewhere.
1B Plants rare, threatened, or endangered in California and elsewhere.
2A Plants presumed extirpated in California, but more common elsewhere.
2B Plants rare, threatened, or endangered in California, but more common elsewhere.
xx.3 Not very endangered in California
xx.2 Fairly endangered in California
xx.1 Seriously endangered in California
4. Plants of limited distribution, a watch list.

2) Assessment Codes:
Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is, or may be present. Present (P): The species is present. Critical Habitat (CH): BSA is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

3.2.3. SPECIAL STATUS WILDLIFE

Special status wildlife species include species that are (1) listed as threatened or endangered under the CESA or the FESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species; and/or (5) protected under the Bald and Golden Eagle Protection Act.

Regionally occurring special status wildlife species were identified based on a review of pertinent literature, the NMFS list, the USFWS species list, CNDDB database records, eBird, a query of the California Wildlife Habitats Relationship system, and the field survey results. The status for each special status wildlife species was verified using the *Special Animals List* (CDFW 2021c) and the *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2021d).

All of the special status wildlife species identified (Table 4) were evaluated for their potential to occur in the BSA based on the expected geographic range and the presence of suitable habitat requirements of each species.

Federally listed species that may potentially occur in the BSA were given an effects determination (i.e., no effect, may affect, not likely to adversely affect). All special status species were evaluated according to the following guidelines:

- **Not likely to occur:** Habitat within the biological study area (BSA) does not satisfy the species' requirements and/or the project is not within the known or expected range of the species. Known occurrences have not been reported from the region. The species' presence within the BSA is very unlikely.

- **Low Potential:** Habitat within the BSA satisfies few of the species' requirements. Known occurrences have not been reported from the BSA. The species' presence within the BSA is not likely.

- **Moderate Potential:** Habitat within the BSA meets some of the species' requirements and known locations for the species are found within 10 miles of the project. Presence of the species within the BSA is moderately possible.

- **High Potential:** Habitat within the BSA meets most or all of the species' requirements and known locations of the species are within 5 miles of the project. Presence of the species within the BSA is highly likely.

A species was only considered for additional review if it had at least a low potential to occur; that is, species were not addressed further if suitable habitat was not identified within the BSA, the BSA was found to be outside the species' range, and/or the species (or signs of presence) was not observed during surveys. Based on the habitat assessment, 20 special status wildlife species were determined to have a low, moderate, or high potential to occur in the BSA or are known to be present in the BSA (Table 4). These special status wildlife species are further discussed in Chapter 4.

Table 4. Special Status Wildlife and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area

Common Name *Scientific Name*	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Federal or State Listed Species				
Crotch bumble bee *Bombus crotchii*	—/CE	Grasslands and shrublands in hot and dry environments.	A	Not likely to occur. The Biological Study Area (BSA) is outside the known range of this species. ***No impact.***
Western bumblebee *Bombus occidentalis*	—/CE	Blooming flowers along streams, meadows, roadsides, and burned or logged areas. Nests found underground in abandoned rodent burrows.	A	Not likely to occur. Suitable nesting habitat (rodent burrows) is absent in the BSA. ***No impact.***
Southern Distinct Population Segment (DPS) Green Sturgeon *Acipenser medirostris*	FT/–	Found in Sacramento and San Joaquin rivers and Delta. Also can be found in Humboldt Bay and the open ocean.	A	Not Likely to Occur. Adults inhabit the open ocean and estuaries, this DPS only spawns in the Sacramento River and its tributaries. ***No effect.***

Common Name ***Scientific Name***	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Tidewater goby *Eucyclogobius newberryi*	FE/SSC	Shallow lagoons and coastal streams with brackish to fresh and slow-moving or fairly still water.	A	Not Likely to Occur. Brackish water may be present in the BSA, but preferred lagoon and slow water back habitat is not. Recent eDNA testing for tidewater goby in Little River was negative (Sutter and Kinziger 2019). ***No effect.***
Southern Oregon Northern California coast (SONCC) evolutionarily significant unit (ESU) coho salmon *Oncorhynchus kisutch*	FT/ST	This ESU occurs from Punta Gorda, California north to Cape Blanco, Oregon. Spawn and rear in freshwater rivers and streams. Juveniles prefer deep (greater than 1 meter) pools with dense overhead cover, and clear water. Requires cool water temperatures for spawning, egg-incubation, and juvenile rearing. Spawning occurs in riffles with gravel and cobble substrates.	HP, CH	**High Potential.** SONCC coho salmon are known to occur in the Little River and unnamed tributary. The BSA is within migratory habitat for adults and juveniles with rearing not likely to occur. The Little River in the BSA is considered critical habitat. ***May affect, not likely to adversely affect.***
California Coastal ESU Chinook salmon *Oncorhynchus tshawytscha*	FT/—	The California Coastal ESU includes rivers and streams south of the Klamath River to the Russian River. Populations utilize perennial streams with covered areas (e.g., fallen trees, back eddies, bank cover) and deeper water areas. Spawn and rear in freshwater rivers and streams. Requires cool water temperatures for spawning, egg-incubation and juvenile rearing. Spawn in riffles with gravel and cobble substrates.	HP, CH	**High Potential.** The Little River provides suitable perennial river habitat. The unnamed tributary has lower potential, as the species prefers mainstem habitat. The BSA is mainly migratory habitat for adults and juveniles with local rearing unlikely to occur. The Little River in the BSA is considered critical habitat. ***May affect, not likely to adversely affect***

Common Name ***Scientific Name***	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Northern California DPS steelhead *Oncorhynchus mykiss*	FT/—	This DPS occurs in coastal streams from Redwood Creek south to the Russian River. Spawn and rear in freshwater rivers and streams. Juveniles prefer deep (greater than 1 meter) pools with dense overhead cover, and clear water. Requires cool water temperatures for spawning, egg-incubation and juvenile rearing. Spawn in riffles with gravel and cobble substrates.	P	**Present.** The Little River and unnamed tributary provides suitable perennial river habitat. The BSA is mainly migratory habitat for adults and juveniles with rearing unlikely to occur. Juvenile steelhead were observed by CDFW on June 1, 2021, in the unnamed tributary, downstream of the BSA. ***May affect, not likely to adversely affect***
Longfin smelt *Spirinchus thaleichthys*	FC/ST	Adult and juvenile longfin smelt occur in salt or brackish water within estuaries of major rivers. Spawning occurs in fresh water over sandy, gravelly, or areas vegetated with aquatic vegetation. In California, occur in Sacramento-San Joaquin estuary, Humboldt Bay, Eel River estuary, Klamath River estuary, and coastal waters.	A	Not Likely to Occur. This species is not known to occur in Little River. ***No effect.***
Southern eulachon DPS *Thaleichthys pacificus*	FT/—	Spend most of their life in salt water. Spawning occurs in the lower reaches of large rivers or tributaries with small gravel or in semi-sandy areas with debris. No large runs of eulachon are known to exist south of the Klamath River.	HP	**Moderate Potential.** Previously thought to be extirpated south of the Klamath River, however, one individual was observed in the Little River in 2022. ***No effect"***
Bank swallow *Riparia* sp.	—/ST	Colonial nester on vertical banks or cliffs with fine-textured soils near water.	A	Not likely to occur. Suitable nesting habitat is absent from the BSA. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Northern spotted owl *Strix occidentalis caurina*	FT/ST, SSC	In Northern California, resides in large stands of old growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats.	A	Not likely to occur. The BSA lacks nesting habitat for the species. Potential nesting habitat occurs at least 300 feet east of the BSA on the east side of US 101. However, US 101 provides a topographical barrier between the BSA and potential nesting habitat and visual disturbance from construction is not expected. US 101 provides ambient noise at a very high level with large buses and semi-trucks with jake brakes (USFWS 2020b). Noise from construction will be at a similar level to ambient noise, and it is not expected to cause auditory disturbance to nesting Northern spotted owl on the east side of US 101. The region also lacks positive occurrences for the species, with the nearest occurrence located 1.3 miles southeast of the BSA and several negative occurrences located 1 mile northeast of the BSA. ***No effect.***
marbled murrelet *Brachyramphus marmoratus*	FT/SE	Marine subtidal and pelagic habitats; requires dense, mature forests of redwood and Douglas-fir for breeding.	A	Not likely to occur. The BSA and vicinity lacks old growth habitat and conifers present in the BSA and the vicinity lacks platforms for nesting. ***No effect.***
Western snowy plover *Charadrius alexandrinus nivosus*	FT/SSC	Coastal wetlands and coastal dune habitat.	A	Not likely to occur. The coastal scrub habitat in the BSA to the east of existing dunes outside the BSA are well vegetated with European beach grass, coyote brush, and ferns and are not likely to support nesting western snowy plover. The BSA is approximately 400 feet inland from high tide line and coastal beach area. There is no line of sight from the coastal scrub habitat in the southern portion of the BSA to the waveslope. The population breeds above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries (USFWS 2001). ***No effect.***

Common Name ***Scientific Name***	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
California Ridgeways' rail *Rallus obsoletus*	FE/SE, FP	Coastal wetlands and brackish areas with mudflats, tidal creeks, and higher marsh vegetation.	A	Not likely to occur. The BSA is outside the current known range of this species. ***No effect***
Western yellow-billed cuckoo *Coccyzus americanus*	FT/SE	Nesting habitat is extensive and dense cottonwood/willow riparian forest. Occurs only in Northern California along the upper Sacramento Valley portion of the Sacramento River, and the Feather River in Sutter County.	A	Not likely to occur. No suitable nesting habitat is present, the BSA is outside the known range of this species. ***No effect.***
tricolored blackbird *Agelaius tricolor*	—/ST, SSC	Breeds near fresh water in stands of dense emergent vegetation.	HP	**Moderate Potential.** Dense emergent wetland vegetation in the BSA provides suitable nesting and foraging habitat. ***No impact with avoidance measures.***
Humboldt marten *Martes caurina humboldtensis*	PT/SE, SSC	Coastally influenced old-growth redwood forest.	A	Not likely to occur. Old-growth redwood forest is not present in the BSA. The BSA is outside the species' known range. ***No effect.***
Other Special status Species				
Pacific lamprey *Entosphenus tridentatus*	—/SSC	Medium sized rivers and tributaries that have stable flow year-round where temperatures do not exceed 68 ºF for spawning. Streams and rivers with complex channel morphology support ammocoetes (larval) feeding habitat.	HP	**Moderate Potential.** The Little River and unnamed tributary contains suitable habitat for spawning lamprey and rearing ammocoetes (larval lamprey). ***No impact with avoidance measures.***
Western brook lamprey *Lampetra richardsoni*	—/SSC	Similar to salmonids and Pacific lamprey. In Oregon they have been found to most commonly occur in shady glides or riffles with relatively fine substrates.	P	**Present.** The Little River contains suitable habitat for spawning lamprey and rearing ammocoetes (larval lamprey). Adult western brook lamprey were observed by CDFW on June 1, 2021, in the unnamed tributary within the BSA. ***No impact with avoidance measures.***

Common Name ***Scientific Name***	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Coastal cutthroat trout *Oncorhynchus clarkii*	—/SSC	Found in low gradient coastal streams and estuaries. Optimal streams are cool and shady, with a lot of instream cover. Spawns in reaches with small to moderate sized gravels. Occur in coastal streams from the Eel River north to Seward, Alaska.	P	**Present.** Coastal sloughs and streams provide seasonal habitat, including spawning, for the species. Cutthroat trout may seasonally migrate through the BSA between freshwater spawning and rearing habitat of upstream watershed tributaries and estuarine habitats. Juvenile coastal cutthroat trout were observed by CDFW on June 1, 2021, in the unnamed tributary within the BSA. ***No impact with avoidance measures.***
Northern DPS Green Sturgeon *Acipenser medirostris*	—/SSC	Prefer deep, low gradient reaches in large rivers or off-channel coves and open ocean.	A	Not Likely to Occur. Adults inhabit the open ocean and estuaries. This DPS is not known to spawn in the Little River. ***No impact.***
Northern red-legged frog *Rana aurora*	—/SSC	Humid forests, woodlands, grasslands, and stream sides in northwestern California, usually near dense riparian cover.	HP	**Moderate Potential.** The Little River and associated riparian vegetation provides potential breeding habitat for the species. ***No impact with avoidance measures.***
foothill yellow-legged frog *Rana boylii*	—/SSC	Rocky streams in a variety of habitats.	A	Not Likely to Occur. Little River in the BSA is slow moving estuary tributary with a silty substrate; foothill yellow-legged frog is typically found in or near rocky streams and alluvial habitats. ***No impact.***
Southern torrent salamander *Rhyacotriton variegatus*	—/SSC	Cold, well-shaded permanent streams and seeps in coastal forests.	HP	**Moderate Potential.** The Little River and tributaries, and adjacent upland provides potential breeding and upland habitat for the species. ***No impact with avoidance measures.***
Western pond turtle *Actinemys marmorata*	—/SSC	Slow water aquatic habitat with available basking sites. Hatchlings require shallow water with dense submergent or short emergent vegetation. Require an upland oviposition site in the vicinity of the aquatic site.	HP	**Moderate Potential.** The Little River and adjacent upland provides potential breeding and upland habitat for the species. ***No impact with avoidance measures.***

Common Name ***Scientific Name***	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
Pacific tailed frog *Ascaphus truei*	—/SSC	Clear, rocky, swift, cool perennial streams in densely forested habitats. This species is restricted to perennial streams of low temperature in steep-walled valleys with dense vegetation.	A	Not Likely to Occur. Little River in the BSA is slow moving and has a silty substrate. Pacific tailed frog is typically found in or near rocky and swift streams. ***No impact with avoidance measures.***
white-tailed kite *Elanus leucurus*	—/FP	Nests in lowlands with dense oak or riparian stands near open areas, forages over grassland, meadows, cropland, and marshes.	HP	**High Potential.** Potential nest trees are present in the BSA and marsh habitat provides suitable foraging habitat. ***No impact with avoidance measures.***
Northern goshawk *Accipiter gentiles*	—/SSC	Breeds in dense, mature conifer and deciduous forests, interspersed with meadows, other openings, and riparian areas; nesting habitat includes north-facing slopes near water.	A	Not Likely to Occur. The species requires mature forest and are not likely to nest in isolated habitat between the highway and the ocean. **No impact.**
golden eagle *Aquila chrysaetos*	—/FP	Breeds on cliffs or in large trees or electrical towers, forages in open areas.	A	Not likely to occur. Cliffs for nesting and open spaces for foraging are absent from the BSA. ***No impact.***
Northern harrier *Circus cyaneus*	—/SC	Occurs in meadows, grasslands, open rangelands, fresh and saltwater emergent wetlands; seldom in wooded areas.	HP	**Moderate Potential.** Wetland habitat provides potential breeding habitat for the species. ***No impact with avoidance measures.***
Vaux's swift *Chaetura vauxi*	—/SC	Prefers redwood and Douglas-fir habitats, nests in hollow trees and snags or, occasionally, in chimneys; forages aerially.	HP	**Moderate Potential.** Forested areas within the BSA may provide suitable nesting habitat. ***No impact with avoidance measures.***
purple martin *Progne subis*	—/SC	Breeding habitat includes old-growth, multi-layered, open forest and woodland with snags; forages over riparian areas, forest, and woodlands.	HP	**Low Potential.** Old growth forest is not found within the BSA but nearby eBird database occurrences suggest that the species may still nest in the area. ***No impact with avoidance measures.***
tufted puffin *Fratercula cirrhata*	—/SSC	Nests on islands and coastal cliffs.	A	Not likely to occur. Suitable coastal island habitat does not occur in the BSA. ***No impact.***

Common Name ***Scientific Name***	**Status[1] (Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent[2]**	**Rationale**
fork-tailed storm-petrel *Hydrobates frucatus*	—/SSC	Forage over the ocean, nests on islands.	A	Not likely to occur. Suitable coastal island habitat does not occur in the BSA. ***No impact.***
yellow warbler *Setophaga petechia*	—/SSC	Usually breeds in riparian deciduous habitats in summer: cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland.	HP	**Moderate Potential.** Willow and alder riparian habitats provide suitable nesting habitat for the species. ***No impact with avoidance measures.***
yellow-breasted chat *Icteria virens*	—/SSC	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	HP	**Moderate Potential.** Riparian habitat in the BSA provides suitable nesting habitat. ***No impact with avoidance measures.***
pallid bat *Antrozous pallidus*	—/SSC	Forages over many habitats; roosts in buildings, large oaks or redwoods, rocky outcrops and rocky crevices in mines and caves.	HP	**Low Potential.** Based on the lack of suitable crevices and wood elements on the bridge over Little River, pallid bat is unlikely to use the bridge for daytime roosting or maternity colonies. The species may roost on the bridge individually at night. ***No impact with avoidance measures.***
Townsend's big-eared bat *Corynorhinus townsendii*	—/SSC	Roosts in colonies in caves, mines, tunnels, or buildings in mesic habitats. Occasionally found on bridges.	HP	**Low Potential.** Based on the lack of suitable crevices and wood elements on the bridge over Little River, Townsend's big-eared bat is unlikely to use the bridge for daytime roosting or maternity colonies. The species may roost on the bridge individually at night. ***No impact with avoidance measures.***
white-footed vole *Arborimus albipes*	—/SSC	In California occurs along the Pacific coast from the Oregon border to Humboldt Bay, California. Found in areas with deciduous vegetation. Generally found near water.	HP	**Moderate Potential.** Suitable deciduous woodland habitat near water is present in the BSA. ***No impact with avoidance measures.***

Common Name ***Scientific Name***	**Status**[1] **(Fed/State)**	**General Habitat Description**	**Habitat Present/ Absent**[2]	**Rationale**
Sonoma red tree vole *Arborimus pomo*	—/SSC	Douglas-fir, redwood, and mixed evergreen trees in fog belt. Specialized on needles of Douglas and grand fir.	HP	**Low Potential.** Coniferous forests in the BSA provides potential habitat for the species, although the preferred tree species (Douglas fir and grand fir) used for foraging and nesting are not common in the BSA. ***No impact with avoidance measures.***
Northern California/ Southern Oregon DPS fisher *Pekania pennanti*	—/SSC	Dens and forages in intermediate to large stands of old-growth forests or mixed stands of old-growth and mature trees with greater than 50% canopy closure. May use riparian corridors for movement.	A	Not likely to occur. The lack of old growth forest and the proximity of US101 to the project likely precludes the species' use of the area. **No impact.**

1) Status Codes
Federal: Federal Threatened (FT); Federal Endangered (FE)
State: State Threatened (ST); State Endangered (SE); State Fully Protected (FP); State Species of Special Concern (SSC).

2) Assessment Codes
Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is, or may be present. The species may be present. Present (P): The species is present. Critical Habitat (CH): BSA is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Sources:

Sutter, M. and Kinziger, A. P. 2019. Rangewide tidewater goby occupancy survey using environmental DNA. – Conservation Genetics. 20: 597–613.

U.S. Fish and Wildlife Service. 2001. Western Snowy Plover (*Charadrius alexandrinus nivosus*) Pacific Coast Population Draft Recovery Plan. May 2001.

USFWS. 2020b. Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California.

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1. Habitats and Natural Communities of Concern

4.1.1. POTENTIAL WATERS OF THE UNITED STATES AND STATE

4.1.1.1. Survey Results

Stantec biologists conducted a delineation of potential waters of the U.S. and state during the period of September 1-3, 2020 (Stantec, 2020a). Potentially jurisdictional waters include riparian wetland, riparian/fresh emergent wetland complex, fresh emergent wetland, vegetated ditch, and perennial stream occupying a total of 2.92 acres. Table 5 provides a summary by feature type. Potential CCC waters are summarized in section 4.1.2.

Table 5. Potential Waters of the United States and State Summary

Potential Waters of the United States and State	Total **Acreage**	**Total Linear Feet**
Wetlands		
Riparian Wetland	0.07	N/A
Riparian /Fresh Emergent Wetland Complex	1.89	N/A
Fresh Emergent Wetland	0.19	N/A
Vegetated Ditch	0.02	N/A
Other Waters		
Perennial Stream	0.75	367
Total Potential Waters of the United States and State	**2.92**	**367**

4.1.1.2. Potential Impacts

The following estimates of potential impacts are from the 30% design. Final areas of impact are likely to adjust as the design progresses; however, efforts to avoid and minimize potential impacts will continue throughout the remainder of the design process. The project would result in less than 0.01 acre of temporary impacts on riparian wetland/fresh emergent wetland complex and riparian wetland. Permanent impacts would total approximately 0.01 acre of riparian wetland. Temporary impacts would result from construction access on either side of the trail alignment. Permanent impacts would result from grading and fill, and retaining wall installation. Permanent and temporary impacts on potential waters of the U.S. and state are shown in Figure 5, Appendix A. Potential indirect impacts from construction include erosion, sedimentation, and accidental spills leading to pollution.

4.1.1.3. Avoidance and Minimization Efforts

The project was designed to minimize impacts on potential waters of the U.S. to the extent practicable. No work would occur in the Little River channel. In-water work in the unnamed perennial stream that is tributary to Little River would also not occur. All impacts would occur on the far edges of aquatic resources, where the features extend slightly into the trail alignment. Conservation Measure #1 (*Erosion and Sedimentation Control*) and Conservation Measure #2 (*Prevention of Accidental Spills*) (described in Section 1.4) will be used to reduce or avoid the potential for erosion and sedimentation, as well as to prevent accidental spills that could affect water quality. In addition, the following avoidance and minimization measures will be implemented:

- To the extent practicable, the discharge of dredged or fill material into waters of the United States, including wetlands, will be avoided.

- Exclusionary fencing will be installed along the boundaries of all ESAs to minimize impacts to ESA's outside of the construction area. See Figure 5, Appendix A for proposed exclusionary fencing placement along boundaries of aquatic resources.

- Although project impacts on waters of the United States are minor, the project would result in the discharge of fill material into wetlands, which are classified by the U.S. Army Corps of Engineers (USACE) as a special aquatic site. Therefore, authorization under a Nationwide Permit 14 (Linear Transportation Projects) would likely be obtained from USACE under Section 404.

- Authorization under a Clean Water Act Section 401 Water Quality Certification will be obtained from the North Coast RWQCB.

- Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of perennial streams, notification of streambed alteration will be submitted to the California Department of Fish and Wildlife (CDFW) and, if required, a streambed alteration agreement will be obtained from CDFW.

- Any monitoring, maintenance, and reporting required by USACE and CDFW will be implemented and completed. All measures contained in the permits or associated with agency approvals will be implemented.

4.1.1.4. Compensatory Mitigation

Final ratios required for compensatory mitigation will depend on the area and quality of impacted resources. Final ratios will be determined during future consultation between Caltrans and each agency, to the satisfaction of jurisdictional resource agencies and consistent with review and approval of the project's Habitat Mitigation and Monitoring Plan. Under the USACE Nationwide Permit 14 for Linear Transportation Projects, notification to the USACE is required for impacts on special aquatic sites (i.e., wetlands). Approximately 0.01 acre of riparian wetland and riparian wetland/fresh emergent wetland complex will be permanently impacted by the project; notification and mitigation will be required.

Onsite mitigation will include an area ratio of no less than 1:1.2 area temporary and permanent impacts on potential waters of the U.S. Specific mitigation parameters will be decided in coordination with the CCC, USACE, RWQCB, and CDFW.

4.1.1.5. Cumulative Impacts

There are several planned projects in the vicinity of the project which may affect waters of the U.S. and State. Future nearby projects include a pavement rehabilitation project in and near Trinidad; Hum-101 Drainage North, which would rehabilitate culverts at spot locations along US 101; and a shoulder-widening project on Central Avenue in McKinleyville. Future drainage and road improvement projects in the region would apply similar measures as the project to reduce potential impacts to aquatic resources. With implementation of the measures identified above, the project would not result in cumulatively considerable impacts on waters of the U.S. and State, including wetlands.

4.1.2. POTENTIAL CALIFORNIA COASTAL COMMISSION WATERS

4.1.2.1. Survey Results

Potential CCC waters include riparian/fresh emergent wetland, fresh emergent wetland, riparian wetland, and vegetated ditch occupying a total of 4.10 acres (367 linear feet) (Stantec 2020b). CCC waters includes all the features that qualify as waters of the U.S. as well as several additional riparian wetlands that only qualify as CCC waters. Table 6 provides a summary by feature type.

Table 6. California Coastal Commission Waters Summary

California Coastal Commission Waters	Total Acreage	Total Linear Feet
3-Parameter Wetlands		
Riparian/Fresh Emergent Wetland Complex	1.89	N/A
Fresh Emergent Wetland	0.19	N/A
Riparian Wetland	0.07	N/A
Vegetated Ditch	0.02	N/A
1-Parameter Wetlands		
Riparian /Fresh Emergent Wetland Complex	0.54	N/A
Riparian Wetland	0.64	N/A
Streams		
Perennial Stream	0.75	367
Total Potential California Coastal Commission Waters	**4.10**	**367**

4.1.2.2. Potential Impacts

Estimates of potential impacts result from the 30% design. Final areas of impact are likely to adjust as the design progresses; however, efforts to avoid and minimize potential impacts will continue throughout the remainder of the design process. The project would result in approximately 0.08 acre of temporary impacts, including 0.07 acre of riparian wetland, and 0.01 acre of riparian/fresh emergent wetland complex. Permanent impacts would total approximately 0.20 acre of riparian wetland. Impacts on CCC waters are equivalent to impacts on waters of the U.S., except for an additional 0.07 acre of temporary impacts on riparian wetlands and an additional 0.19 acre of permanent impacts on riparian wetlands.

Temporary impacts would result from construction access on either side of the trail alignment. Permanent impacts would result from cut and fill, and retaining wall installation. Impacts on potential CCC waters are shown in Figure 6 (Appendix A). Potential indirect impacts from construction include erosion, sedimentation, and accidental spills leading to pollution.

4.1.2.3. Avoidance and Minimization Efforts

Avoidance and minimization efforts provided in the potential waters of the U.S. section would apply to CCC waters. In addition, if required, a Coastal Development Permit will be obtained from the CCC, which will include additional requirements to protect coastal resources, likely to include but not limited to limitations on equipment maintenance and refueling near waters and wetlands and requirements to use biodiesel fuels in equipment when possible.

Exclusionary fencing will be installed along the boundaries of all ESAs to minimize impacts to ESA’s outside of the construction area. See Figure 6, Appendix A for proposed exclusionary fencing placement along boundaries of aquatic resources.

4.1.2.4. Compensatory Mitigation

Final ratios required for compensatory mitigation will depend on the area and quality of impacted resources. Final ratios will be determined during future consultation between Caltrans and each agency, to the satisfaction of jurisdictional resource agencies and consistent with review and approval of the project’s Habitat Mitigation and Monitoring Plan. Impacts on potential CCC waters are equivalent to impacts of waters of the U.S., except for an additional 0.07 acre of temporary impacts and 0.19 acre of permanent impacts on riparian wetlands. Compensatory mitigation will be similar to mitigation described in the preceding section; mitigation will be no less than 1:1 to the satisfaction of the CCC. Mitigation will not be double-counted when considering riparian habitat mitigation and waters of the U.S. mitigation.

4.1.2.5. Cumulative Impacts

There are several planned projects in the coastal zone in the vicinity of the project which may also affect CCC waters. One planned project is Hum-101 Drainage North, which would rehabilitate culverts at spot locations along US 101. Future drainage and road improvement projects in the area would apply similar measures to reduce potential impacts to aquatic resources. With implementation of the measures identified above, the project would not result in cumulatively considerable impacts on CCC waters.

4.1.3. ENVIRONMENTALLY SENSITIVE HABITAT AREAS AND SENSITIVE NATURAL COMMUNITIES

4.1.3.1. Survey Results

Waters of the U.S. and State and CCC waters are described in preceding sections; only sensitive natural communities, including riparian habitat and the upland ESHA, are discussed in this section. The project's Environmentally Sensitive Habitat Areas Screening Memorandum describes the methods and results of vegetation mapping and determining the ESHA (Stantec 2021). Figure 7 in Appendix A shows the upland ESHA in the BSA.

Riparian habitat occurs on either side of Little River as the following vegetation communities: coastal dune willow thickets, Pacific silverweed marshes, and slough sedge swards (Figure 4, Appendix A). Coastal dune willow thickets also occur elsewhere in the BSA; however, only the community on the north bank of Little River functions as riparian habitat. Four of the seven vegetation communities mapped in the BSA are categorized as sensitive natural communities by CDFW: Sitka spruce forest, coastal dune willow thickets, Pacific silverweed marshes, slough sedge swards. Two of the sensitive natural communities, (Sitka spruce forest and coastal willow thickets) are further separated into high- and low- quality stands. Low-quality stands are not considered sensitive, and high-quality stands are considered sensitive natural communities (Table 7).

Table 7. Vegetation Communities in the Biological Study Area

Alliance	Total Area (acres)	Sensitive Stands (acres)	Upland ESHA (acres)
A Manual of California Vegetation Alliances[1]			
Forests and Woodlands			
Sitka spruce forest	4.42	3.19	3.19
Red alder forest	7.05	0	0
Shrublands			
Coastal dune willow thickets	0.96	0.71	0
Coyote brush scrub	1.36	0	0
Herbaceous Vegetation			
Slough sedge swards	0.08	0.08	0
Pacific silverweed marshes	0.11	0.11	0
Non-native grassland[2]	2.46	0	0

Notes:
1) A Manual of California Vegetation, available at: www.vegetation.cnps.org. (CNPS 2021)
2) Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986)
ESHA = environmentally sensitive habitat areas

4.1.3.2. Potential Impacts

The following sensitive natural communities are mapped as CCC waters: coastal dune willow thickets, Pacific silverweed marshes, and slough sedge swards. Impacts and mitigation provided for CCC waters also apply to these sensitive natural communities. Impacts on sensitive natural communities that also qualify as CCC waters are shown on Figure 6, Appendix A.

Impacts on riparian habitat (Figure 4, Appendix A) are included in impacts on CCC waters, as described in the preceding section and shown on Figure 6, Appendix A. No additional impacts on riparian habitat outside of the CCC waters boundaries would occur.

Impacts on upland ESHAs include 0.89 acre of permanent impacts and 0.25 acre of temporary impacts (Figure 7, Appendix A). Upland ESHA also qualifies as the sensitive natural community Sitka spruce forest. Potential indirect impacts from construction include erosion, sedimentation, and accidental spills.

4.1.3.3. Avoidance and Minimization Efforts

Avoidance and minimization measures identified above in the potential waters of the U.S., and potential CCC waters sections will be implemented. In addition, the following measure would be implemented.

- Exclusionary fencing will be installed along the boundaries of all ESAs to minimize impacts to ESA's outside of the construction area. See Figure 7, Appendix A for proposed exclusionary fencing placement to prevent additional impacts on ESHAs.

4.1.3.4. Compensatory Mitigation

Final ratios required for compensatory mitigation will depend on the area and quality of impacted resources. Final ratios will be determined during future consultation between Caltrans and each agency, to the satisfaction of jurisdictional resource agencies and consistent with review and approval of the project's Habitat Mitigation and Monitoring Plan. Impacts on riparian habitat and sensitive natural communities are covered in part in the potential waters of the U.S. and CCC waters compensatory mitigation section. Impacts on upland ESHA (including the sensitive natural community Sitka spruce) will be no less than 1:1. Final mitigation ratios will be determined with jurisdictional agencies during future consultation with Caltrans. Specific mitigation parameters will be decided in coordination with the CCC and CDFW.

4.1.3.5. Cumulative Impacts

There are several planned projects in the vicinity of the project that occur in the coastal zone and may also affect ESHAs. One known project is Hum-101 Drainage North, which would rehabilitate culverts at spot locations along US 101. Future drainage and road improvement projects in the area would apply similar measures to reduce potential impacts to ESHAs. With implementation of the measures identified above, the project would not result in cumulatively considerable impacts on sensitive natural communities and ESHAs.

4.2. Special Status Plant Species

4.2.1. TRAILING BLACK CURRANT

4.2.1.1. Survey Results

The plants listed in Table 2 are considered to be special status based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special status plants occurring on-site. The BSA contains potential habitat for 48 potential special status plants (Table 2).

Protocol-level botanical surveys were conducted in April, May, August, and September of 2021 (Appendix E). One special status plant occurrence, trailing black currant (*Ribes laxiflorum*), was found in the BSA but outside the area that would be impacted during construction. The occurrence consists of five individual plants in one location, and is shown in Figure 4, Appendix A. The survey occurred during the identification period for special status plants species that have a low to high potential to be present in the BSA based on habitat and known records in the region. No other special status plants were found in the BSA and are not likely to occur.

4.2.1.2. Potential Impacts

The proposed trail alignment and all permanent and temporary impacts associated with the project would not occur within the trailing black currant occurrence. Additionally, trailing black current is California Rare Plant Rank 4.3, which does not typically require mitigation. The small population will be flagged for avoidance, which would be feasible given the planned project disturbance location.

4.2.1.3. Avoidance and Minimization Efforts

While not required, the following avoidance and minimization measure will be implemented to avoid impacts to special status plants:

- Caltrans or a qualified contractor will flag an exclusionary boundary around the trailing black currant occurrence prior to start of project work.

4.2.1.4. Compensatory Mitigation

None required.

4.2.1.5. Cumulative Impacts

None.

4.3. Special Status Wildlife Species

Wildlife are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special status animals occurring on-site.

4.3.1. FEDERALLY LISTED FISH

Federally listed salmonids with the potential to occur in the BSA include SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead and their critical habitats. Additionally, there is a low potential for southern DPS eulachon to be present, but with the proposed limited work period adjacent to the Little River, the probability of significant effects are discountable The discountable probability of presence in the BSA of southern DPS green sturgeon and tidewater goby was used to determine that the project would have “No Effect” on these two species. Accordingly, the following assessment of potential project effects on federally listed fish and their critical habitats are limited to the salmonids having the potential to occur in the BSA—SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead. This NES will be submitted to NMFS for review under Section 7 of the FESA to address potential impacts on federally listed fish species and their critical habitats and to solicit a Biological Opinion or concurrence letter.

4.3.1.1. Survey Results

Southern Oregon/Northern California Coast Evolutionarily Significant Unit Coho salmon

The SONCC ESU coho salmon includes all populations of coho salmon in coastal streams from the Elk River near Cape Blanco, Oregon, south to and including the Mattole River near Punta Gorda, California. NMFS proposed to list the SONCC ESU coho salmon as threatened under the FESA on July 25, 1995 (60 FR 38011). NMFS published its final decision to list coho salmon as threatened on May 6, 1997 (62 FR 24588). The SONCC ESU coho salmon threatened status was reaffirmed August 15, 2011 (76 FR 50447). Designated critical habitat includes all river reaches accessible to listed coho salmon between Cape Blanco, Oregon, and Punta Gorda, California, with tribal lands being excluded. The Little River and unnamed tributary within the BSA are designated critical habitat for SONCC ESU coho salmon. Abundance estimates for SONCC ESU coho salmon specific to the Little River were not available. SONCC ESU coho salmon populations in the Little River drainage are thought to be depressed compared to historic estimates, but numbers are believed to be relatively stable (CDFG 2004). Use of the unnamed tributary by SONCC ESU coho salmon is unknown but presumed as the tributary is accessible and appropriate rearing habitat is present.

SONCC ESU coho salmon are semelparous salmonids (i.e., they reproduce once in their lifetime), spending the first half of their life cycle rearing in streams and small freshwater tributaries. The remainder of the life cycle is spent foraging in estuarine and marine waters of the Pacific Ocean before returning to their stream of origin to spawn and die. In the short coastal streams of California, most coho salmon return during mid-November through-January, spawn by mid-winter, and then die. Most spawning adults are 3 years old; however, a small percentage (5 to 20 percent) of precocious males known as “jacks” return to spawn as 2-year-old fish. Spawning adults may measure more than 2 feet long and weigh an average of 8 pounds. Eggs incubate in redds (i.e., gravel spawning nests) from 1 to 3 months, depending on the water temperature, before emerging as alevins (i.e., larval life that depends upon yolk sacs as its food source). All life stages and their likely presence in waterways in the BSA are depicted in Table 8. Alevins emerge from redds as fry after yolk sac absorption and begin actively feeding within the water column. Alevins emerge as fry from February to May and initially congregate in shaded backwaters, side channels, or small streams where the stream velocity is low. As fry grow, they migrate to habitats with complex cover such as undercut banks, rootwads, woody debris, and vegetative overhangs. Instream habitat complexity, including a mixture of pools and riffles woody debris, and well oxygenated cool water (10–15°C/50–59°F) are important habitat components for coho salmon fry (Moyle 2002, Moyle et al. 2017).

Table 8. Likely Occurrence and Timing of Southern Oregon/Northern California Coasts Evolutionarily Significant Unit Coho Salmon in the Little River and Unnamed Tributary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Adult Migration												
Spawning												
Incubation												
Emergence												
Rearing (age 0)												
Rearing (age 1 out migration)												

Source: Modified from Table 4-1 of Biological assessment for coho salmon (*Oncorhynchus kisutch*), Eulachon (*Thaleichthys pacificus*) and essential fish habitat assessment for Pacific Coast Salmon, Hunter and Panther Creek Bridges Seismic Restoration Project. (Caltrans 2017).

California Coastal Evolutionarily Significant Unit Chinook salmon

The California Coastal ESU Chinook salmon was federally listed as a threatened species on September 16, 1999 (64 FR 50394). Their threatened status was reaffirmed August 15, 2011 (76 FR 50447). The ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River to and including the Russian River, California (64 FR 50394), as well as hatchery stocks. NMFS determined that these artificially propagated stocks are no more divergent relative to the local natural population(s) than what would be expected between closely related natural populations within the ESU (70 FR 37160). The Little River within the BSA is designated critical habitat for California Coastal ESU Chinook salmon. Abundance estimates for California Coastal Chinook salmon specific to the Little River were not available. Regular use of the unnamed tributary by California Coastal Chinook salmon is unknown but unlikely because of its smaller width.

California Coastal ESU Chinook salmon are fall-run, ocean-type fish that usually enter rivers from August to January. These fall-run Chinook salmon typically enter freshwater at an advanced stage of maturity, move rapidly to their spawning areas on the main stem or lower tributaries of rivers, and spawn within a few weeks of freshwater entry. Run timing is, in part, a response to river flow characteristics, with most spawning occurring in November and December. They typically spawn in the lower reaches of rivers and tributaries at elevations of 200–1,000 feet. Juveniles typically begin outmigrating to the ocean shortly after emerging from redds as fry. Freshwater residence, including outmigration, usually ranges from 2–4 months. After emergence, Chinook salmon fry seek out areas behind fallen trees, back eddies, undercut banks, and other areas of bank cover. Juveniles move away from stream margins and begin to use deeper water areas with slightly faster water velocities but continue to use available cover to minimize the risk of predation and reduce energy expenditure.

Because adult spawner estimates spanning 3–4 generations are lacking for most of the populations comprising the California Coastal ESU Chinook salmon, application of the viability criteria developed for this ESU has been hindered (Spence et al. 2008). Additionally, the lack of historical population abundance estimates contributes a major uncertainty in the ongoing evaluation of the status of the California Coastal ESU Chinook salmon. For example, Chinook salmon are periodically observed in many mid-sized watersheds in the region between Cape Mendocino and the Russian River (i.e., Big River, Ten Mile River, Noyo River, Navarro River, Garcia River, and Gualala River) (Spence et al. 2008). However, these watersheds currently do not appear to support persistent populations, and there remains substantial uncertainty about whether they did historically (Bjorkstedt et al. 2005). The paucity of historical evidence may reflect, in part, the fact that substantial modification of stream habitats due to logging, splash-damming, and other forestry-related activities had already taken place by the late-1800s (Spence et al. 2008).

Northern California Distinct Population Segment Steelhead

The Northern California DPS steelhead was federally listed as a threatened species on June 7, 2000 (79 FR 20803). Its threatened status was reaffirmed on April 14, 2014 (71 FR 834). The Northern California DPS includes all naturally spawned anadromous *O. mykiss irideus* (steelhead) populations below natural and manufactured impassable barriers in California coastal river basins, from Redwood Creek southward to, but not including, the Russian River, as well as two artificial steelhead propagation programs, the Yager Creek Hatchery and North Fork Gualala River Hatchery (Gualala River Steelhead Project). The Little River within the BSA is designated critical habitat for Northern California DPS steelhead. Abundance estimates for Northern California DPS steelhead specific to the Little River were not available. Use of the unnamed tributary by Northern California DPS was confirmed by a CDFW survey in support of this project in 2021 (Appendix F).

Steelhead possess one of the most complex life history patterns of the Pacific salmonid species. Steelhead typically refers to the anadromous form of rainbow trout. Like other Pacific salmon, steelhead adults spawn in freshwater and spend a part of their life at sea. However, unlike other Pacific salmon, steelhead exhibit a wider variety of life history strategies during their freshwater rearing period. The adults may spawn more than once during their life, but how common this is remains unknown. The typical life history pattern for steelhead is to rear in freshwater streams for 2 years, followed by up to 2 or 3 years of residency in the marine environment. However, juvenile steelhead are known to rear in freshwater from 1–4 years (Moyle et al. 2017).

Steelhead spawn in gravel and small cobble substrates usually associated with riffle habitats or pool tails. Most juvenile steelhead prefer riffles, while larger (i.e., older) fish move into deeper pools. However, juvenile steelhead often congregate in riffle breaks during especially warm weather and water conditions. Instream and overhead cover are an extremely important element of freshwater habitat quality for steelhead. Preferred water temperatures range from 13–21°C (55–70°F). Most juvenile steelhead outmigration occurs from winter through spring (i.e., January to June), but some outmigration may occur during any significant flow event (Moyle 2002, Moyle et al. 2017).

4.3.1.2. Salmonid Habitats Within the Biological Study Area

Little River

The Little River within the BSA is critical habitat and supports the anadromous federally listed species SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead. The Little River is a smaller watershed located between the Mad River and Redwood watersheds, and it flows approximately 19.6 river miles. The Little River within the BSA is along the US 101 bridge corridor and has a wetted width of approximately 200 feet, depending on tidal influences and seasonal rains. From the BSA, the river bends to the north and continues to its confluence with the Pacific Ocean about 0.8 river mile away. Due to the BSA being at the bottom of the watershed and its proximity to the ocean, the substrate in the area is sandy; and the channel lacks significant pool complexity that spawning SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead prefer. Surveys have found juvenile salmonids within the estuarine area downstream from the BSA, but the habitat is considered heavily modified (CDFG 2004). With the lack of habitat complexity and cover in the Little River within the BSA, juvenile rearing of SONCC ESU coho salmon is unlikely; and the river would be used mainly as a migration corridor. However, the estuarine habitat of the Little River within the BSA does have the potential for natal and even non-natal rearing of salmonids.

Unnamed Tributary

An additional perennial creek (an unnamed tributary) flows into the estuarine area of the Little River north of the US 101 bridge over Little River. Within the BSA, this unnamed tributary flows out of a US 101 culvert which is approximately 48 inches diameter, constructed of concrete, and set at grade. Further evaluation would be needed to determine fish passage through this culvert. This tributary was surveyed by CDFW for habitat and fish presence using electrofishing equipment on June 1, 2021 (Appendix F). The survey evaluated habitat and documented the presence of Northern California DPS steelhead juveniles. No SONCC ESU coho salmon were observed, but habitat within the BSA was found to be conducive to winter and summer rearing juveniles. Additionally, juvenile coastal cutthroat trout (*Oncorhynchus clarki clarki*), juvenile sculpin (*Cottus* spp.) and adult Western brook lamprey (*Lampetra richardsoni*) were observed during the survey (Appendix F). Habitat of the surveyed portion of the unnamed tributary channel consisted of an average bankfull width of 3 feet, and average bankfull depth of 2 feet. Maximum residual pool depths exceeded 2 feet deep in multiple locations, with greater than 50 percent cover observed in most units. Substrate within the BSA and downstream is dominated by sandy substrate and very small gravels that are not favorable for salmonid spawning.

4.3.1.3. Potential Stressors from the Proposed Action

Stressors induce an adverse response in an organism due to physical, chemical, or biological alterations in the environment. The project does not include any in-water work in the Little River or the unnamed tributary. Channel or culvert modifications would not occur. Dewatering and fish relocation would not be required. However, the proposed action includes activities that potentially could result in stressors affecting federally listed fish species.

Potential stressors on federally listed fish species caused by the proposed action include

- Temporary increases in turbidity and suspended sediment from construction area stormwater runoff
- Exposure to hazardous chemicals/accidental spill of lubricants and fuels
- Alteration of riparian habitat
- Construction-related noise and visual effects

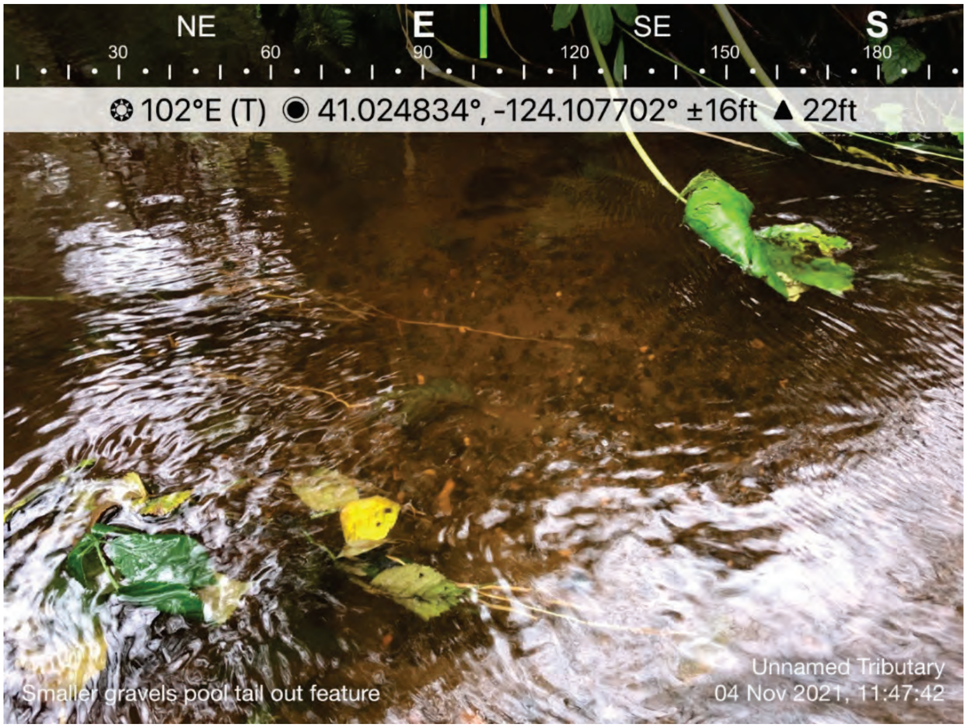
4.3.1.4. Exposure to Stressors from the Proposed Action

Exposures are defined as the interaction of the species, their resources, and the stressors that result from the project action. When determining the likelihood for exposure to a stressor, the probability of the organism to be near the stressor is a key consideration. Available data and life histories were evaluated for seasonal timing to determine likely presence and potential for exposure to stressors for freshwater life stages of federally listed salmonids present within the BSA.

Southern Oregon/Northern California Coast Evolutionarily Significant Unit Coho salmon

Little River. The tidally influenced stream habitat in the Little River within the BSA is unsuitable for spawning coho salmon due to the sandy substrate and lack of riffle or pool tail habitats. Due to the lack of favorable spawning habitat within and downstream of the Little River within the BSA, the aquatic habitat here is likely limited to migratory habitat for adult and juvenile coho salmon. This is because high-quality rearing habitat that is preferred by juvenile coho salmon for summer and winter rearing is absent due to tidal influences and lack of preferred rearing habitat such as deep pools, structural complexity, slower water habitats, and vegetative cover (Moyle et al. 2017).

Unnamed Tributary. No appropriate spawning habitat is present within at least 300 feet downstream of the BSA in the unnamed tributary due to the large percentage of fine sediments and lack of appropriate spawning gravels (photograph 1). However, the unnamed tributary does provide good potential habitat for rearing juveniles because of the presence of good cover and deeper pools.



Photograph 1. Nearest Unnamed Tributary Pool Tail Feature to BSA Showing Sand-Dominated Substrate

California Coastal Evolutionarily Significant Unit Chinook Salmon

Little River. The Little River within the BSA is also largely migratory habitat for adult Chinook salmon that would spawn farther upstream within the Little River where spawning habitat is more appropriate. However, because the BSA is in an area subject to seasonal flooding, natal or non-natal juvenile Chinook salmon may periodically occur in the BSA within the Little River (Moyle et al. 2017). The potential occurrence of juvenile Chinook salmon during summer construction would be minimal given their ocean-type life history and propensity to emigrate to the ocean as fry and sub-yearling smolts.

Unnamed Tributary. Chinook salmon would not likely occur within the unnamed tributary due to its smaller size (i.e., width and depth), lower flows, and lack of spawning size gravels.

Northern California Distinct Population Segment Steelhead

Little River. Much like the SONCC ESU coho salmon, the Northern California DPS steelhead would mainly use the Little River during adult and juvenile migration. Juvenile rearing is less likely, but seasonal presence is not discountable.

Unnamed Tributary. Unlike the Little River within the BSA, the unnamed tributary provides good rearing habitat with the presence of cover and deeper pools. Presence of juvenile steelhead at this location was confirmed during the survey of the unnamed tributary by CDFW on June 1, 2021 (Appendix F). Within and at last 300 feet downstream of the BSA, the substrate is dominated by smaller sandy particles. Therefore, Northern California DPS steelhead spawning is unlikely in this section of the unnamed tributary.

4.3.1.5. Response to the Exposure

Turbidity Increases

No in-water work or work within the ordinary high-water mark is to occur at the unnamed tributary or the Little River, which will limit the potential for increases in turbidity attributable to construction of the project. The most likely potential exposure of a stressor from proposed project activities would be from vegetation removal above the unnamed tributary, potentially causing increased turbidity due to the proximity of ground disturbance which is estimated to be 10 feet from the wetted channel. Large increases in turbidity would not be expected as a result of the work adjacent to the Little River. No in-water work would occur and work in this area would occur during the dry season (June 15-October 15) with storm water BMPs in place to mitigate for the minor potential for sedimentation-related impacts.

Increases in turbidity and suspended sediment can affect water quality and, in turn, can affect fish health and behavior. In general, increased turbidity does not acutely affect salmonids unless it reaches extremely high levels (i.e., levels of suspended solids reaching 25 mg/L or greater). At these higher levels, increased turbidity can adversely affect the physiology and behavior of aquatic organisms and may suppress photosynthetic activity at the base of food webs. It has been found in research on exposure that length of exposure plays a more dominant role than actual concentration (Bjornn and Reiser 1991). Salmonid eggs and fry are particularly susceptible to impacts from increased turbidity during their incubation as the entrained sediment can carry fines to spawning areas and settle out in redds. A high percentage of fine sediment within the channel substrate can result in reduced oxygen levels in redds as it blocks the percolation of oxygen-rich water running through the gravel. These fine sediments can smother and even entrap young.

Disturbed areas may become a source of turbidity and suspended sediments during rain events during or following construction prior to vegetation becoming re-established. However, in general, adult and larger juvenile salmonids appear to be little impacted by the high concentrations of suspended sediments that occur during storms and snowmelt runoff episodes (Bjornn and Reiser 1991).

Exposure to Hazardous Chemicals/Accidental Spill of Lubricants and Fuels

The potential exists for accidental spills of potentially hazardous materials from construction activities adjacent to the waterway. Potential materials spilled could include such things as gasoline, diesel fuel, vegetable and synthetic hydraulic oils, radiator coolant, motor oil, and lubricants. These fluids may contain a variety of potential chemicals that could have a negative impact on salmonids and may also contain a wide variety of polynuclear aromatic hydrocarbons and metals that could result in adverse responses to any aquatic organisms present. Polynuclear aromatic hydrocarbons can alter egg hatching rates and reduce egg survival in salmonids as well as harm the benthic organisms that are an important juvenile salmonid food source (Eisler 2000). Some of the effects that metals can have on fish are immobilization and impaired locomotion, reduced growth, reduced reproduction, genetic damage, tumors and lesions, developmental abnormalities, behavior changes (avoidance), and impairment of olfactory and brain functions (Eisler 2000). The severity of these impacts varies depending on the extent, timing, and duration of the exposure; the ambient water quality conditions; and the species and life history stage exposed to the material.

Alteration of Riparian Habitat

Riparian habitat generally includes woody vegetation and cover associated with “natural” banks that function to provide shade; sediment, nutrient, and chemical regulation; stream bank stability; and input of woody debris and leaves that provide cover and serve as substrates for food-producing invertebrates. Removal of riparian vegetation that contributes large woody debris to the river channel and instream and overhead cover could reduce habitat complexity, channel patterns, and pool formation. This could lead to an increase in competition, predation risk, and localized decreases in food availability, which collectively can reduce juvenile fish growth, fitness, and survival. Removal of riparian vegetative cover could also increase solar heating in the BSA, which could include increased water temperature and exposure of stream banks to erosion. This could further result in higher levels of suspended sediment and turbidity, the responses to which were discussed previously.

The proposed expansion of the US 101 bridge would slightly increase shading in the Little River. Shading of aquatic habitat can be beneficial or detrimental depending on the environmental context and magnitude of shading cast by manufactured structures. Shade cast by infrastructure on waterways can reduce algal and plant photosynthesis and productivity, reducing the food and prey base for fishes. Shading can moderate and reduce water temperatures and provide visual cover for fishes. It might also cause fish to concentrate in localized areas, which could attract predators.

Noise and Visual Effects

Fish can be adversely impacted by construction noise and visual disturbances. These disturbances can be as minor as the appearance of a worker at the water’s edge. Although ambient noise levels in the BSA were not quantified for the purpose of this study, its proximity to both the open ocean and US 101 assumes constant, relatively high ambient noise levels throughout the proposed BSA and vicinity. Open ocean sound levels along the central coast have been measured between 74 and 100 peak decibels (Caltrans 2020). With the proximity to US 101, vehicle traffic may occasionally cause peaks above these levels. Physical stress resulting from noise disturbances sufficient to adversely affect fish occurs only after repeated disturbances and at elevated decibel levels (see Caltrans 2020).

Sheet piles will need to be installed upslope of the unnamed tributary to construct the proposed retaining wall. Sheet piles would be installed via vibratory construction methods, not pile driving, and would be approximately 100-feet in length and take up to three days to completely install. Installation of the sheet piling will be an estimated 30 feet upstream/upslope from the culvert opening and will not modify the channel or directly affect aquatic habitat.

The potential response of any noise disturbances caused by the proposed action would be to disrupt normal behaviors in ways that can make fish more vulnerable to predation and/or interrupt normal foraging behavior. Similarly, the potential responses to any visual disturbances caused by construction activities such as lighting or crew activity along the bank could be alterations of the individual’s normal behaviors, making them more vulnerable to predation, competition, atypical foraging, and/or abnormal migration behaviors.

4.3.1.6. Effects of the Action

The effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action, and it is reasonably certain to occur (50 CFR 402.17). Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (50 CFR 402.02). The effect of the action is the consequence (e.g., behavioral, physical, or physiological) of a response to a stressor. Insignificant effects relate to the size of the impact and should never reach the scale where “take” occurs. Discountable effects are those extremely unlikely to occur.

A conclusion that activities are reasonably certain to occur must be based on clear and substantial information, using the best scientific and commercial data available. Factors to consider in whether an activity caused by the proposed action is reasonably certain to occur include but are not limited to past experiences with similar activities that have resulted from actions that are similar in scope, nature, and magnitude to the proposed action; existing plans for the activities; any remaining economic, administrative, and legal requirements necessary for the activity to go forward.

Considerations for determining a consequence to the species or critical habitat is not caused by the proposed action include, but are not limited to: the consequence is so remote in time from the proposed action that it is not reasonably certain to occur; or the consequence is so geographically remote from the immediate area involved in the proposed action that it is not reasonably certain to occur; or the consequence is only reached through a lengthy causal chain that involves so many steps as to make the consequence not reasonably certain to occur (50 CFR 402.17).

Turbidity Increases

Little River - The project does not involve any in-water work, but some ground disturbance would occur at the bridge ends at the top of the bank of the Little River. With the installation of appropriate stormwater BMPs, and the implementation of Conservation Measure #1 – Erosion and Sedimentation Control (Section 1.4.1.1.), which includes implementation of a SWPPP, any potential turbidity impacts at this location would be reduced to an insignificant level. Installment of netting or other similar method for debris catchment during bridgework will also be implemented to protect aquatic species, as described under Conservation Measure 2.

Unnamed Tributary - Construction of trail components adjacent to the unnamed tributary could result in sediment releases and short turbidity plumes during rain events if they occur during construction, or immediately after construction but before complete stabilization of any disturbed areas occurs. Installation of ESA fencing near the unnamed tributary as indicated in Figure 5, Appendix A, would greatly limit the ground disturbance footprint within proximity of the waterway and reduce the potential for undesired sedimentation. Given the thick vegetation along the banks of the creek would be protected with ESA fencing, the upslope distance of the disturbed soil from the culvert outlet (10 feet), the installation of appropriate stormwater BMPs, and the implementation of Conservation Measure #1 – Erosion and Sedimentation Control (Section 1.4.1.1.), which includes implementation of a SWPPP, any potential turbidity impacts would be reduced to an insignificant level. With these measures in place and given the temporary nature of the stressor, increased turbidity may affect, but would not adversely affect SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead or their critical habitats.

Exposure to Hazardous Chemicals/Accidental Spill of Lubricants and Fuels

Little River and Unnamed Tributary - Listed salmonids could seasonally occur in the BSA during construction. Therefore, there exists the potential for accidental spills of potentially hazardous chemical and materials from construction activities to expose federally listed salmonids to this stressor. However, the project includes Conservation Measure #2, Prevention of Accidental Spills (Section 1.4.1.2.), to prevent and contain any large accidental spills of hazardous materials. While these measures reduce risks of large spills and discharges, small inadvertent leaks and drips of equipment fuels and use of non-toxic vegetable oil-based lubricants may occur; but they would present only insignificant effects to the listed salmonids and designated critical habitat. An additional measure will include the requirement for installation of a debris catchment/containment system during all bridgework. With Conservation Measure # 2 implemented and the unlikelihood of a major spill, it is anticipated that the stressor of exposure to hazardous chemicals/accidental spill of lubricants and fuels may affect, but would not adversely affect SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead or their critical habitats. Additionally, ESA fencing near the unnamed tributary will buffer the waterway from heavy equipment and accidental spills.

Alteration of Riparian Habitat

Little River - The Little River is designated critical habitat for SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead. Riparian vegetation would not be permanently altered within the BSA along the Little River as part of the action. The small amount (2 feet) of increase in width of the existing bridge would be an insignificant increase in shading relative to the existing structure and compared to the large area of sunlight-exposed; shallow habitat and riparian vegetation; the high level of tidal flux; and the exchange of water and prey organisms that occurs in the Little River within the BSA. While minimal, the additional shading could provide a minor thermal refugia or even provide cover for salmonids during low flow conditions in the summer and fall months, potentially resulting in a positive effect.

Unnamed Tributary - At the unnamed tributary which is designated critical habitat for SONCC ESU coho salmon and Northern California DPS steelhead, vegetation removal would occur on top of the culvert only (i.e., upslope of the culvert outlet) and not alongside natural habitat or the banks of the unnamed tributary. No work would occur within or below the ordinary high water mark at either location, which is the extent of designated critical habitat for Coastal ESU Chinook salmon and Northern California DPS steelhead. Within the grading footprint upslope of the culvert, vegetation is predominantly a fern and shrub understory. One nearby Sitka spruce located above the culvert at the unnamed tributary would need to be removed and could increase solar exposure. However, given the local western-facing aspect and steep slope in the BSA and overall vegetative cover at this location, the amount of shading provided by this tree is minimal relative to the thick riparian vegetation along the banks of the unnamed tributary. No additional trees would be removed near the unnamed tributary. Installation of ESA fencing, as shown in Figure 5, Appendix A, would protect riparian vegetation from inadvertent construction-related disturbance. In general, the vegetation along the banks of the unnamed tributary below the culvert would not be disturbed, and the full canopy would remain. It is anticipated that vegetation removal approximately 10 feet east of the unnamed tributary would be upland only.

The project includes Conservation Measure #4 – Replacement of Lost Riparian Habitat (section 1.4.1.4.) which will include a Habitat Mitigation and Monitoring Plan to be completed. With Conservation Measure #4 implemented and the limited disturbance of nearby riparian habitats, no permanent adverse changes to waters, substrates, food production, or availability of cover conditions that are necessary for rearing, migration, feeding, and growth of federally listed salmonids present are anticipated. Therefore, any effect would be considered insignificant. With Conservation Measure #4 implemented, it is anticipated that the stressor of the alteration of riparian habitat may affect, but would not adversely affect SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead or their critical habitats.

Noise and Visual Effects

Little River and Unnamed Tributary. Vibratory installation of sheet piles will be required near the unnamed tributary, no pile driving is to occur as part of the proposed action. A list of construction equipment likely used is described in Section 1.3.15. Vibratory installation of sheet piles and drilling holes for the soldier piles would be the loudest activity proposed near the unnamed tributary. The loudest equipment used near the Little River would likely be during the bridge expansion, which may include the use of jackhammers above the river.

NMFS and Caltrans have agreed on hydroacoustic thresholds generated by impact pile driving, but there is no formal agreement on criteria to be applied to vibratory pile driving (Caltrans 2020). Vibratory pile-driving is considered to be a mitigation approach for avoiding or reducing potential effects of impact driving on fish and is not assessed for physical injuries to fish (Caltrans 2020). According to Caltrans (2020), in general, installation of sheet piles using vibratory methods has been found to have noise levels well below the current accepted injury threshold of 183 decibels (dB) for small fish (see Caltrans (2020) Section I.6 for various examples). However, noise levels could exceed the current accepted threshold for behavioral effects (150 dB root mean square). Recent studies investigating the physical and behavioral impacts of pile driving noise on coho salmon and steelhead suggest that the current accepted thresholds are very conservative, with sound levels as high as 207dB found to have no discernable physical effects and minimal behavioral effects, being limited to an initial surprise reaction with no avoidance noted (Ruggerone et al. 2008, Caltrans 2010).

In most cases, any startled salmonids, if present, would simply relocate away from the BSA, with the ability to come back once the stressor has gone or it becomes habituated to the stressor. In the case of salmon migrating through the area, if startled, it would most likely either continue through the area rapidly or return from where it came until the stressor is gone. Any effect resulting in a brief delay in feeding behavior is unlikely to reduce growth or survival and would be insignificant. Therefore, the magnitude of this effect would be considered insignificant because any behavioral change as a result of vibratory installation of sheet piles, or other elevated noise activities would likely be limited to the initial surprise reaction, temporarily seeking cover and avoidance. Additionally, given the potential for high-ambient noise levels with the adjacency of US 101, the lack of in-water work, the distance of work from the wetted channels (30 feet or more), and the types of equipment used, it is anticipated that the stressor of noise and visual effects may affect, but would not adversely affect SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead or their critical habitats.

4.3.1.7. Avoidance and Minimization Efforts

To minimize the potential for turbidity increases, and visual and noise disturbance of salmonids, work adjacent to waterways will be limited to the dry season (June 15-October 15). No additional conservation measures other than those included in this NES are needed to avoid or minimize project-related impacts on SONCC ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead or their critical habitats.

4.3.1.8. Compensatory Mitigation

No compensatory mitigation is proposed. The project has been designed such that the conservation measures and proposed avoidance and minimization measures will reduce the potential effects to SONCC ESU coho salmon, California Coastal ESU Chinook salmon, Northern California DPS steelhead, and their designated critical habitat to the greatest extent possible.

4.3.1.9. Cumulative Impacts

Under FESA regulations, cumulative impacts are those impacts of future state, local, and private actions affecting endangered and threatened species that are reasonably certain to occur in the BSA. Private timber harvest operations occur in the upper watershed of Little River outside of the BSA, which may result in increased sedimentation downstream over time. However, the proposed action would not increase or alter these operations in any way; and the proposed project is not anticipated to have any major sedimentation impacts. Future projects that require a federal action will be subject to the consultation requirements established in Section 7 of the FESA and are not considered cumulative to the proposed project. With implementation of the recommended conservation measures, the project would not have a cumulative adverse effect on listed anadromous salmonids. Therefore, cumulative effects of the proposed action are not described as part of this analysis because all listed species and designated critical habitats within the BSA are not likely to be adversely affected by the proposed action.

4.3.1.10. Effects Determination

The proposed action has been designed to include practicable conservation and avoidance and minimization measures that will avoid or minimize potentially adverse effects to federally listed salmonid species and their designated critical habitats to an insignificant level as described in Section 4.3.1.1. It is determined that the proposed action:

- *May affect, but is not likely to adversely affect,* Southern Oregon/Northern California Coast ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California DPS steelhead

- *May affect, but is not likely to adversely affect,* designated critical habitat for Southern Oregon/Northern California Coast ESU coho salmon, California Coastal ESU Chinook salmon, and Northern California Coast DPS steelhead

4.3.2. ESSENTIAL FISH HABITAT ASSESSMENT

The objectives of this EFH consultation section are to determine whether the proposed action would adversely affect designated EFH and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH. The MSFCMA requires consultation for all federal agency actions that may adversely affect EFH. EFH consultation with NMFS is required by federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of its location. Under Section 305(b)(4) of the MSFCMA, NMFS is required to provide EFH conservation and enhancement recommendations to federal and state agencies for actions that adversely affect EFH. Wherever possible, NMFS utilizes existing interagency coordination processes to fulfill EFH consultations with federal agencies. For the proposed action, this goal is being met by incorporating the EFH consultation into this NES.

4.3.2.1. Managed Fisheries with Potential to Occur in the Proposed Biological Study Area

The MSFCMA requires that the EFH be identified for all federally managed species including all species managed by the Pacific Fisheries Management Council (PFMC). The PFMC is responsible for managing commercial fisheries resources along the coasts of Washington, Oregon, and California. Managed species that have a potential to occur in the proposed BSA are covered under the Pacific Salmon Fishery Management Plan (FMP).

The species under the jurisdiction of the MSFCMA with the potential to occur within or near the BSA include the SONCC ESU coho salmon and California Coastal ESU Chinook salmon; these salmon are regulated by the PFMC's Salmon FMP

4.3.2.2. Potential Adverse Effects of the Proposed Action on Essential Fish Habitat

Potential adverse effects of the proposed action on SONCC ESU coho salmon and California Coastal ESU Chinook salmon EFH include a temporary increase in turbidity and suspended sediment from construction area stormwater runoff, accidental release of hazardous chemicals/accidental spill of lubricants and fuels, alteration of riparian habitat, and effects from construction-related noise and visual effects. These effects are described in detail in Section 4.3.1.3.

Conservation measures described in Section 1.4. and avoidance and minimization measures presented in Section 4.3.1.7. would be used to avoid or minimize the potential magnitude and duration of any identified effects. Some construction activities could result in temporary and localized increases in turbidity and suspended sediment from stormwater runoff during and after construction, without causing significant long-term effects on salmonid habitat quality. All disturbed slopes would be re-vegetated to provide effective biofiltration treatment of stormwater runoff. No measurable, long-term adverse modification to waters, substrates, food production and availability, and changes in cover conditions from increased shading or vegetation removal are anticipated.

4.3.2.3. Essential Fish Habitat Conclusion

It is determined that the proposed action would adversely affect EFH for species managed under the Pacific Coast Salmon Fishery Management Plan. The effects of the action on the Pacific Coast salmon EFH would be the same as those discussed Section 4.3.1.6. and would be limited to minor, temporary effects on the EFH. This includes the removal of a small amount of vegetation that provides riparian function. However, the scale of these impacts is considered small, resulting in no measurable decrease in the quality of the rearing habitat for EFH species or migration corridors (for salmonids). The project is designed to minimize adverse effects and restore condition and function after construction. Therefore, no permanent impacts to the EFH would occur and there would be no long-term, permanent impacts to EFH for Pacific salmon after construction that would reduce the quality of habitat to an extent that individual salmon would be impacted.

4.3.3. ADDITIONAL FEDERALLY LISTED FISH SPECIES

4.3.3.1. Tidewater Goby

The USFWS listed the tidewater goby as endangered on March 7, 1994 (59 FR 5494) and designated critical habitat on November 20, 2000 (67 FR 67803). Critical habitat for this species is not present in the BSA.

The tidewater goby is a small fish that inhabits coastal brackish water habitats entirely within California, ranging from Tillas Slough (at the mouth of the Smith River, Del Norte County) near the Oregon border south to Agua Hedionda Lagoon (northern San Diego County). The tidewater goby is known to have formerly inhabited at least 134 localities. Presently 23 (17 percent) of the 134 documented localities are considered extirpated; and 55–70 (41–52 percent) of the localities are naturally so small or have been degraded over time so that long-term persistence is uncertain (USFWS 2005, 2007). Tidewater goby are uniquely adapted to coastal lagoons and the uppermost brackish zone of larger estuaries, rarely invading marine or freshwater habitats (USFWS 2005). The species is typically found in water less than 3.3 feet (1 meter) deep with salinities of less than 12 parts per thousand. The species is benthic in nature and is found in shallow lagoons and lower stream reaches where the water is fairly still but not stagnant (Moyle 2002).

No long-term monitoring program is available for tidewater goby, and population dynamics are not well documented for this species. Deriving population size estimates for tidewater goby is difficult because of the variability in local abundance. In addition, seasonal changes in distribution and abundance further hamper efforts to estimate population size, especially for a short-lived species. Tidewater goby populations fluctuate with varying environmental conditions (e.g., drought, El Niño) between years; this population variation is normal (USFWS 2005).

Effects Determination

Brackish water in the Little River may be present in the BSA, but the tidewater goby's preferred lagoon and slow water back habitat is not. Brackish water is not present in the unnamed tributary, which is fresh water only within the BSA. No critical habitat for tidewater goby is present within the BSA. Recent eDNA testing[2] for tidewater goby presence within the Little River had negative results (Sutter and Kinziger 2019). Therefore, with the lack of preferred habitat, no in-water project-related work, and no documented presence, a "No Effect" determination was made for tidewater goby. No consultation for this species is required.

4.3.3.2. Southern DPS Green Sturgeon

On April 7, 2006, NMFS issued its final rule to list green sturgeon that spawn in rivers south of the Eel River (excluding the Eel River), described as the southern DPS, as threatened under

[2] eDNA or Environmental DNA testing is a method used to evaluate the presence or absence of a specific species by sampling the water column for the presence of its DNA.

FESA (71 FR 17757) (effective June 5, 2006). NMFS published the final rule for southern DPS green sturgeon critical habitat on October 9, 2009 (74 FR 52300). Southern DPS green sturgeon critical habitat is not present within the BSA.

Adult southern DPS green sturgeon generally migrate into San Francisco Bay between mid-February and early May, migrating rapidly up the Sacramento River. Spawning takes place in deep, fast water from March to July when water temperatures range from 46–60°F, with peak activity occurring from April through June (Moyle et al. 2015). Juveniles may rear in the river for 1–3 years before migrating to the estuary, primarily during the summer and fall. Once in the estuary, young sturgeon adopt an oceanic foraging habit, which may last from 3–13 years before returning for their first spawning season (Moyle 2002). Juveniles spend from 1–4 years in fresh and estuarine waters, then disperse into saltwater at lengths of 12–30 inches.

Effects Determination

Southern DPS green sturgeon use river habitat, estuarine habitat, and marine waters during their life cycle. However, southern DPS green sturgeon only spawn in the Sacramento River watershed, and no critical habitat is present within the BSA. While adults may use marine waters and estuarine areas, there is a discountable probability of occurrence within the BSA which is located almost 1 mile upstream from the Little River's confluence with the Pacific Ocean. The species is not likely to occur in the unnamed tributary due to the small channel size. Therefore, because no in-water work will occur in the Little River and their presence is discountable within the BSA, a "No Effect" determination was made for the southern DPS green sturgeon and its designated critical habitat. No consultation for this species is required.

4.3.3.3. Southern Eulachon DPS

The southern DPS eulachon is listed as federally threatened (75 FR 13012, March 2010) with designated critical habitat designated (76 FR 65324, October 2011). Eulachon is endemic to the eastern Pacific Ocean, from northern California to southwest Alaska, and into the southeastern Bering Sea. In California, eulachon have been historically documented in the Sacramento River, Russian River, Humboldt Bay, and several nearby smaller coastal rivers. No critical habitat is present in the BSA, with the nearest being the Mad River to the south. No large runs of eulachon are known to exist south of the Klamath River.

Eulachon are anadromous fish that spawn in the lower reaches of rivers and tributaries with small gravel or in semi-sandy areas with debris. They typically spend 3 to 5 years in the ocean before returning to streams and rivers to spawn, which in general occurs from late winter through mid-spring. The adult run timing of the Klamath River spawning migrations usually begins in December or January and continues through April with peak occurrences between March and April (Larson and Belchik 1998). Eulachon in the southern DPS typically die after spawning

Survey Results

There is no long-term monitoring program for eulachon in California, making assessment of historical abundance and abundance trends difficult. Large spawning aggregations of eulachon were reported to have once regularly occurred in the Klamath River. However, over the last several decades, runs have become rarer and more sporadic; with the last notable runs observed in 1988 and 1989 by tribal fishers (NMFS 2016). Recent trapping efforts for salmonids by Green Diamond Resource Company in the Little River have resulted in the capture of 10 adult eulachon in 2022 with a total 17 adults captured since 2020. No eulachon are known to have been captured in the Little River prior to 2020. Habitat in the BSA for eulachon is limited to a migratory corridor for adults and juveniles; any spawning would occur further upstream.

Project Impacts

Potential impacts on southern DPS eulachon would be largely limited to a low potential for exposure to increased turbidity and any effects would be similar to those described for listed salmonids in Section 4.3.1. and are anticipated to be insignificant with the use of conservation measures #1, #2, and #4 provided in Section 1.4.

Avoidance and Minimization Efforts

No additional conservation measures other than those included in this NES are needed to avoid or minimize project-related impacts upon southern DPS of eulachon and their preferred habitats.

Effects Determination

No southern DPS eulachon designated critical habitat exists in the BSA. No in-channel work is proposed and all work adjacent to the proposed action waterways would occur between June 15 – October 15 when there is no potential for presence of eulachon, which is limited to the late winter and early spring months for adults and juveniles, thus reducing the potential for effects to a discountable level. Therefore, a “No Effect” determination was made for southern DPS eulachon and its designated critical habitat.

4.3.4. COASTAL CUTTHROAT TROUT

4.3.4.1. Survey Results

Coastal cutthroat trout are found in coastal streams from the Eel River, Humboldt County, to Seward in southeastern Alaska. Some coastal cutthroat trout may spend their entire lives in freshwater, but most are anadromous, spending the summers in saltwater habitats. They prefer small, low gradient coastal streams and estuarine habitats. In Northern California, coastal cutthroat trout begin to migrate up spawning streams from August to October, following the first substantial rainfall, and spawn in the late-winter to early-spring (Moyle 2002). Stream sections with small or moderate-sized gravel substrates are essential for spawning. The species was observed in the unnamed tributary during a site survey conducted in coordination with CDFW on June 1, 2021 (Appendix F).

4.3.4.2. Project Impacts

Potential impacts to coastal cutthroat trout would be very similar to those described for listed salmonids in Section 4.3.1. and are anticipated to be insignificant with the use of conservation measures #1, #2, and #4 provided in Section 1.4.

4.3.4.3. Avoidance and Minimization Efforts

No additional conservation measures other than those included in this NES are needed to avoid or minimize project-related impacts upon coastal cutthroat trout and their preferred habitats.

4.3.4.4. Compensatory Mitigation

No compensatory mitigation is proposed.

4.3.4.5. Cumulative Impacts

Private timber harvest operations occur in the upper watershed of Little River outside of the BSA, which may result in increased sedimentation downstream over time. However, the proposed action would not increase or alter these operations in any way. Any future bridge and road improvement projects in the area would apply similar measures to reduce potential impacts to these species. With implementation of the measures identified above, the project would not result in cumulatively considerable impacts on coastal cutthroat trout.

4.3.5. WESTERN BROOK AND PACIFIC LAMPREY

4.3.5.1. Survey Results

Both the Western brook and the Pacific lamprey are found in coastal streams and may seasonally use the BSA as a migratory corridor. Habitat requirements are similar to that of salmonids requiring clear, cold, water in little disturbed watersheds, as well as clean gravel near cover (e.g., boulders, riparian vegetation, logs) for spawning (Moyle et al. 2015). Additionally, areas with low flow velocities and fine sediments are required for rearing juveniles called ammocoetes, which may take up to 5 years to mature before migrating to the ocean as adults. It has been observed that where Western brook and Pacific lamprey co-occur, Western brook lamprey may spawn within Pacific lamprey nests, but Western brook lamprey generally spawn further upstream than the Pacific lamprey (Moyle et al. 2015). Presence of either species within Little River was not verified by a survey but is likely. The Western brook lamprey was observed in the unnamed tributary during a site survey conducted in coordination with CDFW on June 1, 2021 (Appendix F). Presence of Pacific lamprey in the unnamed tributary was not verified but is likely given the habitat conditions present.

4.3.5.2. Project Impacts

Potential effects on Western brook and Pacific lamprey would be similar to those described for listed salmonids in Section 4.3.1. and are anticipated to be avoided with the proposed Conservation Measures #1, #2, and #4 described in Section 1.4.

4.3.5.3. Avoidance and Minimization Efforts

No additional avoidance and minimization efforts are required.

4.3.5.4. Compensatory Mitigation

No compensatory mitigation is proposed.

4.3.5.5. Cumulative Impacts

Private timber harvest operations occur in the upper watershed of Little River outside of the BSA, which over time may result in increased sedimentation downstream. However, the proposed action would not increase or alter these operations in any way. Future bridge and road improvement projects in the area would apply similar measures to reduce potential impacts to these species. With implementation of the measures identified above, the project would not result in cumulatively adverse effects on Western brook and Pacific lamprey.

4.3.6. SPECIAL STATUS AMPHIBIANS AND REPTILES

4.3.6.1. Survey Results

The streams and associated riparian habitat in and near the BSA provide potential habitat for three species of special concern: Northern red-legged frog, Southern torrent salamander, and Western pond turtle. The riverine and upland habitat may also support breeding habitat for these species. Reconnaissance-level biological surveys did not locate these species in or adjacent to the BSA. According to CNDDB, the nearest known occurrence for Northern red-legged frog is approximately 0.6 mile from the BSA. The nearest CNDDB occurrence for Southern torrent salamander is located approximately 3 miles from the BSA. A CNDDB occurrence for Western pond turtle is located within the BSA.

4.3.6.2. Project Impacts

The project could adversely affect special status amphibian and reptile species if individuals are present in the BSA during construction. Potential direct effects include harassment, injury, and mortality of individuals due to equipment and vehicle traffic. Indirect effects could occur if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. Vegetation removal may degrade upland habitat for Western pond turtle. Trail lighting and human disturbance from trail use may also decrease special status amphibian and reptile use of the area.

4.3.6.3. Avoidance and Minimization Efforts

In addition to the Conservation Measures #1, #2, and #4 provided in Section 1.4, the following measures will be used to avoid or minimize the potential for impacts on these species.

- A qualified biologist will provide environmental awareness training for construction personnel prior to onset of work. The training will instruct construction personnel on how to recognize potential special status species.

- Within 24 hours prior to the start of construction, a qualified biologist will conduct a pre-construction survey for special status amphibians within the disturbance footprint. Any special status amphibians found will be relocated to nearby suitable habitat outside of the disturbance footprint.

- If special status species are encountered in the BSA during construction and could be harmed by construction activities, work will stop in the area. A qualified biologist may relocate the individual(s) the shortest distance possible to a location containing habitat outside of the work area.

- If a Western pond turtle nest is discovered during construction activities, a qualified biologist will flag the site and determine if construction activities can avoid affecting the nest. If the nest cannot be avoided, it will be excavated and relocated to a suitable location outside of the construction impact zone by a qualified biologist in coordination with CDFW.

4.3.6.4. Compensatory Mitigation

None required.

4.3.6.5. Cumulative Impacts

There are several planned projects in the vicinity of the project which may affect special status amphibians and reptiles. Future nearby projects include the Trinidad CAPM, which involves pavement rehabilitation in and near Trinidad; Hum-101 Drainage North, which would rehabilitate culverts at spot locations along US 101; and a shoulder-widening project on Central Avenue in McKinleyville. Future drainage and road improvement projects in the region would apply similar measures as the project to reduce potential impacts to special status amphibians and reptiles. With implementation of the measures identified above, the project would not result in cumulatively considerable impacts on special status amphibians or reptiles.

4.3.7. SPECIAL STATUS BIRDS AND OTHER MIGRATORY BIRDS

4.3.7.1. Survey Results

The forested, riparian, and shrubland habitats in the BSA and vicinity provide potential nesting habitat for special status birds and other migratory birds. The bridge supports nesting cliff swallows (*Petrochelidon pyrrhonota*), which are protected under the MBTA. (A bridge survey memorandum is provided in Appendix G). Special status bird species that could use these habitats include Northern harrier, Vaux's swift, purple martin, tricolored blackbird, white tailed kite, yellow warbler, and yellow-breasted chat. RCAA and Stantec biologists did not incidentally observe any special status birds during reconnaissance level field surveys. According to the CNDDB, none of the bird species mentioned above have been recorded within 10 miles of the BSA. The online database, eBird, shows occurrences of every potential special status bird in or near the BSA, including Northern harrier 0.03 mile from the BSA (2021), Vaux's swift 0.10 mile from the BSA (2015), purple martin 0.03 mile from the BSA (2021), yellow warbler 0.09 mile from the BSA (2015), yellow-breasted chat 0.03 mile from the BSA (2018), and white-tailed kite within the BSA near the bridge over Little River (2020). Other protected birds including migratory birds may occur in the BSA.

4.3.7.2. Project Impacts

Construction activities (e.g., vegetation removal, equipment noise, and bridge modifications) would occur during the bird breeding season (generally February 15 through August 31, depending on the species) and could disturb nesting birds in or adjacent to the BSA. Construction-related disturbance could result in the incidental loss of fertile eggs or nestlings or nest abandonment, which could affect local or regional populations of affected birds. Impacts on nesting birds could result from the following:

- Tree and shrub removal to accommodate the trail

- Ground disturbing activities (e.g., grubbing and grading) in woodlands that could affect ground-nesting birds
- Noise, vibrations, and presence of humans during construction activities
- Bridge modifications
- Debris catchment installation on bridge
- Trail lighting and disturbance from trail use after construction

Birds present in or adjacent to the BSA during non-breeding seasons would not be adversely impacted by construction activities due to their high mobility and available habitat outside of the BSA. They may be temporarily disturbed or precluded from using the area during construction. Additionally, the trail lighting and increased disturbance from trail use after construction may reduce protected bird use of the area.

Trail construction would result in a loss of approximately 0.14 acre of coastal dune willow thickets, 0.6 acre of coyote brush scrub, 0.47 acre of non-native grassland, 0.54 acre of red alder forest, and 1.21 acres of Sitka spruce forest. (Figure 4, Appendix A). Regulated vegetation communities would be replaced via required compensatory mitigation (see Section 4.2.4), likely to occur on-site. Additional revegetation would occur along the trail margins as part of the project design. Thus, not all vegetation loss would be permanent. Abundant bird nesting and foraging habitat would be retained within the BSA and similarly suitable habitat occurs in the project vicinity.

4.3.7.3. Avoidance and Minimization Efforts

The project was designed to minimize removal of native vegetation to the greatest extent practicable. To minimize or avoid project-related effects on nesting birds, the following measures will be implemented:

- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the project should be removed before the onset of the nesting season (February 15 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts.

- If construction occurs during the nesting season (February 15 through September 1), a qualified biologist will conduct a pre-construction survey of the BSA including up to a 500-foot buffer for white tailed kite and other raptor species and a 100-foot buffer for all other species, as access is available, to locate active bird nests and identify measures to protect the nests. The entire buffer will be surveyed if landowner approval is available, or the buffer is in public lands. If access is not available, biologists will survey from the edge of the BSA using high-powered binoculars, or survey from public roads if roads occur in the buffer. The pre-construction survey will be performed between February 15 and August 31, but no more than 7 days prior to the implementation of construction activities, including staging and equipment access. If a lapse in construction activities for 7 days or longer occurs between those dates, another pre-construction survey will be performed.

- If an active nest is found, a qualified biologist, in consultation with the CDFW, will determine the extent of a construction-free buffer zone to be established around the nest. The buffers will be determined by the bird species and site-specific conditions (e.g., line of site, proximity to roads and other disturbances).

- If the final design involves work on the bridge over the Little River and work will occur during the nesting bird season (February 15 through August 31), an exclusion plan for migratory birds that may nest under the bridge (e.g., cliff swallows) will be incorporated into the project. A qualified biologist will develop the plan in coordination with CDFW. The plan will involve an exclusionary device installed on the underside and outside edge of the bridge prior to February 15 to prevent cliff swallows or other migratory birds from nesting on the bridge. A qualified biologist will monitor the exclusionary device monthly to ensure it is not damaged until the end of the nesting season or the end of construction, whichever occurs first.

- The debris catchment installation on the bridge (see section 1.4.1.2.) would occur outside of the nesting bird season to prevent nesting birds from getting entrapped in the device while nesting.

4.3.7.4. Compensatory Mitigation

None required.

4.3.7.5. Cumulative Impacts

There are several planned projects in the vicinity of the project which may affect special status birds or other migratory birds. Future nearby projects include the Trinidad CAPM, which involves pavement rehabilitation in and near Trinidad; Hum-101 Drainage North, which would rehabilitate culverts at spot locations along US 101; and a shoulder-widening project on Central Avenue in McKinleyville. Future drainage and road improvement projects in the area would apply similar measures as the project to reduce potential impacts to these species. With implementation of the measures identified above, the project would not result in cumulatively considerable impacts on special status birds or other migratory birds.

4.3.8. PALLID BAT AND TOWNSEND'S BIG-EARED BAT

4.3.8.1. Survey Results

Pallid bat and Townsend's big-eared bat roost in crevices and cavities in a wide range of habitat types. The bridge over Little River does not contain suitable crevices or wood elements for day roosting bats or maternity colonies, and no significant sign of bat use (e.g., guano accumulation) was observed. There was minimal guano and urine staining on the pier walls, indicating that individual bats may use sections of the bridge as night roosts. It is recommended that an additional bat habitat survey should be performed the year prior to construction to verify that habitat elements and bridge use by bats have not changed. According to CNDDB, there are no known occurrences of pallid bat or Townsend's big eared bat within 10 miles of the BSA.

4.3.8.2. Project Impacts

Bats may roost individually in riparian vegetation or on the bridge at night. Due to the ability of individual bats to move away from disturbances, direct impacts on bats are not expected when the bats are not in a maternity colony. If bridge construction occurs at night, individual bats may be using the bridge as a night roost; however, individual bats will move to a new roost when disturbed, so impacts are not expected. Avoidance and minimization measure provided below reduces the potential for adverse impacts on pallid bat and Townsend's big-eared bat.

4.3.8.3. Avoidance and Minimization Efforts

The following avoidance and minimization measure will be implemented to avoid impacts on special status bat species.

- A qualified biologist will survey to assess conditions under and on the bridge for suitable bat habitat. The survey should be conducted in the year prior to construction. If conditions have changed and bats may use the bridge, additional avoidance and minimization measures will be applied, including but not limited to:
  - Limited bridge work at night
  - Installation of exclusion devices on bridge crevices suitable for roosting bats
  - Seasonal limitations for work conducted on the bridge

4.3.8.4. Compensatory Mitigation

None required.

4.3.8.5. Cumulative Impacts

There are several planned projects in the vicinity of the project which may affect special status bats. Future nearby projects include the Trinidad CAPM, which involves pavement rehabilitation in and near Trinidad; Hum-101 Drainage North, which would rehabilitate culverts at spot locations along US 101; and a shoulder-widening project on Central Avenue in McKinleyville. Future drainage and road improvement projects in the region would apply similar measures as the project to reduce potential impacts to these species. With implementation of the measures identified above, the project would not result in cumulatively considerable impacts on special status bats.

4.3.9. WHITE-FOOTED VOLE AND SONOMA TREE VOLE

4.3.9.1. Survey Results

Deciduous vegetation in the red alder forests and riparian habitat in the BSA could provide potential habitat for the white-footed vole. Sonoma tree vole prefers redwood, grand fir, and Douglas fir dominated forests; however, they have been documented using Sitka spruce trees for nesting. Stantec biologists did not make any incidental observations of these species during the reconnaissance level survey. According to CNDDB, the nearest known occurrence for white-footed vole is 2.5 miles from the BSA, and the nearest CNDDB occurrence for Sonoma tree vole is approximately 7 miles from the BSA.

4.3.9.2. Project Impacts

Direct impacts on these species could result from tree removal and vegetation removal. Temporary noise disturbance generated by construction could indirectly affect these species as well. Trail lighting and human disturbance from trail use may also decrease their use of the area, however abundant forested and riparian habitat would be available in the vicinity of the BSA. Avoidance and minimization measures provided below reduce the potential for adverse impacts on these species.

4.3.9.3. Avoidance and Minimization Efforts

The following measures will be implemented:

- A qualified biologist will conduct a pre-construction survey of the BSA to locate and identify potential presence of these species. The survey should occur no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed.

- Consultation with CDFW would occur prior to surveys to determine if seasonal restrictions are appropriate for either species if a nest is located in a tree proposed for removal.

- If an active nest is found, a qualified biologist, in consultation with CDFW, will determine the extent of a construction-free buffer zone to be established around the nest or if seasonal restrictions would reduce impacts to the species.

4.3.9.4. Compensatory Mitigation

None required.

4.3.9.5. Cumulative Impacts

There are several planned projects in the vicinity of the project which may affect white-footed vole and Sonoma tree vole. Future nearby projects include the Trinidad CAPM, which involves pavement rehabilitation in and near Trinidad; Hum-101 Drainage North, which would rehabilitate culverts at spot locations along US 101; and a shoulder-widening project on Central Avenue in McKinleyville. Future drainage and road improvement projects in the region would apply similar measures as the project to reduce potential impacts to these species. With implementation of the measures identified above, the project would not result in cumulatively considerable impacts on white-footed vole or Sonoma tree vole.

Chapter 5. Results: Conclusions and Regulatory Determinations

5.1. Federal Endangered Species Act Consultation Summary

Stantec biologists obtained a list (Consultation Code 08EACT00-2020-SLI-0411 [Appendix C]) of federally listed, proposed, and candidate species with the potential to occur in the vicinity of the BSA. The list was electronically obtained from the USFWS Arcata Fish and Wildlife Office Information for Planning and Consultation planning tool on July 19,2021. Stantec biologists electronically obtained a list of federally listed fishes that have the potential to occur in the BSA (Appendix C) from the NMFS West Coast Region kmz tool on January 6, 2021.

This NES will be submitted to NMFS for review under Section 7 of the FESA to address potential impacts to federally listed fish species and their critical habitats, including Northern California DPS steelhead, California Coastal ESU Chinook salmon, and the SONCC ESU coho salmon. With the implementation of conservation and avoidance measures contained in this NES, take of these species would be avoided and a “May Effect, Not Likely to Adversely Affect” determination was made. Additionally, due to the discountable probability of presence within the BSA, a “No Effect” determination was made for the southern DPS green sturgeon, southern DPS eulachon, and tidewater goby.

5.2. Essential Fish Habitat Consultation Summary

SONCC ESU coho salmon and California Coastal ESU Chinook salmon EFH is present in the BSA. This NES will be submitted to NMFS for review under Section 7 of the FESA to address potential impacts on EFH. It was determined that the proposed action may not adversely affect EFH for species managed under the Pacific Coast Salmon Fishery Management Plan.

5.3. Wetlands and Other Waters Coordination Summary

The preliminary delineation of waters of the U.S. has not been submitted to USACE for verification, so the delineation results are considered preliminary until verified. Caltrans will submit the delineation to USACE for verification.

The project will comply with terms of Nationwide Permit No. 14 for Linear Transportation Projects. A preconstruction notification will be required due to the discharge of fill into a riparian wetland (special aquatic site). Project authorization under the CWA requires that Section 401 Water Quality Certification be obtained from the RWQCB.

5.4. Migratory Bird Treaty Act

With implementation of measures identified in Chapter 4 to avoid impacts on nesting migratory birds, the project would comply with the MBTA.

5.5. Bald and Golden Eagle Protection Act

Bald and golden eagles are not anticipated to occur in the BSA; however, if present, measures provided in Chapter 4 that call for pre-construction nesting bird surveys would help ensure project compliance with the Bald and Golden Eagle Protection Act.

5.6. California Coastal Act

The project could result in direct and indirect impacts to CCC waters that are described by Humboldt County's LCP (Humboldt County 2007a, 2007b). The project would also result in direct and indirect impacts to the upland ESHA that are regulated by the CCC. Avoidance and minimization measures would be implemented to avoid or minimize indirect impacts to wetlands, other waters, and upland ESHA. Avoidance measures and compensatory mitigation are identified in Chapter 4.

5.7. California Endangered Species Act Consultation Summary

The project would not result in the "take" of any state-listed species. No CESA consultation with the CDFW is required.

5.8. California Fish and Game Code

The project would not involve work adjacent to Little River, including riparian habitat. It would also not involve work near an unnamed perennial tributary to Little River upstream of the existing culvert; however, modifications to the streambed or culvert are not planned. If required by the CDFW, Caltrans would obtain a streambed alteration agreement and will see that all conditions of the agreement are implemented.

During the construction, it may be necessary to relocate aquatic animals that are species of special concern, including Northern red-legged frog, Southern torrent salamander, and Western pond turtle. Per CDFW guidelines, the relocation of species of special concern or other animals for movement "out of harm's way" is permitted via a letter from the CDFW regional office.

The project would comply with other sections of the Fish and Game Code (i.e., birds of prey, migratory birds, fully protected species) with implementation of avoidance and minimization measures.

5.9. Invasive Species

With implementation of measures identified in Chapter 4 to avoid and minimize the introduction and spread of invasive species, the Project would comply with EO 13112.

5.10. Executive Order 11990 (Wetlands)

The project was designed to avoid wetlands to the greatest extent practicable. Due to the location of the existing bridge and the extent of riparian vegetation, no practicable alternative exists to avoid wetlands completely. Avoidance and mitigation measures have been incorporated and are described in Chapter 4.

5.11. Executive Order 11988 (Floodplain Management)

The proposed bridge would maintain floodway conveyance in the BSA. Therefore, the project complies with EO 11988.

5.12. County Tree Ordinance

Under the Humboldt County Code, the project's removal of approximately 117 trees would be considered major tree removal. A special permit may be required for removal of trees.

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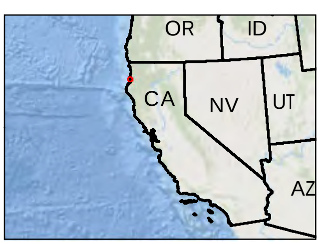
Appendix A Figures



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2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Project Location
T08N, R01E, Sec. 31, T07N, R01E,
Sec. 6 and 7 Crannell, California USGS 7.5' Quad

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
Redwood Community Action Agency
Little River Trail Project

185705051

Figure No.
1

Title
Project Location

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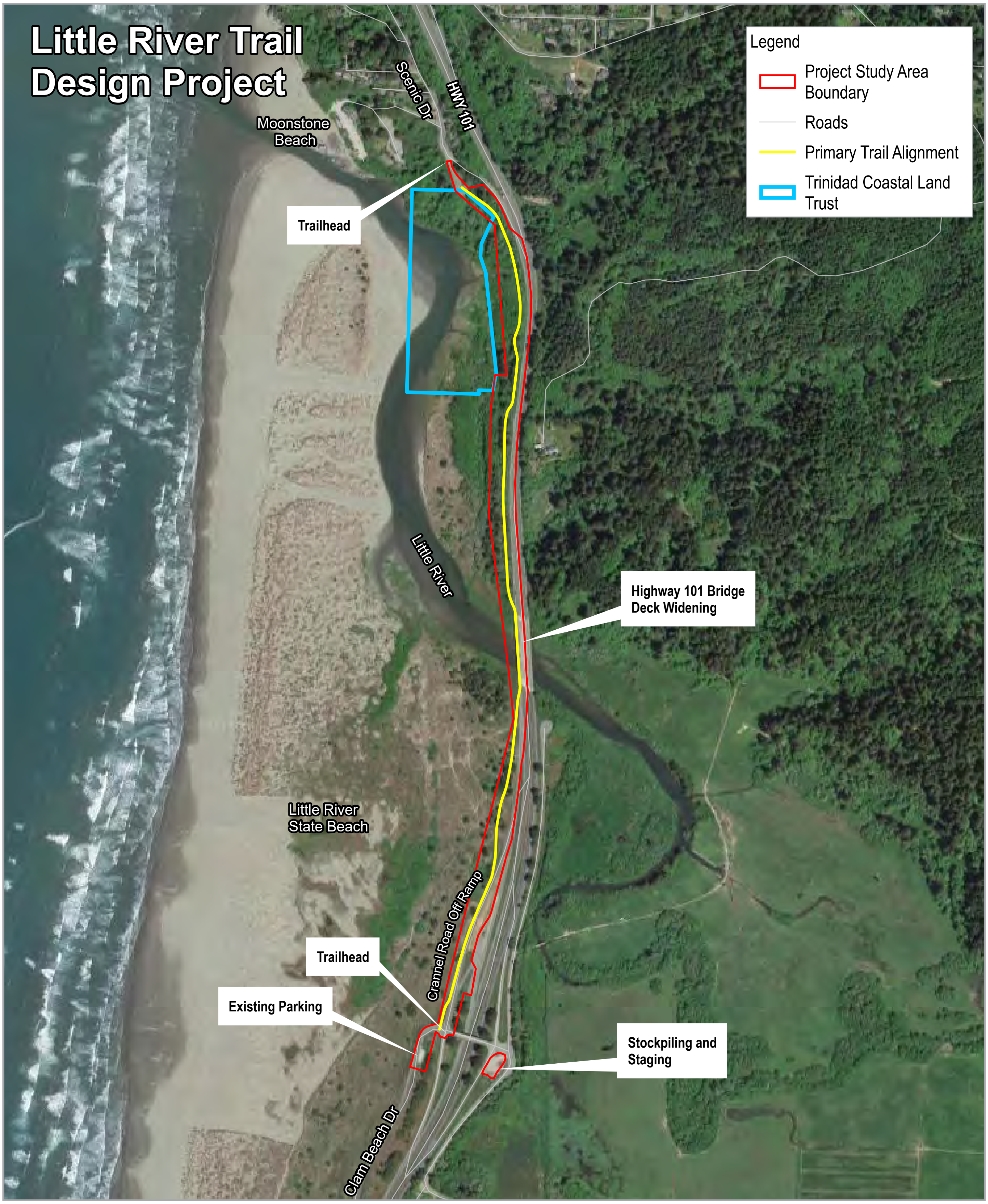

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

GHD

Redwood Community Action Agency
Little River Trail Project Description

Project Overview

Project No. **11212216**
Revision No. **-**
Date **4/26/2022**

FIGURE 2

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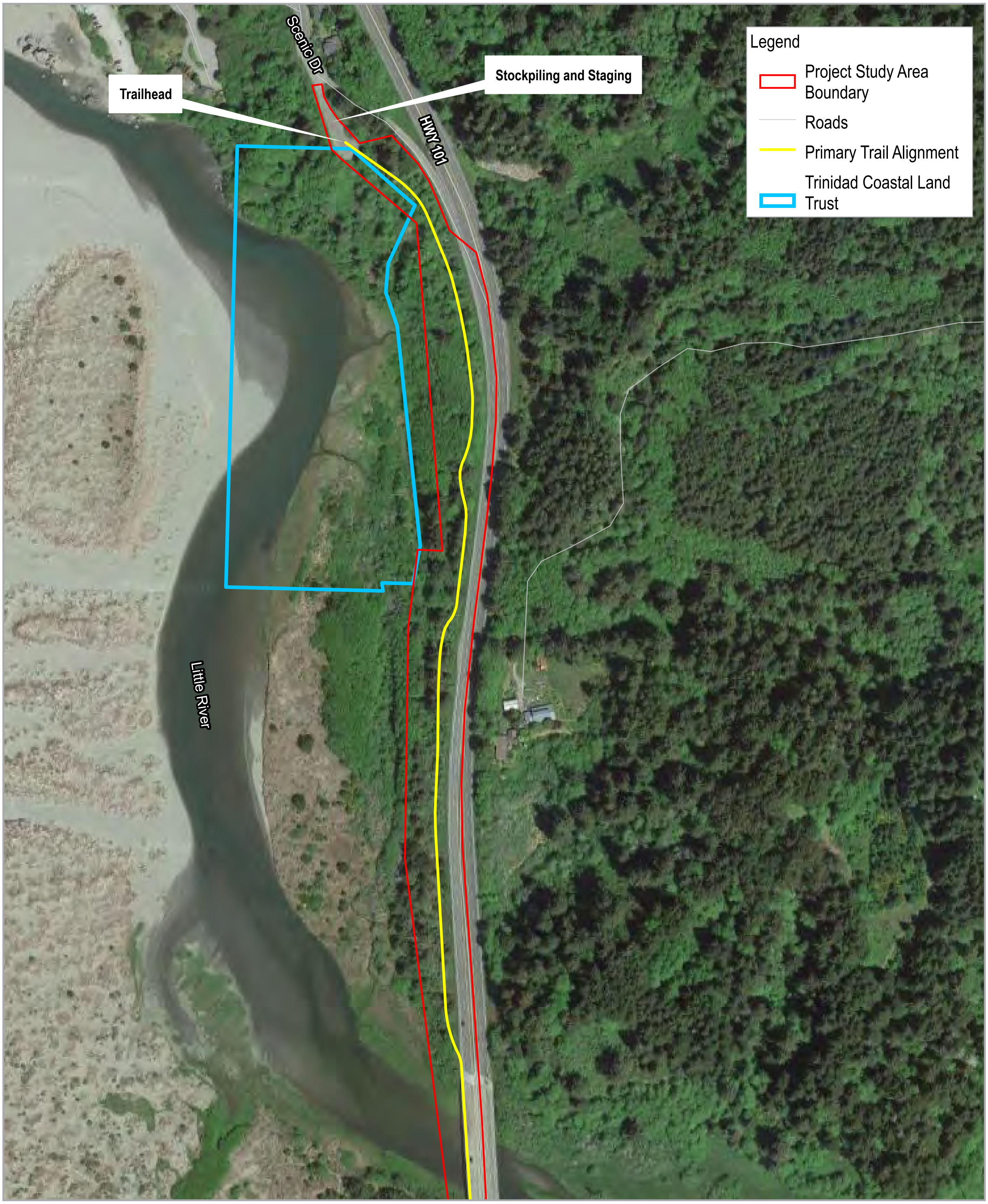

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GHD

Redwood Community Action Agency
Little River Trail Project Description

Project No. **11212216**
Revision No. **-**
Date **4/26/2022**

Northern Project Overview

FIGURE 3

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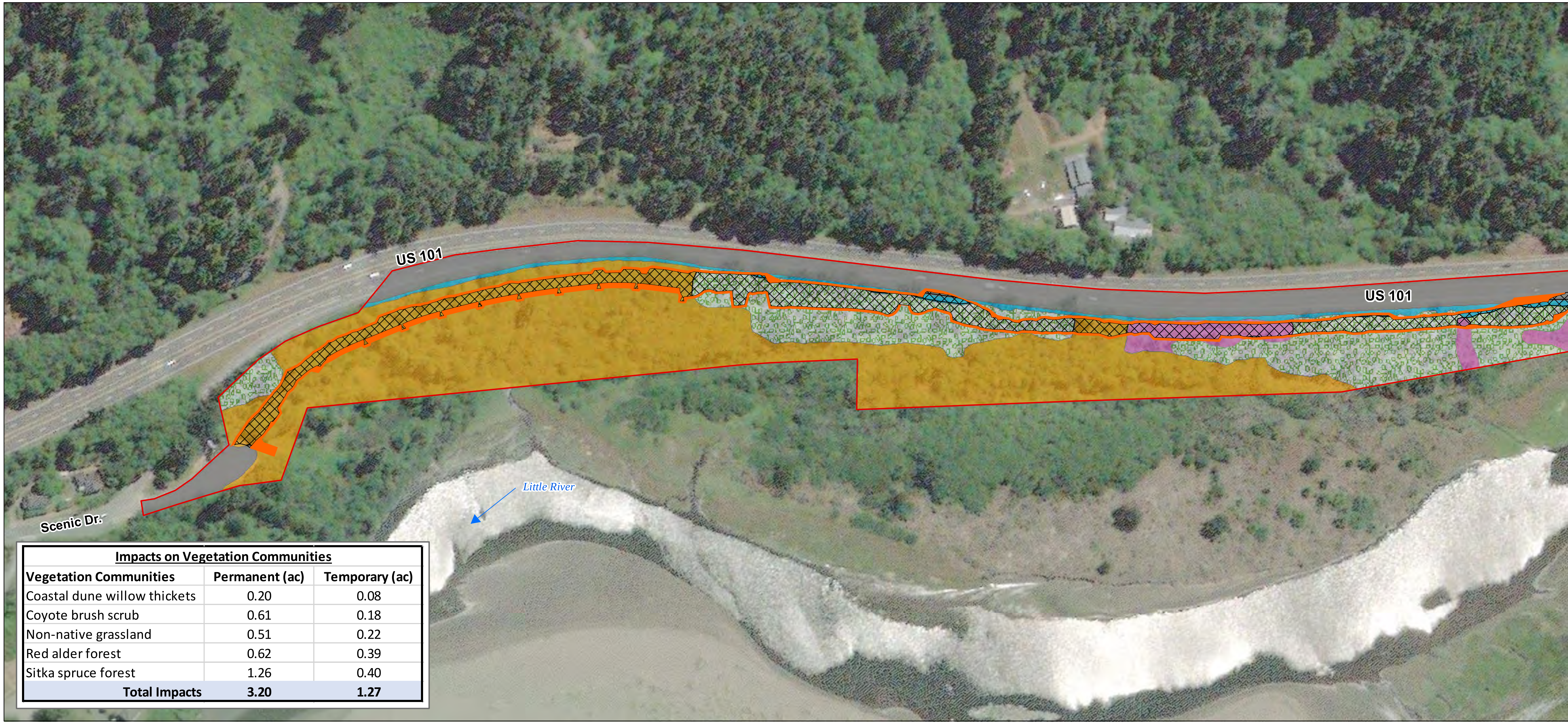

Impacts on Vegetation Communities

Vegetation Communities	Permanent (ac)	Temporary (ac)
Coastal dune willow thickets	0.20	0.08
Coyote brush scrub	0.61	0.18
Non-native grassland	0.51	0.22
Red alder forest	0.62	0.39
Sitka spruce forest	1.26	0.40
Total Impacts	**3.20**	**1.27**

Biological Study Area (22.93 acres)
Permanent Impacts (3.20 acres)
Temporary Impacts (1.27 acres)
Riverine (0.69 acre)
Barren (5.45 acres)

Vegetation Communities
Coastal dune willow thickets (0.96 acre)
Coyote brush scrub (1.36 acres)
Non-native grassland (2.81 acres)
Pacific silverweed marshes (0.11 acre)
Red alder forest (7.05 acres)
Sitka spruce forest (4.42 acres)
Slough sedge swards (0.08 acre)

0 100 200 Feet
(At original document size of 11x17)
1:2,400

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
4

Title
Impacts on Vegetation Communities

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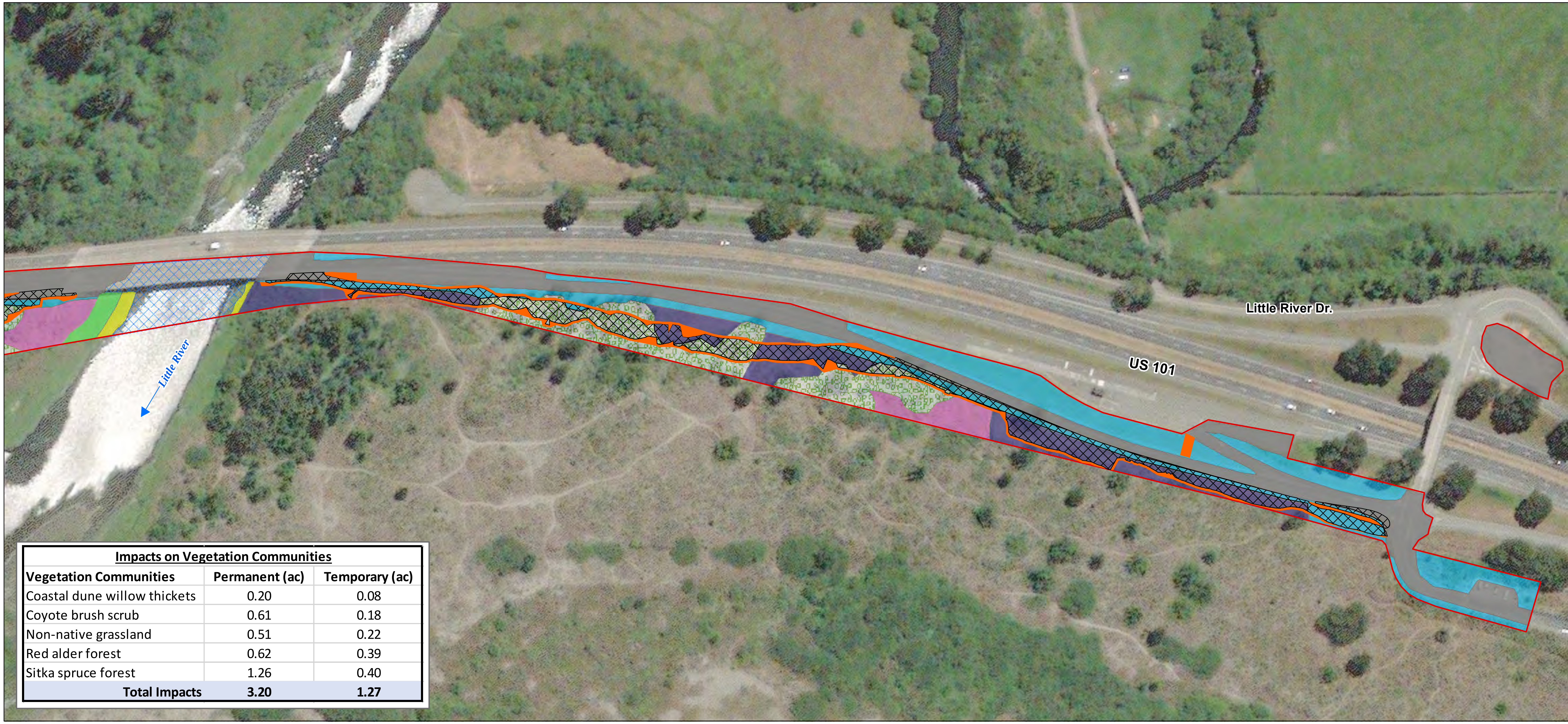

Impacts on Vegetation Communities

Vegetation Communities	Permanent (ac)	Temporary (ac)
Coastal dune willow thickets	0.20	0.08
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Biological Study Area (22.93 acres)
Permanent Impacts (3.20 acres)
Temporary Impacts (1.27 acres)
Riverine (0.69 acre)
Barren (5.45 acres)

Vegetation Communities

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Pacific silverweed marshes (0.11 acre)
Red alder forest (7.05 acres)
Sitka spruce forest (4.42 acres)
Slough sedge swards (0.08 acre)

0 100 200 Feet
(At original document size of 11x17)
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N

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
4

Title
Impacts on Vegetation Communities

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

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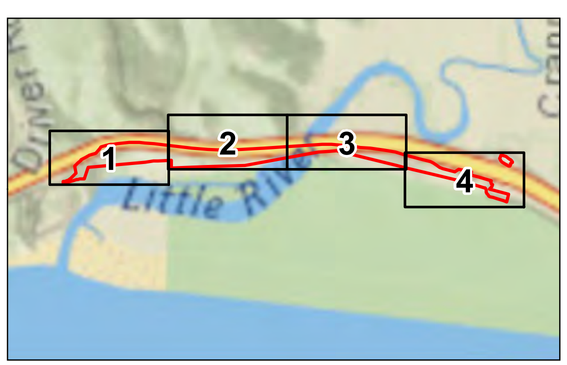

Biological Study Area (22.93 acres)
Map Reference Point
Culvert
OHWM
ESA Fencing
Permanent Impacts (0.01 acre)
Temporary Impacts (<0.01 acre)

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre, 367 linear feet)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

This delineation of waters of the United States is subject to verification by the United States Army Corps of Engineers (USACE). Stantec advises all parties that the delineation is preliminary until the USACE provides a written verification.

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Project Location — Prepared by TM on 2022-01-24
IR by ST on 2022-01-24
Humboldt County, California

Client/Project — 185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States

Page 1 of 4

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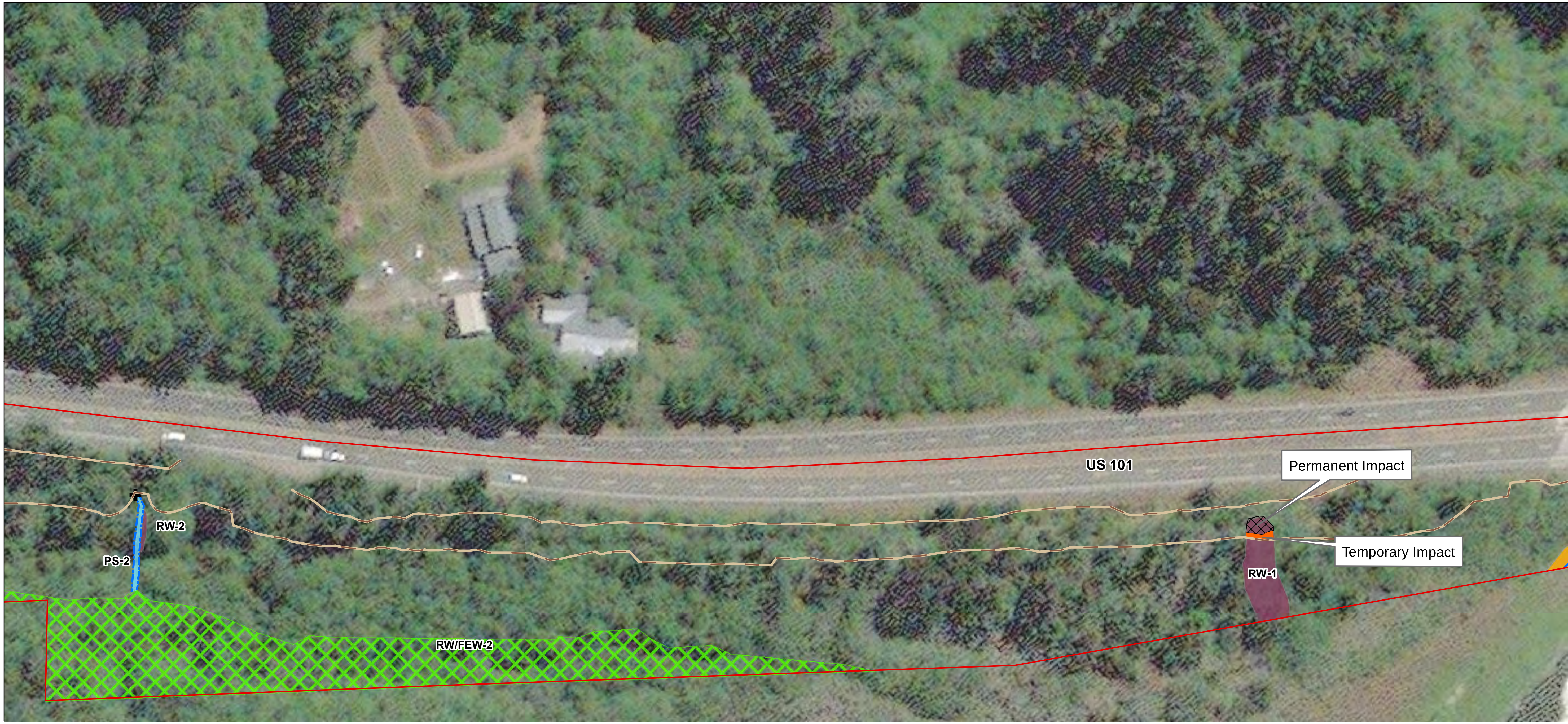

Biological Study Area (22.93 acres)
Map Reference Point
Culvert
OHWM
ESA Fencing
Permanent Impacts (0.01 acre)
Temporary Impacts (<0.01 acre)

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre, 367 linear feet)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

This delineation of waters of the United State is subject to verification by the United States Army Corps of Engineers (USACE). Statnec advises all parties that the delineation is preliminary until the USACE provides a written verification.

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NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States

Page 2 of 4

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Biological Study Area (22.93 acres)
Map Reference Point
Culvert
OHWM
ESA Fencing
Permanent Impacts (0.01 acre)
Temporary Impacts (<0.01 acre)

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre, 367 linear feet)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

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Notes
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NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
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Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project 185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure5_usace_wous_impacts.mxd Revised: 2022-01-24 By: tmooney

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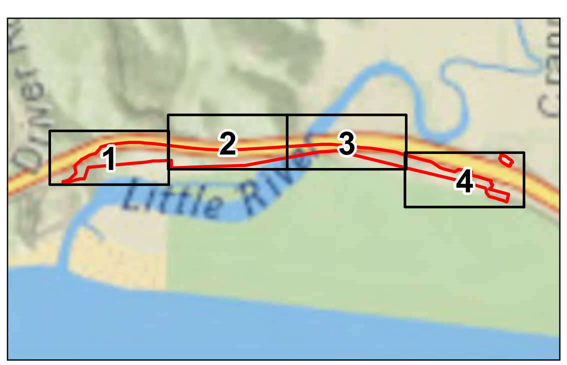

Biological Study Area (22.93 acres)
Map Reference Point
Culvert
OHWM
ESA Fencing
Permanent Impacts (0.01 acre)
Temporary Impacts (<0.01 acre)

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre, 367 linear feet)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

This delineation of waters of the United State is subject to verification by the United States Army Corps of Engineers (USACE). Statnec advises all parties that the delineation is preliminary until the USACE provides a written verification.

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Project Location
Humboldt County, California
Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
5

Title
Impacts on Potential Waters of the United States

Page 4 of 4

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Impacts on Potential Waters of the United States

Temporary							
Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	<0.01	-	-	E2SS	41.01641	-124.10783
	Subtotal	**<0.01**					
RW-1	Riparian Wetland	<0.01	-	-	E2SS	41.02176	-124.10757
	Subtotal	**<0.01**					
	Total Temporary Impacts on Wetlands	**<0.01**					
	Total Temporary Impacts on Potential Waters of the United	**<0.01**					
Permanent							
Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW-1	Riparian Wetland	0.01	-	-	E2SS	41.02176	-124.10757
	Subtotal	**0.01**					
	Total Permanent Impacts on Wetlands	**0.01**					
	Total Permanent Impacts on Potential Waters of the United	**0.01**					
	Total Impacts on Potential Waters of the United States	**0.01**					

Potential Waters of the United States

Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-1	Riparian / Fresh Emergent Wetland Complex	0.02	-	-	E2SS	41.02697	-124.10801
RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
FEW-2	Fresh Emergent Wetland	0.02	-	-	E2EM	41.02002	-124.10721
	Subtotal	**0.19**					
RW-1	Riparian Wetland	0.07	-	-	E2SS	41.02176	-124.10757
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	**0.02**	-	-	E2EM	41.01561	-124.10775
	Total Wetlands	**2.17**					
Other Waters							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
PS-1	Perennial Stream	0.05	130	15	E1UB	41.02694	-124.10791
PS-2	Perennial Stream	0.01	96	5	E2SB	41.02478	-124.10759
PS-3	Perennial Stream	0.69	141	285	E1UB	41.02033	-124.10713
	Total Other Waters	**0.75**	**367**				
Total Potential Waters of the United States		**2.92**	**367**				

Project Location

Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project

185705051

Redwood Community Action Agency
Little River Trail Project

Figure No.

5

Title

Impacts on Potential Waters of the United States

Summary

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure5_usace_wos_impacts_summary.mxd Revised: 2022-01-24 By: tmooney

Potential Coastal Act Waters

- Biological Study Area (22.93
- Map Reference Point
- Culvert
- Ordinary High Water Mark
- ESA Fencing
- Permanent Impacts (0.20 acre)
- Temporary Impacts (0.08 acre)

3-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (1.89 acres)
- Fresh Emergent Wetland (0.19 acre)**
- Riparian Wetland (0.07 acre)*
- Vegetated Ditch (0.02 acre)

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

1-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (0.54 acre)
- Riparian Wetland (0.64 acre)*

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

*Riparian wetlands also qualify as sensitive natural communities (coastal dune willow thickets).

**Fresh emergent wetlands also qualify as sensitive natural communities (Pacific silverweed marshes and slough sedge swards).

0 50 100 Feet

(At original document size of 11x17)
1:1,200

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

"Coastal Act Waters" are wetlands, coastal waters, and streams regulated under the California Coastal Act. This delineation of waters of the State is subject to verification by the California Coastal Commission (CCC). Statnec advises all parties that the delineation is preliminary until the CCC provides a written verification.

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
6

Title
Impacts on Coastal Act Waters

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure6_CCC_wos_impacts.mxd Revised: 2022-01-24 By: tmooney

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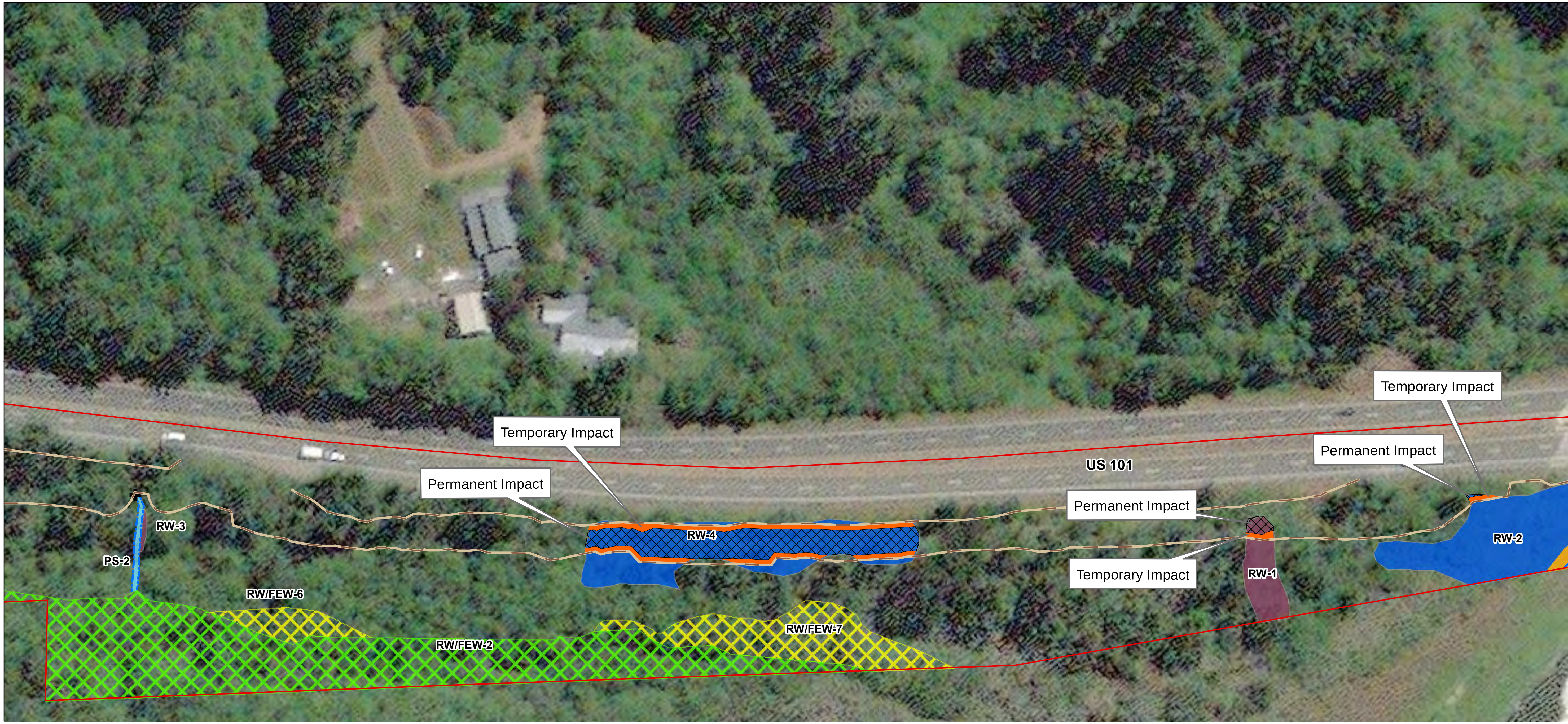

Potential Coastal Act Waters

- Biological Study Area (22.93
- Map Reference Point
- Culvert
- Ordinary High Water Mark
- ESA Fencing
- Permanent Impacts (0.20 acre)
- Temporary Impacts (0.08 acre)

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3-Parameter Wetlands

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- Vegetated Ditch (0.02 acre)

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

1-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (0.54 acre)
- Riparian Wetland (0.64 acre)*

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

*Riparian wetlands also qualify as sensitive natural communities (coastal dune willow thickets).

**Fresh emergent wetlands also qualify as sensitive natural communities (Pacific silverweed marshes and slough sedge swards).

0 50 100 Feet

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N

Notes

1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet NAD 1983 StatePlane California I FIPS 0401 Feet
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3. Delineator: Sarah Tona and Jacqueline Phipps
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Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
6

Title
Impacts on Coastal Act Waters

Page 2 of 4

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure6_CCC_wos_impacts.mxd Revised: 2022-01-24 By: tmooney

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Potential Coastal Act Waters

- Biological Study Area (22.93
- Map Reference Point
- Culvert
- Ordinary High Water Mark
- ESA Fencing
- Permanent Impacts (0.20 acre)
- Temporary Impacts (0.08 acre)

3-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (1.89 acres)
- Fresh Emergent Wetland (0.19 acre)**
- Riparian Wetland (0.07 acre)*
- Vegetated Ditch (0.02 acre)

Streams

- Perennial Stream (0.75 acre, 367 linear feet)

1-Parameter Wetlands

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- Perennial Stream (0.75 acre, 367 linear feet)

*Riparian wetlands also qualify as sensitive natural communities (coastal dune willow thickets).

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"Coastal Act Waters" are wetlands, coastal waters, and streams regulated under the California Coastal Act. This delineation of waters of the State is subject to verification by the California Coastal Commission (CCC). Stantec advises all parties that the delineation is preliminary until the CCC provides a written verification.

0 50 100 Feet
(At original document size of 11x17)
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N

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4. Delineation Date: September 1-3, 2020

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
6

Title
Impacts on Coastal Act Waters

Page 3 of 4

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Potential Coastal Act Waters

Biological Study Area (22.93

Map Reference Point

Culvert

Ordinary High Water Mark

ESA Fencing

Permanent Impacts (0.20 acre)

Temporary Impacts (0.08 acre)

"Coastal Act Waters" are wetlands, coastal waters, and streams regulated under the California Coastal Act. This delineation of waters of the State is subject to verification by the California Coastal Commission (CCC). Statnec advises all parties that the delineation is preliminary until the CCC provides a written verification.

3-Parameter Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)

Fresh Emergent Wetland (0.19 acre)**

Riparian Wetland (0.07 acre)*

Vegetated Ditch (0.02 acre)

Streams

Perennial Stream (0.75 acre, 367 linear feet)

1-Parameter Wetlands

Riparian / Fresh Emergent Wetland Complex (0.54 acre)

Riparian Wetland (0.64 acre)*

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Perennial Stream (0.75 acre, 367 linear feet)

*Riparian wetlands also qualify as sensitive natural communities (coastal dune willow thickets).

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0 50 100 Feet

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1:1,200

N

Notes

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2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
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4. Delineation Date: September 1-3, 2020

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
6

Title
Impacts on Coastal Act Waters

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Impacts on Potential Coastal Act Waters

Temporary Impacts

3-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	<0.01	-	-	E2SS	41.01641	-124.10783
	Subtotal	**<0.01**					
RW-1	Riparian Wetland	<0.01	-	-	E2SS	41.02176	-124.10757
	Subtotal	**<0.01**					
	Total Temporary Impacts on 3-Parameter Wetlands	**<0.01**					

1-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-4	Riparian / Fresh Emergent Wetland Complex	0.01	-	-	E2SS	41.01613	-124.10788
	Subtotal	**0.01**					
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02105	-124.10746
RW-4	Riparian Wetland	0.07	-	-	E2SS	41.02105	-124.10746
	Subtotal	**0.07**					
	Total Temporary Impacts on 1-Parameter Wetlands	**0.08**					
	Total Temporary Impacts on Potential Coastal Act Waters	**0.08**					

Permanent Impacts

3-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW-1	Riparian Wetland	0.01	-	-	E2SS	41.02176	-124.10757
	Subtotal	**0.01**					
	Total Permanent Impacts on 3-Parameter Wetlands	**0.01**					

1-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02105	-124.10746
RW-4	Riparian Wetland	0.19	-	-	E2SS	41.02105	-124.10746
	Subtotal	**0.19**					
	Total Permanent Impacts on 1-Parameter Wetlands	**0.19**					
	Total Permanent Impacts on Potential Coastal Act Waters	**0.20**					
	Total Impacts on Potential Coastal Act Waters	**0.28**					

Potential Coastal Act Waters

3-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-1	Riparian / Fresh Emergent Wetland Complex	0.02	-	-	E2SS	41.02697	-124.10801
RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
FEW-2	Fresh Emergent Wetland	0.02	-	-	E2EM	41.02002	-124.10721
	Subtotal	**0.19**					
RW-1	Riparian Wetland	0.07	-	-	E2SS	41.02176	-124.10757
RW-3	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	0.02	-	-	E2EM	41.01561	-124.10775
	Total 3-Parameter Wetlands	**2.17**					

1-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-4	Riparian / Fresh Emergent Wetland Complex	0.17	-	-	E2SS	41.01613	-124.10788
RW/FEW-5	Riparian / Fresh Emergent Wetland Complex	0.06	-	-	E2SS	41.02606	-124.10767
RW/FEW-6	Riparian / Fresh Emergent Wetland Complex	0.07	-	-	E2SS	41.02437	-124.10784
RW/FEW-7	Riparian / Fresh Emergent Wetland Complex	0.24	-	-	E2SS	41.02295	-124.10786
	Subtotal	**0.54**					
RW-2	Riparian Wetland	0.29	-	-	E2SS	41.02105	-124.10746
RW-4	Riparian Wetland	0.35	-	-	E2SS	41.02105	-124.10746
	Subtotal	**0.64**					
	Total 1-Parameter Wetlands	**1.18**					

Other Waters

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
PS-1	Perennial Stream	0.05	130	15	E1UB	41.02694	-124.10791
PS-2	Perennial Stream	0.01	96	5	E2SB	41.02478	-124.10759
PS-3	Perennial Stream	0.69	141	285	E1UB	41.02033	-124.10713
	Total Other Waters	**0.75**	**367**				
	Total Potential Coastal Act Waters	**4.10**	**367**				

Stantec

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
Redwood Community Action Agency
Little River Trail Project

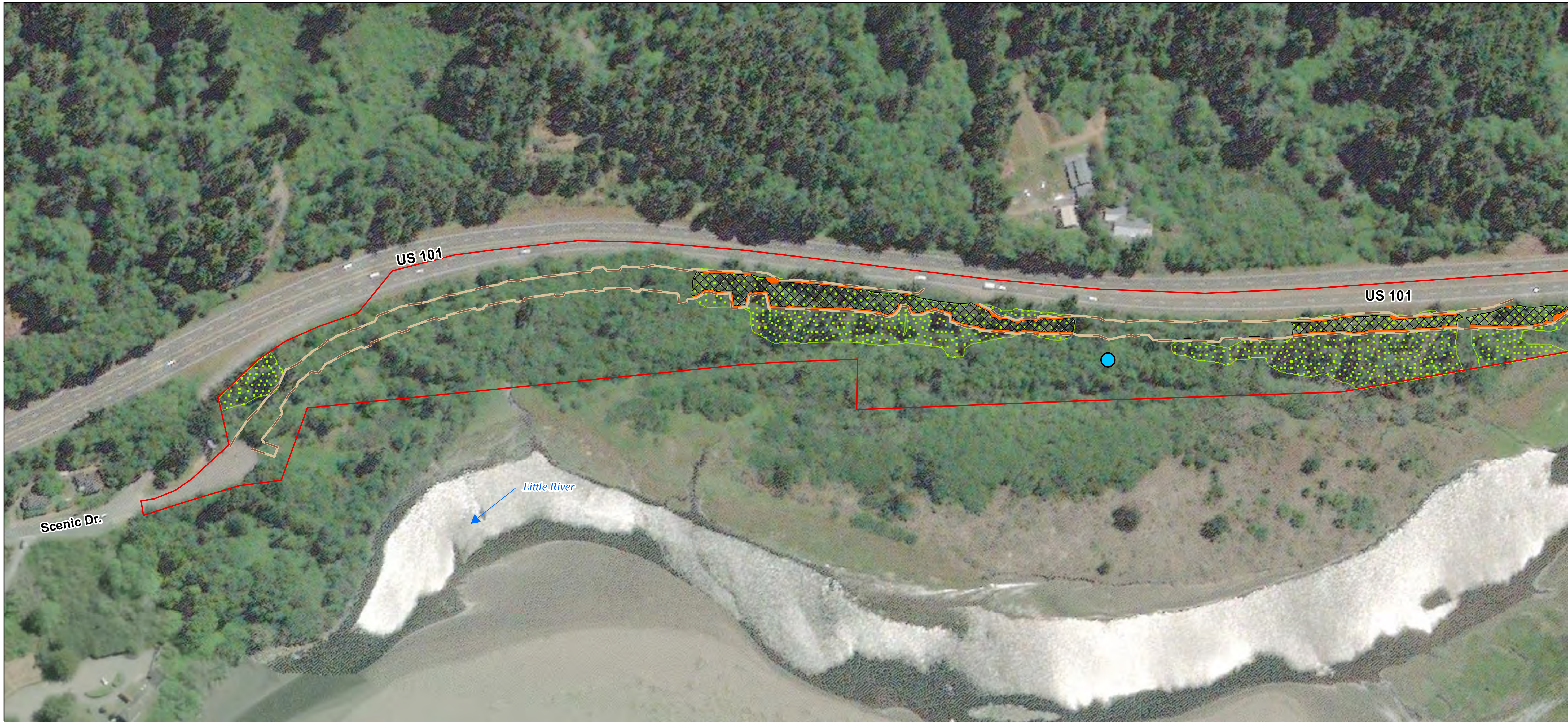
185705051

Figure No.
6

Title
Impacts on Coastal Act Waters

Summary

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure6_CCC_wos_impacts_summary.mxd Revised: 2022-01-24 By: tmooney



Biological Study Area (22.93 acres)

Upland ESHA (3.19 acres)*

ESA Fencing

Permanent Impacts (0.89 acre)

Temporary Impacts (0.25 acre)

Special Status Plant

Trailing black currant

*Upland ESHA also qualifies as sensitive natural communities (Sitka spruce forest).

0 100 200 Feet

(At original document size of 11x17)
1:2,400

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
7

Title
Special Status Plant Location and Impacts on Upland Environmentally Sensitive Habitat Areas

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure7_esha_impacts_NES.mxd Revised: 2022-01-24 By: tmooney

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Biological Study Area (22.93 acres)

Upland ESHA (3.19 acres)*

ESA Fencing

Permanent Impacts (0.89 acre)

Temporary Impacts (0.25 acre)

Special Status Plant

Trailing black currant

*Upland ESHA also qualifies as sensitive natural communities (Sitka spruce forest).

0 100 200 Feet

(At original document size of 11x17)
1:2,400

N

Notes
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NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

Project Location
Humboldt County, California

Prepared by TM on 2022-01-24
IR by ST on 2022-01-24

Client/Project
185705051

Redwood Community Action Agency
Little River Trail Project

Figure No.
7

Title
Special Status Plant Location and Impacts on Upland Environmentally Sensitive Habitat Areas

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure7_esha_impacts_NES.mxd Revised: 2022-01-24 By: tmooney

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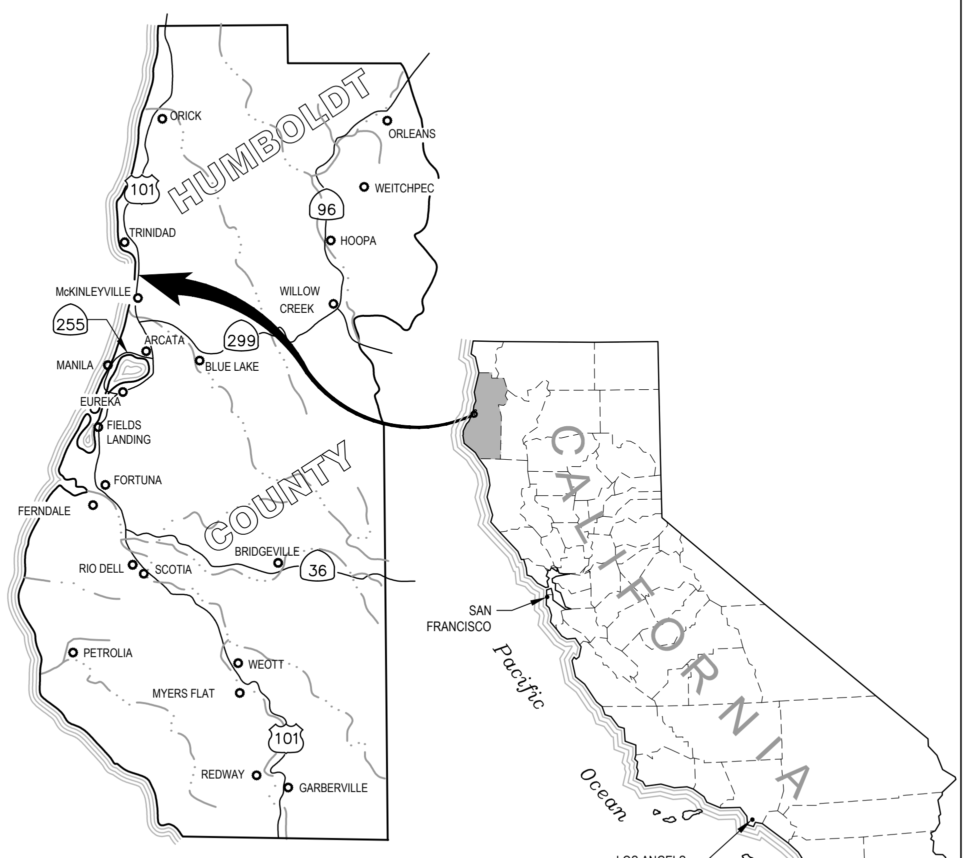
Appendix B Project Design

REDWOOD COMMUNITY ACTION AGENCY
LITTLE RIVER TRAIL PROJECT
EA 01-0J280
February 2022

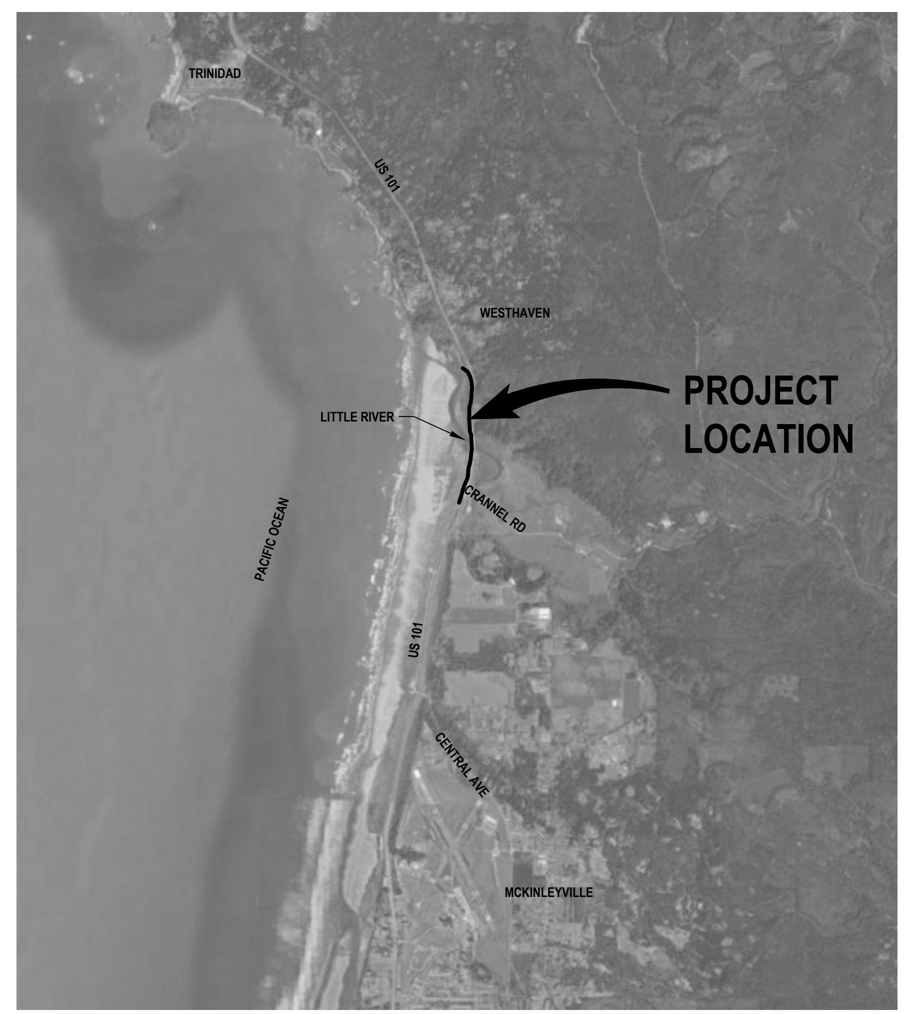
AREA MAP



N

NOT TO SCALE

LOCATION MAP



N

NOT TO SCALE

SHEET INDEX

Sheet	Sheet No.	Title
GENERAL		
1	G-001	COVER SHEET
2	G-002	SHEET KEY
3	G-003	TYPICAL CROSS SECTIONS - 1 OF 4
4	G-004	TYPICAL CROSS SECTIONS - 2 OF 4
5	G-005	TYPICAL CROSS SECTIONS - 3 OF 4
6	G-006	TYPICAL CROSS SECTIONS - 4 OF 4
PATH PLAN & PROFILE		
7	C-101	STA 5+37 TO STA 11+00
8	C-102	STA 11+00 TO STA 17+00
9	C-103	STA 17+00 TO STA 23+00
10	C-104	STA 23+00 TO STA 27+70
11	C-105	STA 27+70 TO STA 33+00
12	C-106	STA 33+00 TO STA 39+00
13	C-107	STA 39+00 TO STA 45+00
14	C-108	STA 45+00 TO STA 51+00
15	C-109	STA 51+00 TO STA 57+00
16	C-110	STA 57+00 TO STA 60+30
US 101 REALIGNMENT AT LITTLE RIVER BRIDGE		
17	C-201	LITTLE RIVER BRIDGE
STRUCTURAL PLANS		
18	S-101	RETAINING WALL No. 1 GENERAL PLAN
19	S-102	RETAINING WALL No. 2 GENERAL PLAN No. 1
20	S-103	RETAINING WALL No. 2 GENERAL PLAN No. 2
21	S-104	RETAINING WALL No. 2 GENERAL PLAN No. 3
22	S-105	LITTLE RIVER BRIDGE GENERAL PLAN No. 1
23	S-106	LITTLE RIVER BRIDGE GENERAL PLAN No. 2
UTILITY PLANS		
24	E-101	STREET LIGHT AT CLAM BEACH DR
25	E-102	STREET LIGHT RELOCATION 101 SOUTHBOUND OFF-RAMP
26	E-103	UTILITY RELOCATION LITTLE RIVER BRIDGE
27	E-104	STREET LIGHT AT SCENIC DR

DRAFT 30% DESIGN
NOT FOR CONSTRUCTION

No.	Issue	Checked	Approved	Date

Author O.GOODE | Drafting Check N. SANGER | Project Manager J. WOLF
Designer N. SANGER | Design Check J. WOLF | Project Director B. SILVA

REGISTERED PROFESSIONAL ENGINEER
NATHAN P. SANGER
No. C84816
CIVIL
STATE OF CALIFORNIA
DRAFT

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0 1"

redwood communityaction agency

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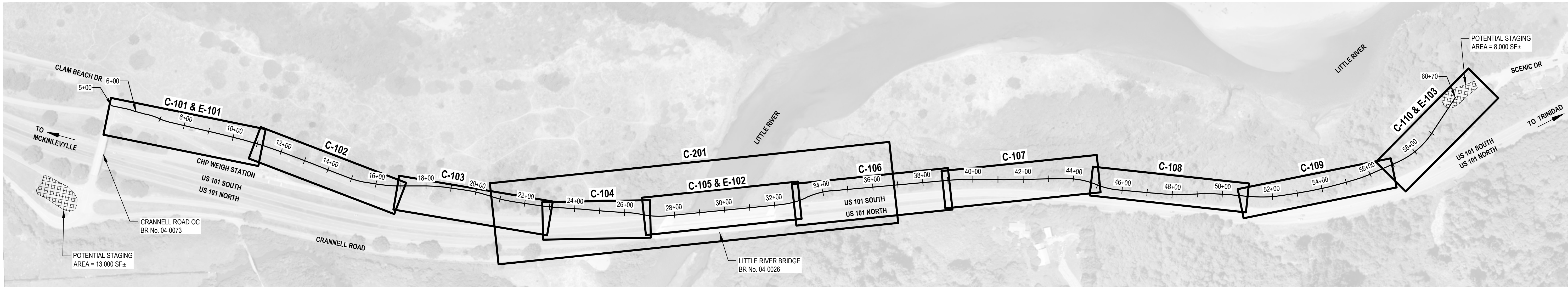
Client **REDWOOD COMMUNITY ACTION AGENCY**
Project **LITTLE RIVER TRAIL PROJECT**
Title **GENERAL: COVER SHEET**

Project No.	Date	Scale	Sheet No.	Size	Status Code	Sheet
11212216	2/7/2022	AS SHOWN	G-001	ANSI D		1 27

Plot Date: 7 February 2022 - 2:05 PM   Plotted By: Owen Goode   Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_COVER.dwg



0 200' 400'

N

ABBREVIATIONS

AB	AGGREGATE BASE
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
Exist	EXISTING
LF	LINEAL FEET
LT	LEFT
ME	MATCH EXISTING
MIN	MINIMUM
MPH	MILES PER HOUR
PVI	POINT OF VERTICAL INTERSECTION
RT	RIGHT
Shld	SHOULDER
TYP	TYPICAL
TW	TRAVELED WAY

NOTES:

1. THE ABBREVIATIONS LISTED ABOVE SUPPLEMENT THOSE LISTED IN THE CALTRANS STANDARD PLANS A3A-A3C.
2. CONTACT COUNTIES REPRESENTATIVE FOR ABBREVIATIONS NOT LISTED.

DESIGN BASIS

DESIGN SPEED: 30 MPH

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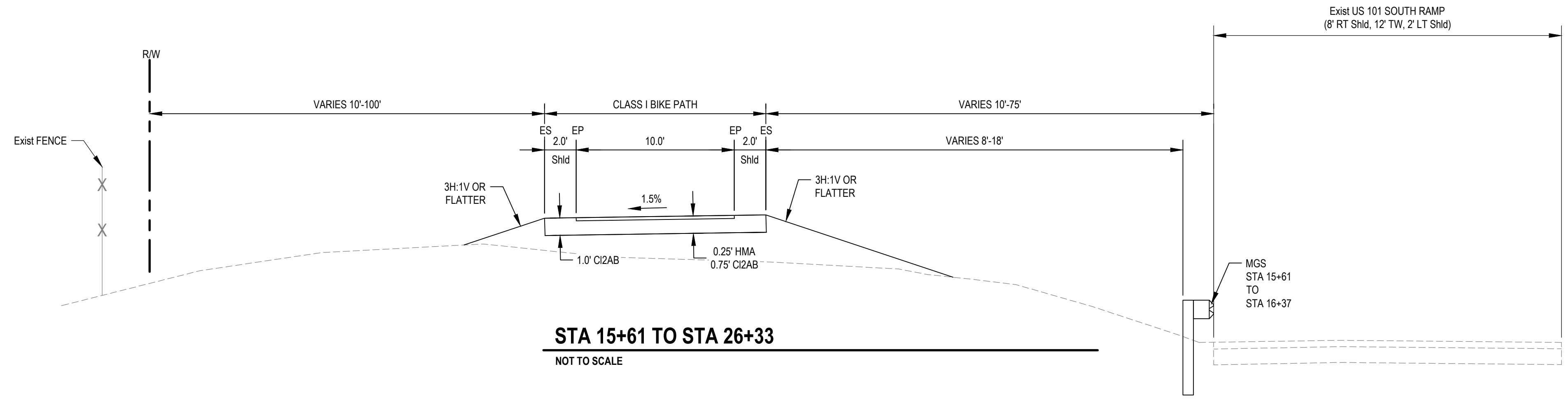
Project LITTLE RIVER TRAIL PROJECT

Project No. 11212216 | Date 2/7/2022 | Scale AS SHOWN

Title GENERAL: SHEET KEY

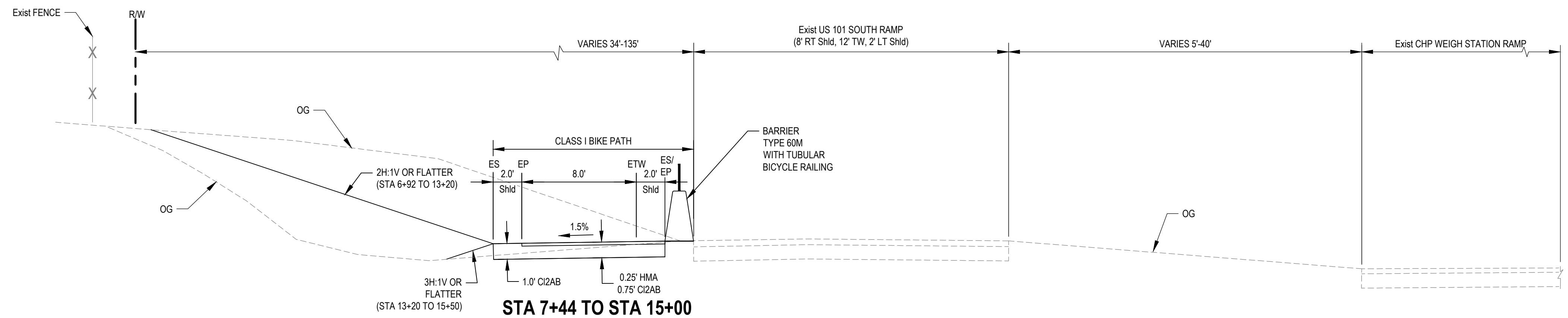
Size ANSI D

Sheet No. G-002 | Sheet 2 27



STA 15+61 TO STA 26+33

NOT TO SCALE



STA 7+44 TO STA 15+00

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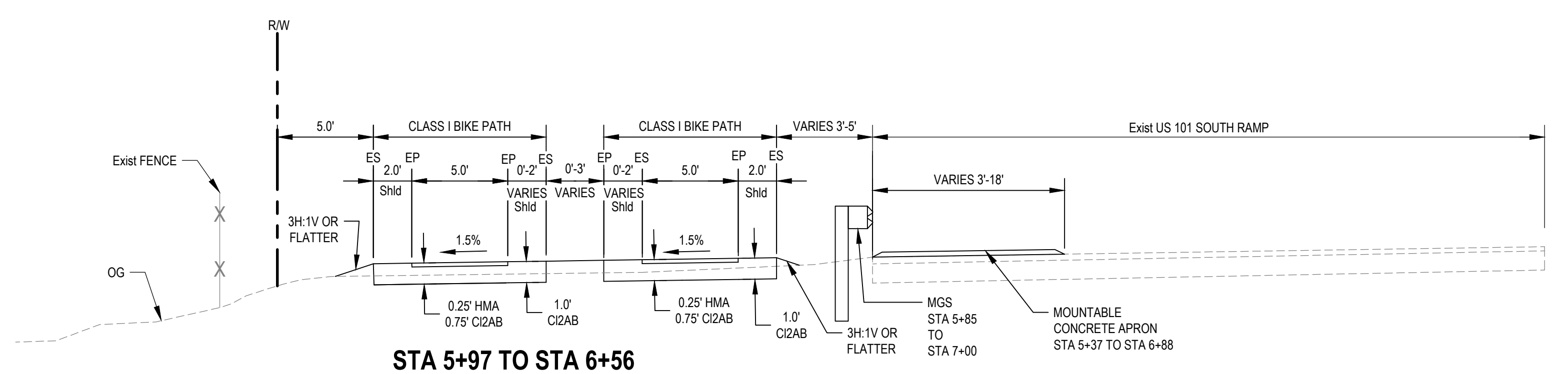

STA 5+97 TO STA 6+56

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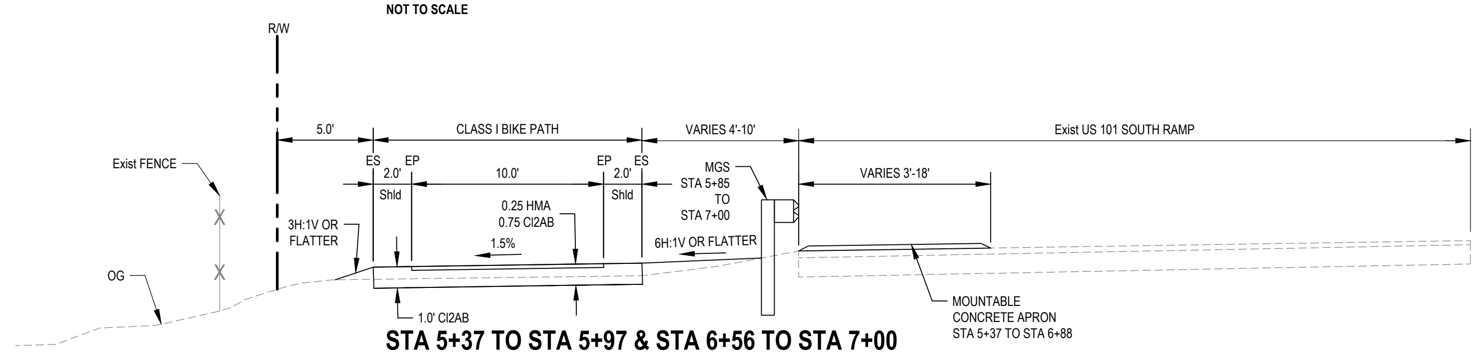

STA 5+37 TO STA 5+97 & STA 6+56 TO STA 7+00

NOT TO SCALE

NOTE:
THE BIKE PATH Shld SHALL SLOPE AWAY FROM THE PATH TRAVELED WAY AT 2 PERCENT TO 5 PERCENT.

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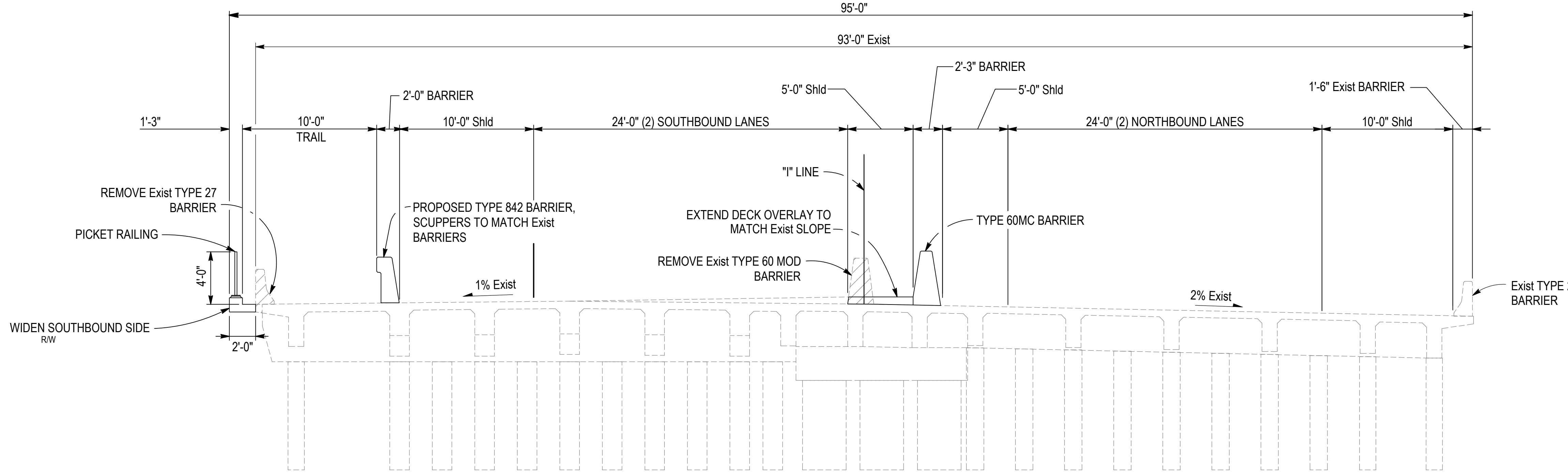
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT

Title GENERAL:
TYPICAL CROSS SECTIONS - 1 OF 4

Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	G-003	3 27

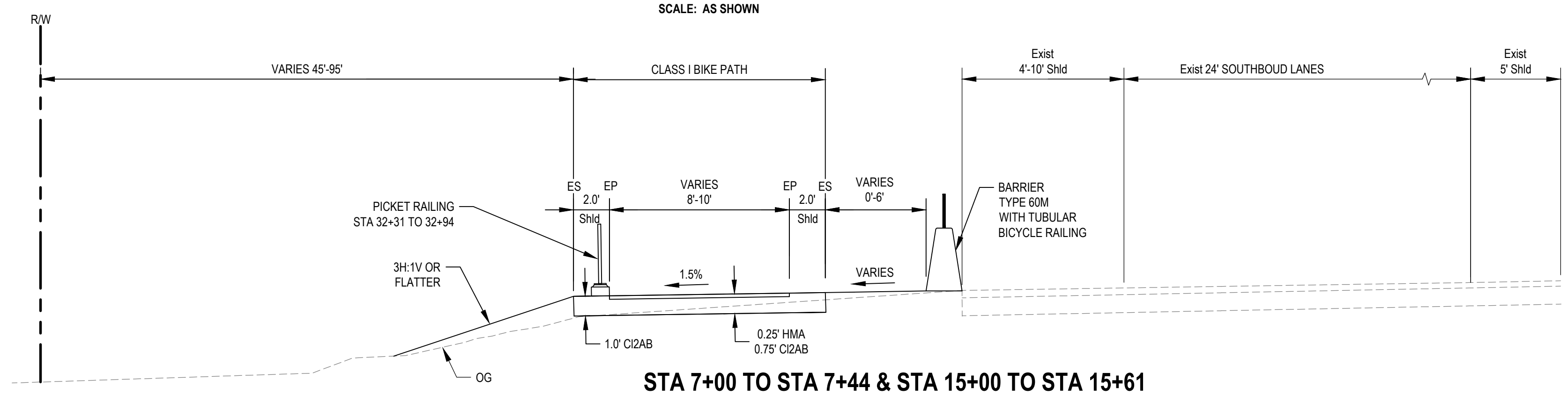
Plot Date: 7 February 2022 - 2:05 PM   Plotted By: Owen Goode   Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_TYPICAL SECTIONS.dwg



EXISTING BRIDGE CROSSING
STA 28+12 TO STA 31+84

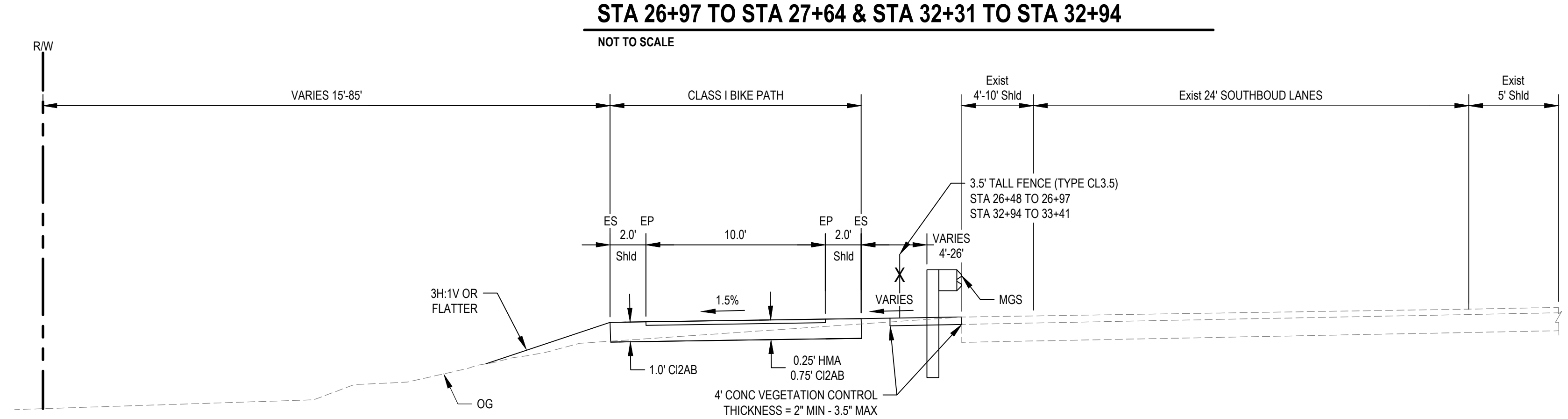
SCALE: AS SHOWN

PROVIDED BY BIGGS CARDOSA ASSOCIATES, INC



STA 7+00 TO STA 7+44 & STA 15+00 TO STA 15+61
STA 26+97 TO STA 27+64 & STA 32+31 TO STA 32+94

NOT TO SCALE



STA 26+33 TO STA 26+97 & STA 32+94 TO STA 33+98

NOT TO SCALE

NOTE:
THE BIKE PATH Shld SHALL SLOPE AWAY FROM THE PATH TRAVELED WAY AT 2 PERCENT TO 5 PERCENT.

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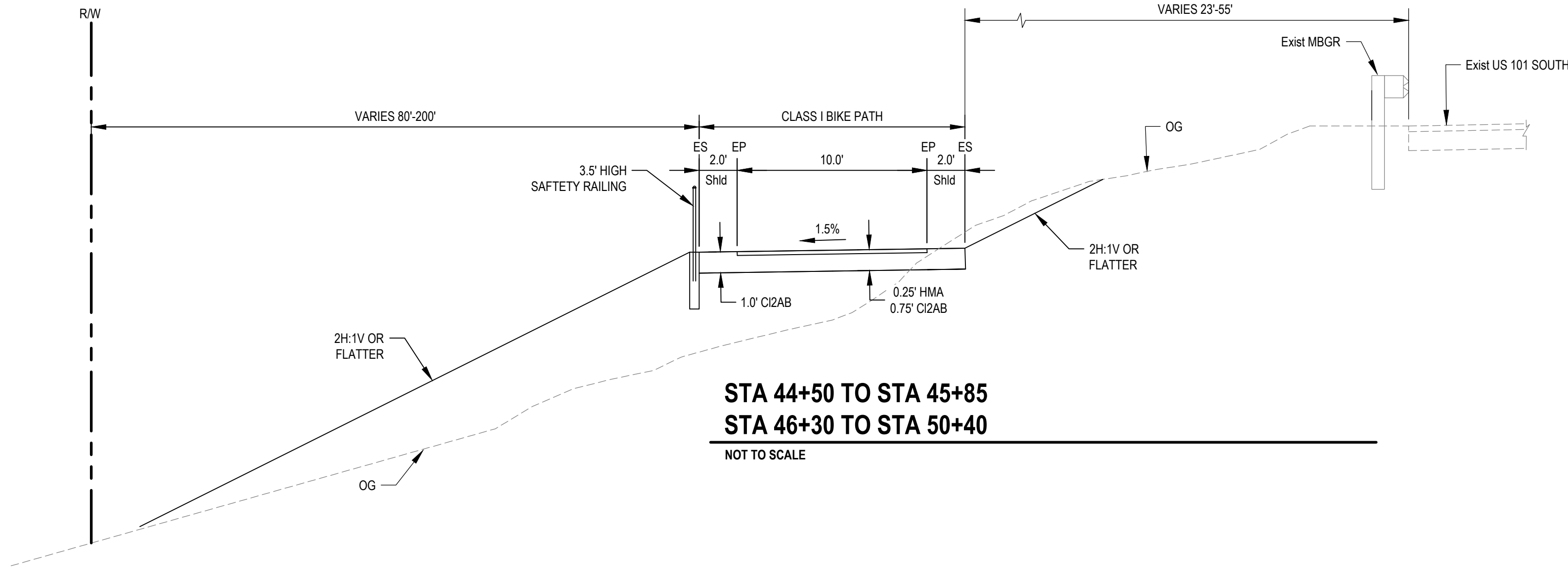
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT

Project No.	Date	Scale
11212216	2/7/2022	AS SHOWN

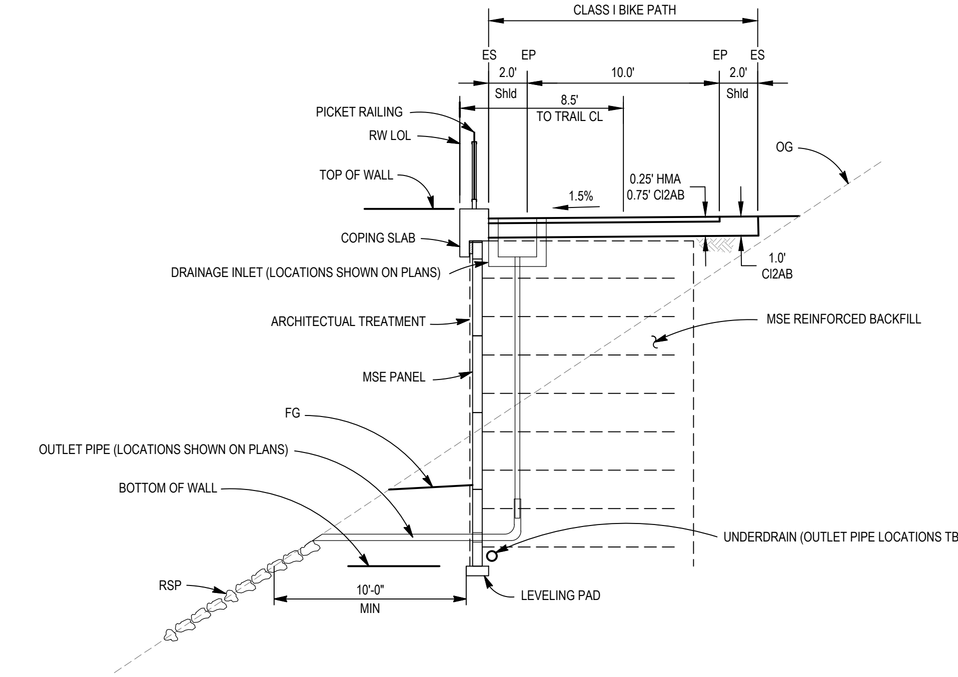
Title **GENERAL: TYPICAL CROSS SECTIONS - 2 OF 4**

Size ANSI D
Sheet No. G-004 — Sheet 4 27



STA 44+50 TO STA 45+85
STA 46+30 TO STA 50+40

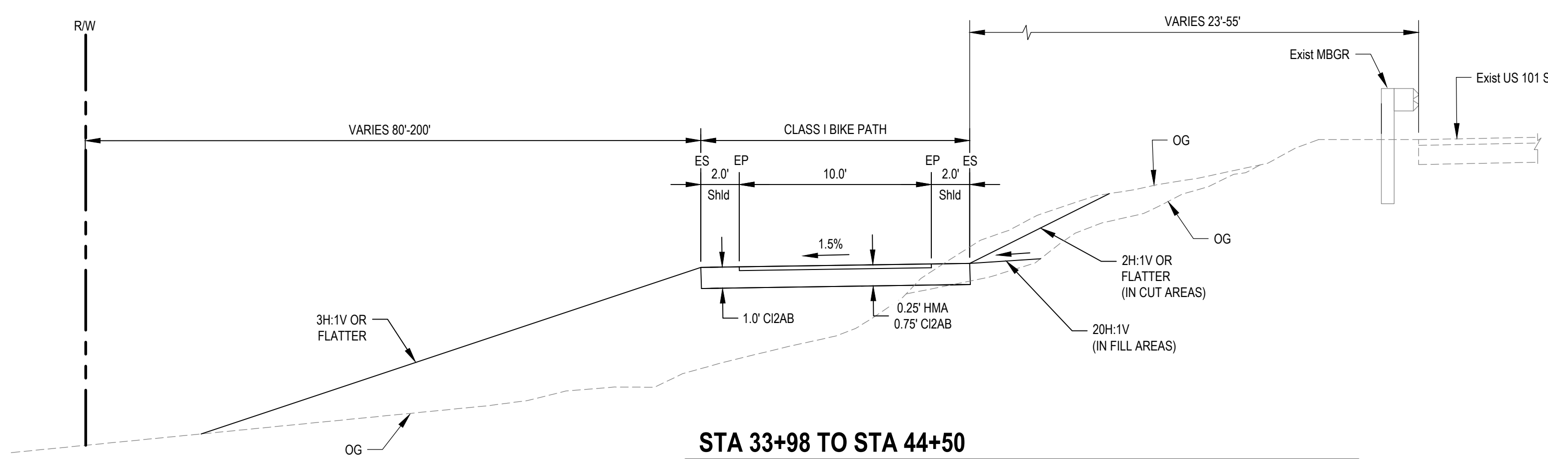
NOT TO SCALE



STA 45+85 TO STA 46+30 (W1)
STA 50+40 TO STA 57+75 (W2)

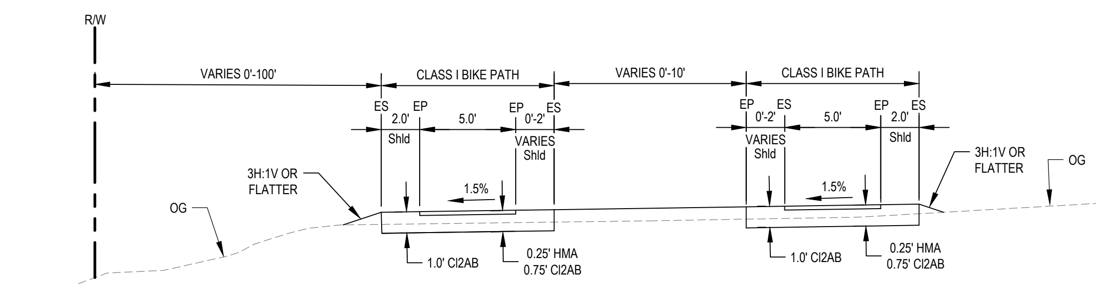
PROVIDED BY BIGGS CARDOSA ASSOCIATES, INC

NOT TO SCALE



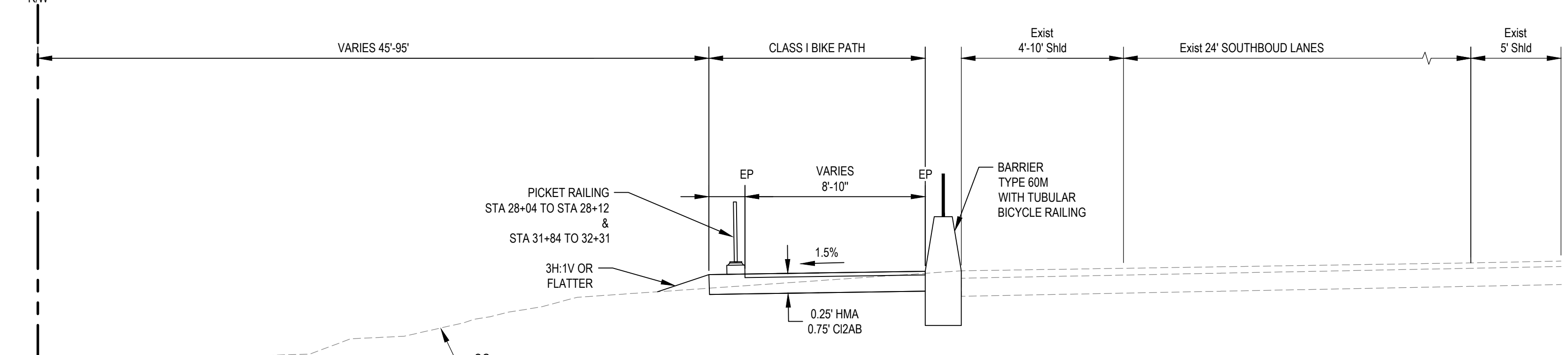
STA 33+98 TO STA 44+50

NOT TO SCALE



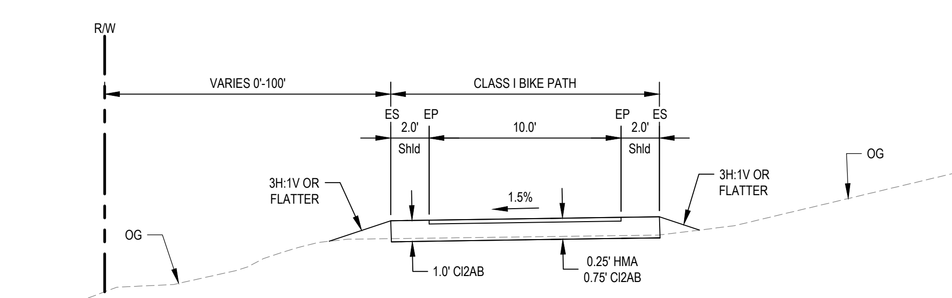
STA 59+60 TO STA 60+20

NOT TO SCALE



STA 27+64 TO STA 28+12 & STA 31+84 TO STA 32+31

NOT TO SCALE



STA 57+75 TO STA 59+60

NOT TO SCALE

NOTE:
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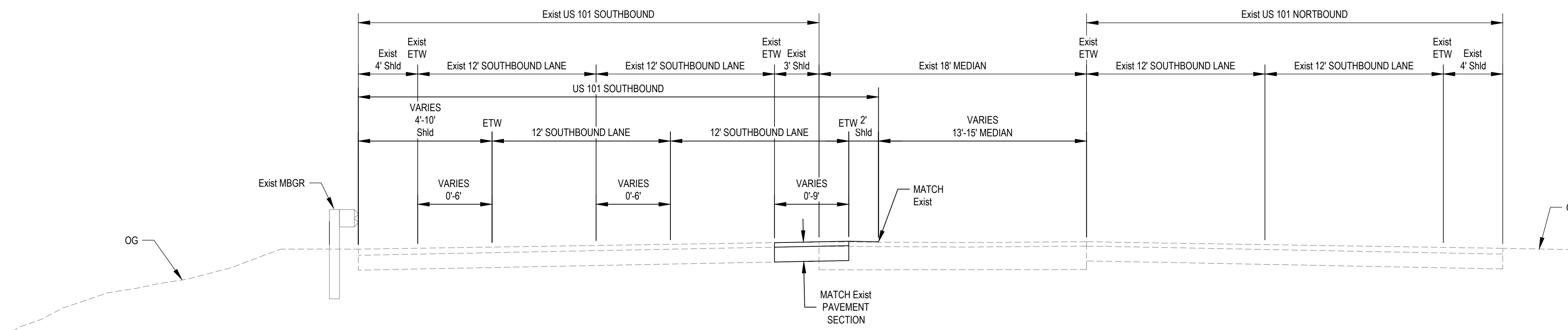
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT

Title GENERAL:
TYPICAL CROSS SECTIONS - 3 OF 4

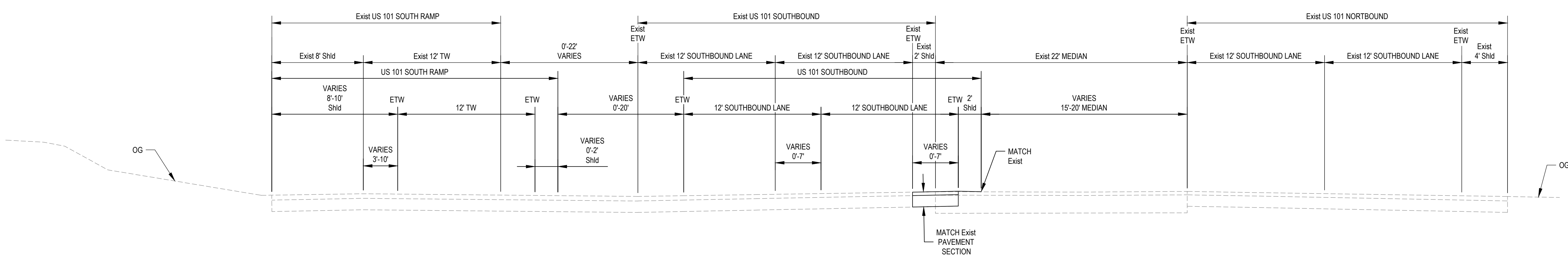
Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	G-005	5 27



US 101 SOUTHBOUND REALIGNMENT:
STA "SPCL" 12+95 TO STA "SPCL" 15+84

NOT TO SCALE



US 101 SOUTH RAMP & SOUTHBOUND REALIGNMENT:
STA "SPCL" 1+64 TO STA "SPCL" 4+35

NOT TO SCALE

NOTE:
THE BIKE PATH Shld SHALL SLOPE AWAY FROM THE PATH TRAVELED WAY AT 2 PERCENT TO 5 PERCENT.

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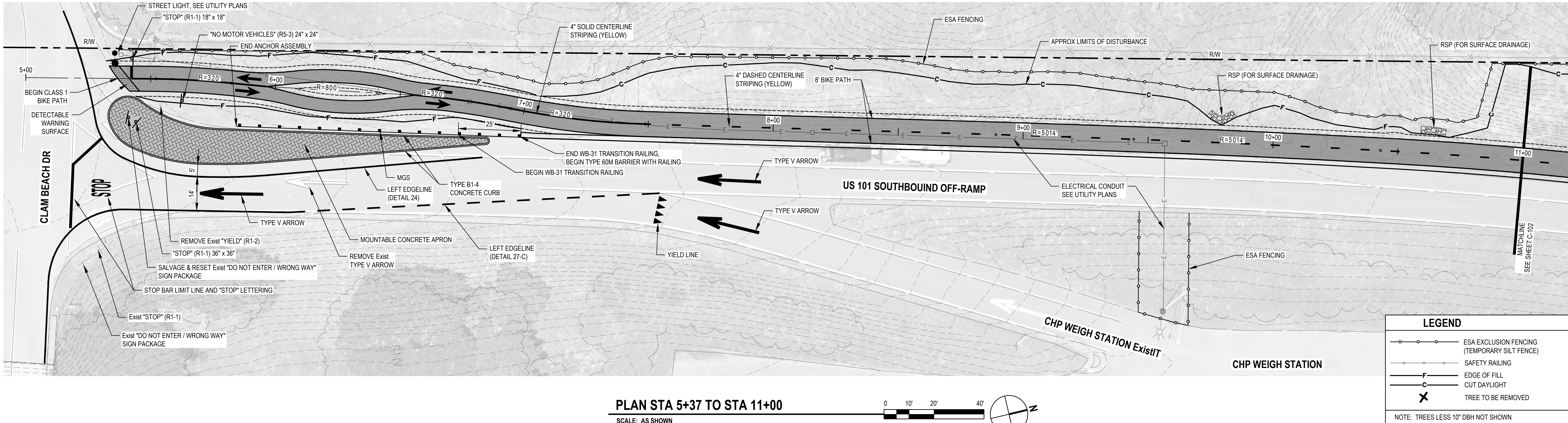
Project LITTLE RIVER TRAIL PROJECT

Title GENERAL:
TYPICAL CROSS SECTIONS - 4 OF 4

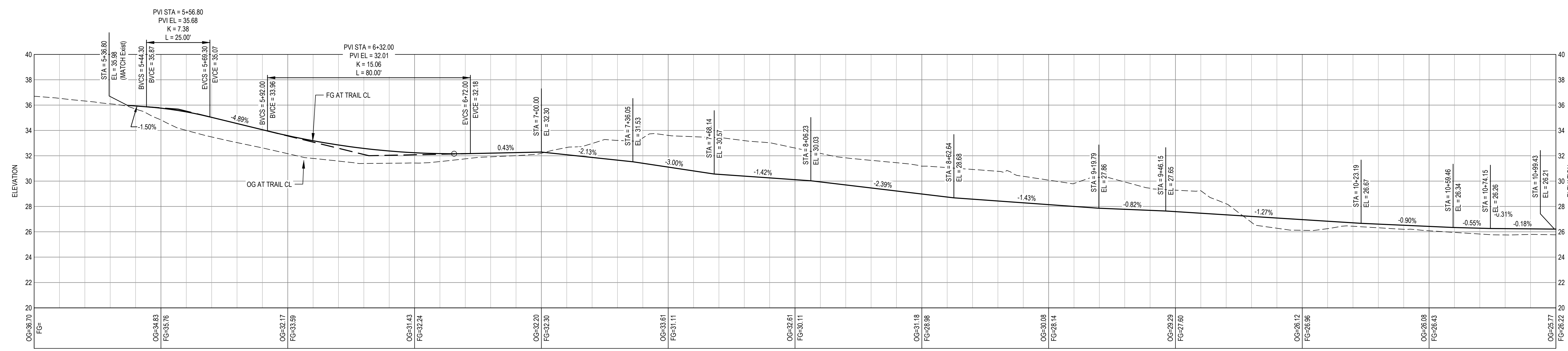
Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	G-006	6 27



PLAN STA 5+37 TO STA 11+00

SCALE: AS SHOWN



PROFILE STA 5+37 TO STA 11+00

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

NOTE:
PROVIDE 3' LONG VERTICAL CURVE WHERE VERTICAL CURVE NOT SHOWN AT CHANGE IN PROFILE GRADE.

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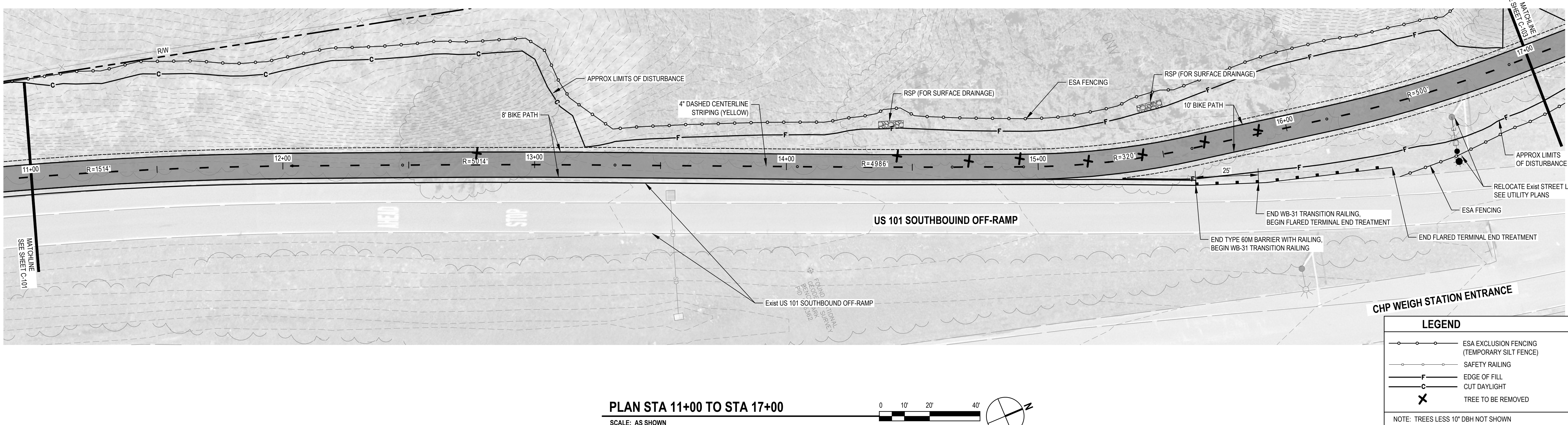
Project LITTLE RIVER TRAIL PROJECT

Title PATH PLAN & PROFILE: STA 5+37 TO STA 11+00

Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	C-101	7 27

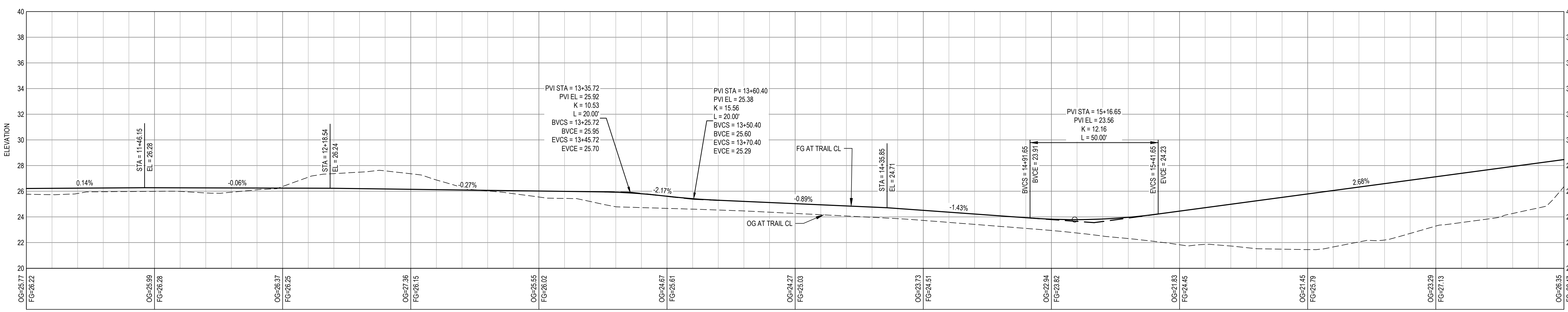
Plot Date: 7 February 2022 - 2:07 PM Plotted By: Owen Goode Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg



PLAN STA 11+00 TO STA 17+00

SCALE: AS SHOWN

0 10' 20' 40'



PROFILE STA 11+00 TO STA 17+00

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

NOTE:
PROVIDE 3' LONG VERTICAL CURVE WHERE VERTICAL CURVE NOT SHOWN AT CHANGE IN PROFILE GRADE.

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Client **REDWOOD COMMUNITY ACTION AGENCY**

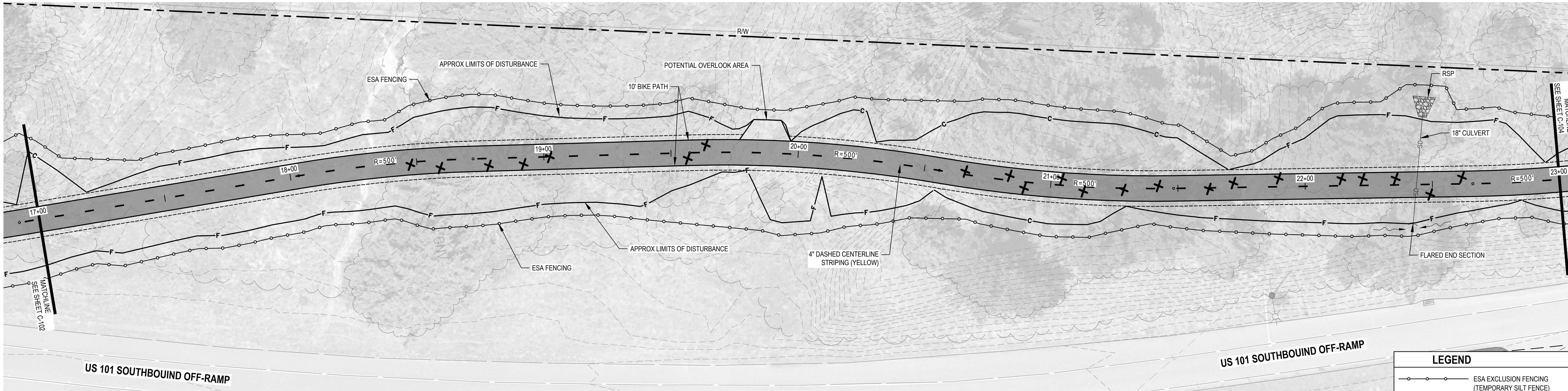
Project **LITTLE RIVER TRAIL PROJECT**

Title **PATH PLAN & PROFILE: STA 11+00 TO STA 17+00**

Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	C-102	8 27

Plot Date: 7 February 2022 - 2:07 PM Plotted By: Owen Goode Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg



LEGEND

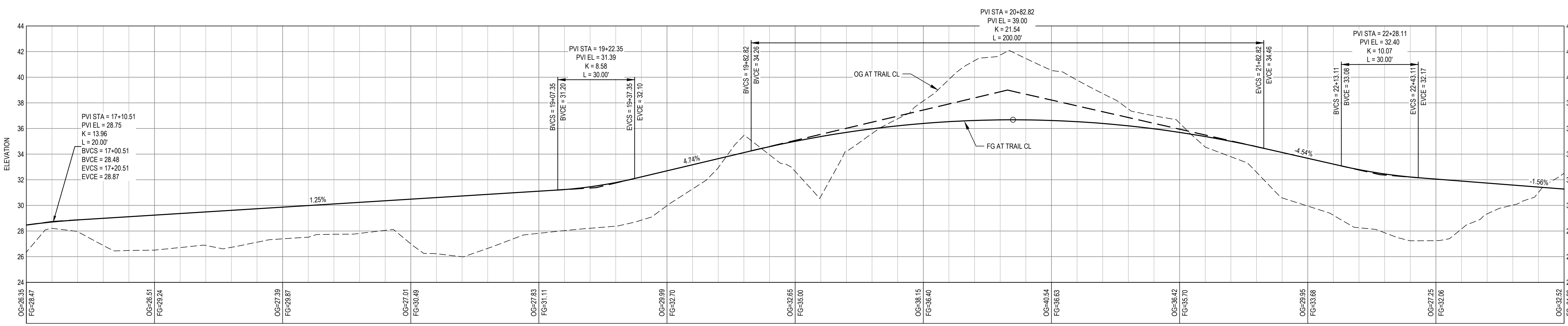
○—○—○	ESA EXCLUSION FENCING (TEMPORARY SILT FENCE)
----	SAFETY RAILING
—F—	EDGE OF FILL
—C—	CUT DAYLIGHT
X	TREE TO BE REMOVED

NOTE: TREES LESS 10" DBH NOT SHOWN

PLAN STA 17+00 TO STA 23+00

SCALE: AS SHOWN

0 10' 20' 40'



PROFILE STA 17+00 TO STA 23+00

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

NOTE:
PROVIDE 3' LONG VERTICAL CURVE WHERE VERTICAL CURVE NOT SHOWN AT CHANGE IN PROFILE GRADE.

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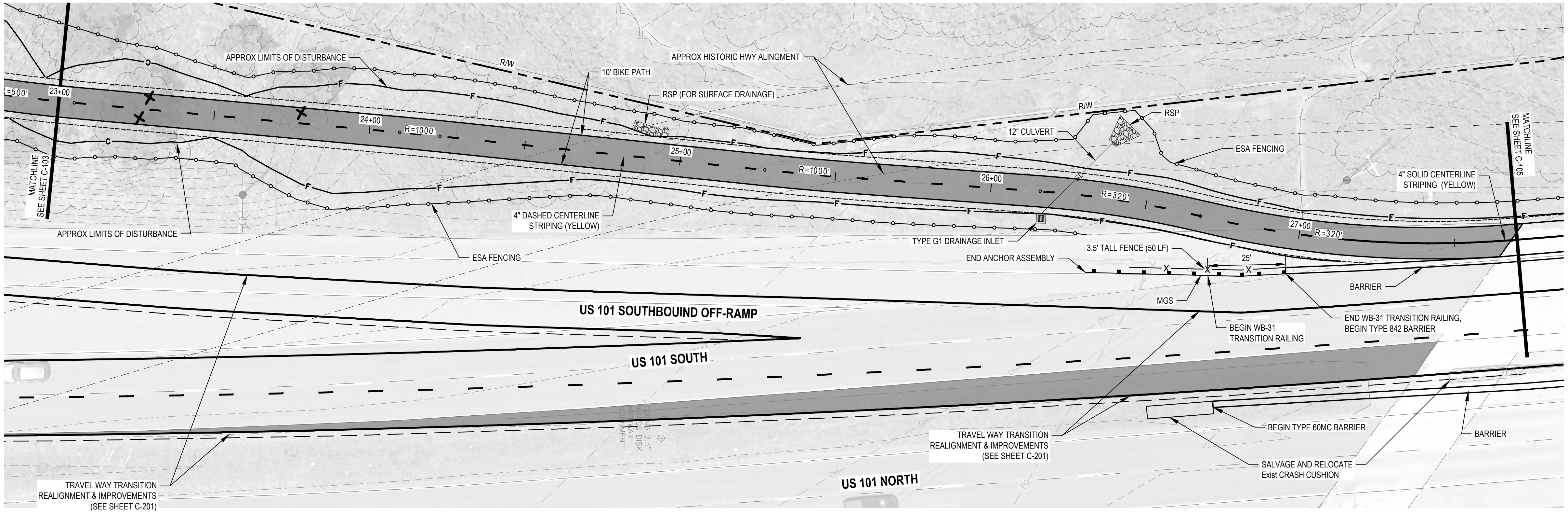
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT

Title **PATH PLAN & PROFILE: STA 17+00 TO STA 23+00**

Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	C-103	9 27

Plot Date: 7 February 2022 - 2:07 PM Plotted By: Owen Goode Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg



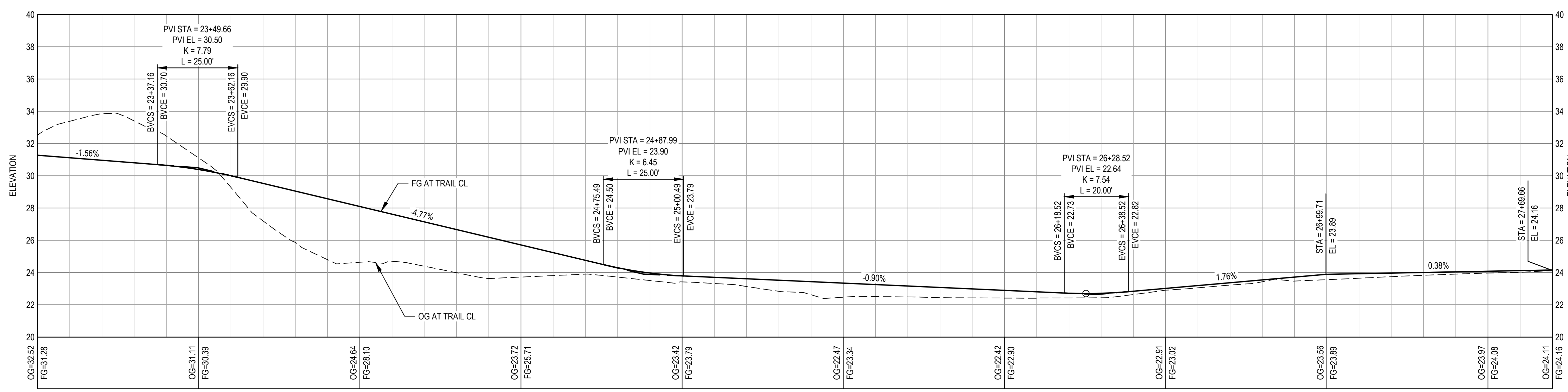
PLAN STA 23+00 TO STA 27+70

SCALE: AS SHOWN

LEGEND

- ESA EXCLUSION FENCING (TEMPORARY SILT FENCE)
- SAFETY RAILING
- EDGE OF FILL
- CUT DAYLIGHT
- TREE TO BE REMOVED

NOTE: TREES LESS 10" DBH NOT SHOWN



PROFILE STA 23+00 TO STA 27+70

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

NOTE:
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Client **REDWOOD COMMUNITY ACTION AGENCY**

Project **LITTLE RIVER TRAIL PROJECT**

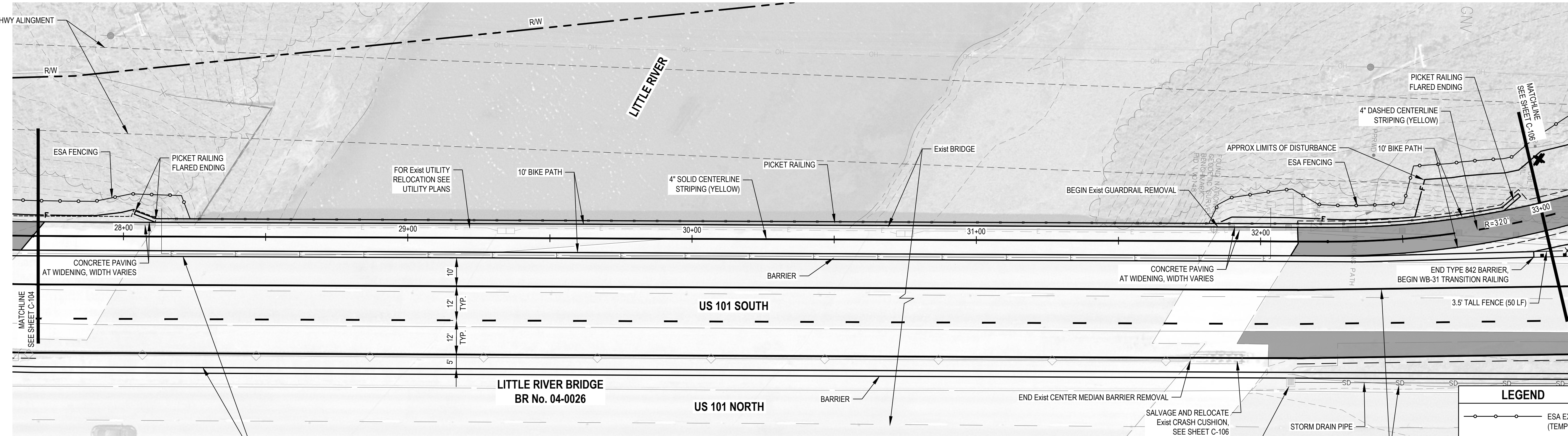
Project No. 11212216 | Date 2/7/2022 | Scale AS SHOWN

Title **PATH PLAN & PROFILE: STA 23+00 TO STA 27+70**

Size ANSI D

Sheet No. C-104 | Sheet 10 27

Plot Date: 7 February 2022 - 2:07 PM Plotted By: Owen Goode Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg



PLAN STA 27+70 TO STA 33+00

SCALE: AS SHOWN

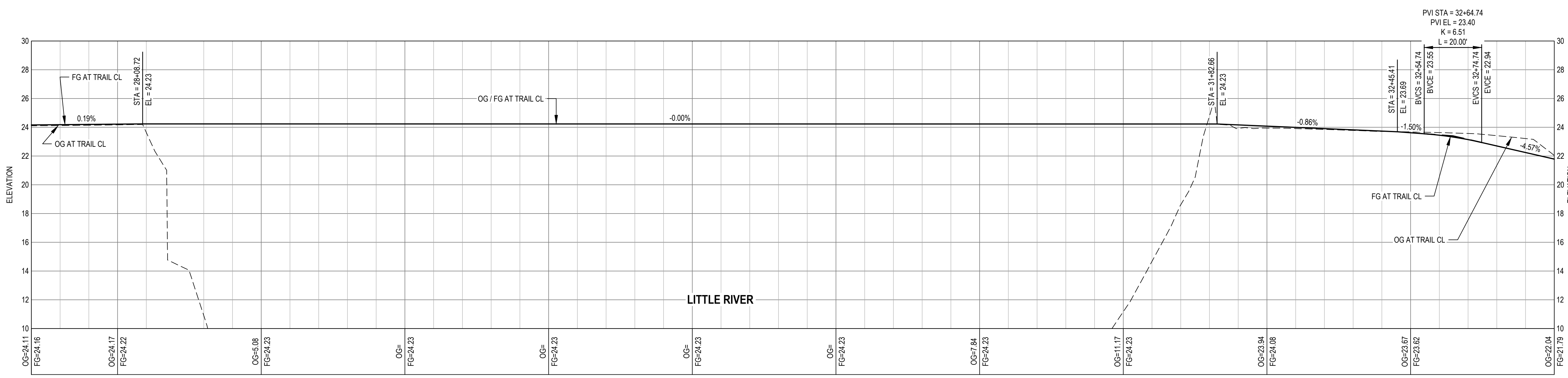
0 10' 20' 40'

N

LEGEND

ESA EXCLUSION FENCING (TEMPORARY SILT FENCE)	
SAFETY RAILING	
F	EDGE OF FILL
C	CUT DAYLIGHT
X	TREE TO BE REMOVED

NOTE: TREES LESS 10" DBH NOT SHOWN



PROFILE STA 27+70 TO STA 33+00

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

NOTE:
PROVIDE 3' LONG VERTICAL CURVE WHERE VERTICAL CURVE NOT SHOWN AT CHANGE IN PROFILE GRADE.

DRAFT 30% DESIGN
NOT FOR CONSTRUCTION

No.	Issue	Checked	Approved	Date

Author O.GOODE — Drafting Check N. SANGER — Project Manager J. WOLF

Designer N. SANGER — Design Check J. WOLF — Project Director B. SILVA

REGISTERED PROFESSIONAL ENGINEER — NATHAN P. SANGER — No. C84816 — CIVIL — STATE OF CALIFORNIA — DRAFT

Bar is one inch on original size sheet
0 1"

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Client **REDWOOD COMMUNITY ACTION AGENCY**

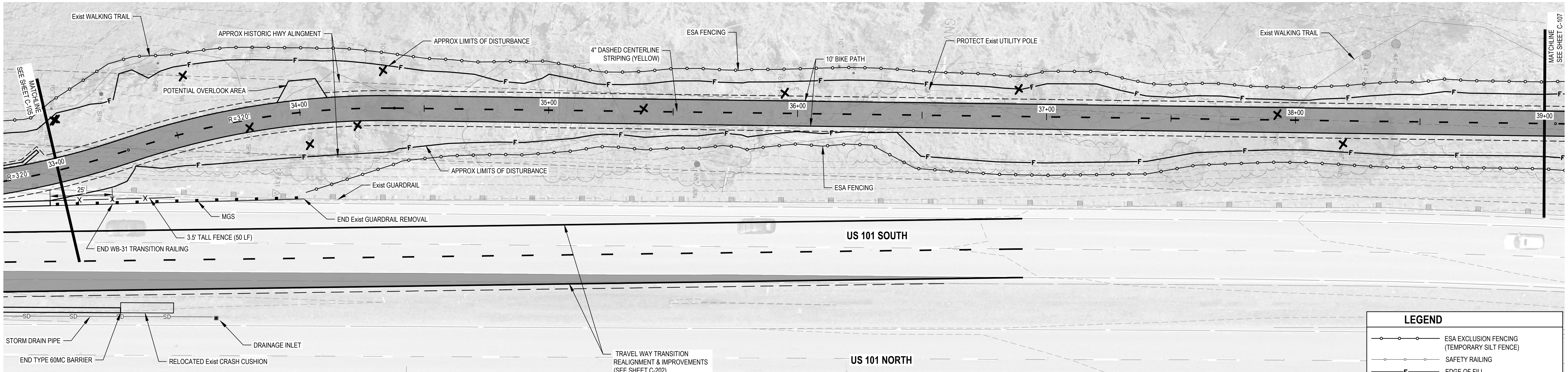
Project **LITTLE RIVER TRAIL PROJECT**

Title **PATH PLAN & PROFILE: STA 27+70 TO STA 33+00**

Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	C-105	11 27

Plot Date: 7 February 2022 - 2:08 PM   Plotted By: Owen Goode   Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg



LEGEND

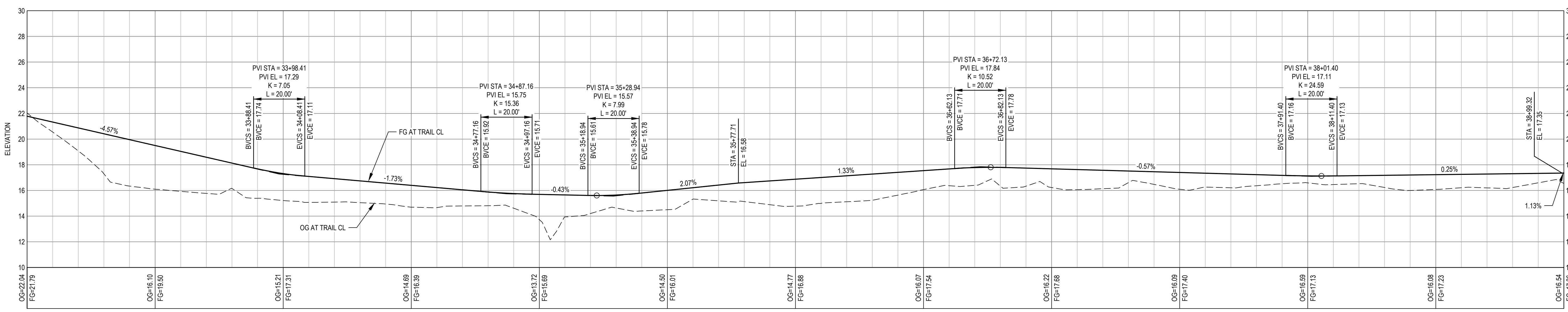
	ESA EXCLUSION FENCING (TEMPORARY SILT FENCE)
	SAFETY RAILING
F	EDGE OF FILL
C	CUT DAYLIGHT
X	TREE TO BE REMOVED

NOTE: TREES LESS 10" DBH NOT SHOWN

PLAN STA 33+00 TO STA 39+00

SCALE: AS SHOWN

0 10' 20' 40'



PROFILE STA 33+00 TO STA 39+00

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

NOTE:
PROVIDE 3' LONG VERTICAL CURVE WHERE VERTICAL CURVE NOT SHOWN AT CHANGE IN PROFILE GRADE.

DRAFT 30% DESIGN
NOT FOR CONSTRUCTION

No.	Issue	Checked	Approved	Date

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Designer N. SANGER | Design Check J. WOLF | Project Director B. SILVA

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Client REDWOOD COMMUNITY ACTION AGENCY

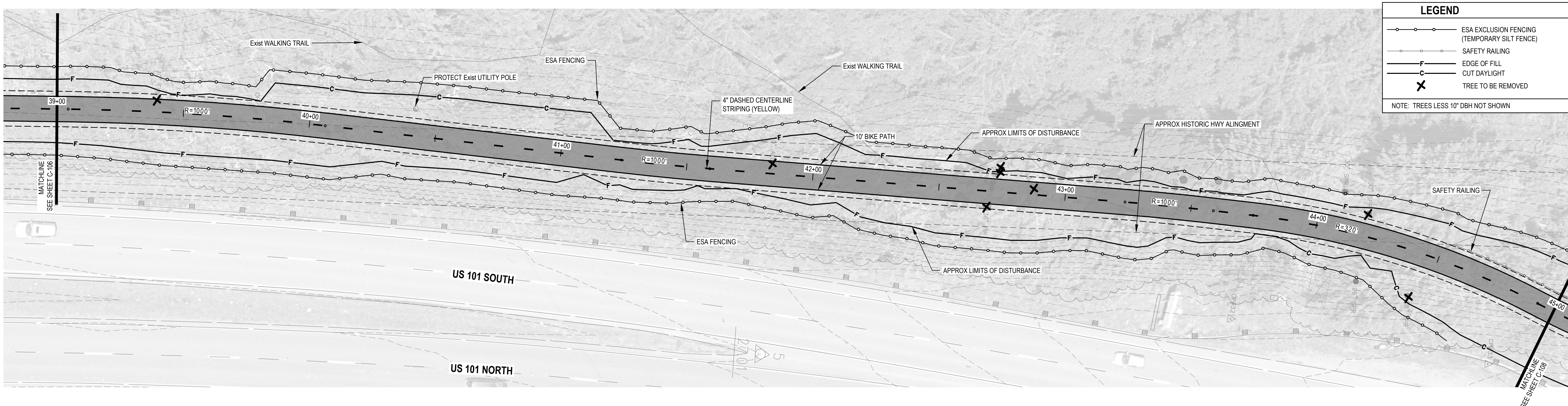
Project LITTLE RIVER TRAIL PROJECT

Project No.	Date	Scale
11212216	2/7/2022	AS SHOWN

Title **PATH PLAN & PROFILE: STA 33+00 TO STA 39+00**

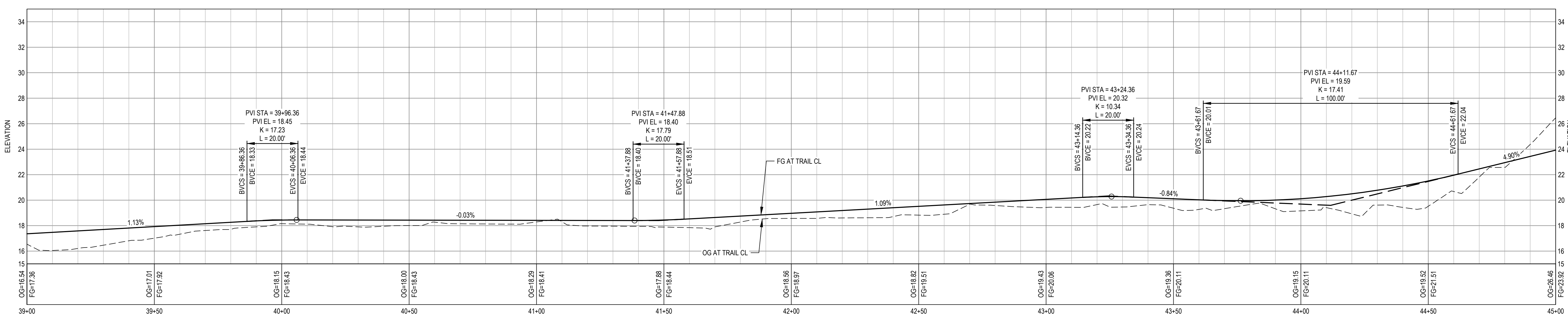
Size ANSI D

Sheet No. C-106 — Sheet 12 27



PLAN STA 39+00 TO STA 45+00

SCALE: AS SHOWN



PROFILE STA 39+00 TO STA 45+00

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

NOTE:
PROVIDE 3' LONG VERTICAL CURVE WHERE VERTICAL CURVE NOT SHOWN AT CHANGE IN PROFILE GRADE.

DRAFT 30% DESIGN
NOT FOR CONSTRUCTION

No.	Issue	Checked	Approved	Date

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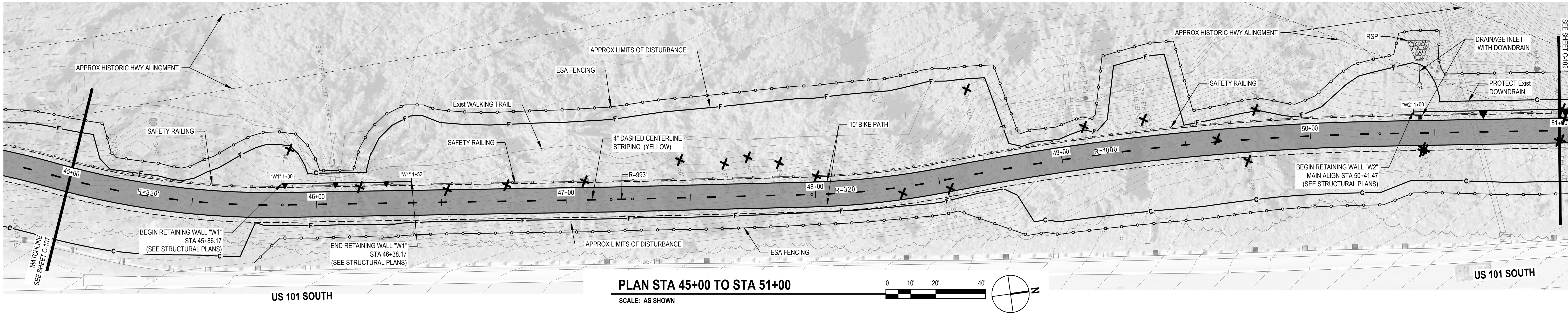
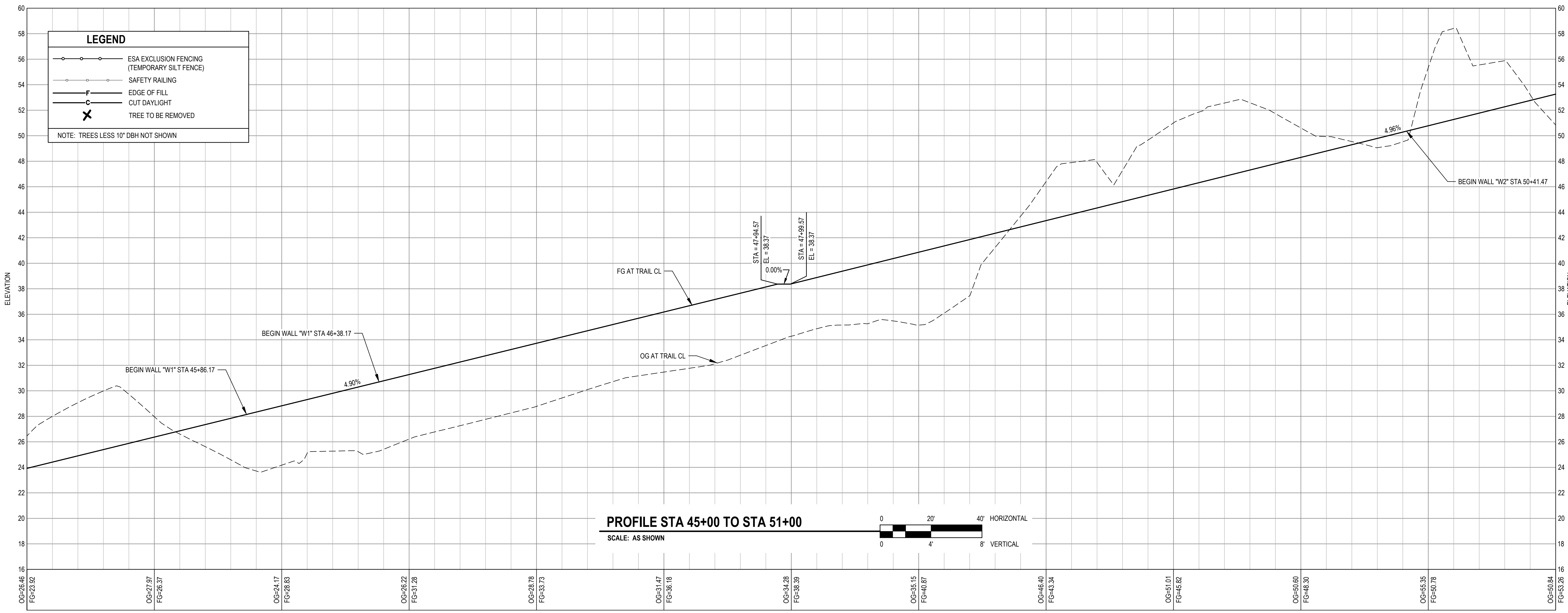
Project LITTLE RIVER TRAIL PROJECT
Title PATH PLAN & PROFILE: STA 39+00 TO STA 45+00

Project No.	Date	Scale	Size	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	ANSI D	C-107	13 27

Plot Date: 7 February 2022 - 2:08 PM   Plotted By: Owen Goode   Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg





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No.	Issue	Checked	Approved	Date

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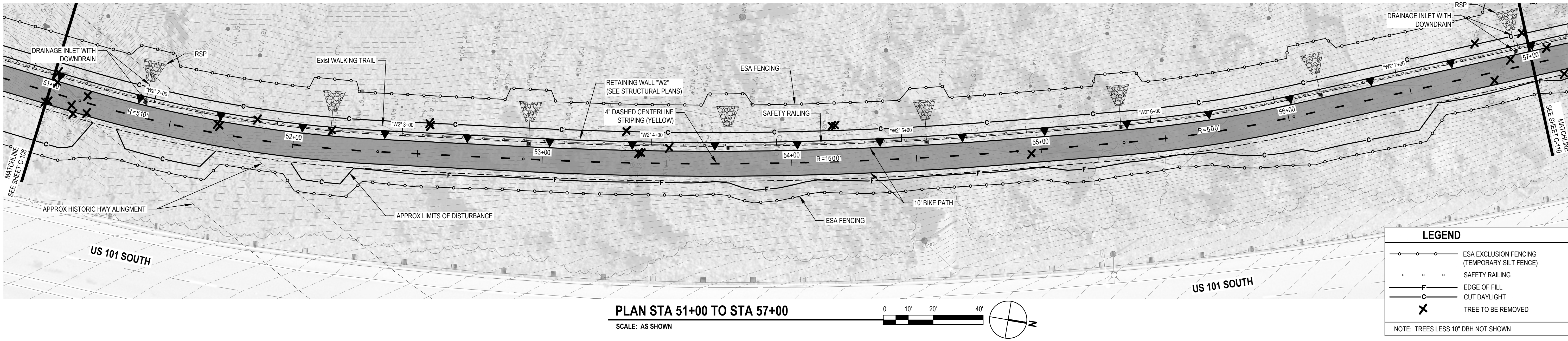
Project **LITTLE RIVER TRAIL PROJECT**

Project No.	Date	Scale
11212216	2/7/2022	AS SHOWN

Title **PATH PLAN & PROFILE: STA 45+00 TO STA 51+00**

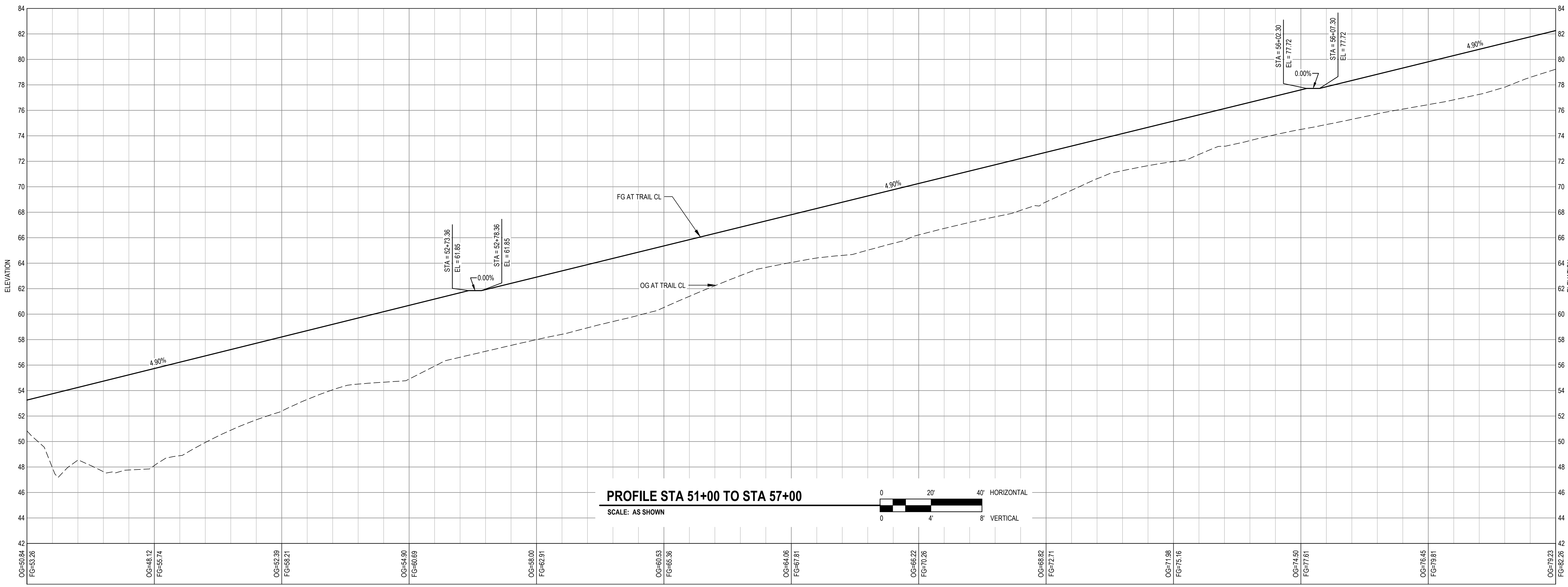
Size ANSI D
Sheet No. C-108
Sheet 14 27

Plot Date: 7 February 2022 - 2:08 PM Plotted By: Owen Goode Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg



PLAN STA 51+00 TO STA 57+00

SCALE: AS SHOWN



PROFILE STA 51+00 TO STA 57+00

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

DRAFT 30% DESIGN
NOT FOR CONSTRUCTION

No.	Issue	Checked	Approved	Date

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Designer N. SANGER — Design Check J. WOLF — Project Director B. SILVA

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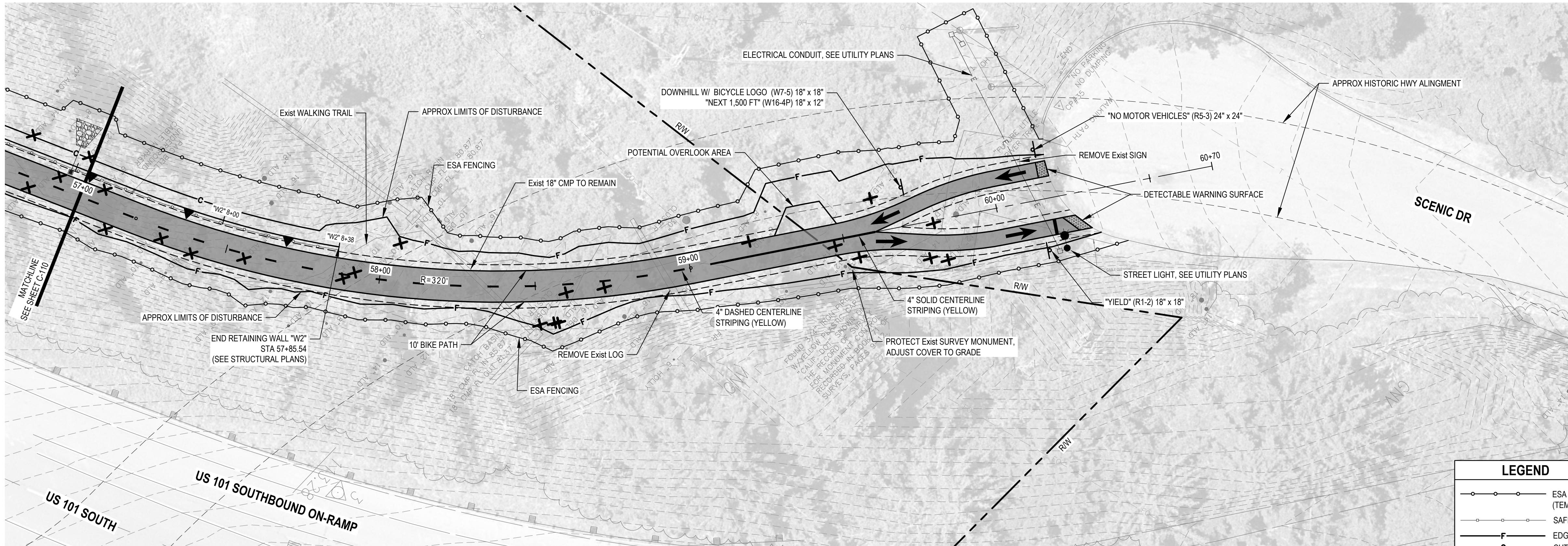
Project LITTLE RIVER TRAIL PROJECT

Title **PATH PLAN & PROFILE: STA 51+00 TO STA 57+00**

Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	C-109	15 27

Plot Date: 7 February 2022 - 2:08 PM   Plotted By: Owen Goode   Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg



PLAN STA 57+00 TO STA 60+30

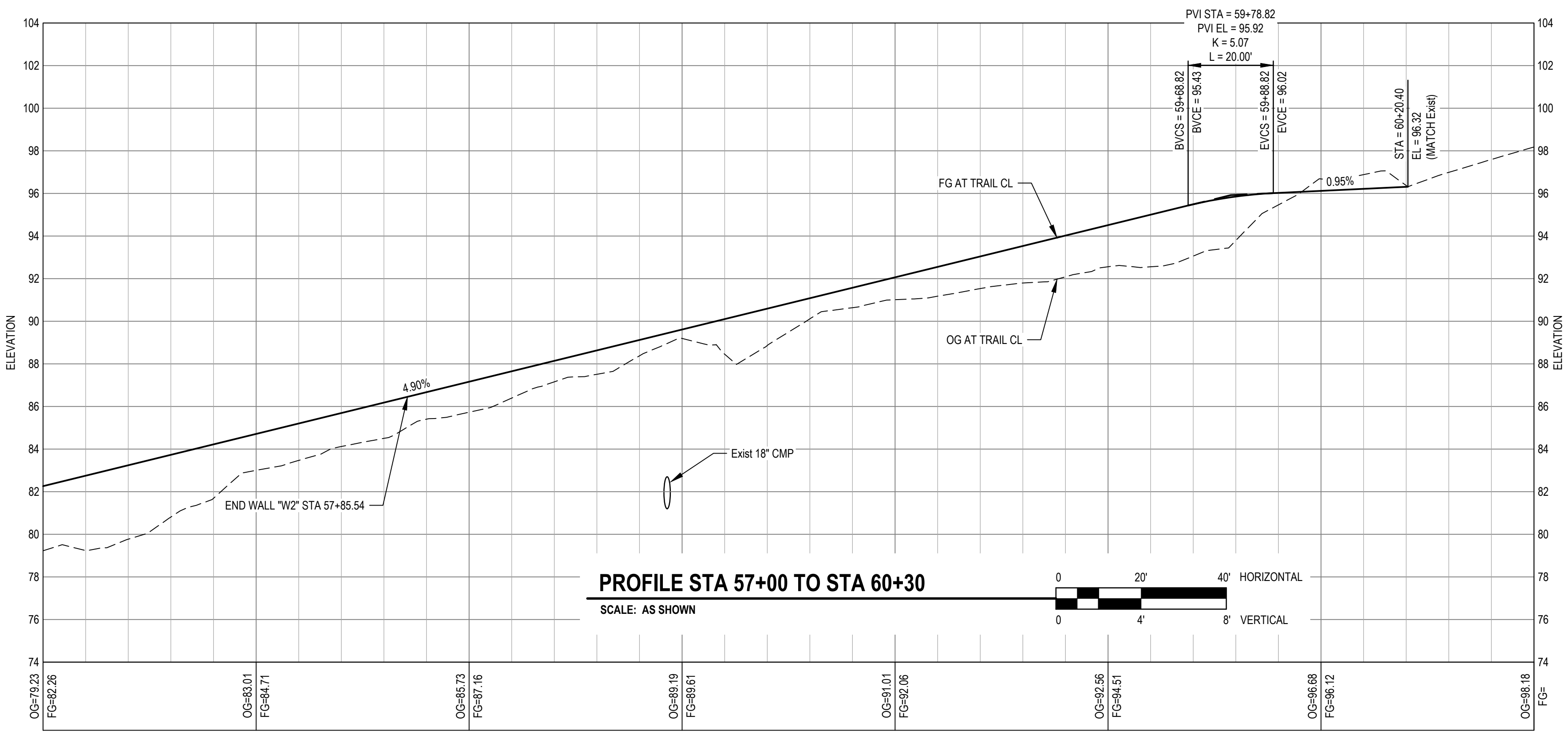
SCALE: AS SHOWN

0 10' 20' 40'

LEGEND

- ESA EXCLUSION FENCING (TEMPORARY SILT FENCE)
- SAFETY RAILING
- EDGE OF FILL
- CUT DAYLIGHT
- TREE TO BE REMOVED

NOTE: TREES LESS 10" DBH NOT SHOWN



PROFILE STA 57+00 TO STA 60+30

SCALE: AS SHOWN

0 20' 40' HORIZONTAL

0 4' 8' VERTICAL

DRAFT 30% DESIGN
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No.	Issue	Checked	Approved	Date

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Project LITTLE RIVER TRAIL PROJECT

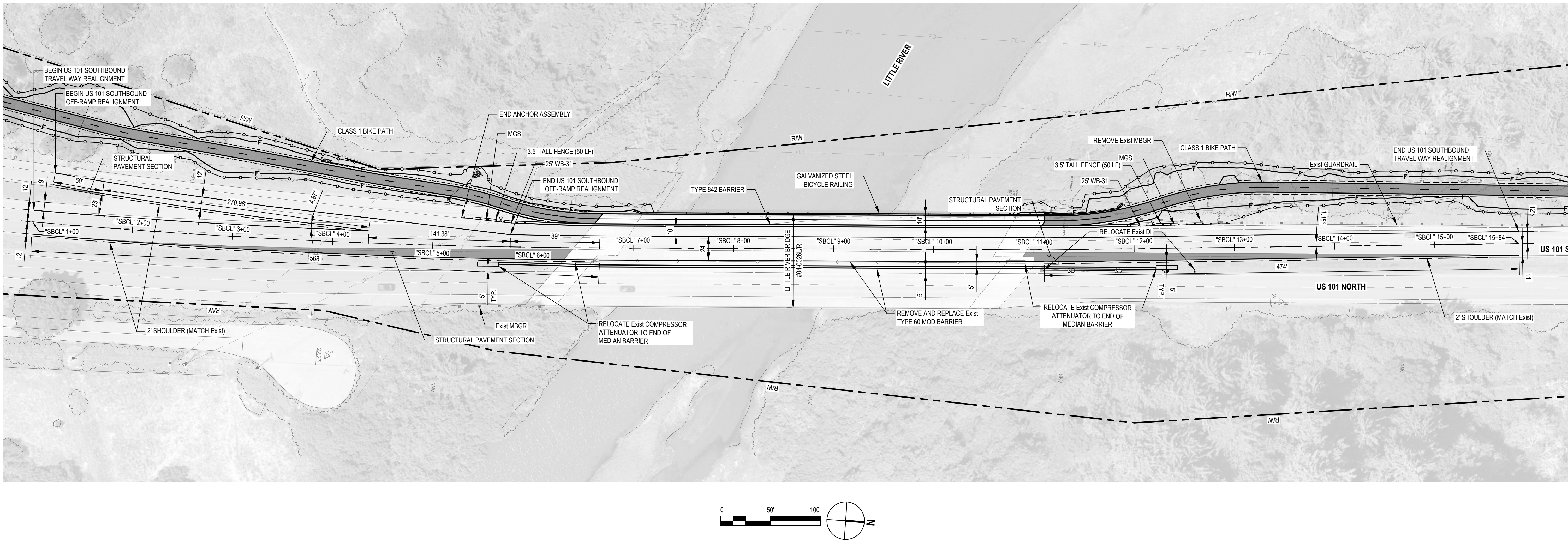
Title PATH PLAN & PROFILE: STA 57+00 TO STA 60+30

Size ANSI D

Project No.	Date	Scale
11212216	2/7/2022	AS SHOWN

Sheet No. C-110 — Sheet 16 27

Plot Date: 7 February 2022 - 2:08 PM Plotted By: Owen Goode Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_PLAN-PROFILE.dwg



DRAFT 30% DESIGN
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No.	Issue	Checked	Approved	Date

Author O.GOODE — Drafting Check N. SANGER — Project Manager J. WOLF
Designer N. SANGER — Design Check J. WOLF — Project Director B. SILVA

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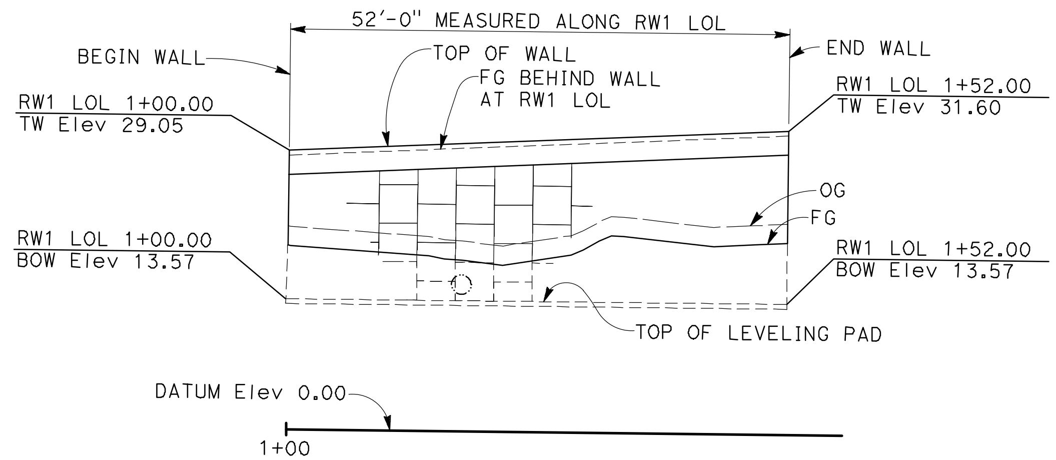
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT

Title US 101 REALIGNMENT AT LITTLE RIVER BRIDGE

Size ANSI D

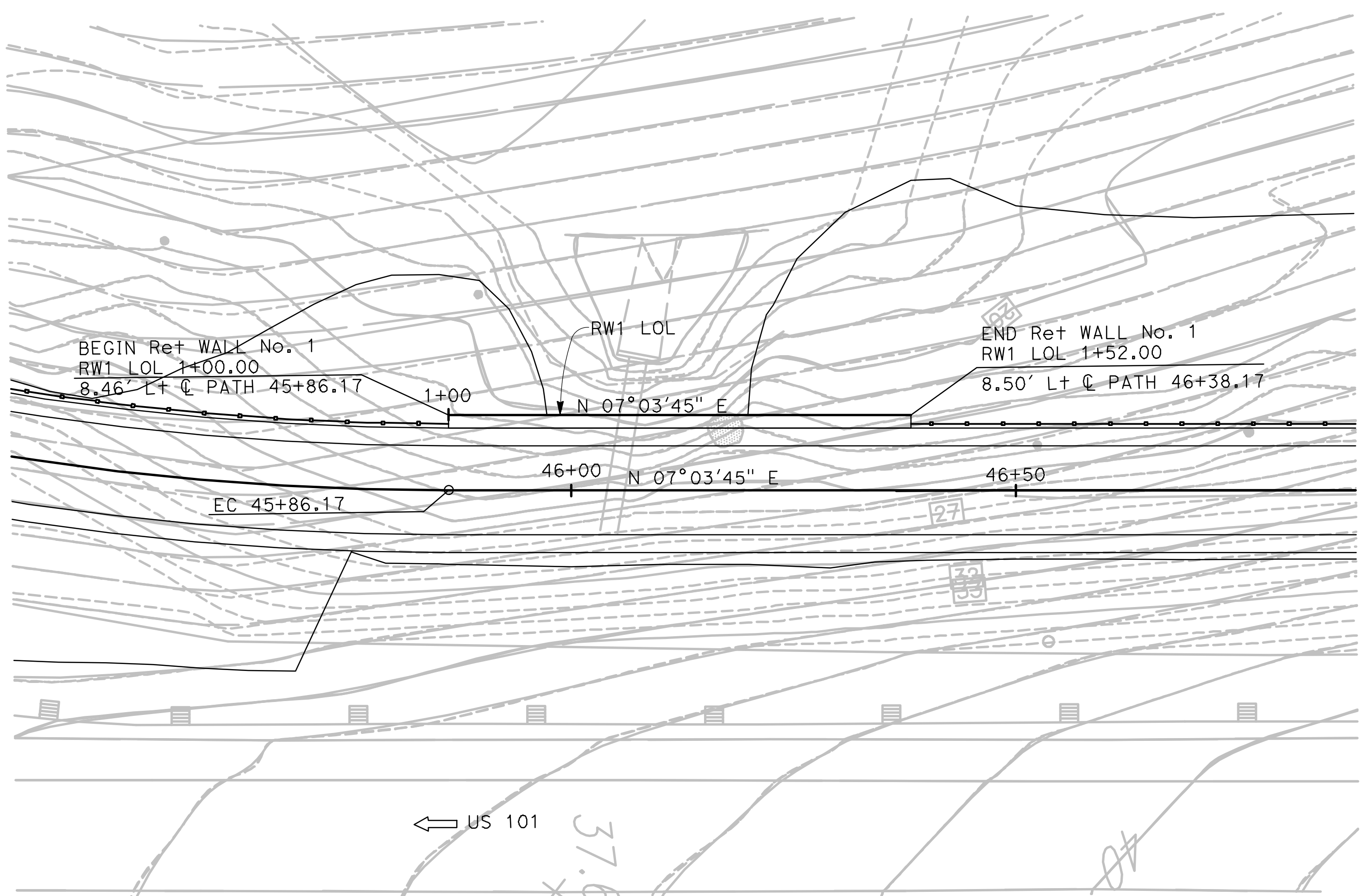
Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	1" = 50'	C-201	17 27

Plot Date: 7 February 2022 - 2:09 PM — Plotted By: Owen Goode — Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_LANE REALIGNMENT.dwg



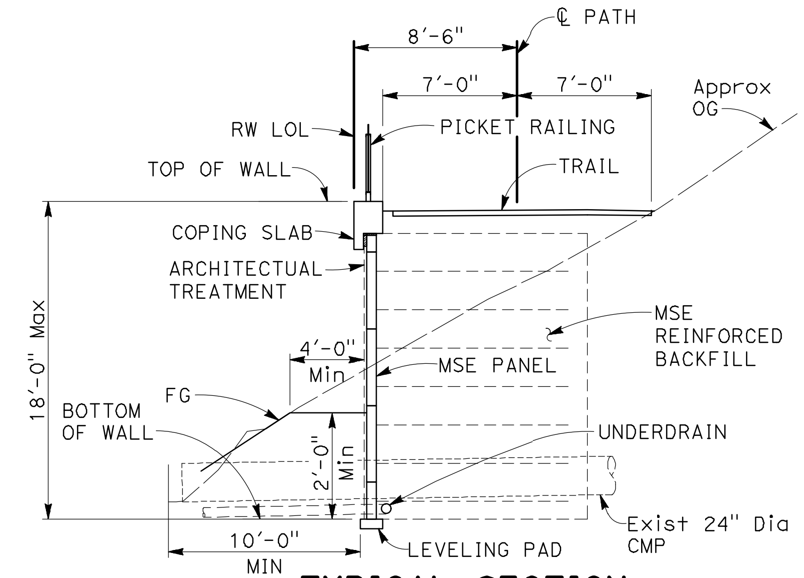
RETAINING WALL No. 1 MIRRORED ELEVATION

1" = 10'



RETAINING WALL No. 1 PLAN

1" = 10'



TYPICAL SECTION

1" = 5'

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/7/22)

30% DESIGN
NOT FOR CONSTRUCTION

No.	Issue	Checked	Approved	Date

Author BT — Drafting Check LEL — Project Manager AWR
Designer BT — Design Check LEL — Project Director MMH

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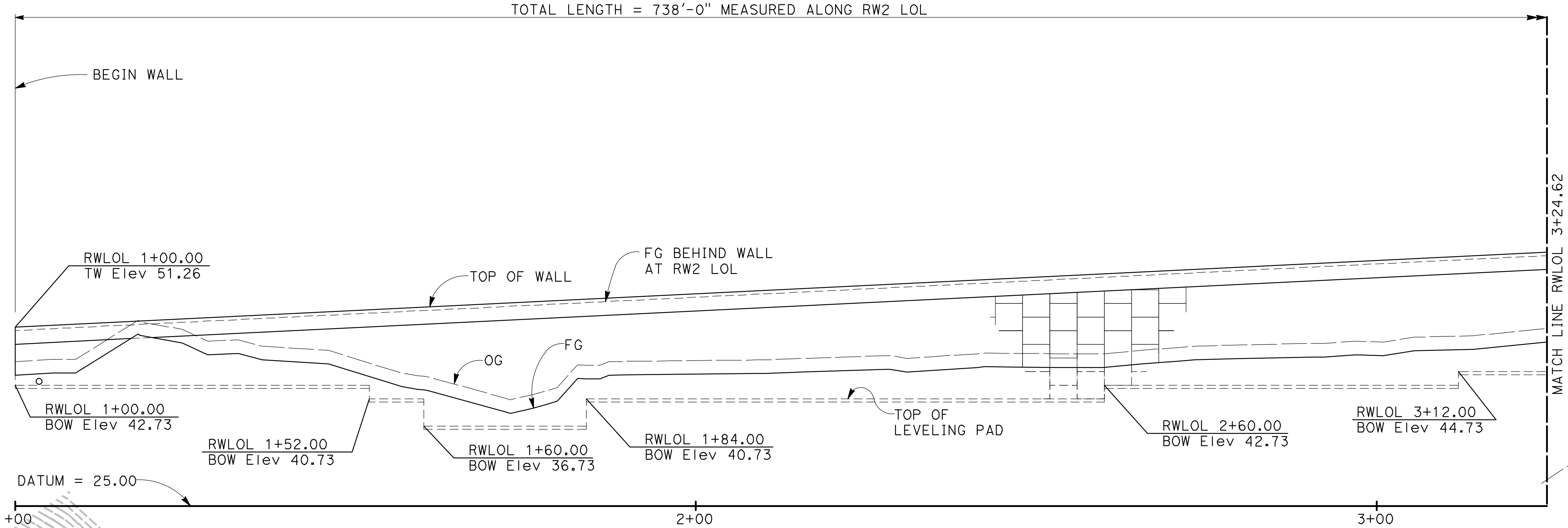
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT
Project No. 2020165
Date 12/17/21
Scale

Title
RETAINING WALL No. 1
GENERAI PLAN

Size ANSI D
Status Code
Sheet No. S-101
Sheet 18 of 27

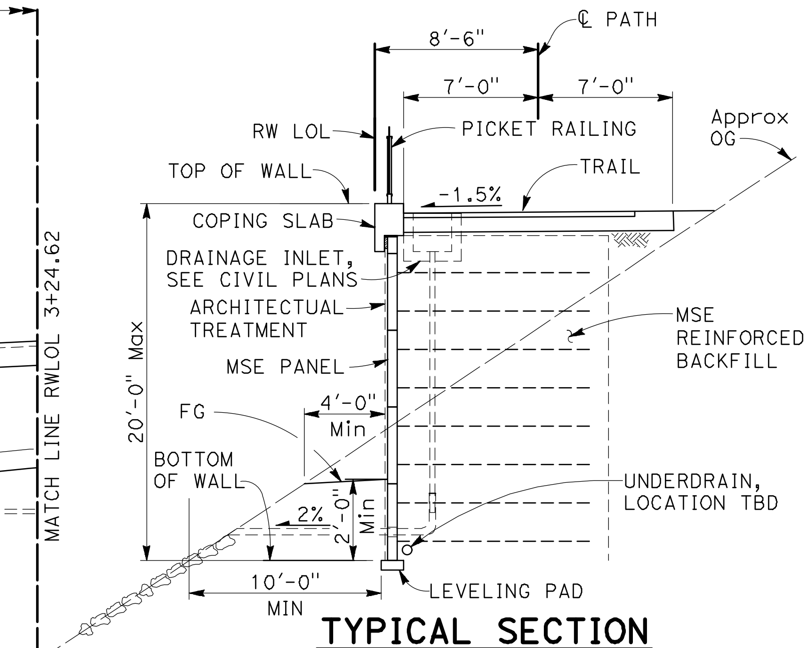
2020165 (2020165RW_S1)

Plot Date: 7 February 2022 - 4:14 PM Plotted By: Steve Hickey Filename: W:\2020\2020165\Retaining_Wall\2020165RW_S1.dwg



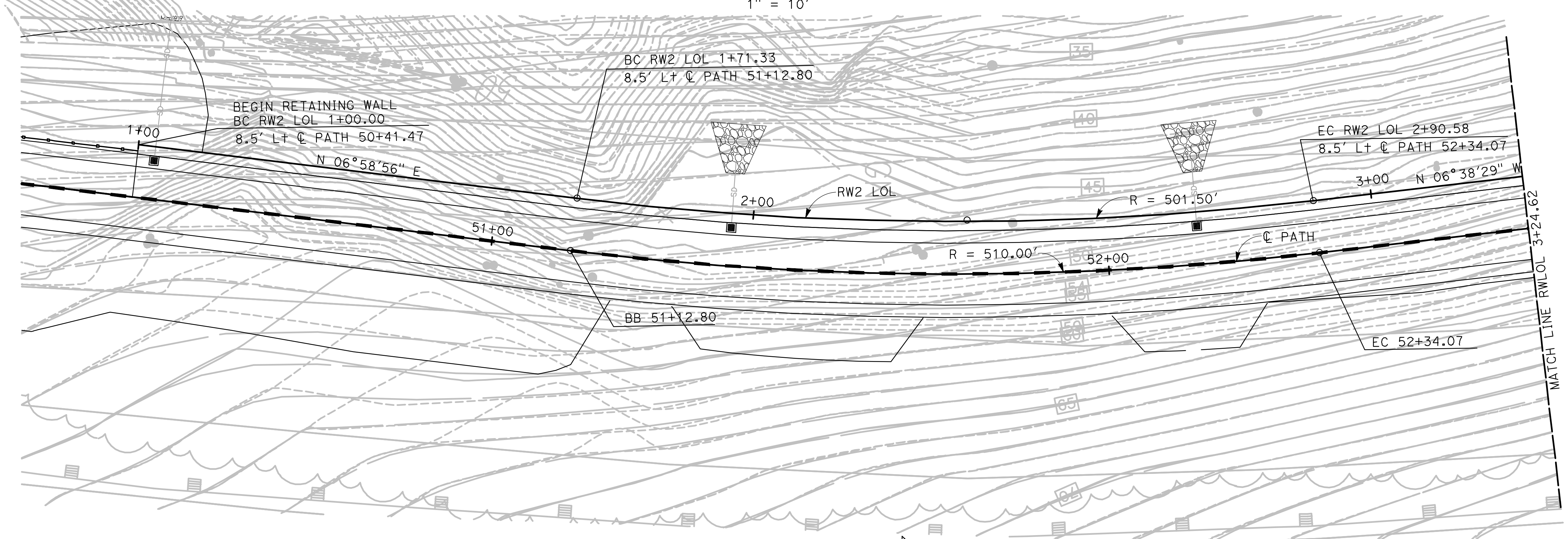
RETAINING WALL No. 2 MIRRORED DEVELOPED ELEVATION

1" = 10'



TYPICAL SECTION

1" = 5'



RETAINING WALL No. 2 PLAN

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/7/22)

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CONSTRUCTION

No.	Issue	Checked	Approved	Date

Author BT — Drafting Check LEL — Project Manager AWR
Designer BT — Design Check LEL — Project Director MMH

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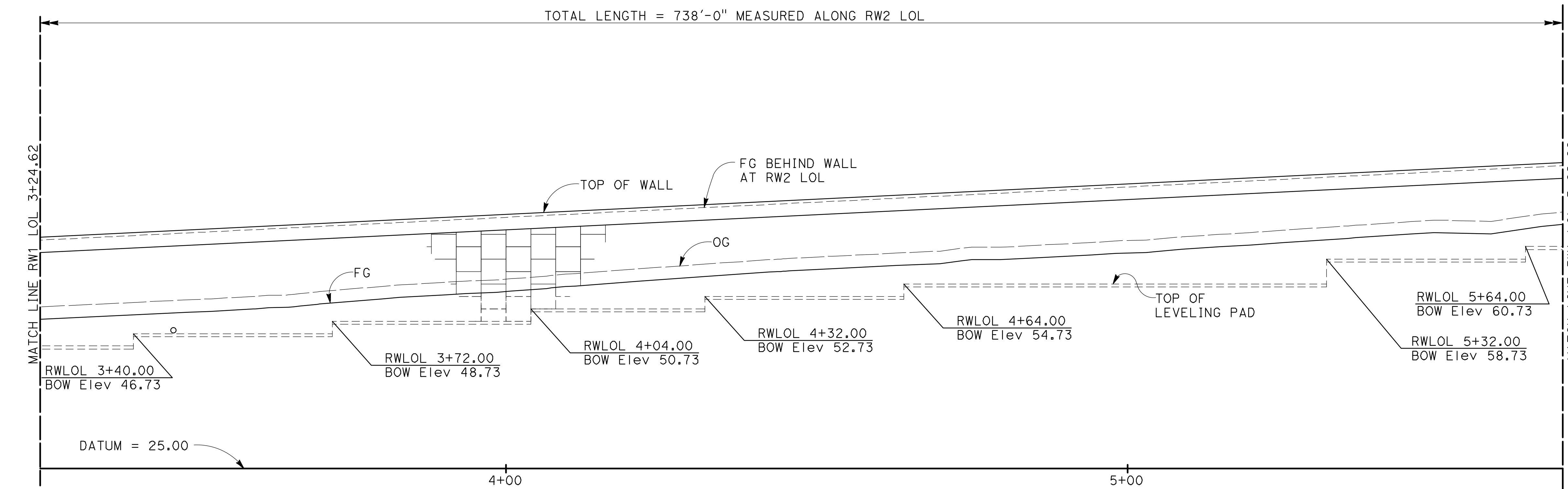
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT
Project No. 2020165 — Date 12/16/21 — Scale

Title
RETAINING WALL No. 2
GENERAI PLAN No. 1

Size ANSI D
Status Code
Sheet No. 102
Sheet 19 of 27
2020165 (2020165RW_S2)

Plot Date: 7 February 2022 - 4:14 PM Plotted By: Steve Hickey Filename: W:\2020\2020165\Retaining_Wall\2020165RW_S2.dwg



RETAINING WALL No. 2 MIRRORED DEVELOPED ELEVATION

1" = 10'

RETAINING WALL No. 2 PLAN

1" = 10'

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/9/22)

30% DESIGN
NOT FOR
CONSTRUCTION

No.	Issue	Checked	Approved	Date

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Designer BT | Design Check LEL | Project Director MMH

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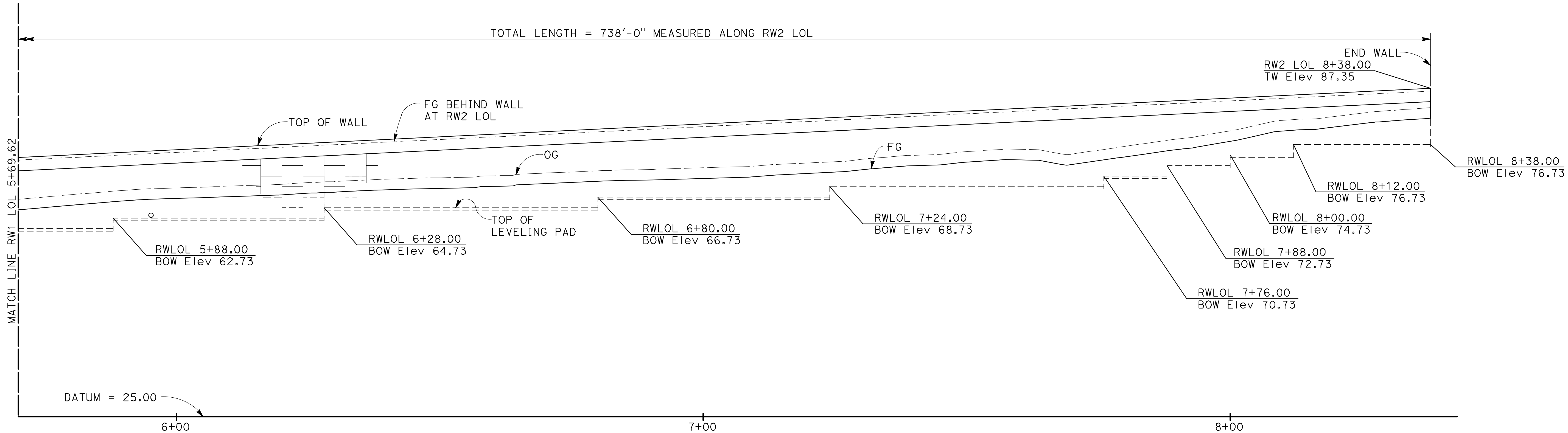
Project LITTLE RIVER TRAIL PROJECT
Project No. 2020165 | Date 12/16/21 | Scale

Title
RETAINING WALL No. 2
GENERAI PLAN No. 2

Size ANSI D
Status Code
Sheet No. S-103
Sheet 20 of 27

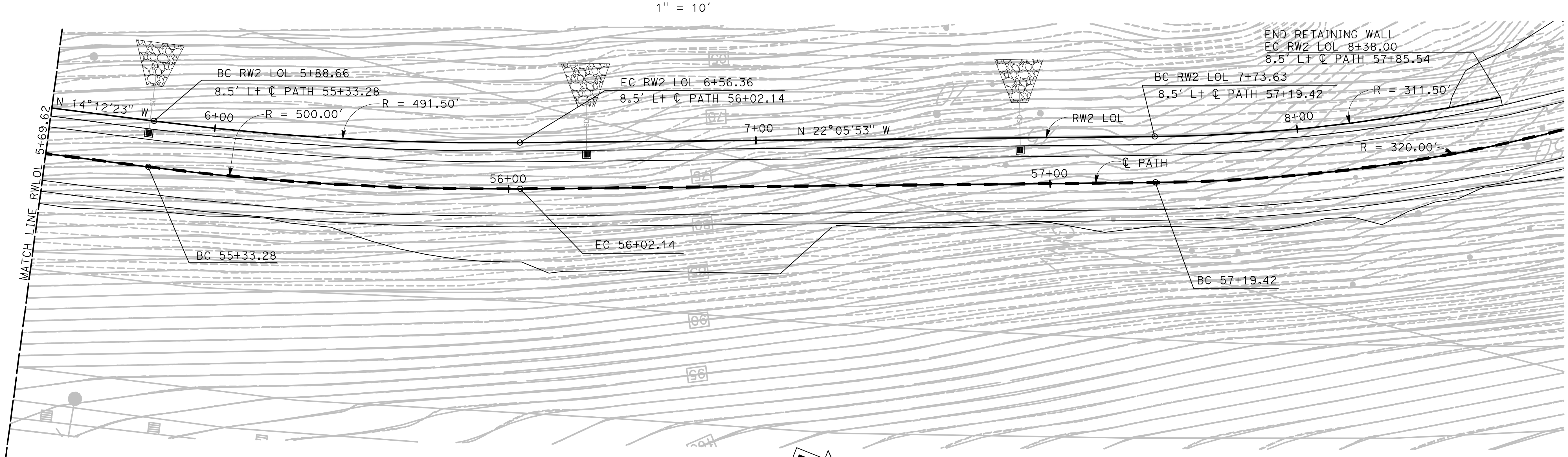
2020165 (2020165RW_S3)

Plot Date: 7 February 2022 - 4:14 PM   Plotted By: Steve Hickey   Filename: W:\2020\2020165\Retaining_Wall\2020165RW_S3.dwg



RETAINING WALL No. 2 MIRRORED DEVELOPED ELEVATION

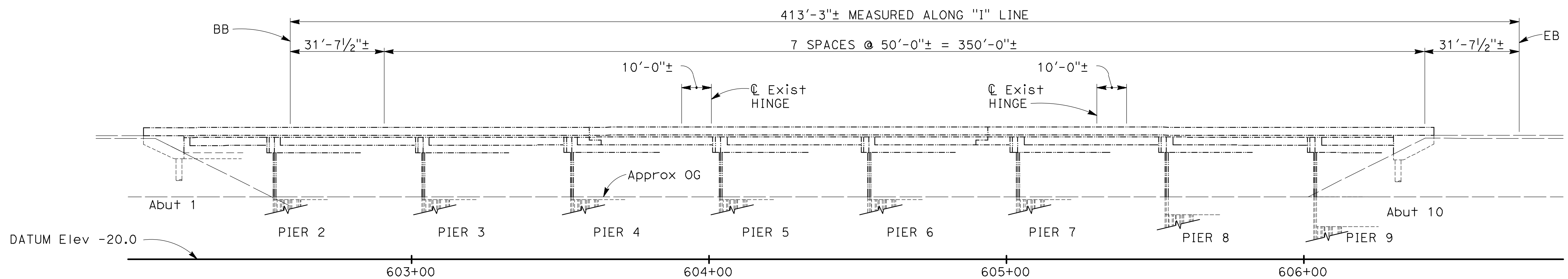
1" = 10'



RETAINING WALL No. 2 PLAN

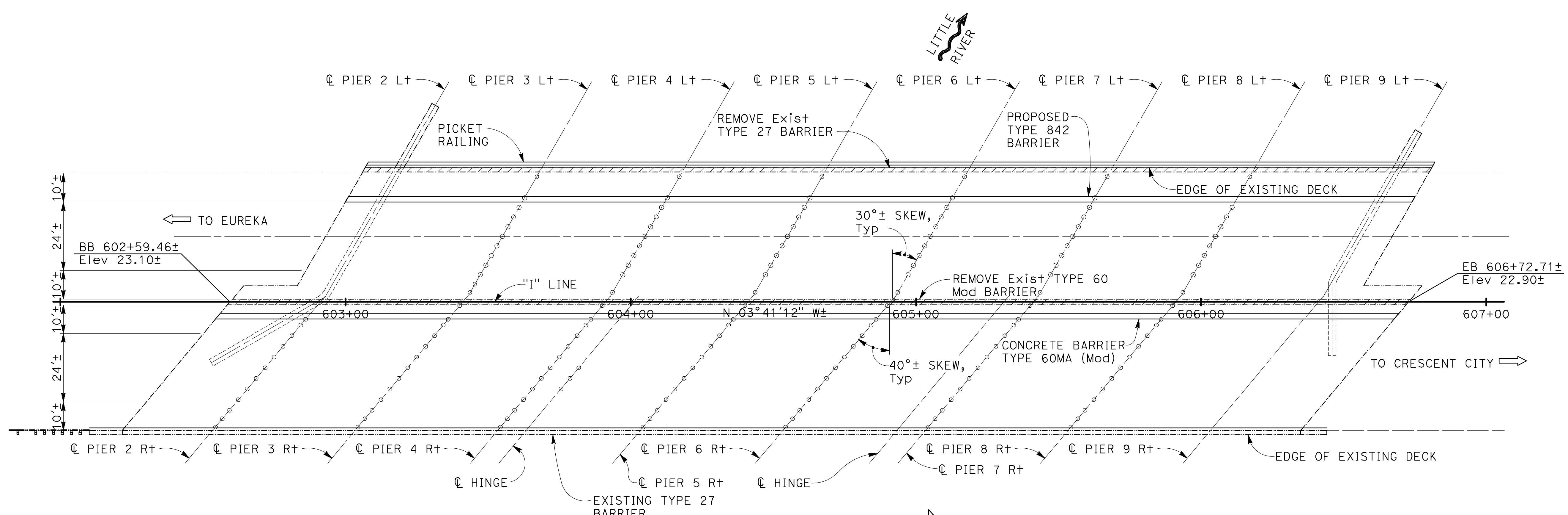
1" = 10'

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/7/22)



ELEVATION
1" = 20'

LEGEND:
Indicates Bridge Removal (Portion)
Indicates Existing Structure



PLAN
1" = 20'

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/7/22)

30% DESIGN
NOT FOR
CONSTRUCTION

No.	Issue	Checked	Approved	Date

Author BT | Drafting Check LEL | Project Manager AWR
Designer BT | Design Check LEL | Project Director MMH

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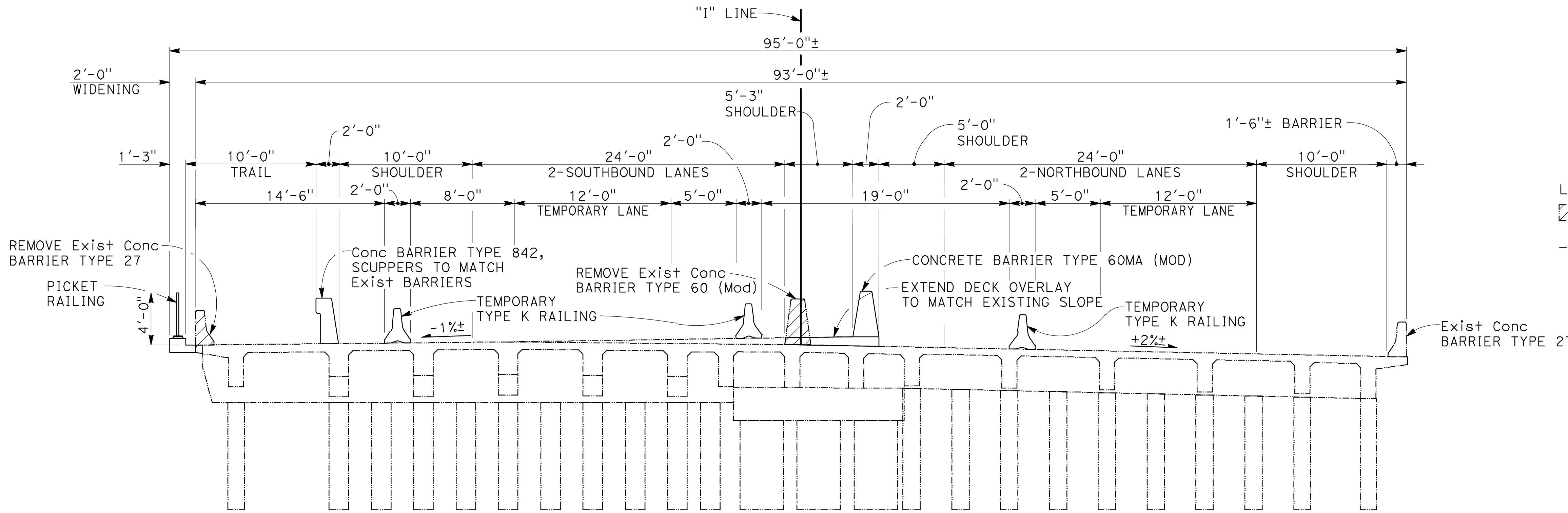
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT
Project No. 2020165
Date 12/16/21
Scale

Title
LITTLE RIVER BRIDGE
GENERAI PLAN No. 1

Size ANSI D
Status Code
Sheet No. S-105
Sheet 22 of 27

2020165 (2020165S1)

Plot Date: 7 February 2022 - 4:14 PM
Plotted By: Steve Hickey
Filename: W:\2020\2020165_Bridge_Widening\2020165S1.dwg



TYPICAL SECTION

1" = 5'

LEGEND:

Indicates Bridge Removal (Portion)

Indicates Existing Structure

PLAN CHECK SET/NOT FOR CONSTRUCTION (2/7/22)

30% DESIGN NOT FOR CONSTRUCTION

No.	Issue	Checked	Approved	Date

Author BT — Drafting Check LEL — Project Manager AWR

Designer BT — Design Check LEL — Project Director MMH

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Project LITTLE RIVER TRAIL PROJECT

Project No. 2020165 — Date 12/16/21 — Scale

Title LITTLE RIVER BRIDGE GENERAI PLAN No. 2

Size ANSI D

Status Code

Sheet No. S-106

Sheet 23 of 27

2020165 (2020165S2)

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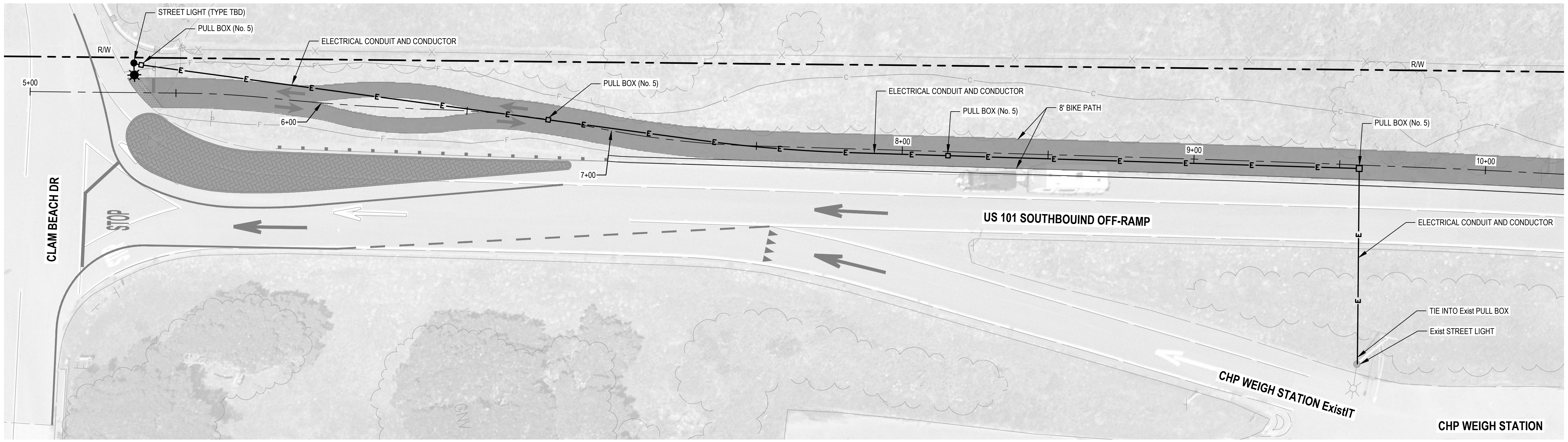

STREET LIGHT AT CLAM BEACH DR

SCALE: AS SHOWN

0 10' 20' 40'

N

DRAFT 30% DESIGN
NOT FOR
CONSTRUCTION

No.	Issue	Checked	Approved	Date

Author O.GOODE | Drafting Check N. SANGER | Project Manager J. WOLF
Designer N. SANGER | Design Check J. WOLF | Project Director B. SILVA

REGISTERED PROFESSIONAL ENGINEER NATHAN P. SANGER No. C84816 CIVIL STATE OF CALIFORNIA DRAFT

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redwood community action agency

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Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT

Title UTILITY PLANS:
STREET LIGHT AT CLAM BEACH DR

Size ANSI D

Project No.	Date	Scale
11212216	2/7/2022	AS SHOWN

Sheet No. E-101
Sheet 24 27

Plot Date: 7 February 2022 - 2:11 PM Plotted By: Owen Goode Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_LIGHTING PLANS.dwg

STREET LIGHT RELOCATION 101 SOUTHBOUND OFF-RAMP

SCALE: AS SHOWN

0 10' 20'

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Project LITTLE RIVER TRAIL PROJECT

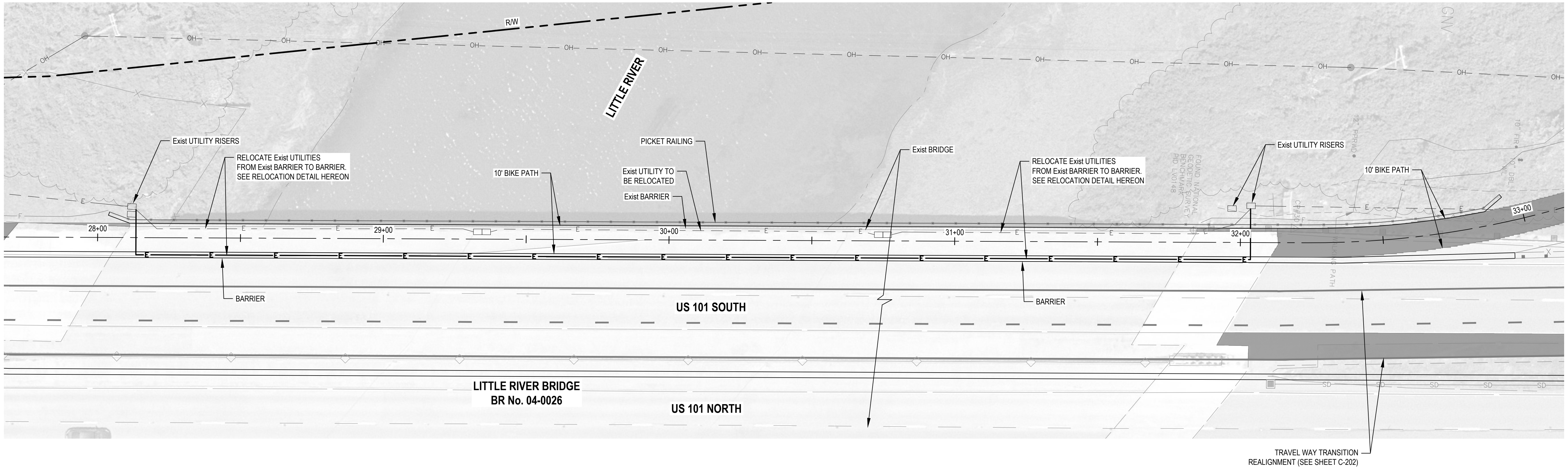
Title UTILITY PLANS:
STREET LIGHT RELOCATION
101 SOUTHBOUND OFF-RAMP

Size ANSI D

Project No. 11212216 | Date 2/7/2022 | Scale AS SHOWN

Sheet No. E-102 | Sheet 25 27

Plot Date: 7 February 2022 - 2:11 PM | Plotted By: Owen Goode | Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_LIGHTING PLANS.dwg

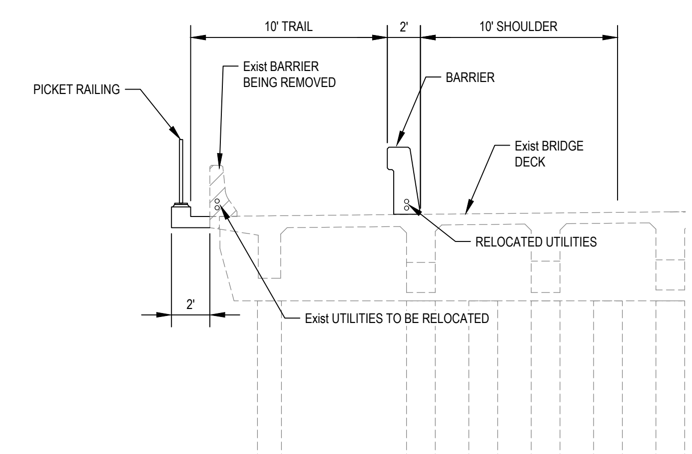


UTILITY RELOCATION LITTLE RIVER BRIDGE

SCALE: AS SHOWN

0 10' 20' 40'

N



RELOCATION DETAIL

NOT TO SCALE

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Designer N. SANGER Design Check J. WOLF Project Director B. SILVA

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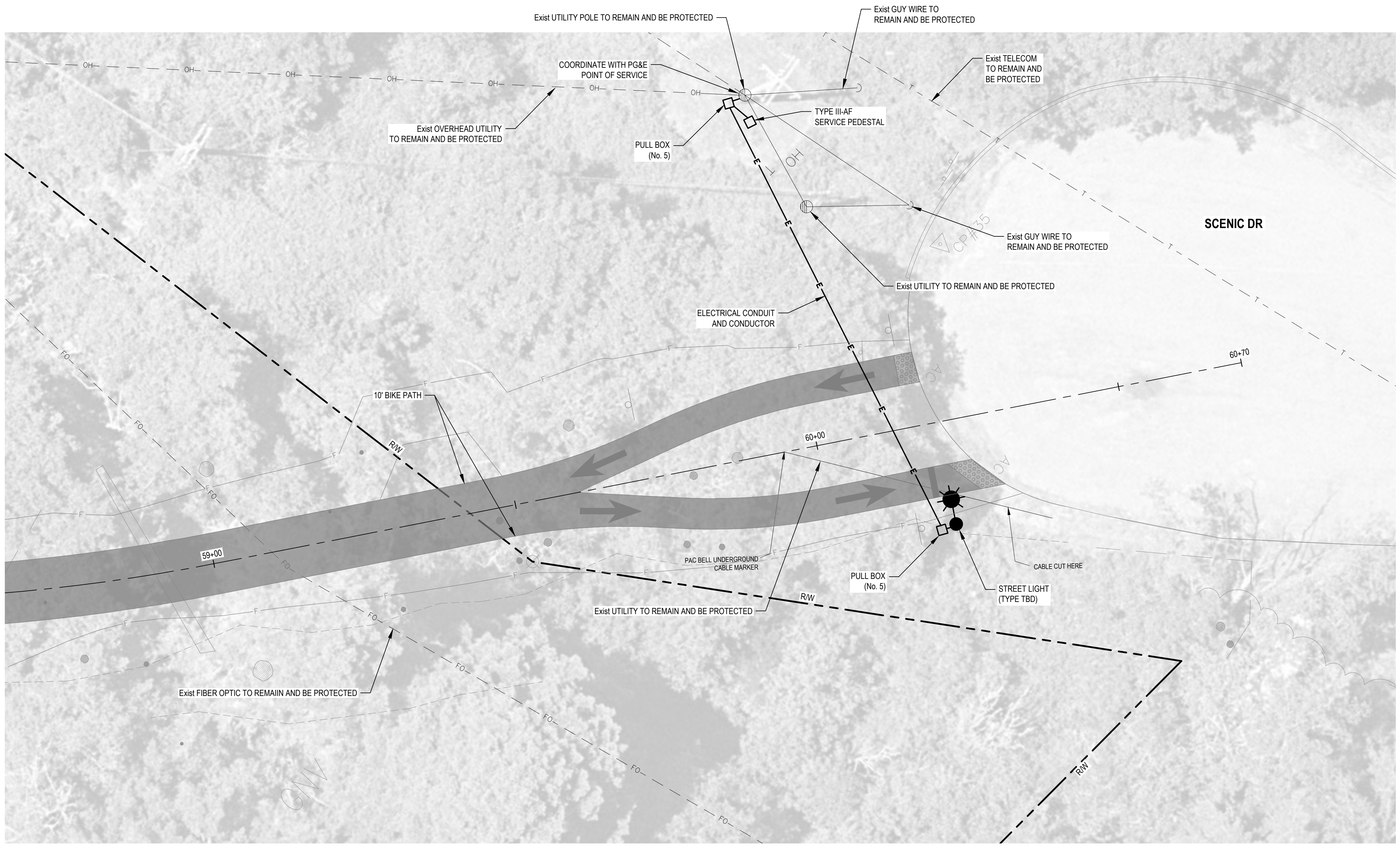
Client REDWOOD COMMUNITY ACTION AGENCY
Project LITTLE RIVER TRAIL PROJECT

Title UTILITY PLANS:
UTILITY RELOCATION
LITTLE RIVER BRIDGE

Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	E-103	26 27

Plot Date: 7 February 2022 - 2:11 PM Plotted By: Owen Goode Filename: G:\561\11212216\Digital_Design\ACAD 2020\Sheets\11212216 LRT_LIGHTING PLANS.dwg



STREET LIGHT AT SCENIC DR

SCALE: AS SHOWN

0 10' 20'

N

DRAFT 30% DESIGN
NOT FOR CONSTRUCTION

No.	Issue	Checked	Approved	Date

Author O.GOODE | Drafting Check N. SANGER | Project Manager J. WOLF

Designer N. SANGER | Design Check J. WOLF | Project Director B. SILVA

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Client **REDWOOD COMMUNITY ACTION AGENCY**

Project **LITTLE RIVER TRAIL PROJECT**

Title **UTILITY PLANS: STREET LIGHT AT SCENIC DR**

Project No.	Date	Scale	Size	Sheet No.	Sheet
11212216	2/7/2022	AS SHOWN	ANSI D	E-104	27 27

Appendix C U.S. Fish and Wildlife Service and NOAA National Marine Fisheries Service List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To: March 16, 2022
Project Code: 2022-0020768
Project Name: Little River

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

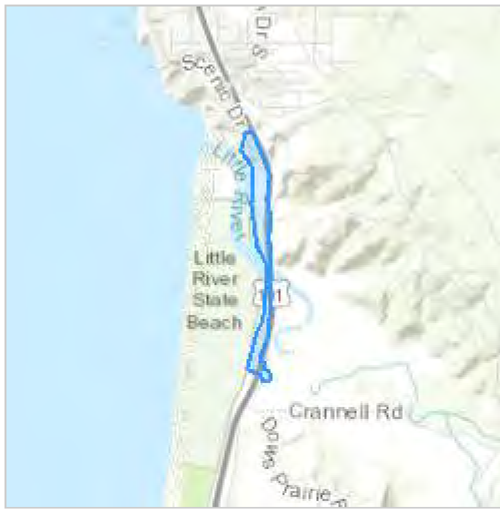
This species list is provided by:

Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
(707) 822-7201

Project Summary

Project Code: 2022-0020768
Event Code: None
Project Name: Little River
Project Type: Recreation - New Construction
Project Description: Trail construction for non-motorized bikes
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.021193,-124.10725450694625,14z



Counties: Humboldt County, California

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment *Martes caurina* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/9081	Threatened

Birds

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Beach Layia *Layia carnosa* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6728	Endangered
Western Lily *Lilium occidentale* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/998	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Sep 30

NAME	BREEDING SEASON
Black Oystercatcher *Haematopus bachmani* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Turnstone *Arenaria melanocephala* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Rufous Hummingbird *selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds Jun 1 to Aug 10
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

BCC Rangewide
(CON)

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Wrentit BCC Rangewide (CON)												

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical

Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1C
- PFO1C

ESTUARINE AND MARINE WETLAND

- E2US2M
- E2EM1N

RIVERINE

- R4SBC

ESTUARINE AND MARINE DEEPWATER

- E1UBL

FRESHWATER EMERGENT WETLAND

- PEM1B

IPaC User Contact Information

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From:	Tona, Sarah
To:	NMFS SpeciesList - NOAA Service Account
Subject:	Little River Trail Project
Date:	Wednesday, March 16, 2022 12:44:00 PM

Quad Name **Crannell**

Quad Number **41124-A1**

ESA Anadromous Fish

SONCC Coho ESU (T) -	**X**
CCC Coho ESU (E) -	
CC Chinook Salmon ESU (T) -	**X**
CVSR Chinook Salmon ESU (T) -	
SRWR Chinook Salmon ESU (E) -	
NC Steelhead DPS (T) -	**X**
CCC Steelhead DPS (T) -	
SCCC Steelhead DPS (T) -	
SC Steelhead DPS (E) -	
CCV Steelhead DPS (T) -	
Eulachon (T) -	**X**
sDPS Green Sturgeon (T) -	**X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -	**X**
CCC Coho Critical Habitat -	
CC Chinook Salmon Critical Habitat -	**X**
CVSR Chinook Salmon Critical Habitat -	
SRWR Chinook Salmon Critical Habitat -	
NC Steelhead Critical Habitat -	**X**
CCC Steelhead Critical Habitat -	
SCCC Steelhead Critical Habitat -	
SC Steelhead Critical Habitat -	
CCV Steelhead Critical Habitat -	
Eulachon Critical Habitat -	
sDPS Green Sturgeon Critical Habitat -	**X**

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X

Olive Ridley Sea Turtle (T/E) - X

Leatherback Sea Turtle (E) - X

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X

Fin Whale (E) - X

Humpback Whale (E) - X

Southern Resident Killer Whale (E) - X

North Pacific Right Whale (E) - X

Sei Whale (E) - X

Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X

Chinook Salmon EFH - X

Groundfish EFH - X

Coastal Pelagics EFH - X

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X

MMPA Pinnipeds - X

Non-federal agency name:
Caltrans District 1

1656 Union St, Eureka, CA 95501

Point of contact:

Sarah Tona
Associate Biologist

Direct: 530-280-8385
sarah.tona@stantec.com

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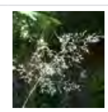
Appendix D California Native Diversity Database and California Native Plant Society Queries

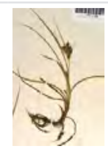
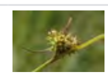
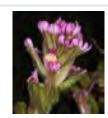
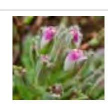
California Native Plant Society

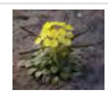
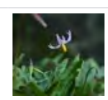
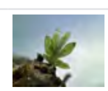
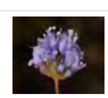
Search Results

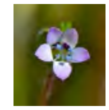
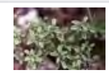
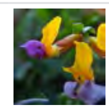
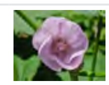
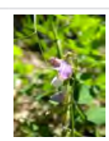
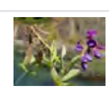
65 matches found. Click on scientific name for details

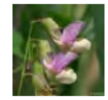
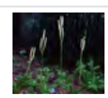
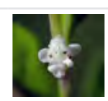
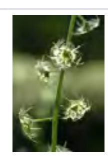
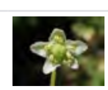
Search Criteria: Quad is one of [**4112411:4112328:4112412:4112421:4112318:4012482:4012481:4012388**]

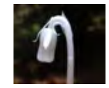
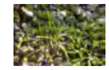
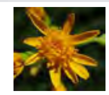
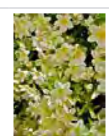
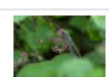
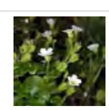
▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Abronia umbellata var. *breviflora*	pink sand-verbena	Nyctaginaceae	annual herb	Jun-Oct	None	None	G4G5T2	S2	1B.1	 ©2021 Scot Loring
Angelica lucida	sea-watch	Apiaceae	perennial herb	Apr-Sep	None	None	G5	S3	4.2	 © 2022 Stillwater Sciences
Astragalus rattanii var. *rattanii*	Rattan's milk-vetch	Fabaceae	perennial herb	Apr-Jul	None	None	G4T4	S4	4.3	No Photo Available
Astragalus umbraticus	Bald Mountain milk-vetch	Fabaceae	perennial herb	May-Aug	None	None	G4	S2	2B.2	 ©2013 Scot Loring
Calamagrostis bolanderi	Bolander's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	None	None	G4	S4	4.2	 ©2009 Zoya Akulova
Cardamine angulata	seaside bittercress	Brassicaceae	perennial herb	(Jan)Mar-Jul	None	None	G4G5	S3	2B.2	 © 2021 Scot Loring
Carex arcta	northern clustered sedge	Cyperaceae	perennial herb	Jun-Sep	None	None	G5	S1	2B.2	 © 2006 Dean Wm. Taylor
Carex buxbaumii	Buxbaum's sedge	Cyperaceae	perennial rhizomatous herb	Mar-Aug	None	None	G5	S3	4.2	 © 2008 Dean Wm.

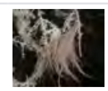
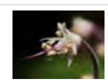
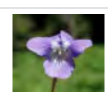
Carex lenticularis var. limnophila	lagoon sedge	Cyperaceae	perennial herb	Jun-Aug	None	None	G5T5	S1	2B.2	 ©2003 Steve Matson
Carex leptalea	bristle-stalked sedge	Cyperaceae	perennial rhizomatous herb	Mar-Jul	None	None	G5	S1	2B.2	 © 2003 Steve Matson
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	None	None	G5	S3	2B.2	 ©2017 Steve Matson
Carex saliniformis	deceiving sedge	Cyperaceae	perennial rhizomatous herb	Jun(Jul)	None	None	G2	S2	1B.2	 ©2003 Steve Matson
Carex viridula ssp. viridula	green yellow sedge	Cyperaceae	perennial herb	(Jun)Jul-Sep(Nov)	None	None	G5T5	S2	2B.3	 © 2015 Dana York
Castilleja ambigua var. humboldtiensis	Humboldt Bay owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-Aug	None	None	G4T2	S2	1B.2	 ©2017 Steve Matson
Castilleja litoralis	Oregon coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun	None	None	G3	S3	2B.2	 ©2010 Dana York
Castilleja mendocinensis	Mendocino Coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Aug	None	None	G2	S2	1B.2	 ©2015 John Doyen
Chloropyron maritimum ssp.	Point Reyes salty bird's-	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	None	None	G4?T2	S2	1B.2	

palustre	beak									©2017 John Doyen
Chrysosplenium glechomifolium	Pacific golden saxifrage	Saxifragaceae	perennial herb	Feb-Jun	None	None	G5?	S3	4.3	 © 2021 Scot Loring
Coptis laciniata	Oregon goldthread	Ranunculaceae	perennial rhizomatous herb	(Feb)Mar-May(Sep-Nov)	None	None	G4?	S3?	4.2	 © 2021 Scot Loring
Discelium nudum	naked flag moss	Disceliaceae	ephemeral moss		None	None	G4G5	S1	2B.2	No Photo Available
Eleocharis parvula	small spikerush	Cyperaceae	perennial herb	(Apr)Jun-Aug(Sep)	None	None	G5	S3	4.3	 ©2018 Ron Vanderhoff
Empetrum nigrum	black crowberry	Empetraceae	perennial evergreen shrub	Apr-Jun	None	None	G5	S1?	2B.2	 ©2015 Dana York
Erysimum menziesii	Menzies' wallflower	Brassicaceae	perennial herb	Mar-Sep	FE	CE	G1	S1	1B.1	 ©2007 Steve Matson
Erythronium oregonum	giant fawn lily	Liliaceae	perennial herb	Mar-Jun(Jul)	None	None	G4G5	S2	2B.2	 ©2021 Scot Loring
Erythronium revolutum	coast fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	None	None	G4G5	S3	2B.2	 ©2007 Steve Matson
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		None	None	G3?	S2	1B.2	 ©2021 Scot Loring
Gilia capitata ssp. pacifica	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	None	None	G5T3	S2	1B.2	 © 2016 Steve Matson

Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.2	 © 2017 John Doyen
Glehnia littoralis ssp. leiocarpa	American glehnia	Apiaceae	perennial herb	May-Aug	None	None	G5T5	S2S3	4.2	 ©2017 Steve Matson
Hemizonia congesta ssp. tracyi	Tracy's tarplant	Asteraceae	annual herb	(Mar)May-Oct	None	None	G5T4	S4	4.3	 © 2016 Steve Matson
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	None	None	G4T3	S3	1B.2	 © 2006 Doreen L. Smith
Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	None	None	G3G4	S3	4.2	 © 2015 John Doyen
Iliamna latibracteata	California globe mallow	Malvaceae	perennial herb	Jun-Aug	None	None	G2G3	S2	1B.2	 ©2013 Scot Loring
Juncus nevadensis var. inventus	Sierra rush	Juncaceae	perennial rhizomatous herb	Jul-Nov	None	None	G5T3T4	S1	2B.2	No Photo Available
Kopsiopsis hookeri	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	None	None	G4?	S1S2	2B.3	 ©2016 Vernon Smith
Lathyrus glandulosus	sticky pea	Fabaceae	perennial rhizomatous herb	Apr-Jun	None	None	G3	S3	4.3	 2015 Barrett Jeffery
Lathyrus japonicus	seaside pea	Fabaceae	perennial rhizomatous herb	May-Aug	None	None	G5	S2	2B.1	 ©2021 Scot Loring

Lathyrus palustris	marsh pea	Fabaceae	perennial herb	Mar-Aug	None	None	G5	S2	2B.2	 © 2016 Keir Morse
Layia carnosa	beach layia	Asteraceae	annual herb	Mar-Jul	FE	CE	G2	S2	1B.1	 © 2007 Aaron Schusteff
Lilium occidentale	western lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	FE	CE	G1	S1	1B.1	 © 2018 Jason Matthias Mills
Listera cordata	heart-leaved twayblade	Orchidaceae	perennial herb	Feb-Jul	None	None	G5	S4	4.2	 ©2013 Dr. Amadej Trnkoczy 0000 0000 0513 2468
Lycopodiella inundata	inundated bog-clubmoss	Lycopodiaceae	perennial rhizomatous herb	Jun-Sep	None	None	G5	S1	2B.2	 © 2021 Scot Loring
Lycopodium clavatum	running-pine	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug(Sep)	None	None	G5	S3	4.1	 © 2021 Scot Loring
Lycopus uniflorus	northern bugleweed	Lamiaceae	perennial herb	Jul-Sep	None	None	G5	S4	4.3	 © 2021 Scot Loring
Mitellastra caulescens	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	None	None	G5	S4	4.2	 © 2014 Dana York
Moneses uniflora	woodnymph	Ericaceae	perennial rhizomatous herb	May-Aug	None	None	G5	S2	2B.2	 ©2021 Scot Loring

Monotropa uniflora	ghost-pipe	Ericaceae	perennial herb (achlorophyllous)	Jun-Aug(Sep)	None	None	G5	S2	2B.2	 © 2021 Scot Loring
Montia howellii	Howell's montia	Montiaceae	annual herb	(Feb)Mar-May	None	None	G3G4	S2	2B.2	 © 2004 Dean Wm. Taylor
Oenothera wolfii	Wolf's evening-primrose	Onagraceae	perennial herb	May-Oct	None	None	G2	S1	1B.1	 ©2017 Dana York
Packera bolanderi var. bolanderi	seacoast ragwort	Asteraceae	perennial rhizomatous herb	(Jan-Apr)May-Jul(Aug)	None	None	G4T4	S2S3	2B.2	 © 2021 Scot Loring
Piperia candida	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May-Sep	None	None	G3	S3	1B.2	 ©2016 Barry Rice
Pityopus californicus	California pinefoot	Ericaceae	perennial herb (achlorophyllous)	(Mar-Apr)May-Aug	None	None	G4G5	S4	4.2	 ©2009 Barry Rice
Pleuropogon refractus	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr-Aug	None	None	G4	S4	4.2	 ©2004 Dean Wm. Taylor
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	None	None	G3G4	S2	2B.2	 ©2018 John Doyen
Ribes laxiflorum	trailing black currant	Grossulariaceae	perennial deciduous shrub	Mar-Jul(Aug)	None	None	G5?	S3	4.3	 ©2010 Dana York
Romanzoffia tracyi	Tracy's romanzoffia	Hydrophyllaceae	perennial herb	Mar-May	None	None	G4	S2	2B.3	 ©2017 Steve

										Matson
Sidalcea malachroides	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr-Aug	None	None	G3	S3	4.2	 ©2005 Dean Wm. Taylor
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	Malvaceae	perennial rhizomatous herb	(Mar)May-Aug	None	None	G5T2	S2	1B.2	 ©2004 Dean Wm. Taylor
Sidalcea oregana ssp. eximia	coast checkerbloom	Malvaceae	perennial herb	Jun-Aug	None	None	G5T1	S1	1B.2	No Photo Available
Silene scouleri ssp. scouleri	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	None	None	G5T4T5	S2S3	2B.2	 ©2015 Vernon Smith
Sulcaria spiralifera	twisted horsehair lichen	Parmeliaceae	fruticose lichen (epiphytic)		None	None	G3G4	S2	1B.2	 © 2021 Scot Loring
Tiarella trifoliata var. trifoliata	trifoliate laceflower	Saxifragaceae	perennial rhizomatous herb	(May)Jun-Aug	None	None	G5T5	S2S3	3.2	 © 2021 Scot Loring
Trichodon cylindricus	cylindrical trichodon	Ditrichaceae	moss		None	None	G4G5	S2	2B.2	No Photo Available
Usnea longissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		None	None	G4	S4	4.2	 © 2021 Scot Loring
Viola palustris	alpine marsh violet	Violaceae	perennial rhizomatous herb	Mar-Aug	None	None	G5	S1S2	2B.2	 ©2021 Scot Loring

Showing 1 to 65 of 65 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 16 March 2022].

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Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Rodgers Peak (4112421) OR Bald Hills (4112328) OR Trinidad (4112412) OR Crannell (4112411) OR Panther Creek (4112318) OR Tyee City (4012482) OR Arcata North (4012481) OR Blue Lake (4012388))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAD12050	***Plethodon elongatus*** Del Norte salamander	None	None	G4	S3	WL
AAAAJ01020	***Rhyacotriton variegatus*** southern torrent salamander	None	None	G3G4	S2S3	SSC
AAABA01010	***Ascaphus truei*** Pacific tailed frog	None	None	G4	S3S4	SSC
AAABH01021	***Rana aurora*** northern red-legged frog	None	None	G4	S3	SSC
AAABH01050	***Rana boylii*** foothill yellow-legged frog	None	Endangered	G3	S3	SSC
ABNDC04010	***Hydrobates furcatus*** fork-tailed storm-petrel	None	None	G5	S1	SSC
ABNFD01020	***Nannopterum auritum*** double-crested cormorant	None	None	G5	S4	WL
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNGA11010	***Nycticorax nycticorax*** black-crowned night heron	None	None	G5	S4	
ABNKC01010	***Pandion haliaetus*** osprey	None	None	G5	S4	WL
ABNKC06010	***Elanus leucurus*** white-tailed kite	None	None	G5	S3S4	FP
ABNME05011	***Rallus obsoletus obsoletus*** California Ridgway's rail	Endangered	Endangered	G3T1	S1	FP
ABNNB03031	***Charadrius nivosus nivosus*** western snowy plover	Threatened	None	G3T3	S2	SSC
ABNNN06010	***Brachyramphus marmoratus*** marbled murrelet	Threatened	Endangered	G3	S2	
ABNNN11010	***Cerorhinca monocerata*** rhinoceros auklet	None	None	G5	S3	WL
ABNNN12010	***Fratercula cirrhata*** tufted puffin	None	None	G5	S1S2	SSC
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S2	
AFBAA02100	***Entosphenus tridentatus*** Pacific lamprey	None	None	G4	S3	SSC
AFBAA02180	***Lampetra richardsoni*** western brook lamprey	None	None	G4G5	S3S4	SSC

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AFCHA02032	***Oncorhynchus kisutch pop. 2*** coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	G5T2Q	S2	
AFCHA0208A	***Oncorhynchus clarkii clarkii*** coast cutthroat trout	None	None	G5T4	S3	SSC
AFCHB03010	***Spirinchus thaleichthys*** longfin smelt	Candidate	Threatened	G5	S1	
AFCHB04010	***Thaleichthys pacificus*** eulachon	Threatened	None	G5	S2	
AFCQN04010	***Eucyclogobius newberryi*** tidewater goby	Endangered	None	G3	S3	
AMACC01070	***Myotis evotis*** long-eared myotis	None	None	G5	S3	
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G3G4	S3S4	
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G4	S3	SSC
AMAFA01017	***Aplodontia rufa humboldtiana*** Humboldt mountain beaver	None	None	G5TNR	SNR	
AMAFF23010	***Arborimus albipes*** white-footed vole	None	None	G3G4	S2	SSC
AMAFF23030	***Arborimus pomo*** Sonoma tree vole	None	None	G3	S3	SSC
AMAFJ01010	***Erethizon dorsatum*** North American porcupine	None	None	G5	S3	
AMAJC03010	***Eumetopias jubatus*** Steller sea lion	Delisted	None	G3	S2	
AMAJF01012	***Martes caurina humboldtensis*** Humboldt marten	Threatened	Endangered	G4G5T1	S1	SSC
AMAJF01020	***Pekania pennanti*** Fisher	None	None	G5	S2S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
CTT21211CA	***Northern Foredune Grassland*** Northern Foredune Grassland	None	None	G1	S1.1	
CTT51110CA	***Sphagnum Bog*** Sphagnum Bog	None	None	G3	S1.2	
CTT52110CA	***Northern Coastal Salt Marsh*** Northern Coastal Salt Marsh	None	None	G3	S3.2	
CTT52410CA	***Coastal and Valley Freshwater Marsh*** Coastal and Valley Freshwater Marsh	None	None	G3	S2.1	
CTT82110CA	***Sitka Spruce Forest*** Sitka Spruce Forest	None	None	G1	S1.1	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
IICOL4L070	***Scaphinotus behrensi*** Behrens' snail-eating beetle	None	None	G2G4	S2S4	
IIHYM24250	***Bombus occidentalis*** western bumble bee	None	None	G2G3	S1	
IIHYM24380	***Bombus caliginosus*** obscure bumble bee	None	None	G4?	S1S2	
IIHYM24480	***Bombus crotchii*** Crotch bumble bee	None	None	G3G4	S1S2	
IMBIV27020	***Margaritifera falcata*** western pearlshell	None	None	G4G5	S1S2	
NBMUS2E010	***Discelium nudum*** naked flag moss	None	None	G4G5	S1	2B.2
NBMUS2W0U0	***Fissidens pauperculus*** minute pocket moss	None	None	G3?	S2	1B.2
NBMUS7N020	***Trichodon cylindricus*** cylindrical trichodon	None	None	G4G5	S2	2B.2
NLLEC5P420	***Usnea longissima*** Methuselah's beard lichen	None	None	G4	S4	4.2
NLT0042560	***Sulcaria spiralifera*** twisted horsehair lichen	None	None	G3G4	S2	1B.2
PDAST5N010	***Layia carnosa*** beach layia	Endangered	Endangered	G2	S2	1B.1
PDAST8H0H1	***Packera bolanderi var. bolanderi*** seacoast ragwort	None	None	G4T4	S2S3	2B.2
PDBRA0K010	***Cardamine angulata*** seaside bittercress	None	None	G4G5	S3	2B.1
PDBRA160R0	***Erysimum menziesii*** Menzies' wallflower	Endangered	Endangered	G1	S1	1B.1
PDCAR0U1MC	***Silene scouleri ssp. scouleri*** Scouler's catchfly	None	None	G5T4T5	S2S3	2B.2
PDEMP03020	***Empetrum nigrum*** black crowberry	None	None	G5	S1?	2B.2
PDFAB0F990	***Astragalus umbraticus*** Bald Mountain milk-vetch	None	None	G4	S2	2B.2
PDFAB250C0	***Lathyrus japonicus*** seaside pea	None	None	G5	S2	2B.1
PDFAB250P0	***Lathyrus palustris*** marsh pea	None	None	G5	S2	2B.2
PDHYD0E030	***Romanzoffia tracyi*** Tracy's romanzoffia	None	None	G4	S2	2B.3
PDMAL0K040	***Iliamna latibracteata*** California globe mallow	None	None	G2G3	S2	1B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDMAL110E0	***Sidalcea malachroides*** maple-leaved checkerbloom	None	None	G3	S3	4.2
PDMAL110F9	***Sidalcea malviflora ssp. patula*** Siskiyou checkerbloom	None	None	G5T2	S2	1B.2
PDMAL110K9	***Sidalcea oregana ssp. eximia*** coast checkerbloom	None	None	G5T1	S1	1B.2
PDMON03030	***Monotropa uniflora*** ghost-pipe	None	None	G5	S2	2B.2
PDNYC010N4	***Abronia umbellata var. breviflora*** pink sand-verbena	None	None	G4G5T2	S2	1B.1
PDONA0C1K0	***Oenothera wolfii*** Wolf's evening-primrose	None	None	G2	S1	1B.1
PDORO01010	***Kopsiopsis hookeri*** small groundcone	None	None	G4?	S1S2	2B.3
PDPLM040B6	***Gilia capitata ssp. pacifica*** Pacific gilia	None	None	G5T3	S2	1B.2
PDPLM04130	***Gilia millefoliata*** dark-eyed gilia	None	None	G2	S2	1B.2
PDPLM0E050	***Polemonium carneum*** Oregon polemonium	None	None	G3G4	S2	2B.2
PDPOR05070	***Montia howellii*** Howell's montia	None	None	G3G4	S2	2B.2
PDPYR02010	***Moneses uniflora*** woodnymph	None	None	G5	S2	2B.2
PDRAN0A020	***Coptis laciniata*** Oregon goldthread	None	None	G4?	S3?	4.2
PDSCR0D012	***Castilleja litoralis*** Oregon coast paintbrush	None	None	G3	S3	2B.2
PDSCR0D3N0	***Castilleja mendocinensis*** Mendocino Coast paintbrush	None	None	G2	S2	1B.2
PDSCR0D402	***Castilleja ambigua var. humboldtiensis*** Humboldt Bay owl's-clover	None	None	G4T2	S2	1B.2
PDSCR0J0C3	***Chloropyron maritimum ssp. palustre*** Point Reyes salty bird's-beak	None	None	G4?T2	S2	1B.2
PDVIO041G0	***Viola palustris*** alpine marsh violet	None	None	G5	S1S2	2B.2
PMCYP030X0	***Carex arcta*** northern clustered sedge	None	None	G5	S1	2B.2
PMCYP037A7	***Carex lenticularis var. limnophila*** lagoon sedge	None	None	G5T5	S1	2B.2
PMCYP037E0	***Carex leptalea*** bristle-stalked sedge	None	None	G5	S1	2B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PMCYP037Y0	***Carex lyngbyei*** Lyngbye's sedge	None	None	G5	S3	2B.2
PMCYP03BY0	***Carex saliniformis*** deceiving sedge	None	None	G2	S2	1B.2
PMCYP03EM5	***Carex viridula ssp. viridula*** green yellow sedge	None	None	G5T5	S2	2B.3
PMJUN011Z5	***Juncus nevadensis var. inventus*** Sierra rush	None	None	G5T3T4	S1	2B.2
PMLIL0U0C0	***Erythronium oregonum*** giant fawn lily	None	None	G4G5	S2	2B.2
PMLIL0U0F0	***Erythronium revolutum*** coast fawn lily	None	None	G4G5	S3	2B.2
PMLIL1A0G0	***Lilium occidentale*** western lily	Endangered	Endangered	G1	S1	1B.1
PMORC1X050	***Piperia candida*** white-flowered rein orchid	None	None	G3	S3	1B.2
PPLYC01080	***Lycopodium clavatum*** running-pine	None	None	G5	S3	4.1
PPLYC03060	***Lycopodiella inundata*** inundated bog-clubmoss	None	None	G5	S1	2B.2

Record Count: 92

Redwood Community Action Agency

14 September 2021
Memorandum

To: Andrea Hilton, GHD

From: Susannah Ferson, RCAA Biologist, Projects Coordinator Contact: (707) 269-2058

CC: Denise Newman, RCAA Projects Coordinator, Little River Trail Project Manager

Subject: Special Status Plant Surveys 2021 Technical Memorandum for the Little River Trail – Trinidad to McKinleyville Project, Humboldt County, CA.

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1. Introduction

This Technical Memorandum reports results of the 2021 special status plant survey in the area of the Little River Trail – Trinidad to McKinleyville Project (LRTP) in Humboldt County, CA (Figure 1). Results of the plant survey are presented in Table 1. RCAA biologist Susannah Ferson performed the early season special status plant surveys on April 14 and 15, 2021 and a follow up survey on May 20 and 21, 2021. Restoration Field Technicians Andres Rodriguez and Calvin Brekeen IV provided assistance. A late-season botanical survey was performed on August 27 and September7, 2021 by Denise Newman, Susannah Ferson, and Candace Reynolds of RCAA to confirm the presence or absence of any late-blooming special status species within the project area.

The purpose of this evaluation was to conduct seasonally appropriate surveys for state, federal, and other sensitive listed plant species in the proposed project area in accordance with the CDFW floristic survey protocol. The surveys attempted to identify all vascular plants within the 2021 project area to the taxonomic level necessary to determine rarity and listing status, and to document the presence of special status plants within the project area. The results will be used for planning, design, and to avoid or mitigate impacts associated with project construction.

The length of the 2021 Project Study Boundary (PSB) for the LRTP runs parallel to the west side/ south-bound section of Highway 101 from HUM101 97.024 to HUM101 97.779 between Scenic Drive and Clam Beach Drive, three miles south of Trinidad. The width of the PSB extends from the edge of the highway shoulder west for approximately 35 meters in the lower Little River watershed located between McKinleyville and Trinidad, California (Figure 2).

The 2021 LRTP includes lands adjacent to Highway 101 South for an approximate 1.0-mile section between the southern end of Scenic Drive east of Moonstone Beach, across the Little River Bridge to Clam Beach Drive east of Little River State Park. The Trinidad Coastal Land Trust is the property owner of the northern trailhead and the remaining trail is located within the Caltrans right-of-way. California State Parks is the property owner west of the future trail.

The PSB contains coastal scrub forest, wetland and dune habitat, and consists of the highly modified habitat of the highway shoulder. An unnamed creek bisects the PSB approximately 200 meters from the north trailhead and Little River crosses through the southern end of the trail, approximately 700 meters from the south trailhead.

The proposed Little River Trail will connect the existing Hammond Coastal Trail in McKinleyville north to Trinidad beaches thereby closing a key gap in the California Coastal Trail. The LRTP will provide pedestrians and bikers a much-needed alternative to utilizing the four foot shoulder of Highway 101 to travel from Clam Beach to Trinidad. The LRTP is currently in the planning and permitting phase.

2. Regulatory Setting

The plant species listed on the California Native Plant Society's (CNPS) California Rare Plant Ranking (CRPR) List 1A, 1B and 2 qualify for state listing as Endangered or Threatened following the California Fish and Game Code. Plant species that are classified as special status under State jurisdiction include all species listed as threatened, endangered, or as a candidate species by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA). As a trustee agency, CDFW manages and oversees these special status plant species. As a component of the CEQA process, these species should be considered because they meet the definition of Threatened or Endangered under Sections 2062 and 2067 of the California Fish and Game Code. Under CEQA, CRPR List 3 and 4 plants do not have formal protection. The lists of special status species are updated periodically by CDFW including the above categories.

Projects consisting of activities that would lead to "take," possession, import, or export of state-listed plant species including research, seed banking, reintroduction efforts, habitat restoration, and other actions relating to any plant designated SE (State endangered), ST (State threatened), SR (State rare), or SC (State candidate for listing) are obligated to obtain a "Scientific, Educational, or Management Permit" from CDFW. Those special status plant species that fall under Federal jurisdiction include those designated as endangered, threatened, or as candidate species by the Fish and Wildlife Service (USFWS) under the U.S. Endangered Species Act (ESA).

The ESA defines Critical Habitat as a specific geographic area containing features essential for the conservation of an endangered or threatened species. Consultation with USFWS by federal lead agencies for activities they carry out, authorize, or fund is required by the ESA. Critical habitat that is federally designated for a listed or proposed species that may be in the project action area should be evaluated according to Section 7 of the ESA.

3. Methods

RCAA staff worked together with the project manager to develop the limits of the 2021 project study boundary (PSB) prior to conducting environmental fieldwork. The PSB terminology is adopted from the language, definitions and permit processes by the U.S. Army Corps of Engineers (USACE). The PSB is determined on a project specific basis and takes into consideration the possible alternate boundaries of the project, fill/cut slopes, temporary impact areas and/or adjacent areas if appropriate, access, new or modified utilities and right of ways, and bordering areas that may be feasibly included in the study. The PSB may be altered depending on arising issues such as private property ownerships, access restrictions, and areas excluded from project use. The PSB for the LRTP is shown in Figure 2.

Pre-survey database investigations included a search of the *California Natural Diversity Database* (CNDDB) [CDFW 2020], *Calflora* (Calflora 2021), and the CNPS *Inventory of Rare and Endangered Vascular Plants* (CNPS 2020) to determine if CRPR and List 3 and 4 plant species and habitats have been observed or have the potential to occur in the Crannell USGS 7.5' quadrangle and/or the surrounding quadrangles (Trinidad, Rodger's Peak, Bald Hills, Panther Creek, Arcata north, Blue Lake, Tyee City). The resulting list of potential plant species and their rankings was compiled and referenced prior to and during the survey. Aerial images of the PSB were utilized prior to and during the survey to determine potential habitats for CRPR plant species and to assure the entire PSB was surveyed.

The database search generated 156 sensitive species previously documented in the eight-quadrangle assessment area. Of these, one species was found within the PSB during the survey. Within the search area, five sensitive plant communities are documented according to the CNDDB (2020); none occur within the PSB or the Crannell quadrangle.

The survey to detect the habitation of special status plant species (listed as rare, threatened, endangered, or candidate under the State or Federal Endangered Species Acts, CNPS, or species of local importance) was scheduled accordingly to accommodate the blooming species predicted to have moderate to high potential to be present within the project area. The surveys followed the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* by the California Natural Resource Agency (CDFW 2018) and *General Rare Plant Survey Guidelines by the Endangered Species Recovery Program* (Cypher 2002).

A survey was conducted that sampled and identified potential habitat(s) in the project area. Nomenclature follows *The Jepson Manual* (Baldwin et al 2012). The surveyed plants were identified to the lowest taxonomic level (genus or species) needed for rare plant identification. The species surveys were conducted by walking the project area for target species and recording the extent, approximate number of species, and/or percent cover of special status plant species observed. Approximately 35field person hours were spent surveying the PSB in 2021.

4. Results

On the first day of the site evaluation, May 20, 2021, one special status species was observed during the protocol level survey as identified in Table 1. One small patch consisting of 5 individual plants of trailing black currant was found along the west side of the existing footpath approximately 550 yards from the north trailhead. The mapped occurrence is presented in Figure 2 and the coordinates are N41º01'26.6, W126º06'27.1".

CNDDB field forms were completed in the field and will be submitted to CNDDB.

Table 1. Special Status Plant Survey Results		
Scientific Name	Common Name	Status
Ribes laxiflorum	Trailing black currant	4.3-watch list, not very threatened in Ca.

5. Recommendations

State and/or federal permits will address mitigation measures for special status plant species and recommend that significant impacts to special status plants present on site shall be minimized, avoided, and contingently compensated.

Trailing black currant will be flagged if avoidance is feasible and if the population is located adjacent to construction areas. The locations of any special status plant populations to be avoided shall be clearly identified in the contract documents.

6. Conclusion

The purpose of this survey was to identify and map State and Federal listed plants and special status plants within the project boundary. This survey identified one California Rare Plant Rank species, *Ribes laxiflorum*. This effort and reporting are intended to help guide Caltran'sconstruction of the project in a manner which avoids impacts to the plant species described herein.

7. References

Baldwin, B. D. 2012. *The Jepson Manual, Second Edition*. University of California Press. Berkeley, CA.

CDFW 2018. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. State of California, The Resources Agency, Department of Fish and Wildlife (CDFW), Biogeographic Data Branch. Accessed: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline. Accessed May 2018.

California Department of Fish and Wildlife. 2018. California Natural Diversity Database (CNDDB). USGS 7.5 Minute Quadrangles: Trinidad North, Rodger's Peak, Bald Hills, Trinidad South, Panther Creek, Arcata north, Blue Lake, Tyee City. California Department of Fish and Wildlife (CDFW). Sacramento, California. Accessed April 2021.

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Cypher, E. A. 2002. General rare plant survey guidelines. *Prepared for the Endangered Species Recovery Program.*

USFWS 2002. General Rare Plant Survey Guidelines by the Endangered Species Recovery Program.

8. **Appendix**

9. Figures

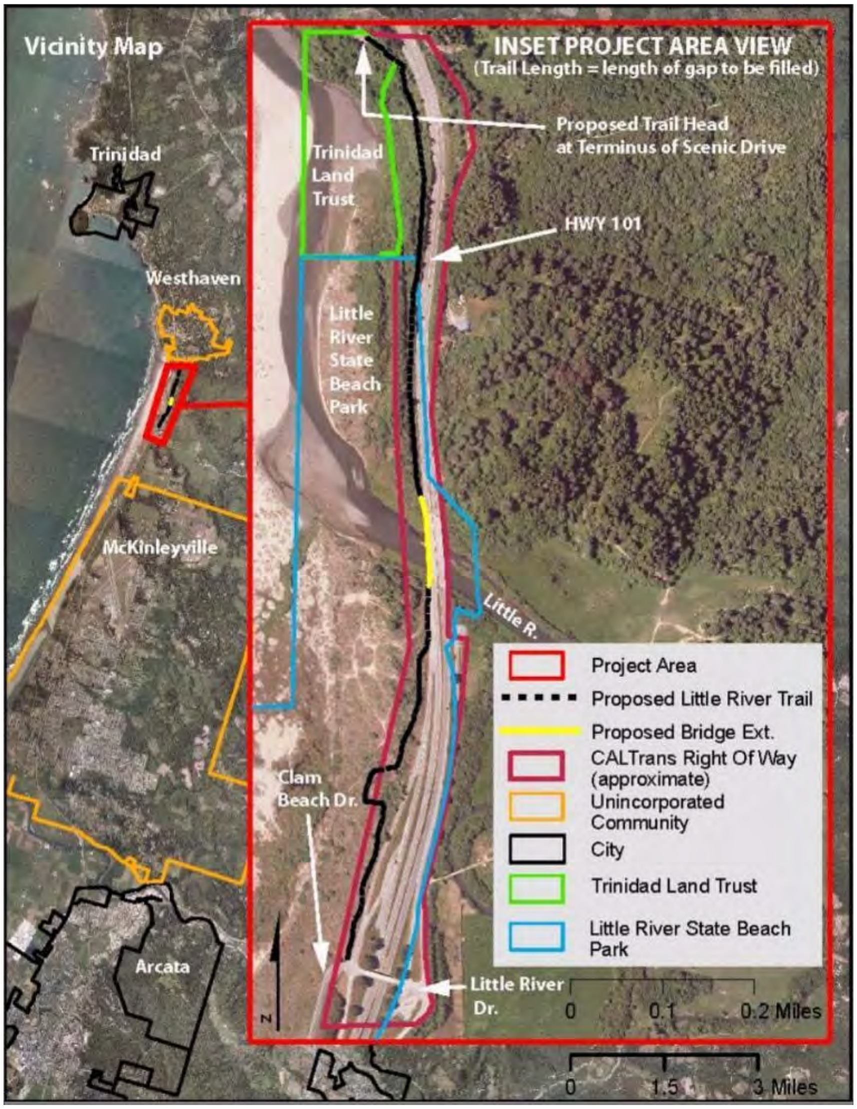
*i.*Figure 1: Little River Trail Location Map

ii.Figure 2: 2021 Little River Trail Project Study Boundary

b. 2. Tables

*i.*Table 2: Special status plant species with potential to occur in the PSB

ii.Table 3: Species list of plants observed within the PSB



Source: Trinidad Coastal Land Trust

Figure 1: Little River Trail location map

Figure 2: 2021 Little River Trail project study boundary

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Table 2: Special status plant species with potential to occur in the PSB.

Scientific Name	Common Name	Federal Status	State Status	CA Rare Plant Rank	Quad Name	Survey Results
Discelium nudum	naked flag moss	None	None	2B.2	TRINIDAD	Not observed
Trichodon cylindricus	cylindrical trichodon	None	None	2B.2	TRINIDAD	Not observed
Fissidens pauperculus	minute pocket moss	None	None	1B.2	ARCATA NORTH	Not observed
Bryoria spiralifera	twisted horsehair lichen	None	None	1B.1	CRANNELL	Not observed
Usnea longissima	Methuselah's beard lichen	None	None	4.2	BALD HILLS	Not observed
Angelica lucida	sea-watch	None	None	4.2	CRANNELL	Not observed
Glehnia littoralis ssp. leiocarpa	American glehnia	None	None	4.2	CRANNELL	Not observed

Erigeron bloomeri var. nudatus	Waldo daisy	None	None	2B.3	TRINIDAD	Not observed
Hemizonia congesta ssp. tracyi	Tracy's tarplant	None	None	4.3	BALD HILLS	Not observed
Hesperevax sparsiflora var. brevifolia	short-leaved evax	None	None	1B.2	TRINIDAD	Not observed
Layia carnosa	beach layia	Endangered	Endangered	1B.1	CRANNELL	Not observed
Packera bolanderi var. bolanderi	seacoast ragwort	None	None	2B.2	CRANNELL	Not observed
Cardamine angulata	seaside bittercress	None	None	2B.1	RODGERS PEAK	Not observed
Erysimum menziesii	Menzies' wallflower	Endangered	Endangered	1B.1	TYEE CITY	Not observed
Silene scouleri ssp. scouleri	Scouler's catchfly	None	None	2B.2	TRINIDAD	Not observed
Carex arcta	northern clustered sedge	None	None	2B.2	ARCATA NORTH	Not observed
Carex buxbaumii	Buxbaum's sedge	None	None	4.2	TRINIDAD	Not observed
Carex lenticularis var. limnophila	lagoon sedge	None	None	2B.2	TRINIDAD	Not observed
Carex leptalea	bristle-stalked sedge	None	None	2B.2	CRANNELL	Not observed
Carex lyngbyei	Lyngbye's sedge	None	None	2B.2	CRANNELL	Not observed
Carex saliniformis	deceiving sedge	None	None	1B.2	RODGERS PEAK	Not observed
Carex viridula ssp. viridula	green yellow sedge	None	None	2B.3	TRINIDAD	Not observed
Eleocharis parvula	small spikerush	None	None	4.3	RODGERS PEAK	Not observed
Empetrum nigrum	black crowberry	None	None	2B.2	TRINIDAD	Not observed
Astragalus rattanii var. rattanii	Rattan's milk-vetch	None	None	4.3	ARCATA NORTH	Not observed
Astragalus umbraticus	Bald Mountain milk-vetch	None	None	2B.2	BALD HILLS	Not observed
Hosackia gracilis	harlequin lotus	None	None	4.2	TRINIDAD	Not observed
Lathyrus glandulosus	sticky pea	None	None	4.3	ARCATA NORTH	Not observed
Lathyrus japonicus	seaside pea	None	None	2B.1	CRANNELL	Not observed
Lathyrus palustris	marsh pea	None	None	2B.2	TRINIDAD	Not observed
Ribes laxiflorum	**trailing black currant**	**None**	**None**	**4.3**	**CRANNELL**	**Present**
Romanzoffia tracyi	Tracy's romanzoffia	None	None	2B.3	TRINIDAD	Not observed
Juncus nevadensis var. inventus	Sierra rush	None	None	2B.2	TRINIDAD	Not observed
Lycopus uniflorus	northern bugleweed	None	None	4.3	TRINIDAD	Not observed
Erythronium oregonum	giant fawn lily	None	None	2B.2	PANTHER CREEK	Not observed
Erythronium revolutum	coast fawn lily	None	None	2B.2	BLUE LAKE	Not observed
Lilium occidentale	western lily	Endangered	Endangered	1B.1	ARCATA NORTH	Not observed
Lycopodiella inundata	inundated bog-clubmoss	None	None	2B.2	TRINIDAD	Not observed
Lycopodium clavatum	running-pine	None	None	4.1	CRANNELL	Not observed
Iliamna latibracteata	California globe mallow	None	None	1B.2	BLUE LAKE	Not observed
Sidalcea malachroides	maple-leaved checkerbloom	None	None	4.2	BLUE LAKE	Not observed
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	None	None	1B.2	BALD HILLS	Not observed

Sidalcea oregana ssp. eximia	coast checkerbloom	None	None	1B.2	ARCATA NORTH	Not observed
Monotropa uniflora	ghost-pipe	None	None	2B.2	TRINIDAD	Not observed
Pityopus californicus	California pinefoot	None	None	4.2	CRANNELL	Not observed
Montia howellii	Howell's montia	None	None	2B.2	ARCATA NORTH	Not observed
Abronia umbellata var. breviflora	pink sand-verbena	None	None	1B.1	CRANNELL	Not observed
Oenothera wolfii	Wolf's evening-primrose	None	None	1B.1	CRANNELL	Not observed
Listera cordata	heart-leaved twayblade	None	None	4.2	CRANNELL	Not observed
Piperia candida	white-flowered rein orchid	None	None	1B.2	CRANNELL	Not observed
Castilleja ambigua var. humboldtiensis	Humboldt Bay owl's-clover	None	None	1B.2	TRINIDAD	Not observed
Castilleja litoralis	Oregon coast paintbrush	None	None	2B.2	CRANNELL	Not observed
Castilleja mendocinensis	Mendocino Coast paintbrush	None	None	1B.2	TRINIDAD	Not observed
Chloropyron maritimum ssp. palustre	Point Reyes salty bird's-beak	None	None	1B.2	TYEE CITY	Not observed
Kopsiopsis hookeri	small groundcone	None	None	2B.3	BALD HILLS	Not observed
Calamagrostis bolanderi	Bolander's reed grass	None	None	4.2	CRANNELL	Not observed
Pleuropogon refractus	nodding semaphore grass	None	None	4.2	CRANNELL	Not observed
Gilia capitata ssp. pacifica	Pacific gilia	None	None	1B.2	CRANNELL	Not observed
Gilia millefoliata	dark-eyed gilia	None	None	1B.2	CRANNELL	Not observed
Polemonium carneum	Oregon polemonium	None	None	2B.2	TRINIDAD	Not observed
Moneses uniflora	woodnymph	None	None	2B.2	RODGERS PEAK	Not observed
Coptis laciniata	Oregon goldthread	None	None	4.2	BALD HILLS	Not observed
Chrysosplenium glechomifolium	Pacific golden saxifrage	None	None	4.3	CRANNELL	Not observed
Mitellastra caulescens	leafy-stemmed mitrewort	None	None	4.2	CRANNELL	Not observed
Tiarella trifoliata var. trifoliata	trifoliate laceflower	None	None	3.2	BLUE LAKE	Not observed
Viola palustris	alpine marsh violet	None	None	2B.2	TRINIDAD	Not observed

Source: CNDDB and CNPS accessed 4/12/2021. Assessment area consists of USGS 7.5 minute quadrangles: Trinidad, Arcata North, Tyee City, Panther Creek, Blue Lake, Bald Hills, Rodger's Peak.

California Native Plant Society Rare Plant Ranks (CRPR)

1A- Presumed Extirpated in California and either Rare or extinct elsewhere

1B - Rare, Threatened, or Endangered in California and elsewhere

2 - Rare, Threatened or Endangered in California, but more common elsewhere

2A- Plants Presumed Extirpated in California, but more common elsewhere

2B- Plants Rare, Threatened, or Endangered in California, but more common elsewhere

3 - Review List (more information needed)

4 - Watch List (limited distribution in California)

Threat Ranks:

0.1 Seriously threatened in California

0.2 Moderately threatened in California

0.3 Not very threatened in California

Table 3: 2021 Species list of plants observed within the PSB

Scientific name	Common name
Achillea millefolium	common yarrow
Agrostis stolonifera	redtop
Alectoria sarmentosa	common witch's hair
Allium triquetrum	three-cornered garlic
Alnus rubra	red alder
Ammophila arenaria	European beach grass
Anthoxanthum odoratum	sweet vernal grass
Arctostaphylos uva-ursi	oso manzanita
Armeria maritima	Sea-pink
Artemisia vulgaris	mugwort
Asarum caudatum	wild ginger
Athyrium filix-femina	Lady fern
Avena fatua	wild oat
Baccharis pilularis	coyote brush
Blechnum spicant	deer fern
Brassica rapa	common mustard
Briza minor	small rattlesnake grass
Bromus carinatus	California brome
Bromus diandrus	rip gut brome
Bromus hordeaceus	soft chess
Calamagrostis nutkaensis	Nootka reed grass
Cardimine hirsuta	hairy bittercress
Cardionema ramosissimum	sand mat
Carex leptopoda	slender-foot sedge
Carex obnupta	slough sedge
Ceanothus thyrsiflorus	blue blossom ceanothus
Cerastrium glomeratum	sticky chickweed
Cirsium vulgare	bull thistle
Claytonia sibirica	candy flower
Scientific name	**Common name**
Claytonia perfoliata	miner's lettuce
Cortaderia jubata	pampas grass
Cotoneaster pannosus	silverleaf cotoneaster
Cytisus scoparius	Scotch broom
Daucus carota	wild carrot
Delairea odorata	cape ivy
Delphinium decorum ssp. decorum	coastal larkspur

Digitalis purpurea	purple foxglove
Dryopteris expansa	wood fern
Equisetum telmateia	giant horsetail
Eriogonum latifolium	coast buckwheat
Erodium moschatum	whitestem filaree
Erythranthe dentata	tooth leaved monkeyflower
Eschscholzia californica	California poppy
Festuca arundinacea	reed fescue
Festuca rubra	red fescue
Foeniculum vulgare	fennel
Fragaria chiloensis	strawberry
Frangula purshiana	cascara sagrada
Galium aparine	bed straw
Gallium triflorum	sweet scented bedstraw
Gaulthoria shallon	salal
Genista monspessulana	French broom
Geranium dissectum	wild geranium
Geranium robertianum	herb robert
Hedera helix	English ivy
Heracleum maximum	cow's parsnip
Hesperocyparis macrocarpa	Monterey cypress
Holcus lanatus	common velvet grass
Hypochaeris radicata	rough cat's-ear
Hypogymnia inactiva	forking bone lichen
Ilex aquifolium	English holly
Scientific name	**Common name**
Juncus balticus	Baltic rush
Juncus patens	spreading rush
Lamium purpureum	red dead nettle
Linum ssp.	flax
Lonicera involucrata	twinberry honeysuckle
Lonicera ssp.	honeysuckle
Lotus corniculatus	garden bird's foot-trefoil
Lupinus arboreus	yellow bush lupine
Lupinus bicolor	miniature lupine
Lysichiton americanus	yellow skunk cabbage
Lysimachia arvensis	scarlet pimpernel
Maianthemum dilatatum	false lily of the valley
Malvus ssp.	mallow
Marah oregana	coast man-root
Medicago arabica	spotted burclover
Mentha arvesis	American wild mint
Morella californica	Pacific bayberry
Myrica californica	Pacific wax myrtle
Oenanthe sarmentosa	water parsely
Oxalis oregana	redwood sorrel

Pentagramma triangularis	goldback fern
Petasites frigidus	colt's foot
Phalaris arundinacea	reed canary grass
Picea sitchensis	Sitka spruce
Pinus contorta ssp. contorta	lodgepole pine
Pinus radiata	Monterey pine
Plantago lanceolata	plantain
Platismatia glauca	rag bag lichen
Platismatia norvegica	laundered rag lichen
Poa annua	annual blue grass
Polygonum paronychia	dune knotweed
Polypodium scouleri	leather fern
Polystichum munitum	sword fern
Populus trichocarpa	black cottonwood
Potentilla anserina	Pacific silverweed
Pseudotsuga menziesii	Douglas fir
Scientific name	**Common name**
Pteridium aquilinum	nothern bracken fern
Raphanus raphanistrum	wild radish
Ribes laxiflorum	**trailing black currant**
Ribes sanguineum	red flowered currant
Rosa californica	California wild rose
Rubus armeniacus	Himalyan blackberry
Rubus spectabilis	salmonberry
Rubus ursinus	California dewberry
Rumex acetosella	sheep sorrel
Rumex obtusifolius	broad-leaved dock
Salix hookeriana	coastal willow
Sambucus racemosa	red elderberry
Scirpus microcarpus	red-tinge bulrush
Scrophularia californica	bee plant
Senecio minimus	coastal burnweed
Silene gallica	common catchfly
Solanum spp.	nightshade
Solidago spathulata	dune golden rod
Sonchus asper ssp. asper	sow thistle
Stachys ajugoides	hedge nettle
Stellaria ssp.	chickweed
Symphyotrichum chilense	Pacific American-aster
Tanacetum bipinnatum	dune tansy
Tolmiea menziesii	piggyback plant
Trifolium repens	common clover
Trifolium dubium	shamrock
Triphysaria eriantha ssp. eriantha	butter and eggs
Trisetum cernuum	tall trisetum
Umbellularia californica	California bay
Urtica dioica	stinging nettle
Vaccinium ovatum	black huckleberry

Vaccinium parvifolium	red huckleberry
Veronica persica	bird's eye speedwell
Vicia hirsuta	hairy vetch
Vicia gigantea	giant pea
Vicia sativa	common vetch
Vinca major	greater periwinkle

Appendix F California Department of Fish and Wildlife Stream Evaluation

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Region 1 – Northern
619 Second Street
Eureka, CA 95501
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

June 22, 2021

Andrea Hilton
GHD Consultants
718 3rd St,
Eureka, CA 95501

Subject: California Department of Fish and Wildlife (CDFW) stream evaluation of an unnamed tributary to Little River estuary, associated with a proposed CALTRANS Little River Trail Project watercourse crossing construction project.

Dear Andrea Hilton,

This memorandum summarizes a survey I conducted with you and Denise Newman (Redwood Community Action Agency) on June 1, 2021, to evaluate habitat and presence of fish and amphibians within an approximately 500-foot reach on unnamed tributary to Little River Estuary (See Figure 1). The project occurs approximately one mile south of the community of Westhaven, Humboldt County. The reach inspected extended from the confluence of Little River estuary (-124.10933, 41.025223) upstream to the Highway 101 culvert (-124.024624, -124.10727). The mapped stream gradient in this reach ranges between 0 to 4 percent slope.

Using a backpack electrofisher, all habitat units accessible were surveyed. Approximately half of the reach was inaccessible to perform electrofishing or bank surveys due to dense willow encroachment. During the survey, juvenile steelhead (*Oncorhynchus mykiss*), juvenile coastal cutthroat trout (*Oncorhynchus clarki clarki*), juvenile sculpin (*Cottus spp*.) and adult western brook lamprey (*Lampetra richardsoni*) were observed. Within the proposed construction area, a brook lamprey redd and multiple lamprey adults were observed. Although coho salmon (*Oncorhynchus kisutch*) were not observed during this survey, winter and summer juvenile rearing habitat exists within this reach. The stream channel had an average bankfull width of 3 feet, and average bankfull depth of two feet. Maximum residual pool depths exceeded 2 feet deep in multiple locations, with greater than 50 percent cover in most units.

The Highway 101 culvert at the upstream end of the reach is approximately 48-inches in diameter, constructed of concrete, set at grade, and is 40 percent embedded in gravel though out the entire culvert length. This culvert is not considered to be a barrier to adult or juvenile salmonids during design flows.

Based on the survey results, CDFW recommends the following:

1. Prior to construction, a biologist shall conduct surveys 100-feet down stream of culvert 5 days prior to construction. If fish or amphibians are encountered within this reach, CDFW shall be contacted to discuss a mutually agreeable relocation plan.

2. To avoid impacts on western brook lamprey and associated redds, work shall be conducted after August 1st and prior to October 15th.

3. The newly constructed culvert extension should be embedded at least 20 percent, similar to the existing culvert condition.

Please direct questions or correspondence regarding this letter to Senior Environmental Scientist (Specialist) Nicholas Simpson at (707) 445-6512 or nicholas.simpson@wildlife.ca.gov.

Sincerely,

Nicholas Simpson
Senior Environmental Scientist (Specialist)

ec:

GHD Consultants
Andrea Hilton
andrea.hilton@ghd.com

NRSRCAA
Denise Newman
denise@nrsrcaa.org

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Jennifer Olson
jennifer.olson@wildlife.ca.gov

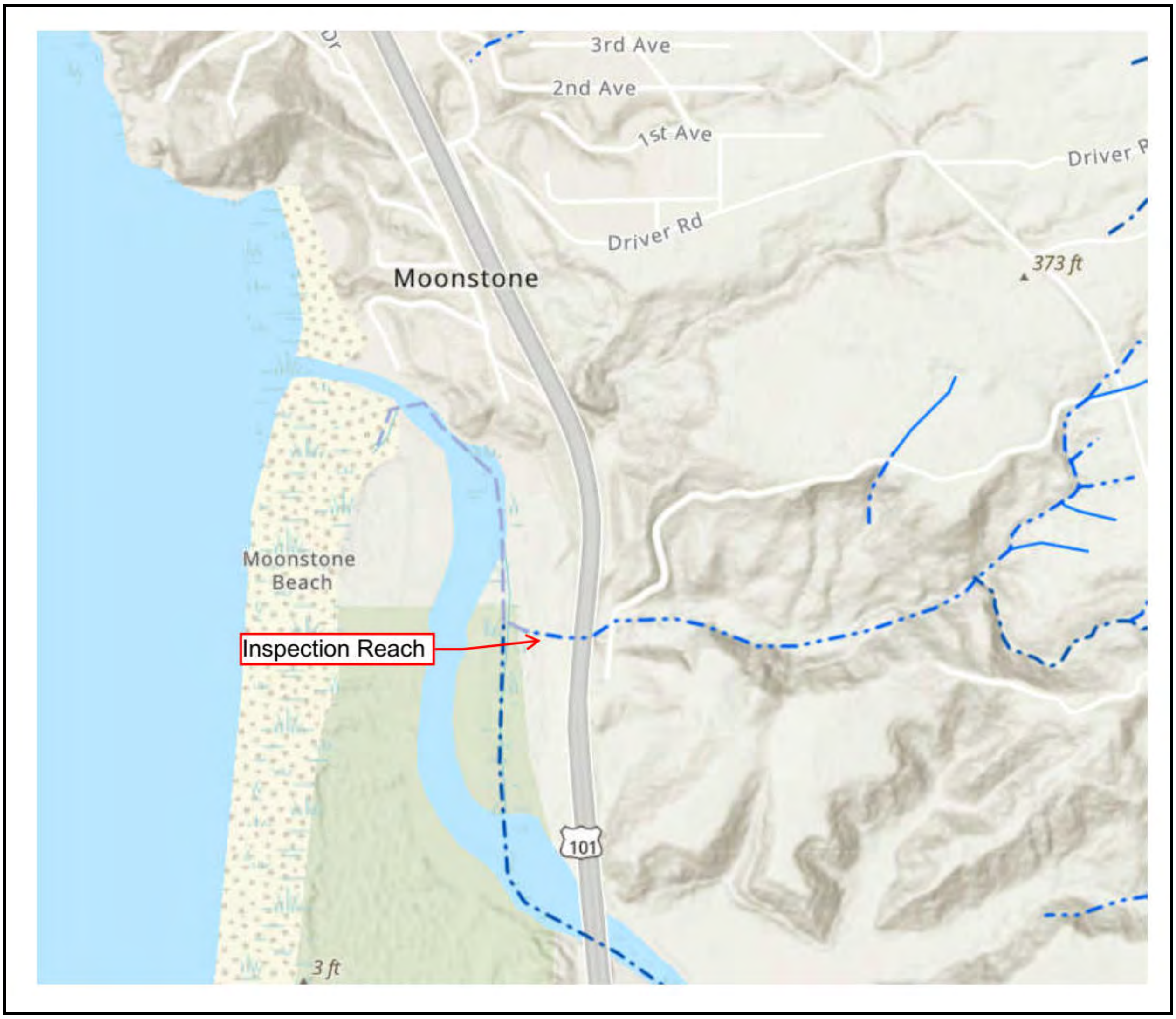

Figure 1. Location of reach inspected during the June 1, 2021 CDFW evaluation.

Appendix G Bridge Survey Memorandum

On July 6th, 2021 Denise Newman of RCAA and Christa Unger, Environmental Planner for Caltrans Local Assistance D1 conducted a bridge survey on Little River Bridge. The survey was conducted both on foot and from the water in a kayak. Visual surveys were conducted using high powered binoculars and flashlights. This survey was intended to record the presence or absence of migratory birds and bats present on the bridge.

The bridge did not have any exposed or open joints at the center of the bridge, at piers, or at the abutments. Small cracks at the pier caps where seals failed did not contain nesting birds or roosting bats.

No bats were observed on the bridge during this day time survey. Some urine staining was observed at pier walls and in the open cells between girders. No accumulation of bat guano was observed but some amounts were observed on pier walls. Accumulation of cobwebs on most of the bridge indict bat roosting is not common. Based on the lack of suitable crevices, wood elements, minimal guano and urine staining as well as the temperature gradient at this location, bats are unlikely to utilize Little River bridge for roosting. It is possibly the occasional solitary bat may use the bridge as a temporary night roost will digesting in between foraging cycles. It is highly recommended that an additional presence/absence survey be conducted the year prior to construction to ensure habitat elements and bat use of the bridge has not changed.

Birds were observed to be nesting on the bridge structure. Roughly 40-50 active nests of Cliff Swallows, *Petrochelidon pyrrhonota,* were observed primarily on the western outside edge of the bridge deck and in the open cells between girders favoring the western underside of the bridge. Numerous vacant nests and nests remains were also observed on the bridge. Cliff swallows are protected under the Migratory Bird Act and disturbance of nests is prohibited by CDFW from February 15-Septmeber 1st. No other birds were seen nesting and no other indications of nesting was observed.

Depending on the final design of the project components that will occur on Little River bridge, it is likely an exclusion plan for migratory birds will need to be incorporated into the project. This will require a qualified contractor biologist be on staff for pre nesting season surveys and exclusionary device installation prior to February 15. The qualified contractor supplied biologist will then check the installation to ensure it is not damaged monthly until the end of construction. The exclusionary devices should include one-way exits. Attached to this email is more information on this.

Thank you for the opportunity to go out in the field with you for this bridge survey. If you have any questions feel free to reach out.

All the best,

Christa R. Unger

Environmental Planner

D1 Local Assistance

(707)684-6995

Appendix E. ESHA Mapping

Little River Trail Project

Environmentally Sensitive Habitat Areas
Screening Memorandum

Revision 1

August 24, 2021

Prepared for:

Redwood Community Action Agency
904 G Street
Eureka, CA 95001
Attn: Emily Sinkhorn
Division Director
emily@nrsrcaa.org
(707) 269-2061

Prepared by:

Stantec Consulting Services Inc.
376 Hartnell Avenue, Suite B
Redding, CA 96002
Attn: Connie MacGregor
Project Manager
connie.macgregor@stantec.com
(530) 254-4786

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Prepared by ______________________________
(signature)

Sarah Tona

Reviewed by ______________________________
(signature)

Sheryl Creer

Approved by ______________________________
(signature)

Connie MacGregor

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1.0 INTRODUCTION

The Redwood Community Action Agency is working in collaboration with California Department of Transportation to complete the PA&ED phase of the Little River Trail Project (project) located between the communities of McKinleyville and Trinidad in Humboldt County, California. The project study area is between U.S. Route 101 and the Pacific Ocean and it is shown on the *Crannell, California* United States Geological Service 7.5' quadrangle (Figure 1). The project would construct about 1 mile of paved pedestrian and bicycle trail to connect the Hammond Coastal Trail at Clam Beach at the southern end to Scenic Drive at the northern end. The project would include a bridge crossing over Little River. This section of trail would complete an important connection in the statewide California Coastal Trail, which aims to be a continuous stretch of trail along the entire California coastline. The study area is 22.32 acres and encompasses all project components.

Stantec Consulting Services Inc. (Stantec) biologists mapped vegetation communities in the project study area September 1-3, 2020. Since the project is within the Coastal Zone, the project must conform with standards provided in the Coastal Act. Section 30240 of the Coastal Act prohibits significant disruption of Environmentally Sensitive Habitat Areas (ESHAs). Stantec mapped vegetation communities with the goal of identifying upland ESHAs to assess potential project impacts on the sensitive resource. The purpose of this report is to provide the results of the vegetation mapping, identify sensitive natural communities as defined by California Department of Fish and Wildlife (CDFW), and assess potential upland ESHAs within the study area.

ESHA mapped during this review is subject to verification by the California Coastal Commission (CCC). ESHA boundaries should be considered preliminary until the CCC verifies the boundaries and determinations.

2.0 ENVIRONMENTAL SETTING

The study area is divided into two areas by the Little River, a wide and slow-moving estuarine perennial stream bisecting the center of the study area. The northern upland terrace is located directly adjacent to U.S. Route 101 and occurs from Little River north to Scenic Drive. It is forested and dominated by mature Sitka spruce (*Picea sitchensis*) and red alder (*Alnus rubra*) with an understory of dense Himalayan blackberry (*Rubus armeniacus*), California blackberry (*Rubus ursinus*), and English ivy (*Helix hedera*). Extensive fresh emergent vegetation and riparian wetlands are located adjacent to the Little River and are downslope from the upland terrace. This estuarine area is dominated by red alder, Hooker's willow (*Salix hookeriana*), skunk cabbage (*Lysichiton americanus*), and slough sedge (*Carex obnupta*). The hydrology in this area is tidally influenced due to the proximity to Little River and the Pacific Ocean.

Study Area (22.32 acres)

Map Reference Point

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
T08N, R01E, Sec. 31, T07N, R01E,
Sec. 6 and 7 Crannell, California USGS 7.5' Quad

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
Redwood Community Action Agency
Little River Trail Project

185705051

Figure No.
1

Title
Project Location

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure_1_Project_Location.mxd Revised: 2020-09-10 By: stona

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

The southern section of the study area includes stabilized dune habitat located on a hillslope above the active dunes at Little River Beach. The herbaceous layer of the stabilized dune habitat is dominated by European beachgrass (*Ammophila arenaria*) and sword fern (*Polystichum munitum*), while coyote brush (*Baccharis pilularis*) and Hooker's willow are common taxa in the shrub layer. It is common for coyote brush to occupy dune habitats after yellow bush lupine (*Lupinus arboreus*) or European beachgrass invasion (Pickart and Sawyer 1998). The overstory is sparse at about 10 percent absolute cover and it is dominated by Sitka spruce and Monterey pine (*Pinus radiata*).

3.0 REGULATORY BACKGROUND

The CCC through the Coastal Act, and Humboldt County through the Local Coastal Program are the jurisdictional agencies that exert authority in identifying and protecting ESHA.

Section 30107.5 of the Coastal Act defines ESHA as:

> *"Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."*

Section 30240 of the Coastal Act calls for the protection of ESHAs during development:

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

The Humboldt County General Plan is divided into several areas; the study area occurs in the McKinleyville Area. The McKinleyville Area Plan of the Humboldt County Local Coastal Program (Volume II of the Humboldt County General Plan) (Humboldt County 2007) identifies ESHAs as the following:

> *"Environmentally sensitive habitats within the County McKinleyville planning area shall include:*
>
> *(a) Rivers, creeks, and associated riparian habitats including Little River, Widow White Creek, and other streams.*
>
> *(b) Wetlands, estuaries, including the Clam Beach ponds and the mouths of Little River, Widow White Creek, and Mad River.*
>
> *(c) Vegetated dunes at Clam Beach, Little River Beach, and the banks of the Mad River.*
>
> *(d) Other critical habitats for rare or endangered species listed on state or federal lists."*

Additionally, the McKinleyville Area Plan more generally defines ESHAs as:

> *"…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments (Coastal Act Section 30107.5), including: areas*

> *of special biological significance as identified by the State Water Resources Control Board; rare and endangered species habitat identified by the State Department of Fish and Game; all coastal wetlands and lagoons; all marine, wildlife and education and research reserves; nearshore reefs; tidepools; sea caves; islets and offshore rocks; kelp beds; indigenous dune plant habitats; and wilderness and primitive areas."*

CDFW lists sensitive natural communities, which includes natural communities that are rare in the state or throughout its entire range. Sensitive natural communities as defined by CDFW are vegetation alliances with a state rarity ranking of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable). CDFW has not yet provided state rarity rankings for all associations; associations not yet ranked but considered sensitive are included in the current CDFW Natural Communities List. Communities with a state ranking of S4 (apparently secure) or S5 (secure) are not considered sensitive. Since Section 30107.5 of the Coastal Act indicates ESHA include rare habitats, sensitive natural communities as defined by CDFW qualify as ESHA.

4.0 METHODS

4.1 REFERENCE REVIEW

Prior to the field work, Stantec used several resources to identify and classify vegetation communities within the study area. These resources included the Manual of California Vegetation (California Native Plant Society [CNPS] 2020); U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (USFWS 2020), and Google Earth aerial imagery dating back to 1989. Stantec also reviewed regulatory guidance on ESHAs to better determine what areas may qualify as upland ESHA during the vegetation mapping field work.

California Department of Fish and Wildlife (CDFW) includes legacy sensitive natural community data based on Holland's classification in the California Natural Diversity Database (CNDDB) (Holland 1986; CDFW 2020a). No new occurrences have been added to CNDDB since the 1990's; however, Stantec reviewed CNDDB for mapped sensitive natural communities in or near the study area. Stantec also reviewed the current *California Natural Community List* (CDFW 2020b).

4.2 FIELD SURVEYS

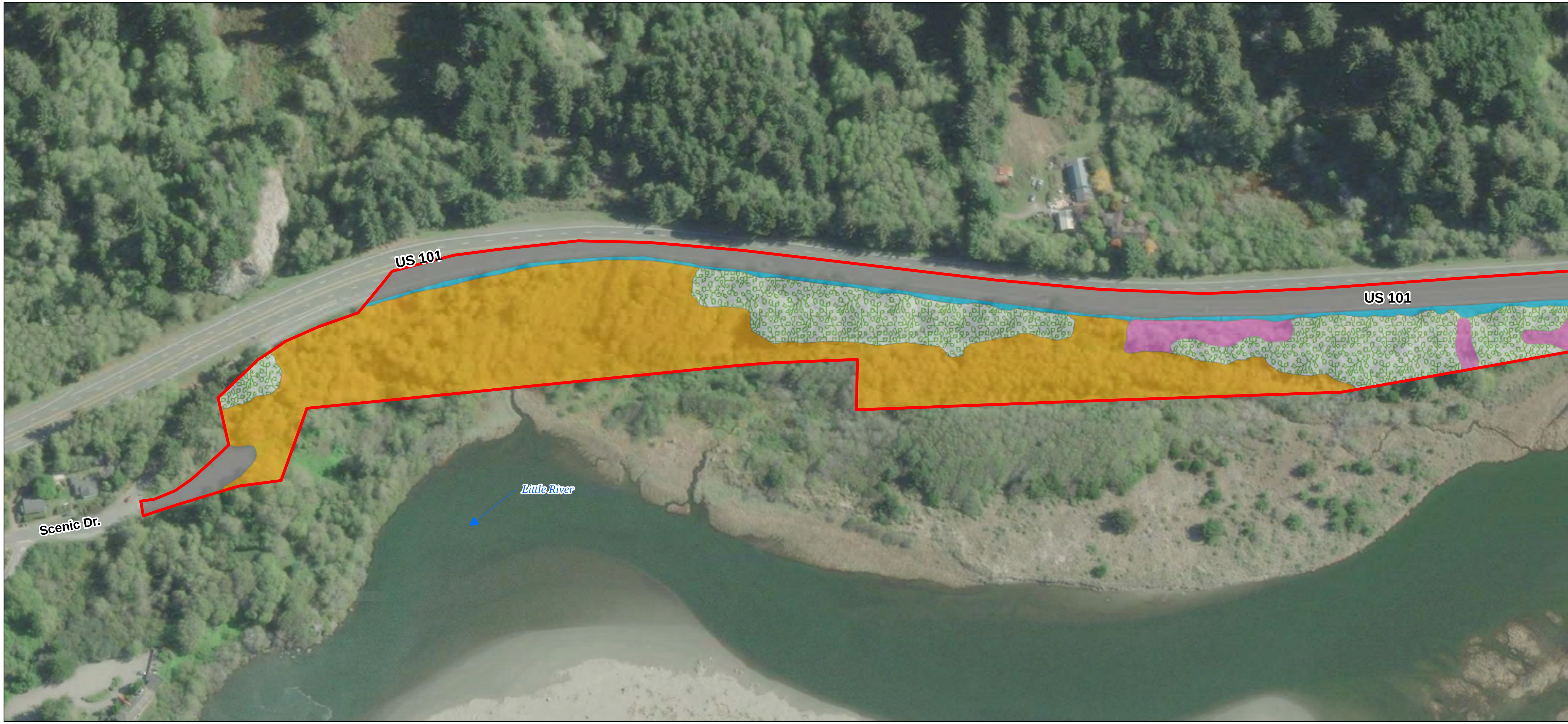
Stantec biologists Sarah Tona and Jacqueline Phipps conducted surveys to characterize vegetation communities and describe the existing environment on September 1-3, 2020. The biologists also conducted a delineation of wetlands and other waters as defined by the U.S. Army Corps of Engineers (USACE) and the CCC during the same visit. The results of the delineation were summarized in separate deliverables.

Vegetation mapping followed the technical approach and vegetation alliance classification system described in *A Manual of California Vegetation, Second Edition* (MCV) (Sawyer et al. 2009) and updated in the current online edition (CNPS 2020). The MCV represents the most recent efforts to provide a common and accepted vegetation classification system for use throughout California and classifies vegetation into a set of plant alliances, associations, special stands, or semi-natural stands. A plant species' dominance or importance in the stratum (i.e., tree, woody shrub/subshrub, or non-woody herbaceous) with the greatest amount of cover generally determines the vegetation alliance classification. The MCV includes a classification system that complies with the National Vegetation Classification Standard (Federal Geographic Data Committee 2008).

The mapping effort also included identifying and documenting all CDFW Sensitive Natural Communities in the study area. To identify sensitive natural communities within the study area, Stantec reviewed each natural community identified during field mapping against the *California Natural Community List* dated September 9, 2020 (CDFW 2020b). Stantec also considered other factors to determine the ecological quality of individual stands, including the proportion of native plants versus invasive, the stand size, location, and disturbances.

Stantec biologists mapped vegetation in the field by walking meandering transects and assessing plant species composition and vegetative cover within stands. Stantec used the Collector for ArcGIS application on tablets and phones to collect vegetation data in the field. The tablets were paired with global positioning system receivers for increased accuracy. All stands were classified to the alliance level and species composition information was collected to review if an association was present as well. During field assessments, Stantec biologists identified and delineated community types onto field maps with aerial imagery. Stantec also delineated the boundaries of natural communities based on characteristics observed in the field and vegetation signatures observed on aerial imagery during the desktop review. Information was collected to document each mapped vegetation community, including plant species composition (i.e., percent relative cover of dominant and sub-dominant species within each stratum), stand structure, regional occurrence, and other notable characteristics. Stantec then digitized the delineated boundaries in current ArcGIS software for display and data query purposes. The natural community boundaries are shown in Figure 2.

Stantec biologists encountered one community in the study area that is not currently described in the MCV. This may be because the study area occurs in an unclassified area of the state (CDFW 2020c) or because the vegetation was mowed adjacent to the highway and plant identification was minimal; therefore, it is not one of the natural communities. The undescribed community used the corresponding vegetation type and listing status provided in *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and was classified as a non-native grassland.



Study Area (22.32 acres)
Riverine
Barren

Vegetation Communities

Coastal dune willow thickets
Coyote brush scrub
Non-native grassland
Pacific silverweed marshes
Red alder forest
Sitka spruce forest
Slough sedge swards

0 100 200 Feet
(At original document size of 11x17)
1:2,400

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
2

Title
Vegetation Communities

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure2_veg_communities.mxd Revised: 2020-10-12 By: stona

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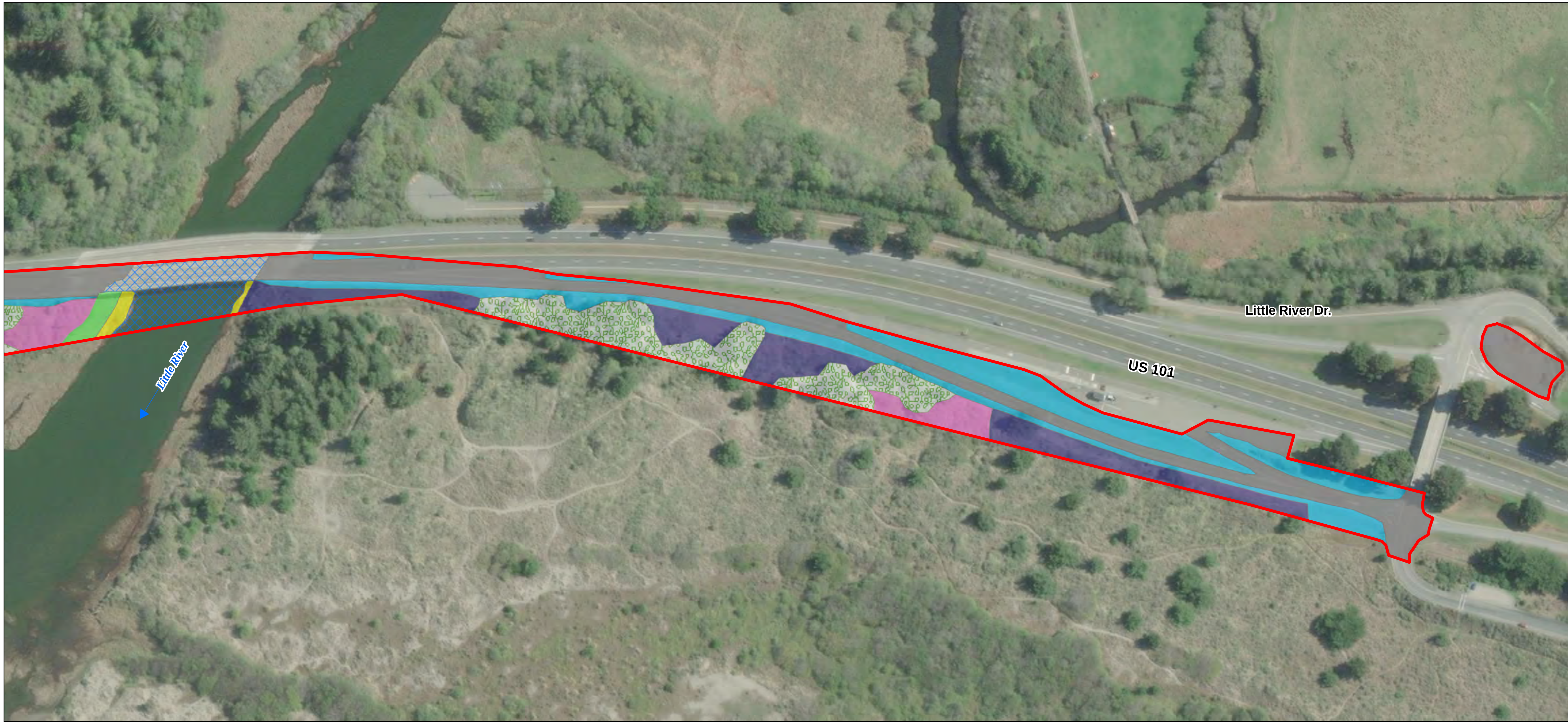

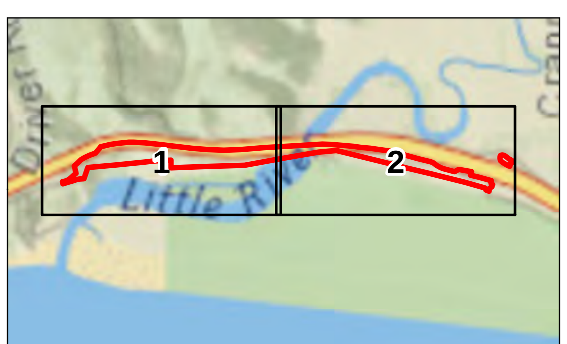

Study Area (22.32 acres)

Riverine

Barren

Vegetation Communities

Coastal dune willow thickets

Coyote brush scrub

Non-native grassland

Pacific silverweed marshes

Red alder forest

Sitka spruce forest

Slough sedge swards

0 100 200 Feet

(At original document size of 11x17)
1:2,400

N

Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
2

Title
Vegetation Communities

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure2_veg_communities.mxd Revised: 2020-10-12 By: stona

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5.0 RESULTS: VEGETATION MAPPING AND SENSITVE NATURAL COMMUNITIES

Stantec mapped seven vegetation communities in the study area to the alliance level or its associated vegetation type under Holland (1986) (Figure 2 and Table 1). Stantec reviewed associations listed under each alliance type. No associations applied to the community assemblages; therefore, only the alliances are provided. It is possible that more associations will be described after the region is classified by CDFW. Stantec also designated non-vegetated areas (e.g., pavement) in the study area as barren and the open water portions of Little River as riverine.

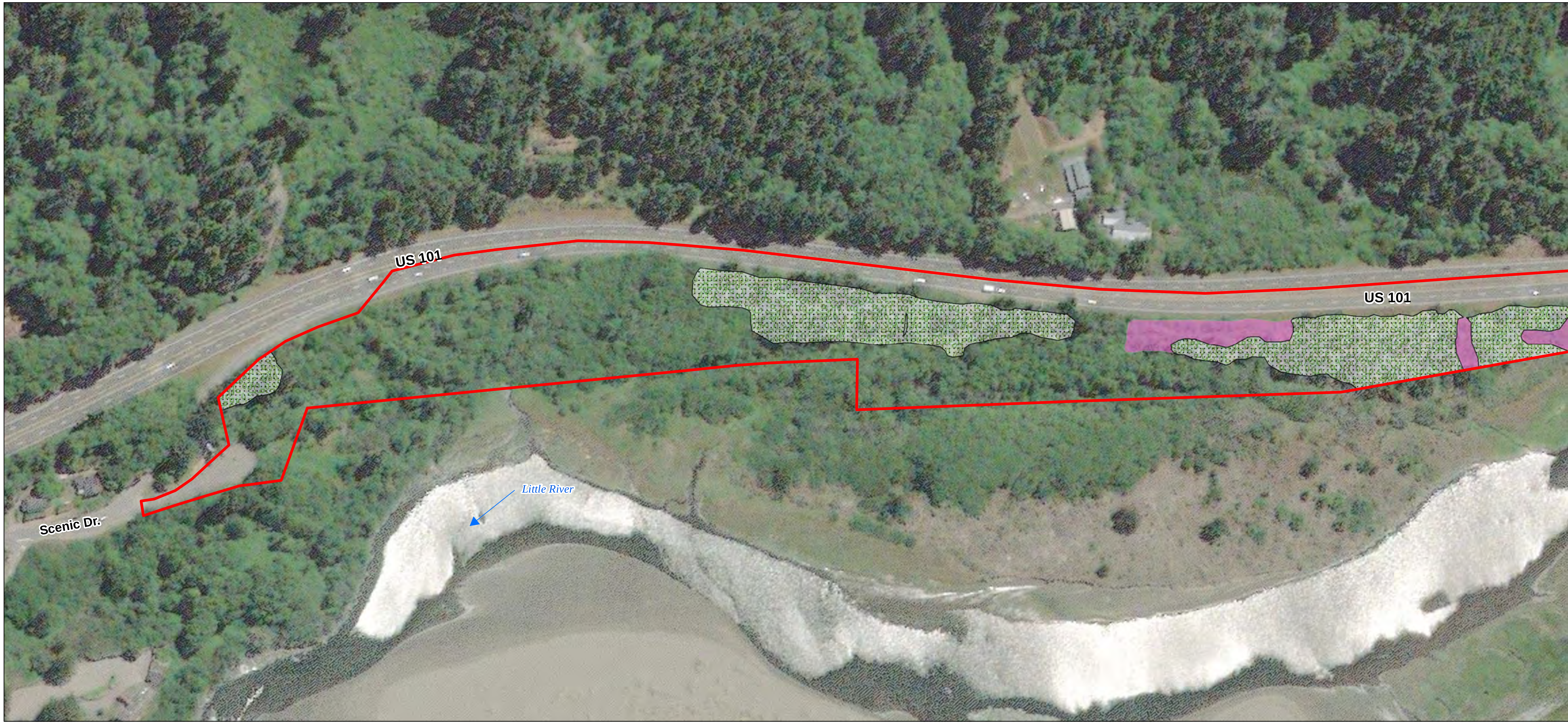
Three of the seven vegetation communities mapped in the study area are categorized as sensitive natural communities by CDFW. Two of the sensitive natural communities, (Sitka spruce forest and coastal willow thickets) are further separated into high- and low- quality stands. Low-quality stands are not considered sensitive (Figure 3, Table 1). Each mapped vegetation alliance is further described below. Representative photographs of each alliance are provided in Appendix A.

Table 1 Vegetation Communities in the Study Area

Alliance	Total Area (acres)	Sensitive Stands (acres)
A Manual of California Vegetation Alliances[1]		
Forests and Woodlands		
Sitka spruce forest	4.42	3.19
Red alder forest	7.05	0
Shrublands		
Coastal dune willow thickets	0.96	0.71
Coyote brush scrub	1.36	0
Herbaceous Vegetation		
Slough sedge swards	0.08	0.08
Pacific silverweed marshes	0.11	0.11
Non-native grassland[2]	2.46	0

[1] A Manual of California Vegetation (CNPS 2020)

[2] Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986)



Study Area (22.32 acres)

Upland ESHA (3.19 acres)

Sensitive Natural Communities

Coastal dune willow thickets (0.71 acre)

Pacific silverweed marshes (0.11 acre)

Sitka spruce forest (3.19 acres)

Slough sedge swards (0.08 acre)

0 100 200 Feet

(At original document size of 11x17)
1:2,400

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
2

Title
Sensitive Natural Communities and Upland Environmentally Sensitive Habitat Areas

Page 1 of 2

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure3_esha_sensitive.mxd Revised: 2021-08-25 By: tmooney

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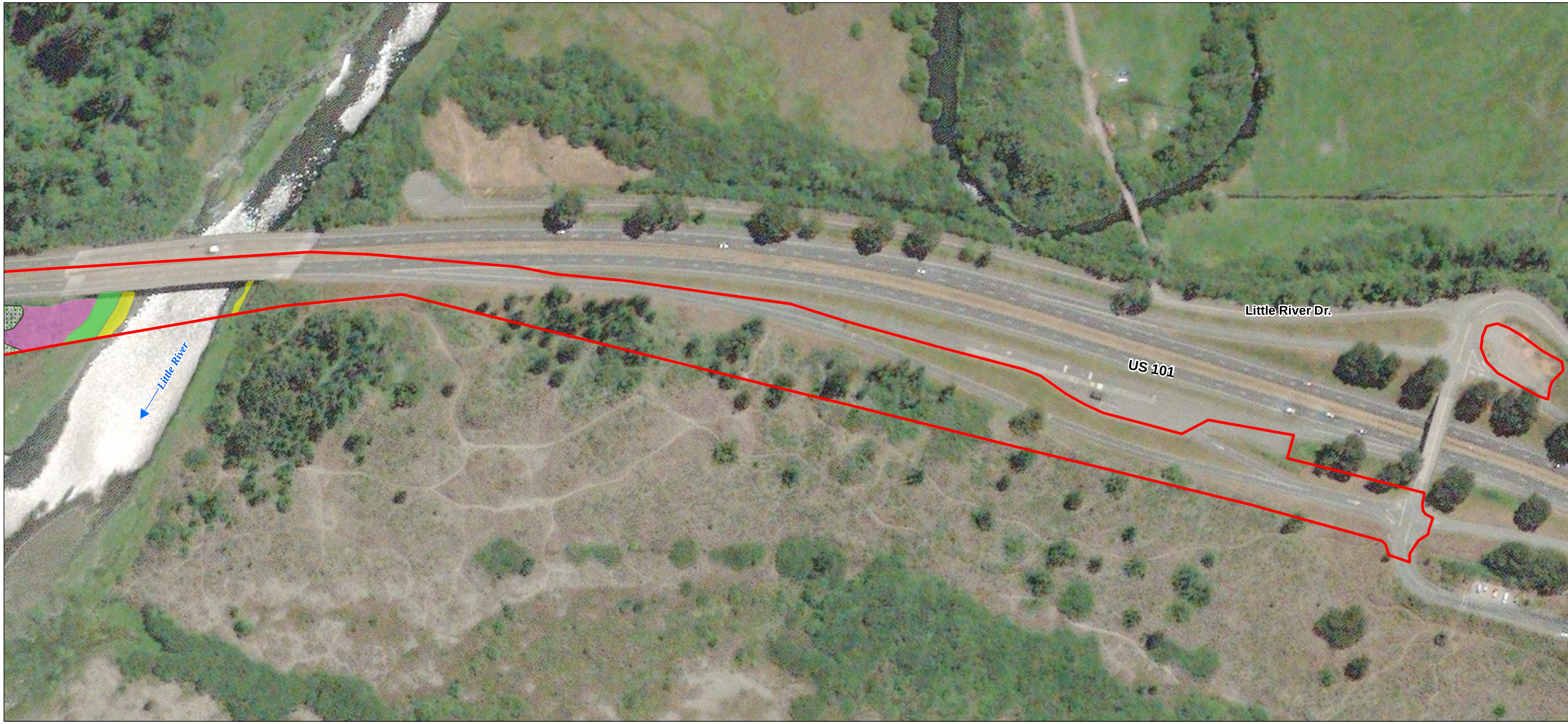

Study Area (22.32 acres)

Upland ESHA (3.19 acres)

Sensitive Natural Communities

- Coastal dune willow thickets (0.71 acre)
- Pacific silverweed marshes (0.11 acre)
- Sitka spruce forest (3.19 acres)
- Slough sedge swards (0.08 acre)

0 100 200 Feet
(At original document size of 11x17)
1:2,400

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
2

Title
Sensitive Natural Communities and Upland Environmentally Sensitive Habitat Areas

Page 2 of 2

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure3_esha_sensitive.mxd Revised: 2021-08-25 By: tmooney

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5.1.1 Forests and Woodlands

5.1.1.1 Sitka Spruce Forest

Sitka spruce forest alliance occurs on stabilized dunes above Little River beach south of Little River, and as mature forest on an upland terrace north of Little River. This community is dominated by Sitka spruce with scattered Monterey pine and Douglas fir (*Pseudostuga menziesii*). The overstory is sparse in the southern portion of the study area, with only about 10 percent absolute tree cover. The shrub layer is dominated by about 8 percent absolute cover of coyote brush. The herbaceous layer is dense and dominated by European beachgrass, with yellow bush lupine and sword fern common as well.

The Sitka spruce forest north of Little River occurs on an upland terrace and is a high-quality intact stand dominated by mature Sitka spruce trees at approximately 30 percent absolute cover. Red alder and Hooker's willow occur to a small extent in the subcanopy. The herbaceous layer is dominated by sword fern, bracken fern (*Pteridium aquilinum*), slough sedge, and California blackberry.

The Sitka spruce forest alliance has an S2 ranking and is considered sensitive by CDFW. However, the Sitka spruce forest alliance mapped on stabilized dune habitat in the southern portion of the study area is relatively small and isolated. It does not appear to be connected to a larger forest system, and the overall tree cover is low. It includes a narrow band of scattered trees with an understory dominated by European beach grass, an invasive species. This small stand is not intact, low-quality, and should not be considered sensitive. Therefore, only the Sitka spruce forest mapped north of Little River should be considered sensitive natural communities (Figure 3).

5.1.1.2 Red Alder Forest

Red alder forest alliance occurs on the north side of Little River. Red alder is the sole dominant tree in the upland areas of the study area, while in the lower elevation areas red alder are co-dominant with Hooker's willow. Shrubs in the understory include red elderberry (*Sambucus racemosa*), California blackberry, and Himalyan blackberry. The herbaceous layer contains sword fern and bracken fern in the upland areas and skunk cabbage, slough sedge, and small fruited bulrush (*Scirpus microcarpus*) in the wetland areas.

The red alder forest alliance has an S4 ranking and is not considered sensitive by CDFW.

5.1.2 Shrublands

5.1.2.1 Coastal Dune Willow Thickets

Coastal dune willow shrubland alliance occurs in small patches throughout the study area. Hooker's willow is dominant in the shrub layer and moderate to dense at about 60 percent absolute cover. Scattered wax myrtle (*Morella californica*), coast twinberry (*Lonicera involucrata*), and Cascara sagrada (*Frangula purshiana*) are present as well. Slough sedge and sword fern are common in the herbaceous layer.

The Coastal dune willow shrubland alliance has an S3 ranking and is considered sensitive by CDFW. However, one stand of coastal dune willow thicket occurs in the southern portion of the study area on stabilized dune habitat. No trees are present, and the shrub layer is dominated by young Hooker's willow saplings with scattered European beach grass in the herbaceous layer. This small stand is isolated, low-quality, and should not be considered sensitive. Therefore, only the coastal willow thickets mapped north of Little River should be considered sensitive natural communities (Figure 3).

5.1.2.2 Coyote Brush Scrub

Coyote brush scrub alliance occurs intermixed with Sitka spruce forest and Coastal dune willow thickets south of Little River in stabilized dune habitat. The shrub layer is fairly sparse, with only 8-10 percent absolute cover of coyote brush. Himalayan blackberry and California blackberry are common in the shrub layer as well. The herbaceous layer is dominated by European beachgrass and sword fern.

The coyote brush scrub alliance has an S5 ranking and it is not considered sensitive by CDFW.

5.1.3 Herbaceous Vegetation

5.1.3.1 Slough Sedge Swards

Slough sedge herbaceous alliance occurs along the edge and within the ordinary high water mark of Little River. Little River is an estuarine feature adjacent to the Pacific Ocean and is tidally influenced. The slough sedge community is partially inundated by the Little River when the tide is high. The alliance is dominated by slough sedge and no other plant species occurs in the small area adjacent to the river.

The slough sedge herbaceous alliance has an S3 ranking and it is considered sensitive by CDFW.

5.1.3.2 Pacific Silverweed Marshes

Pacific silverweed (*Argentenia egedii*[1]) herbaceous alliance occurs on the north bank of the Little River, located between the slough sedge community and the Coastal dune willow community on the river terrace. The community is dominated by Pacific silverweed and redtop (*Agrostis stolonifera*). Other common plants in the herbaceous community include bird's foot trefoil (*Lotus corniculatus*), Pacific aster (*Symphyotrichum chilense*), and Baltic rush (*Juncus balticus*).

The Pacific silverweed herbaceous alliance has a S2 ranking and it is considered sensitive by CDFW.

5.1.3.3 Non-Native Grassland

Non-native grassland occurs in small patches alongside U.S. Route 101 and side roads in the southern portion of the study area. The vegetation was mowed, so plant identification was limited and is not categorized as a natural community. The community has a dense herbaceous cover dominated by fescue

[1] Synonym to *Potentilla anserina* in Jepson eflora (Jepson Flora Project 2020).

(*Festuca* sp.), carrot (*Daucus carota*), plantain (*Plantago* sp.), and bird's foot trefoil. This community also contains a narrow, vegetated ditch with hydrophytic vegetation, including rushes (*Juncus* spp.).

The community is not a high priority for inventory type in Holland (1986), which means that it is not considered sensitive by CDFW.

6.0 RESULTS: ENVIRONMENTALLY SENSITIVE HABITAT AREAS

According to the Coastal Act and Humboldt County General Plan definition, ESHAs include wetland and other water features, including streams, estuarine habitats, and riparian areas. However, the focus of this report is to identify any upland ESHAs, including rare habitats; habitats valuable because of their special nature or role in an ecosystem, or in the local area; or vegetated dunes at Clam Beach and the floodplain of the Little River.

Sensitive natural communities would likely be considered ESHAs because they are considered to be rare. No mapped sensitive natural communities are in the study area in CNDDB; however, the vegetation mapping data in CNDDB is out of date. The field-based vegetation mapping resulted in four sensitive natural communities: Sitka spruce forest, coastal dune willow thickets, slough sedge swards, and Pacific silverweed marshes. Two of the communities (Sitka spruce forest and coastal dune willow thickets) were further assessed based on marked differences in quality between mapped stands. As a result of this assessment, only high quality, intact stands of these communities mapped in the study area should be considered sensitive. The slough sedge swards and Pacific silverweed marshes were also mapped as wetlands by the USACE definition during the wetland delineation, so they are not considered upland ESHAs. All high-quality coastal dune willow thickets were mapped as wetlands under the USACE or CCC definition and are not considered upland ESHAs. Sitka spruce forest did not meet the CCC or USACE definition of a wetland. The high-quality upland Sitka spruce forest communities are considered sensitive and qualify as upland ESHAs.

The Sitka spruce forest alliance and coastal dune willow thicket alliance occurs on a stabilized dune above the Little River Beach in the southern half of the study area. They also occur in the northern half of the study area adjacent to U.S. Route 101 in a mature forested area. The southern stand of the Sitka spruce forest has scattered trees at approximately 10 percent absolute cover. The southern upland coastal dune willow thicket is composed of young willow saplings. They occur on stabilized dune habitat and the understory is dominated by invasive European beach grass.

As stated previously, Section 30107.5 of the Coastal Act defines ESHA as:

> *"Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."*

The Sitka spruce forest community and coastal dune willow thicket mapped on stabilized dune habitat in the southern portion of the study area are relatively small and isolated. They do not represent intact habitat and should not be considered sensitive. While the Coastal Act definition is general, Stantec's interpretation is that the forest and shrubland mapped in the southern portion study area are not especially valuable due to their small area, low percent cover of trees and shrubs, isolated nature, and human disturbances. The McKinleyville Area Plan notes that it protects vegetated dunes at the Little River beach; however, in the plan's ESHA definition, it describes indigenous dune habitat. Since the southern area is dominated by European beach grass, it is not considered indigenous dune habitat. The communities mapped south of Little River should not be considered ESHAs.

The Sitka spruce forest community in the northern portion of the study area is a mature forest with a moderate cover of trees. It appears that the area was previously connected to conifer forests located east of U.S. Route 101 and was separated by the highway placement. While the portion of the community immediately adjacent to the highway is somewhat disturbed and likely influenced by highway fill, the remaining portion of the community is preserved from disturbance and is likely serving a natural function in the ecosystem. The coastal dune willow thicket in the northern portion of the study area contains mature willow shrubs and appears to be an intact community adjacent to riparian vegetation and mature Sitka spruce forest.

The Sitka spruce forest communities located north of Little River are sensitive and are also considered upland ESHAs. Upland ESHAs encompass 3.19 acres in the study area and the boundaries are shown on Figure 3.

According to the Coastal Act definition, ESHA includes habitat for rare plants and wildlife. A rare plant survey will be conducted in spring and summer of 2021. If rare plants are found in the study area during the protocol-level survey, the ESHA mapping may need to be reevaluated to include habitat for those rare plants.

7.0 CONCLUSION

Vegetation mapping conducted for the project resulted in seven communities mapped in the study area: Sitka spruce forest, red alder forest, coastal dune willow thickets, coyote brush scrub, slough sedge swards, Pacific silverweed marshes, and non-native grassland. Four of these communities are considered sensitive natural communities: Sitka spruce forest, coastal dune willow thickets, slough sedge swards, and Pacific silverweed marshes. After evaluating the ecological conditions of each community, Stantec determined that low-quality stands of the Sitka spruce forest and coastal dune willow thickets should not be considered sensitive and are therefore not upland ESHAs. The remaining coastal dune willow thicket communities as well as all slough sedge swards and Pacific silverweed marshes are mapped as wetlands under the USACE or CCC. The remaining intact stands of Sitka spruce forest mapped in the study area are considered upland ESHAs.

8.0 REFERENCES

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APPENDIX A

Representative Photographs

Stantec

Photograph Log

Client	Redwood Community Action Agency	Project	Little River Trail Project
Photograph #: 1 **Comments:** Mature Sitka spruce forest located in the northern half of the study area. Orientation: north.			
Photograph #: 2 **Comments:** Sitka spruce forest located on stabilized dune habitat in the southern portion of the study area. Orientation: south.			

<table>
<tr><td>Client</td><td>Redwood Community Action Agency</td><td>Project</td><td>Little River Trail Project</td></tr>
<tr><td>Photograph #:3

Comments: Red alder forest located in the northern portion of the study area. Orientation: north.</td><td colspan="3"></td></tr>
<tr><td>Photograph #:4

Comments:
Coastal dune willow thickets and Pacific silverweed marshes on the north side of Little River. Orientation: west.</td><td colspan="3"></td></tr>
</table>

<table>
<tr><td>Client</td><td>Redwood Community Action Agency</td><td>Project</td><td>Little River Trail Project</td></tr>
<tr><td>Photograph #:5

Comments:
Coyote brush scrub located in the southern portion of the study area. Orientation: south</td><td colspan="3"></td></tr>
<tr><td>Photograph #:6

Comments:
Coastal dune willow thickets located in the southern portion of the study area. Orientation: west.</td><td colspan="3"></td></tr>
</table>

<table>
<tr><td>Client</td><td>Redwood Community Action Agency</td><td>Project</td><td>Little River Trail Project</td></tr>
<tr><td>Photograph #:7

Comments: Slough sedge swards on the south bank of Little River. Orientation: northeast.</td><td colspan="3"></td></tr>
<tr><td>Photograph #:8

Comments:
Non-native grassland adjacent to a U.S. Route 101 off-ramp.
Orientation: north.</td><td colspan="3"></td></tr>
</table>

Appendix F. Wetland Delineation

Little River Trail Project

Delineation of Waters of the United States

November 16, 2020

Prepared for:

Redwood Community Action Agency
904 G Street
Eureka, CA 95001
Attn: Emily Sinkhorn
Division Director
emily@nrsrcaa.org
(707) 269-2061

Prepared by:

Stantec Consulting Services Inc.
376 Hartnell Avenue Suite B
Redding, CA 96002
Attn: Connie MacGregor
Project Manager
connie.macgregor@stantec.com
(530) 254-4786

Little River Trail Project

Delineation of Waters of the United States

Humboldt County, California

STATE OF CALIFORNIA

Consultant
Prepared by: Sarah Tona ______________________ Date: November 16, 2020

Sarah Tona, Biologist
Stantec Consulting Services Inc.
376 Hartnell Ave Suite B, Redding, CA 96002
(530) 280-8385

Local Agency
Approved By: Emily R. Sinkhorn ______________________ Date: December 10,2020

Emily Sinkhorn, Division Director
Redwood Community Action Agency
904 G Street Eureka, CA 95001
(707) 269-2061

Caltrans
Approved By: Christa Unger ______________________ Date: 12/23/2020

Christa R. Unger, Environmental Planner (NR)
District 1, California Department of Transportation Office of Local Assistance
559-974-8202 (while teleworking)

Caltrans SEP
Approved By: Darrell Cardiff ______________________ Date: 12/24/2020

Darrell Cardiff
Senior Environmental Planner
District 1, California Department of Transportation Office of Local Assistance

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Executive Summary

On behalf of the Redwood Community Action Agency, Stantec Consulting Services Inc. (Stantec) conducted a delineation of waters of the United States occurring in the 22.32-acre study area adjacent to U.S. Highway 101 near the community of McKinleyville, Humboldt County, California. The delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (USACE 2010). The field delineation was conducted from September 1 to September 3, 2020. A total of 2.92 acres of potential waters of the United States were mapped within the study area including riparian/fresh emergent wetland complex (1.89 acres), fresh emergent wetland (0.19 acre), riparian wetland (0.07 acre), vegetated ditch (0.02 acre), and perennial stream (0.75 acre, 367 linear feet).

The purpose of this report is to document and describe waters of the United States to support a Preliminary Jurisdictional Determination from the U.S. Army Corps of Engineers (USACE). This delineation is subject to initial review and approval by California Department of Transportation, District 1 Office of Local Assistance and subsequent verification by USACE, San Francisco District. Stantec advises all parties to treat the information contained herein as preliminary until USACE provides written verification of the boundaries of its jurisdiction.

If USACE wishes to conduct a field verification, Humboldt County requests that USACE contact Emily Sinkhorn by telephone at (707) 269-2061 or by email emily@nrsrcaa.org to schedule a date and time to access the study area.

Abbreviations

°F	degrees Fahrenheit
CFR	Code of Federal Regulations
OHWM	ordinary high water mark
PS	Perennial Stream
Stantec	Stantec Consulting Services Inc.
US 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers

1.0 PROJECT LOCATION

The study area encompasses 22.32 acres located between the communities of Trinidad and McKinleyville, Humboldt County. It is adjacent to U.S. Highway 101 (US 101), the Little River State Beach, and the Pacific Ocean. It is shown on the *Crannell, California* United States Geological Service 7.5-minute quadrangle: Section 6 and 7, Township 7 North, Range 1 East; and Section 31, Township 8 North, Range 1 East (Figure 1). The center of study area is located at approximately 41.011657 degrees latitude, -124.107515 degrees longitude (World Geodetic System 84 datum).

2.0 ENVIRONMENTAL SETTING

The center of the study area is bisected by the Little River, a wide-slow-moving estuarine perennial stream. Little River flows under a US 101 bridge, runs adjacent to the study area to the northwest, and enters the Pacific Ocean approximately 2,000 feet from the northwest corner of the study area.

The portion north of the Little River and adjacent to US 101 is forested and dominated by mature Sitka spruce (*Picea sitchensis*) and red alder (*Alnus rubra*) with an understory of dense Himalayan blackberry (*Rubus armeniacus*), California blackberry (*Rubus ursinus*), and English ivy (*Helix hedera*). Extensive estuarine fresh emergent vegetation and riparian wetlands are located adjacent to the Little River, downslope and west of the forested area adjacent to US 101. This estuarine area is dominated by red alder, Hooker's willow (*Salix hookeriana*), skunk cabbage (*Lysichiton americanus*), and slough sedge (*Carex obnupta*). The hydrology in the estuarine area is tidally influenced due to the proximity to the Little River and the Pacific Ocean.

South of the Little River, the study area includes stabilized dune habitat located on a hillslope above the active dunes at Little River State Beach. The herbaceous layer of the stabilized dune habitat is dominated by European beachgrass (*Ammophila arenaria*) and sword fern (*Polystichum munitum*), while coyote brush (*Baccharis pilularis*) and Hooker's willow are common species in the shrub layer. The overstory is sparse at about 10 percent absolute cover and it is dominated by Sitka spruce and Monterey pine (*Pinus radiata*).

The far southern end of the study area includes a small disjunct area adjacent to US 101 that contains bare ground.

2.1 CURRENT/RECENT LAND USE

The study area encompasses a portion of US 101, road shoulders, a southbound highway offramp, a portion of the California Department of Transportation right-of-way, and a truck weigh station.

It also includes a short reach of the Little River and densely vegetated riparian and swampy areas adjacent to US 101 and Little River State Beach.

Study Area (22.32 acres)

Map Reference Point

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
T08N, R01E, Sec. 31, T07N, R01E,
Sec. 6 and 7 Crannell, California USGS 7.5' Quad

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
Redwood Community Action Agency
Little River Trail Project

185705051

Figure No.
1

Title
Project Location

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure_1_Project_Location.mxd Revised: 2020-09-10 By: stona

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2.2 SITE TOPOGRAPHY AND ELEVATION

The topography of the study area is generally characterized as stream floodplain and fresh emergent/riparian habitat that is associated with the Little River. The topography raises up to an upland terrace south, north, and east of the Little River. The Little River generally has a broad floodplain, except near the U.S. Highway 101 bridge, where it is steep. The elevation ranges from approximately 0 to 80 feet above mean sea level.

2.3 CLIMATE

Climate data, described in detail in the *Climate Analysis for Wetlands Table* is provided in Appendix A and includes

Type: The climate within the study area is characterized by a Mediterranean Summer Fog with cool wet winters and cool foggy summers.

Precipitation: Average annual precipitation is approximately 47 inches. Most precipitation falls as rain between the months of October and May.

Air Temperature: Air temperatures range between an average January high of 56 degrees Fahrenheit (ºF), and an average August high of 64 ºF. The year-round average high temperature is approximately 60 ºF.

Growing Season: The growing season (i.e., 50 percent probability of air temperature 28 ºF or higher) is 354 days.

Current Weather Condition: Approximately 0.2 inch of rain fell during the 10 days prior to the field visit, and 0.01 inch of rain fell during the two months prior to the field visit (Weather Underground 2020).

2.4 HYDROLOGY/HYDROLOGIC FEATURES

Hydrology in the study area is primarily driven by the Little River, which is an estuarine perennial stream that drains westward and bisects the study area. Estuaries form a transition zone between river systems and the ocean, where freshwater features are influenced by the tide and the influx of saline water. Culverts under US 101 provide additional hydrology through unnamed perennial streams and overflow water during rain events.

2.5 SOIL MAP UNITS

Soil map units in the study area and vicinity are described in the Custom Soil Resource Report for Humboldt, California (Natural Resources Conservation Service 2020). Three soil map units occur in the study area (Figure 2):

- **Fluvaquents, 0 to 2 percent slopes (131).** This is a poorly drained hydric soil associated with alluvium derived from mixed sources in overflow stream channels. The depth to a restrictive layer is more than 80 inches.

- **Samoa-Clambeach complex, 0 to 50 percent slopes (155).** This soil complex consists of two soil types. Samoa is an excessively drained non-hydric soil associated with eolian and marine sand derived from mixed sources on sand dunes. The depth to a restrictive layer is more than 80 inches. Clambeach is very poorly drained hydric soil associated with eolian and marine sand derived from mixed sources in deflation basins. The depth to a restrictive layer is more than 80 inches.
- **Lepoil-Espa-Candymountain complex, 15 to 50 percent slopes (258).** This soil complex consists of well-drained non-hydric soils associated with mixed marine deposits derived from sedimentary rock on marine terraces. The depth to the restrictive layer is more than 80 inches. Hydric minor components occur in drainage ways and on marine terraces.

2.6 VEGETATION COMMUNITIES

Vegetation mapping followed the technical approach and vegetation alliance classification system described in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) and updated in the current online edition (CNPS 2020) or in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), as appropriate.

Stantec Consulting Services Inc. (Stantec) identified four vegetation communities that contain potential waters of the U.S. in the study area: red alder forest, coastal dune willow thickets, slough sedge swards, and pacific silverweed marshes.

2.6.1 Red Alder Forest

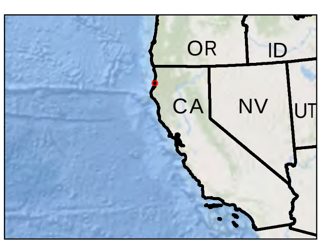
Red alder forest alliance occurs on the north side of Little River. Red alder is the sole dominant tree in the upland areas of the study area, while in the lower elevation areas red alder are co-dominant with Hooker's willow. Shrubs in the understory include red elderberry (*Sambucus racemosa*), California blackberry, and Himalayan blackberry. The herbaceous layer contains sword fern and bracken fern (*Pteridium aquilinum*) in the upland areas and skunk cabbage, slough sedge, and small fruited bulrush (*Scirpus microcarpus*) in the wetland areas.

2.6.2 Coastal Dune Willow Thickets

Coastal dune willow shrubland alliance occurs in small patches throughout the study area. Hooker's willow is dominant in the shrub layer and moderate to dense at about 60 percent absolute cover. Scattered wax myrtle (*Morella californica*), coast twinberry (*Lonicera involucrata*), and Cascara sagrada (*Frangula purshiana*) are also present. Slough sedge and sword fern are common in the herbaceous layer.

2.6.3 Slough Sedge Swards

Slough sedge herbaceous alliance occurs along the edge and within the ordinary high water mark (OHWM) of the Little River. The Little River is an estuarine feature adjacent to the Pacific Ocean and is tidally influenced. The slough sedge community is partially inundated by the Little River when the tide is high. The alliance is dominated by slough sedge and no other plant species occurs in the small area adjacent to the river.



Study Area (22.32 acres)

Soil Map Units

Soil Map Units in the Study Area
131 - Fluvaquents, 0 to 2 percent slopes
155 - Samoa-Clambeach complex, 0 to 50 percent slopes
258 - Lepoil-Espa-Candymountain complex,
15 to 50 percent slopes

0 500 1,000 Feet
(At original document size of 8.5x11)
1:12,000

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

Project Location
T08N, R01E, Sec. 31, T07N, R01E, Sec. 6 and 7 Crannell, California USGS 7.5' Quad

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
Redwood Community Action Agency
Little River Trail Project

185705051

Figure No.
2

Title
Soils

V:\1857\active\185705051\03_data\gis_cad\gis\mxds\185705051_Figure_2_Soils.mxd Revised: 2020-09-10 By: stona

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

2.6.4 Pacific Silverweed Marshes

Pacific silverweed (*Argentina egedii*)[1] herbaceous alliance occurs on the north bank of the Little River, located between the slough sedge community and the coastal dune willow community on the river terrace. The community is dominated by Pacific silverweed and redtop (*Agrostis stolonifera*). Other common plants in the herbaceous community include bird's foot trefoil (*Lotus corniculatus*), Pacific aster (*Symphyotrichum chilense*), and Baltic rush (*Juncus balticus*).

3.0 METHODS

Stantec conducted an onsite routine delineation of wetlands and other waters of the United States based on field observations of positive indicators for wetland vegetation, hydrology, and soils; and indicators of an OHWM. The routine delineation includes standard 3-parameter sample points to document wetland features and uplands. This method is consistent with the approach outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE 2010). Plant taxonomy follows *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012), including applicable errata and supplements (Jepson Flora Project 2020). Stantec confirmed wetland indicator status' for plant species using *The National Wetland Plant List* (USACE 2018), and the "50/20 Rule" or "Prevalence Index" was applied to determine plant dominance (USACE 2010). The presence of primary and secondary wetland hydrology indicators was documented for each wetland feature. The OHWM was determined using the approach outlined in *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the Western United States* (USACE 2014).

Soil pits were dug in representative wetland features to a depth sufficient to document the presence or confirm the absence of hydric soil or wetland hydrology indicators. Stantec examined the soils to assess field indicators of hydric soils. Positive indicators of hydric soils were observed in the field following the criteria outlined in *Field Indicators of Hydric Soils in the United States* (Vasilas et al. 2018). Soil colors were determined using a Munsell soil color chart. The hydric status of each soil map unit occurring in the study area was reviewed using the Web Soil Survey (Natural Resources Conservation Service 2020). At least one set of sample points was selected to best represent the wetland feature type and the adjacent uplands. Sample points were also placed in suspect areas to confirm wetland or upland status.

Other waters are defined as traditional navigable waters and their tributaries (33 Code of Federal Regulations [CFR] 329). Delineation of other waters was based on presence of an OHWM as defined in U.S. Army Corps of Engineers (USACE) regulations (33 CFR 328.3 and 33 CFR 328.4). Physical characteristics of an OHWM include but are not limited to the following conditions: a natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, presence of litter and debris, leaf litter disturbed or washed away, scour, deposition, presence of bed and

[1] Synonym to *Potentilla anserina* in Jepson eflora (Jepson Flora Project 2020).

bank, and water staining. At least one sample point was selected to best represent the OHWM of other waters for each other waters type and OHWM data forms were completed.

Prior to conducting the onsite routine delineation, the U.S. Fish and Wildlife Service's National Wetlands Inventory Wetlands Mapper (USFWS 2020) was reviewed to determine if any surface water and wetland features were previously mapped in the study area and general vicinity. Surface water and wetland features within the National Wetlands Inventory are described by the Cowardin et al. (1979) system. Features delineated during the onsite routine delineation were classified using the Cowardin et al. (1979) system as adapted by the Federal Geographic Data Committee (2013). The USACE Aquatic Resources Excel spreadsheet that includes specific information about the wetland and other waters features delineated, including their Cowardin type, was completed and submitted as a separate deliverable with this report.

Fourteen 3-parameter sample points were used to characterize and document each wetland type and the adjacent upland or suspect areas. Three OHWM sample points were used to characterize each other waters feature. Field observations were conducted on September 1 through September 3, 2020.

The boundaries of delineated features and the associated sample points were mapped using an Eos Positioning Systems, Inc., Arrow 100 submeter Global Positioning System receiver paired with an Apple iPad using Esri Collector for ArcGIS app. The Global Positioning System location data were overlain onto aerial imagery of the study area to develop the delineation map.

4.0 RESULTS AND DISCUSSION

Waters of the United States occur in the study area as wetlands and other waters. Wetlands include riparian/fresh emergent wetland complex, fresh emergent wetland, riparian wetland, vegetated ditch, and other waters (i.e., perennial stream).

The boundaries and area of potential waters of the United States occurring in the study area are illustrated in Figure 3. A total of 2.92 acres of waters of the United States were delineated. A summary of the delineated features is presented in Table 1. The Routine wetland determination data forms are presented in Appendix B and OHWM data forms are presented in Appendix C. Representative photographs of the delineated features and sample point locations are presented in Appendix D. A list of plants observed during the wetland delineation and their wetland indicator statuses are provided in Appendix E. A National Wetlands Inventory map of the study area region is provided in Appendix F.

Table 1. Potential Waters of the United States Summary

Potential Waters of the United States	Total Acreage	Total Linear Feet	Cowardin Type[1]
Wetlands			
Riparian /Fresh Emergent Wetland Complex	1.89	N/A	E2SS
Fresh Emergent Wetland	0.19	N/A	E2EM
Riparian Wetland	0.07	N/A	E2SS
Vegetated Ditch	0.02	N/A	E2EM
Other Waters			
Perennial Stream	0.75	367	E1UB and E2SB
Total Potential Waters of the United States	**2.92**	**367**	

Note:
1. Federal Geographic Data Committee. 2013.

4.1 CHARACTERIZATION OF DELINEATED FEATURES

Features described in this section are shown on Figure 3.

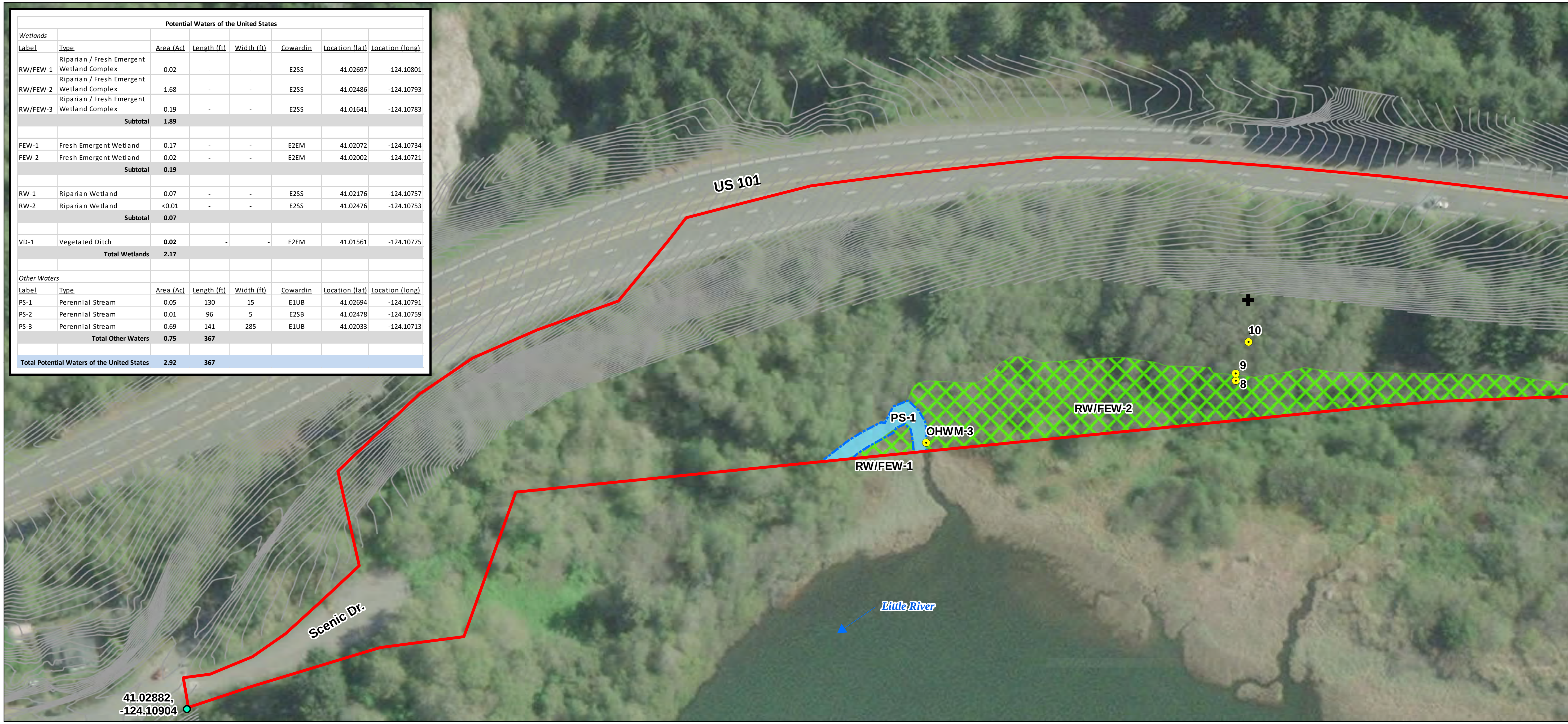
4.1.1 Riparian/Fresh Emergent Wetland Complex

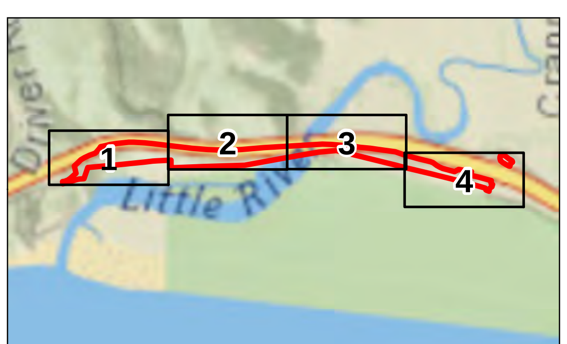
Riparian wetlands generally consist of wetland areas near or adjacent to intermittent and perennial streams and include woody hydrophytic vegetation. Fresh emergent wetlands are ponded and/or flooded for long durations during the growing season and support herbaceous perennial hydrophytes. The complex type is used when both wetland types occur in the same general location.

Riparian/fresh emergent wetland complexes are extensive in the study area, especially in the estuarine influenced area north of the Little River and downslope from US 101. The canopies are dominated by hydrophytic vegetation, including coastal willow and red alder, and the understories are dominated by Himalayan blackberry, slough sedge, and yellow skunk cabbage. Hydric soils in the northern area of the study area were evidenced by a depleted matrix (F3) with distinct redox concentrations. Sample Point 1 in the northern section of the study area was taken at the edge of the feature where wetland hydrology was evidenced by oxidized rhizospheres along living roots (C3). Sample Point 13 was taken from the southern portion of the study area and showed hydrological evidence of drift deposits (B3) and the FAC Neutral Test (D5).

Potential Waters of the United States

Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-1	Riparian / Fresh Emergent Wetland Complex	0.02	-	-	E2SS	41.02697	-124.10801
RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
FEW-2	Fresh Emergent Wetland	0.02	-	-	E2EM	41.02002	-124.10721
	Subtotal	**0.19**					
RW-1	Riparian Wetland	0.07	-	-	E2SS	41.02176	-124.10757
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	**0.02**	-	-	E2EM	41.01561	-124.10775
	Total Wetlands	**2.17**					
Other Waters							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
PS-1	Perennial Stream	0.05	130	15	E1UB	41.02694	-124.10791
PS-2	Perennial Stream	0.01	96	5	E2SB	41.02478	-124.10759
PS-3	Perennial Stream	0.69	141	285	E1UB	41.02033	-124.10713
	Total Other Waters	**0.75**	**367**				
Total Potential Waters of the United States		**2.92**	**367**				





Study Area (22.32 acres)

1-ft Contours

Map Reference Point

Sample Point

Culvert

OHWM

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)

Fresh Emergent Wetland (0.19 acre)

Riparian Wetland (0.07 acre)

Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre)

0 50 100 Feet

(At original document size of 11x17)
1:1,200

N

This delineation of waters of the United State is subject to verification by the United States Army Corps of Engineers (USACE). Stantec advises all parties that the delineation is preliminary until the USACE provides a written verification.

Notes

1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet

2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018

3. Delineator: Sarah Tona and Jacqueline Phipps

4. Delineation Date: September 1-3, 2020

Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
3

Title
Potential Waters of the United States
September 2020

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Potential Waters of the United States							
Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
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RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
FEW-2	Fresh Emergent Wetland	0.02	-	-	E2EM	41.02002	-124.10721
	Subtotal	**0.19**					
RW-1	Riparian Wetland	0.07	-	-	E2SS	41.02176	-124.10757
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	**0.02**	-	-	E2EM	41.01561	-124.10775
	Total Wetlands	**2.17**					
Other Waters							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
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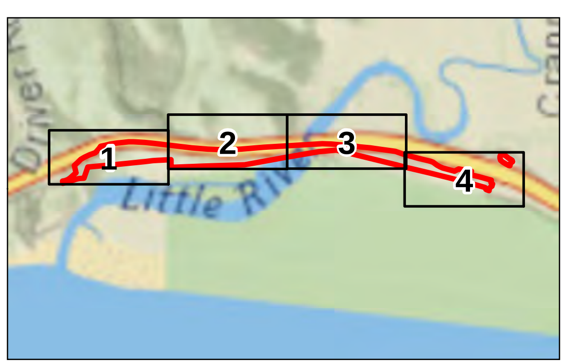
Total Potential Waters of the United States		**2.92**	**367**				



Study Area (22.32 acres)

1-ft Contours

Map Reference Point

Sample Point

Culvert

OHWM

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)

Fresh Emergent Wetland (0.19 acre)

Riparian Wetland (0.07 acre)

Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre)

0 50 100 Feet

(At original document size of 11x17)
1:1,200

N

This delineation of waters of the United States is subject to verification by the United States Army Corps of Engineers (USACE). Stantec advises all parties that the delineation is preliminary until the USACE provides a written verification.

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
3

Title
Potential Waters of the United States
September 2020

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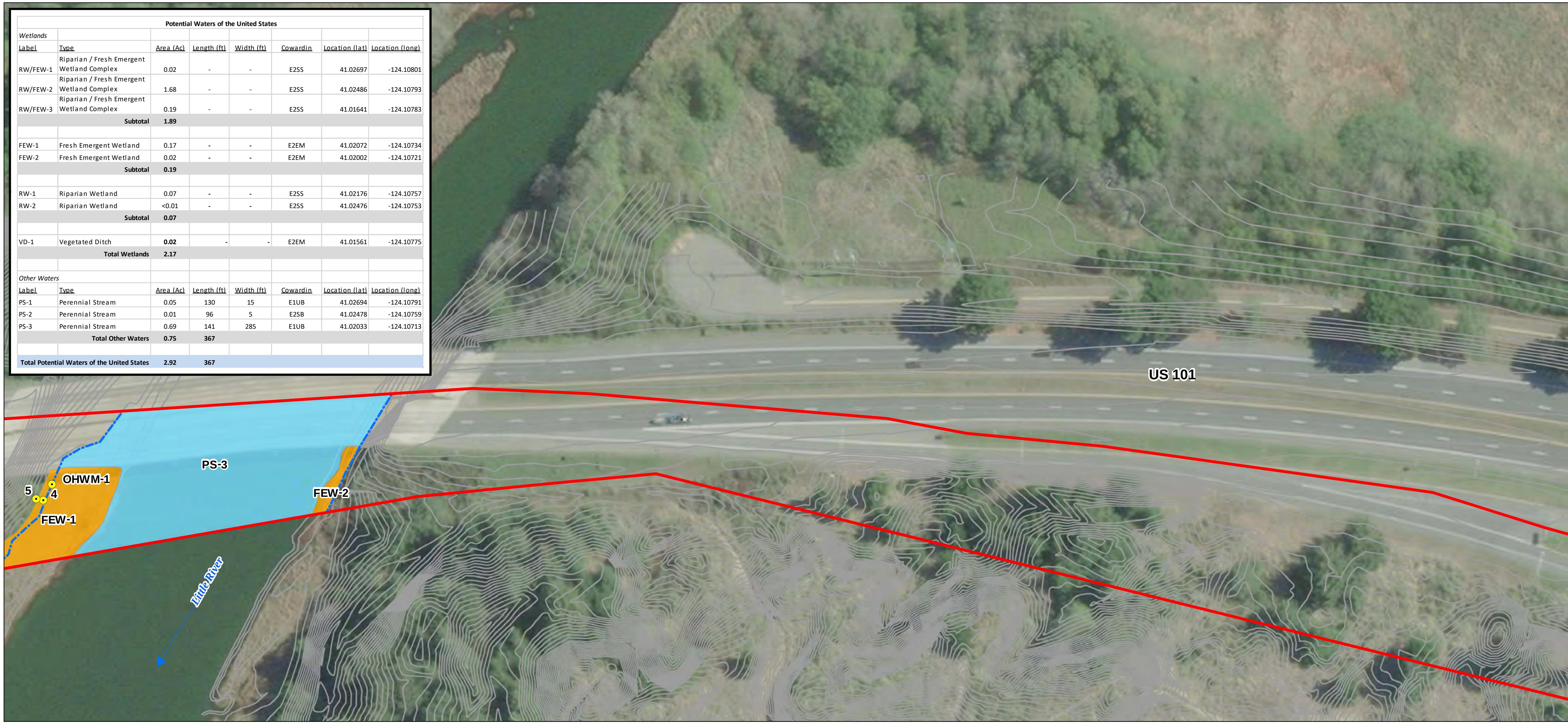

Potential Waters of the United States							
Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-1	Riparian / Fresh Emergent Wetland Complex	0.02	-	-	E2SS	41.02697	-124.10801
RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
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	Subtotal	**0.19**					
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RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	**0.02**	-	-	E2EM	41.01561	-124.10775
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Other Waters							
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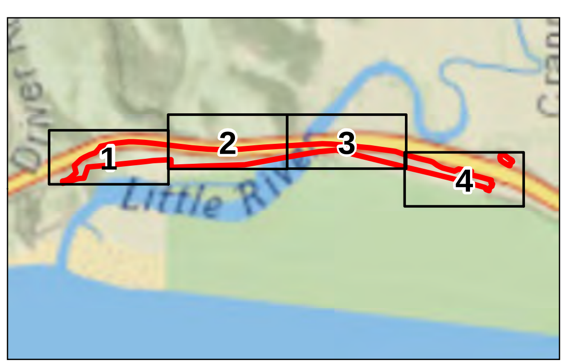

Study Area (22.32 acres)

1-ft Contours

Map Reference Point

Sample Point

Culvert

OHWM

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)

Fresh Emergent Wetland (0.19 acre)

Riparian Wetland (0.07 acre)

Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre)

0 50 100 Feet

(At original document size of 11x17)
1:1,200

N

This delineation of waters of the United State is subject to verification by the United States Army Corps of Engineers (USACE). Stantec advises all parties that the delineation is preliminary until the USACE provides a written verification.

Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051

Redwood Community Action Agency
Little River Trail Project

Figure No.
3

Title
Potential Waters of the United States
September 2020

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

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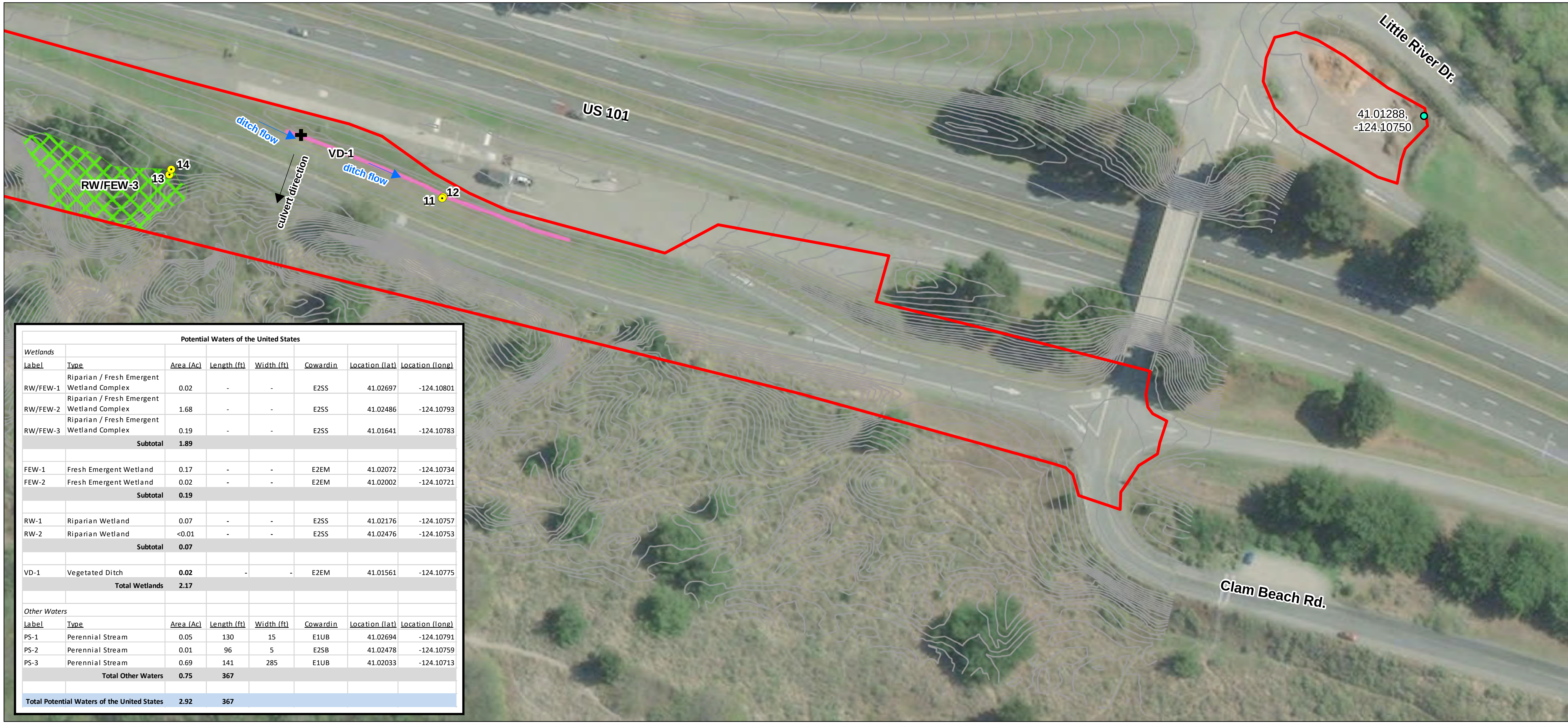

Potential Waters of the United States							
Wetlands							
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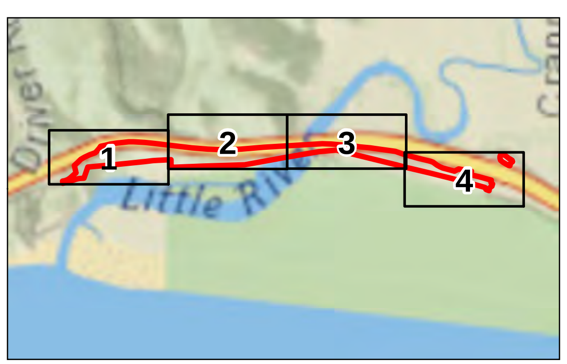

Study Area (22.32 acres)
1-ft Contours
Map Reference Point
Sample Point
Culvert
OHWM

Potential Waters of the United States

Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

Other Waters

Perennial Stream (0.75 acre)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

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Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
3

Title
Potential Waters of the United States
September 2020

Notes
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NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

Revised: 2020-11-16 By: stona

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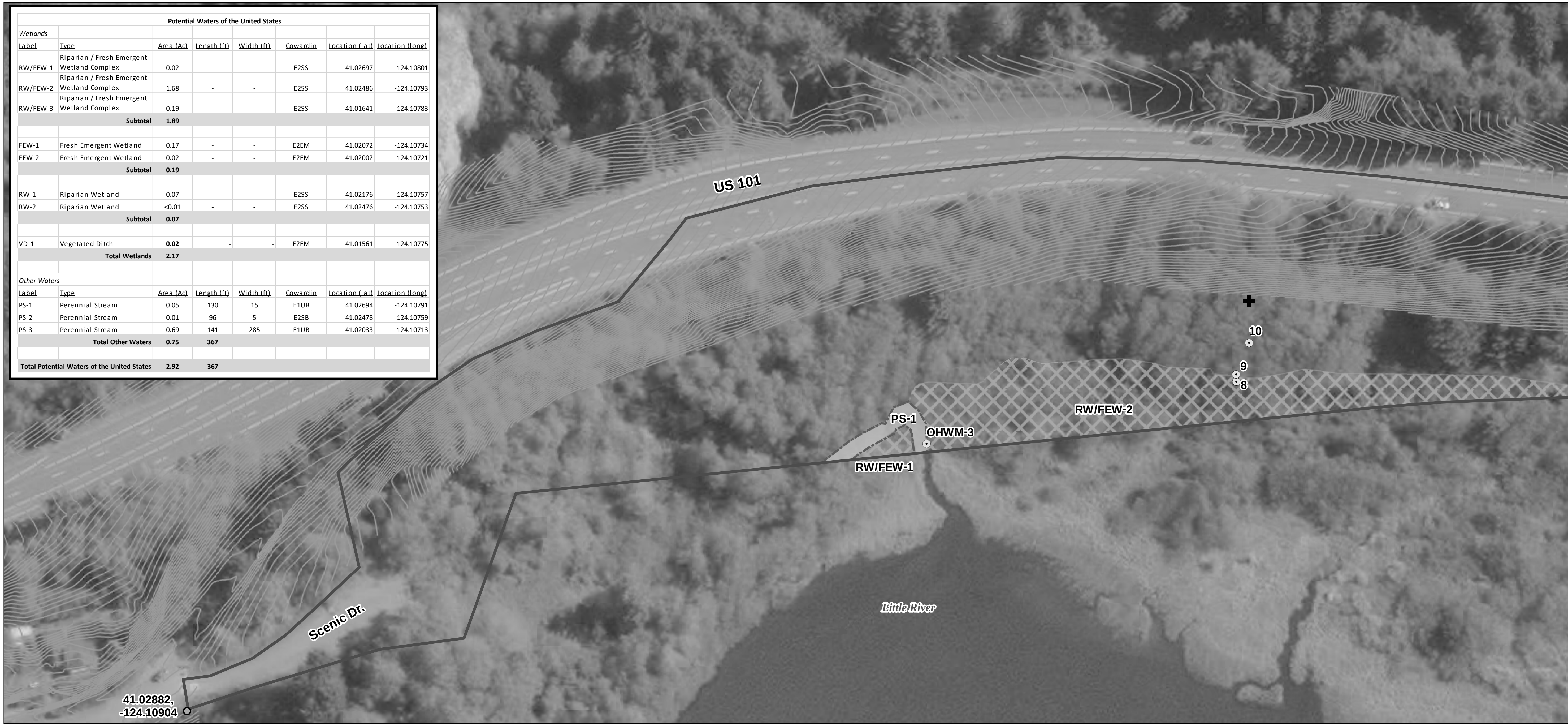
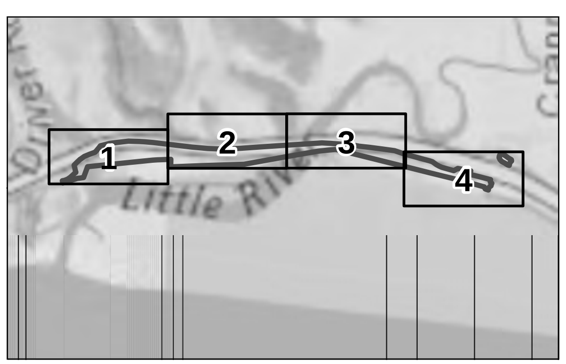
Potential Waters of the United States							
Wetlands							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-1	Riparian / Fresh Emergent Wetland Complex	0.02	-	-	E2SS	41.02697	-124.10801
RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
FEW-2	Fresh Emergent Wetland	0.02	-	-	E2EM	41.02002	-124.10721
	Subtotal	**0.19**					
RW-1	Riparian Wetland	0.07	-	-	E2SS	41.02176	-124.10757
RW-2	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	**0.02**	-	-	E2EM	41.01561	-124.10775
	Total Wetlands	**2.17**					
Other Waters							
Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
PS-1	Perennial Stream	0.05	130	15	E1UB	41.02694	-124.10791
PS-2	Perennial Stream	0.01	96	5	E2SB	41.02478	-124.10759
PS-3	Perennial Stream	0.69	141	285	E1UB	41.02033	-124.10713
	Total Other Waters	**0.75**	**367**				
Total Potential Waters of the United States		**2.92**	**367**				





Study Area (22.32 acres)

1-ft Contours

Map Reference Point

Sample Point

Culvert

OHWM

Potential Waters of the United States

Wetlands

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Fresh Emergent Wetland (0.19 acre)

Riparian Wetland (0.07 acre)

Vegetated Ditch (0.02 acre)

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September 2020

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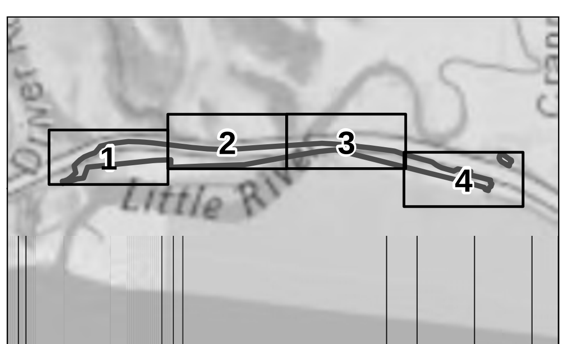

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Figure No.
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September 2020

Page 2 of 4

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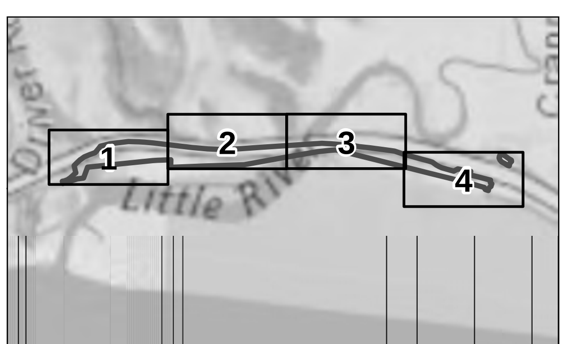

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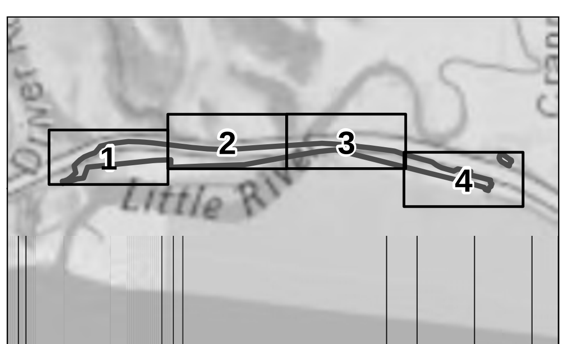

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4.1.2 Fresh Emergent Wetland

The area along the Little River was identified as fresh emergent wetland because it is frequently flooded within the OHWM of the river. Since it is frequently flooded and does not contain woody riparian vegetation, it is considered a fresh emergent wetland. The feature supports perennial hydrophytes, including reedgrass (*Calamagrostis nutkaensis*) and silverweed. Hydric soils were evidenced by depleted matrix (F3), and hydrology was evidenced by oxidized rhizospheres along living roots (C3) and the FAC Neutral Test (D5).

4.1.3 Riparian Wetland

Riparian wetlands in the study area are dominated by woody riparian vegetation and do not have a significant fresh emergent wetland component. Riparian wetland (RW-1) occurs just north of the Little River. A small riparian wetland (RW-2) is located along an unnamed perennial stream in the northern portion of the study area. The features are dominated by hydrophytic vegetation, including coastal willow, cascara sagrada, California wax myrtle, and slough sedge. Hydric soils are evidenced by sandy redox (S5). Wetland hydrology was satisfied by the two secondary indicators: geomorphic position (D2) and the FAC Neutral Test (D-5).

4.1.4 Vegetated Ditch

Vegetated ditches are vegetated, linear, drainage features that convey water. They are ditches that meet the requirements of wetlands by having hydric soils, indicators of wetland hydrology, and are dominated by wetland vegetation. A narrow roadside ditch (VD1) occurs in the southern portion of the study area. It is a concave feature that collects run-off from the pavement at the northern end, runs for a short distance to a concrete culvert, and continues flowing to a lesser extent south of the culvert. The ditch appears to dissipate and does not have indicators of hydrology, vegetation, or an OHWM at the southern end of the feature.

Vegetation is dominated by coastal willow and Baltic rush. Hydric soils were evidenced by depleted matrix (F3). Wetland hydrology indicators consisted of oxidized rhizospheres along living roots(C3) and FAC Neutral Test (D5).

4.1.5 Perennial Stream

Perennial streams consist of natural drainages that convey waters year-round. Perennial streams typically support adjacent riparian vegetation.

The Little River and two other unnamed perennial streams occur in the study area, documented by sample points OHWM-1, OHWM-2, and OHWM-3 (Figure 3). A distinct bed and bank, change in vegetation composition from herbaceous hydrophytes to woody riparian vegetation, and drift deposits indicate the OHWM for all three perennial stream features. The Little River perennial stream (PS-3) is the largest feature. At the time of the survey, the active flow channel was about 200 feet wide and 5 to 12 feet deep. Both unnamed streams (PS-1 and PS-2) are sourced by culverts that run under US 101 that surface in or near the study area on the west side of US 101. The upstream source of the streams is likely on the east side of US 101, outside the study area. PS-1 is covered by a canopy of willow above the

OHWM. It is about 15 feet wide and 3 feet deep and flows to the the Little River. PS-2 is 5 feet wide and about 6 inches deep and is tributary to the Little River. The canopy consists of red alder on either side of the stream and the herbaceous layer is dominated by Baltic rush, horsetails (*Equisetum* spp.), and hedge nettle (*Stachys ajugoides*).

5.0 CONCLUSION

Waters of the United States delineated in the study area occupy a total of 2.92 acres (377 linear feet) and include riparian wetland, riparian/fresh emergent wetland complex, fresh emergent wetland, vegetated ditch, and perennial stream.

Determinations of waters of the United States, including wetlands, are based on current conditions, (i.e., normal circumstances) and are made in accordance with relevant U.S. Environmental Protection Agency and USACE guidance. Determinations are subject to verification by USACE. Stantec advises all interested parties to treat the information contained herein as preliminary pending written verification of jurisdictional boundaries by USACE.

6.0 REFERENCES

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APPENDIX A
CLIMATE ANALYSIS FOR WETLANDS TABLE

WETS Table

WETS Station: ARCATA EUREKA AP, CA												
Requested years: 1971 - 2020												
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall				
Jan	56.0	40.3	48.1	7.12	4.60	8.57	12	-				
Feb	55.8	39.9	47.8	6.78	3.95	8.24	11	-				
Mar	56.3	40.8	48.5	6.67	4.64	7.94	12	-				
Apr	57.4	42.5	49.9	4.06	2.71	4.86	9	-				
May	59.5	45.8	52.6	2.01	0.94	2.45	5	-				
Jun	62.3	48.2	55.2	0.87	0.29	1.00	2	-				
Jul	63.3	51.2	57.2	0.16	0.04	0.16	0	-				
Aug	64.1	51.1	57.6	0.20	0.06	0.23	0	-				
Sep	64.7	48.3	56.5	0.92	0.26	1.02	2	-				
Oct	63.0	44.8	53.9	3.09	1.14	3.73	5	-				
Nov	58.6	42.0	50.3	6.09	4.02	7.30	11	-				
Dec	55.6	39.6	47.6	9.03	5.35	10.97	13	-				
Annual:					40.33	51.58						
Average	59.7	44.5	52.1	-	-	-	-	-				
Total	-	-	-	47.01			81	-				
GROWING SEASON DATES												
Years with missing data:	24 deg = 21	28 deg = 22	32 deg = 24									
Years with no occurrence:	24 deg = 28	28 deg = 10	32 deg = 0									
Data years used:	24 deg = 29	28 deg = 28	32 deg = 26									
Probability	24 F or higher	28 F or higher	32 F or higher									
50 percent *	No occurrence	1/3 to 1/14: 376 days	3/27 to 11/27: 245 days									
70 percent *	No occurrence	No occurrence	3/18 to 12/7: 264 days									
* Percent chance of the growing season occurring between the Beginning and Ending dates.												
STATS TABLE - total precipitation (inches)												
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1945					M4.07	MT	0.01	M0.00	M0.37	4.60	13.01	12.89	34.95
1946	5.01	6.44	5.31	M0.50									17.26
1947													
1948													
1949													
1950													
1951													
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1991													
1992													
1993													
1994													
1995													
1996													
1997													
1998		14.12	8.13	2.33	4.51	0.24	0.06	0.02	0.28	4.65	16.57		50.91
1999	5.80	12.28	9.94	2.42	2.31	0.06	0.01	0.25	0.01	1.53	8.32	3.66	46.59
2000	12.80	8.67	3.09	3.78	2.77	1.08	0.02	0.02	0.44	3.37	4.26	2.76	43.06
2001	3.92	4.53	2.21	3.07	0.99	1.00	0.17	0.23	0.41	1.78	9.54	11.41	39.26
2002	7.56	6.95	4.75	3.06	0.70	0.83	0.07	0.04	0.19	0.06	2.36	22.96	49.53
2003	7.81	3.78	5.63	12.92	1.45	0.11	0.04	0.58	0.55	0.56	6.08	12.97	52.48
2004	6.71	9.07	2.59	2.07	1.14	0.07	0.11	0.70	0.63	4.98	1.71	9.11	38.89
2005	5.54	2.16	6.13	6.55	4.86	4.10	0.10	0.14	0.17	3.42	9.38	13.99	56.54
2006	11.94	5.97	10.63	4.50	1.48	0.56	0.08	0.10	0.17	0.70	9.50	9.68	55.31
2007	2.63	13.11	3.66	3.71	0.95	0.67	0.86	0.12	1.03	5.73	3.23	7.78	43.48

2008	10.26	3.65	4.79	2.40	0.10	0.40	0.09	0.82	0.18	1.13	5.08	10.01	38.91
2009	2.06	6.78	6.78	1.38	3.86	0.31	0.19	0.14	0.63	2.45	4.34	5.08	34.00
2010	10.49	5.38	6.76	8.36	3.58	3.46	0.10	0.21	2.00	5.29	6.35	12.38	64.36
2011	2.69	4.66	12.57	5.07	1.72	1.31	0.25	M0.05	M0.37	5.16	4.64	3.31	41.80
2012	9.11	M2.12	12.65	5.66	1.08	2.41	0.76	0.08	0.10	3.55	6.93	11.06	55.51
2013	2.94	2.00	3.47	2.24	1.88	0.78	0.00	0.10	4.37	0.05	1.70	0.98	20.51
2014	2.16	7.90	8.85	1.84	1.05	0.73	T	0.00	3.23	5.74	5.11	9.96	46.57
2015	2.07	5.59	3.78	2.39	0.10	0.07	0.13	0.51	0.59	1.10	5.30	18.77	40.40
2016	12.30	2.93	10.48	3.27	0.64	0.11	0.59	0.02	T	12.03	7.20	8.22	57.79
2017	11.03	14.24	10.09	5.32	1.26	0.72	0.01	0.01	0.73	1.81	8.55	2.31	56.08
2018	9.19	2.97	8.35	5.34	0.97	0.48	0.02	0.02	0.32	0.89	5.68	5.40	39.63
2019	8.39	16.09	5.39	3.64	3.11	T	0.02	0.46	3.21	2.08	2.05	7.88	52.32
2020	9.26	1.01	2.80	2.11	5.66	0.53	MT	0.02	M0.13				21.52
Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.													
Data missing for all days in a month or year is blank.													
Creation date: 2016-07-22													

APPENDIX B
ROUTINE WETLAND DETERMINATION
DATA FORMS

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River   City/County: Humboldt   Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency   State: CA   Sampling Point: 1
Investigator(s): S. Tona, J. Phipps   Section, Township, Range: S 6, T 7 N, R 1 E
Landform (hillslope, terrace, etc): hillslope   Local relief (concave, convex, none): none   Slope (%): 0
Subregion (LRR): Northwest Forest and Coast (A)   Lat: 41.023443   Long: -124.107838   Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes   NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed?   Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks:
Sample point documents a wetland. Hydrophytic vegetation, hydric soil, and wetland hydrology indicators are present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	60	Yes	FAC
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Frangula purshiana* / Cascara sagrada	5	Yes	FAC
2. *Rubus ursinus* / California blackberry	2	Yes	FACU
3.			
4.			
5.			
	7	= Total Cover	
Herb Stratum (Plot size: 10 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	40	Yes	OBL
2. *Pteridium aquilinum* / Western brackenfern	20	Yes	FACU
3. *Lysichiton americanus* / Yellow skunk cabbage, Yellow skunk	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	65	x 3 =	195
FACU species	22	x 4 =	88
UPL species	0	x 5 =	0
Column Totals:	137 (A)		333 (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation met

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/2	100					Loamy sand	
6-16	10YR 4/1	75	10YR 4/6	25	C	PL	Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Hydric soil met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	___	
Water Table Present?	Yes ___	No X	Depth (inches):	___	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	___	**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Feature in depression in concave position adjacent to saturated area satisfies geomorphic indicator.
Oxidized rhizospheres are present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 2
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6 , 7 N, 1 E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.023436 Long: -124.107818 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Sample point documents the upland pair for a wetland. Hydrophytic vegetation, hydric soil indicators are present but wetland hydrology is not present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus ursinus* / California blackberry	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 10 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	50	Yes	OBL
2. *Pteridium aquilinum* / Western brackenfern	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 60

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	130 (A)		320 (B)

Prevalence Index = B/A = 2.46

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation met

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100					Loamy sand	
6-16	10YR 4/1	60	10YR 3/4	40	C	PL	Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Hydric soil present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators of wetland hydrology present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 3
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.022324 Long: -124.107669 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	X	
Hydric Soil Present?		X
Wetland Hydrology Present?		X
Is the Sampled Area within a Wetland?		X

Remarks:
Sample point 3 documents a suspect area. Soil and hydrology indicators were not met. Hydrophytic vegetation is dominant.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea sitchensis* / Sitka spruce	30	Yes	FAC
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Frangula purshiana* / Cascara sagrada	2	Yes	FAC
2.			
3.			
4.			
5.			
	2	= Total Cover	
Herb Stratum (Plot size: 10 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	60	Yes	OBL
2. *Pteridium aquilinum* / Western brackenfern	10	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 50

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	0	x 2 =	0
FAC species	32	x 3 =	96
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	102 (A)		196 (B)

Prevalence Index = B/A = 1.92

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic veg met

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 3/2	100					Sand	Hydric soil not present

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ___ No X

Remarks:

Hydric soil not present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology not present

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River OHWM north side City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 4
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.020814 Long: -124.107274 Datum: NAD 1983
Soil Map Unit Name: 155: Samoa-Clambeach complex, 0 to 50 percent slopes NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes X	No ___
Wetland Hydrology Present?	Yes X	No ___

Is the Sampled Area within a Wetland? Yes X No ___

Remarks:
Hydrology soil, and vegetation meet wetland requirements. OHWM just above location. On edge of willows that represent the OHWM.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 foot radius)			
1. *Calamagrostis nutkaensis* / Reedgrass, Pacific reed grass	50	Yes	FACW
2. *Argentina anserina* / Silverweed	40	Yes	OBL
3. *Lotus corniculatus* / Bird's foot trefoil, Bird's-foot trefoil	10	No	FAC
4. *Symphyotrichum chilense* / Pacific aster	10	No	FAC
5. *Juncus balticus* / Wire rush	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	112 = Total Cover		
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Statum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	40	x 1 = 40
FACW species	52	x 2 = 104
FAC species	20	x 3 = 60
FACU species	0	x 4 = 0
UPL species	0	x 5 = 0
Column Totals:	112 (A)	204 (B)

Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation is dominant and the indicator has been met.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type¹	Loc²	Texture	Remarks
0-4	10YR 4/2	100					Loamy sand	
4-16	10YR 5/1	40	7.5YR 5/8	60	C	M	Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:

Hydric soil is present and meet the requirements for indicator F3 Depleted Matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators met.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 5
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.020814 Long: -124.107274 Datum: NAD 1983
Soil Map Unit Name: 155: Samoa-Clambeach complex, 0 to 50 percent slopes NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes ___	No X
Wetland Hydrology Present?	Yes X	No ___

Is the Sampled Area within a Wetland? Yes X No ___

Remarks:
Hydric soil not present, upland pair point.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 5 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 foot radius)			
1. *Salix hookeriana* / Coastal willow	100	Yes	FACW
2.			
3.			
4.			
5.			
	100	= Total Cover	
Herb Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic veg present

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Loamy sand	
4-16	10YR 4/2	85	10YR 3/3	15	C	M	Loamy sand	faint concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ______
Depth (inches): ______

Hydric Soil Present? Yes ___ No X

Remarks:
Hydric soil indicators not met because redox concentrations are faint.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	___
Water Table Present?	Yes ___	No X	Depth (inches):	___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Oxidized rhizospheres and FAC-Neutral Test provides indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 6
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.021686 Long: -124.107676 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?**	Yes X No ___
Hydric Soil Present?	Yes X No ___		
Wetland Hydrology Present?	Yes X No ___		

Remarks:
Sample point documents a Riparian / Fresh Emergent Wetland Complex. Hydrophytic vegetation, hydric soil, and wetland hydrology indicators are present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix hookeriana* / Coastal willow	30	Yes	FACW
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Frangula purshiana* / Cascara sagrada	30	Yes	FAC
2. *Rubus ursinus* / California blackberry	20	Yes	FACU
3. *Morella californica* / California wax myrtle	20	Yes	FACW
4.			
5.			
	70	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Polystichum munitum* / Western sword fern	15	Yes	FACU
2. *Carex obnupta* / Slough sedge, Slough sedge	15	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	50	x 2 =	100
FAC species	30	x 3 =	90
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	130 (A)		345 (B)

Prevalence Index = B/A = 2.65

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type¹	Loc²	Texture	Remarks
0-4	10YR 4/3	100					Sand	
4-16	10YR 4/3	85	10YR 4/6	15	C	PL	Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ______
Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:
Hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	
Water Table Present?	Yes ___	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland hydrology indicated by secondary indicators geomorphic poistion and FAC-Neutral Test. Swale/concave geomorphology at feature location.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River   City/County: Humboldt   Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency   State: CA   Sampling Point: 7
Investigator(s): S. Tona, J. Phipps   Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope   Local relief (concave, convex, none): None   Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A)   Lat: 41.02166   Long: -124.10767   Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes   NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed?   Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes ___	No X
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks:
Sample point documents a upland point paired with Sample point 6. Hydrophytic vegetation is present, but, hydric soil and wetland hydrology indicators are not present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea sitchensis* / Sitka spruce	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus ursinus* / California blackberry	20	Yes	FACU
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	5	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 75

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	75 (A)		235 (B)

Prevalence Index = B/A = 3.13

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 4/3	100					Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ____
Depth (inches): ____

Hydric Soil Present? Yes ____ No X

Remarks:
Does not satisfy any hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) **(LRR A)**
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) **(LRR A)**
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____
Water Table Present? Yes ____ No X Depth (inches): ____
Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology not present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River | City/County: Humboldt | Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency | State: CA | Sampling Point: 8
Investigator(s): S. Tona, J. Phipps | Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) | Lat: 41.026046 | Long: -124.107762 | Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes | NWI classification: E2USM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___		
Hydric Soil Present?	Yes X No ___	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes X No ___	**within a Wetland?**	Yes X No ___

Remarks:
Riparian wetland and fresh emergent wetland parameters met. Sample point documents a wetland. Hydrophytic vegetation, hydric soil, and wetland hydrology indicators are present.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 10 foot radius)			
1. *Alnus rubra* / Red alder	60	Yes	FAC
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus armeniacus* / Himalayan blackberry	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Mitella ovalis* / Coastal miterwort	60	Yes	FACW
2. *Lysichiton americanus* / Yellow skunk cabbage, Yellow skunk	25	Yes	OBL
3. *Equisetum telmateia* / Giant horsetail	15	No	FACW
4. *Pteridium aquilinum* / Western brackenfern	1	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	101	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	75	x 2 =	150
FAC species	80	x 3 =	240
FACU species	1	x 4 =	4
UPL species	0	x 5 =	0
Column Totals:	181 (A)		419 (B)

Prevalence Index = B/A = 2.31

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation indicators dominant.

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/1	90	10YR 3/6	10	C	PL,M	Loamy sand	
6-16	10YR 4/1	60	5YR 4/6	40	C	PL,M	Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:

Hydric soil present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes ___	No X	Depth (inches): ___		
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___		

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology indicators present

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 9
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.026046 Long: -124.107736 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: E2USM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?		X
Hydric Soil Present?	X	
Wetland Hydrology Present?		X
Is the Sampled Area within a Wetland?		X

Remarks:
Pair to sample point 8.
Sample point documents an upland point. Hydrophytic vegetation and wetland hydrology indicators not present, hydric soil indicators are present.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 10 foot radius)			
1. *Alnus rubra* / Red alder	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus armeniacus* / Himalayan blackberry	30	Yes	FAC
2. *Sambucus racemosa* / Red elderberry	20	Yes	FACU
3.			
4.			
5.			
	50	= Total Cover	
Herb Stratum (Plot size: 10 radius)			
1. *Pteridium aquilinum* / Western brackenfern	35	Yes	FACU
2. *Polystichum munitum* / Western sword fern	15	Yes	FACU
3. *Mitella ovalis* / Coastal miterwort	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	160 (A)		540 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks:
Hydrophytic veg is present but it is not dominant.

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type¹	Loc²	Texture	Remarks
0-5	10YR 2/2	100					Sandy loam	
5-16	10YR 4/2	80	10YR 3/6	20	C	PL,M	Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:
Hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? Yes ___ No X Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Hydrology not present

Remarks:
No indicators of wetland hydrology were observed.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 10
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.015523 Long: -124.107811 Datum: NAD 1983
Soil Map Unit Name: 258: Lepoil-Espa-Candymountain complex, 15 to 50 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ___
Hydric Soil Present? Yes ___ No X
Wetland Hydrology Present? Yes ___ No X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks:
Documents upland conditions in a suspect area with hydrophytic vegetation.
Hydrophytic vegetation indicators present, hydric soil, and wetland hydrology indicators are not present.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 10 foot radius)			
1. *Alnus rubra* / Red alder	70	Yes	FAC
2.			
3.			
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Sambucus racemosa* / Red elderberry	15	Yes	FACU
2. *Rubus spectabilis* / Salmon berry, Salmonberry	10	Yes	FAC
3. *Rubus ursinus* / California blackberry	5	No	FACU
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 10 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	30	Yes	OBL
2. *Polystichum munitum* / Western sword fern	15	Yes	FACU
3. *Pteridium aquilinum* / Western brackenfern	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 50

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	160 (A)		470 (B)

Prevalence Index = B/A = 2.94

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic veg present.

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type¹	Loc²	Texture	Remarks
0-16	10YR 2/1	100					Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches):

Hydric Soil Present? Yes ___ No X

Remarks:
No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):
Water Table Present?	Yes ___	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No hydrology present

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River | City/County: Humboldt | Sampling Date: 09/03/2020
Applicant/Owner: Redwood Community Action Agency | State: CA | Sampling Point: 11
Investigator(s): S. Tona, J. Phipps | Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) | Lat: 41.015526 | Long: -124.107816 | Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes X	No ___
Wetland Hydrology Present?	Yes X	No ___
Is the Sampled Area within a Wetland?	Yes X	No ___

Remarks:
Fresh emergent wetland and riparian vegetation within a ditch between two roads. Sample point documents a wetland. Hydrophytic vegetation, hydric soil, and wetland hydrology indicators are present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2 feet by 10 feet)			
1. *Salix hookeriana* / Coastal willow	25	Yes	FACW
2. *Rubus ursinus* / California blackberry	2	No	FACU
3.			
4.			
5.			
	27	= Total Cover	
Herb Stratum (Plot size: 2 feet by 10 feet)			
1. *Juncus balticus* / Wire rush	50	Yes	FACW
2. *Holcus lanatus* / Common velvetgrass, Common velvet grass	5	No	FAC
3. *Mentha arvensis* / American wild mint, Field mint	5	No	FACW
4. *Symphyotrichum chilense* / Pacific aster	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	62	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 20

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	7	x 3 =	21
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	89 (A)		189 (B)

Prevalence Index = B/A = 2.12

Hydrophytic Vegetation Indicators:
X 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydric vegetation present.

SOIL

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/1	100					Clay loam	
6-16	10YR 4/2	80	10YR 5/8	20	C	PL,M	Clay loam	Gravelly

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches):

Hydric Soil Present? Yes X No

Remarks:
Hydric soil is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
X Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) **(LRR A)**
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
X FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) **(LRR A)**
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):
Water Table Present?	Yes ___	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River | City/County: Humboldt | Sampling Date: 09/03/2020
Applicant/Owner: Redwood Community Action Agency | State: CA | Sampling Point: 12
Investigator(s): J. Phipps, S. Tona | Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): None | Slope (%): 10
Subregion (LRR): Northwest Forest and Coast (A) | Lat: 41.015526 | Long: -124.107816 | Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	X	
Hydric Soil Present?		X
Wetland Hydrology Present?		X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Sample point documents an upland pair point for sample point 11. Hydrophytic vegetation indicators is present, hydric soil, and wetland hydrology indicators are not present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2 feet by 10 feet)			
1. *Rubus ursinus* / California blackberry	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 2 feet by 10 feet)			
1. *Symphyotrichum chilense* / Pacific aster	25	Yes	FAC
2. *Festuca rubra* / Red fescue	15	Yes	FAC
3. *Holcus lanatus* / Common velvetgrass, Common velvet grass	5	No	FAC
4. *Daucus carota* / Carrot, Carrot, Queen anne's lace	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	47	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 5

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	12	x 4 =	48
UPL species	0	x 5 =	0
Column Totals:	57 (A)		183 (B)

Prevalence Index = B/A = 3.21

Hydrophytic Vegetation Indicators:
- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index ≤3.0¹
- ___ 4 - Morphological Adaptations¹ (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants¹
- ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation present

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 4/2	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ___ No X

Remarks:

Hydric soil not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present?		X	
Water Table Present?		X	
Saturation Present? (includes capillary fringe)		X	

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology not present

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/03/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 13
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7 N, R 1 E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Concave Slope (%): 30
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.016263 Long: -124.107755 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ___
Hydric Soil Present? Yes X No ___
Wetland Hydrology Present? Yes X No ___

Is the Sampled Area within a Wetland? Yes X No ___

Remarks:
Wetland hydrology present along with standing water and floating aquatic vegetation.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix hookeriana* / Coastal willow	50	Yes	FACW
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus ursinus* / California blackberry	30	Yes	FACU
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	25	Yes	OBL
2. *Pteridium aquilinum* / Western brackenfern	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	110 (A)		265 (B)

Prevalence Index = B/A = 2.41

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation met

SOIL

Sampling Point: 13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/2	100					Sand	
6-16	7.5YR 4/2	80	7.5YR 4/4	20	C	M	Sand	Distinct redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:

Hydric soil present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No	X	Depth (inches):	___
Water Table Present?	Yes ___	No	X	Depth (inches):	___
Saturation Present? (includes capillary fringe)	Yes ___	No	X	Depth (inches):	___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Drift deposits indicate wetland hydrology at the sample point. Standing water with floating aquatic veg was observed in the feature below the sample point.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River south side City/County: Humboldt Sampling Date: 09/03/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 14
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.016258 Long: -124.107737 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Sample point provides the upland pair to sample point 13 and documents where hydric soils and wetland hydrology drop out.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix hookeriana* / Coastal willow	30	Yes	FACW
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Pteridium aquilinum* / Western brackenfern	40	Yes	FACU
2. *Carex obnupta* / Slough sedge, Slough sedge	20	Yes	OBL
3. *Rubus ursinus* / California blackberry	10	No	FACU
4. *Daucus carota* / Carrot, Carrot, Queen anne's lace	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	105 (A)		300 (B)

Prevalence Index = B/A = 2.86

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0¹
- ___ 4 - Morphological Adaptations¹ (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants¹
- ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation present

SOIL

Sampling Point: 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	7.5YR 3/2	100					Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:
Hydric soil not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) **(LRR A)**
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
X FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) **(LRR A)**
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland hydrology not present.

APPENDIX C
ORDINARY HIGH WATER MARK
DATA FORMS

OHWM Delineation Cover Sheet Page 1 of 4

Project: Little River **Date:** 9/2/20

Location: Little River Humboldt Co **Investigator(s):** S. Tona, J. Phipps

Project Description:

Creating paved bike trail to connect Mckinleyville to Trinidad communities. Trail runs along Coastal area beside HWY 101.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

Perennial Stream with esturine influence, connected to the bay of Little River and Pacific Ocean. Potential culvert connection further inland, but this location heavily connected to tides and perennial Stream-flow. Cutbank 2ft high above water followed by heavily vegetated terrace.

Off-site Information

Remotely sensed image(s) acquired? ☐ Yes ☒ No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ Yes ☒ No [If yes, attach information to datasheet(s) and describe below.] Description:

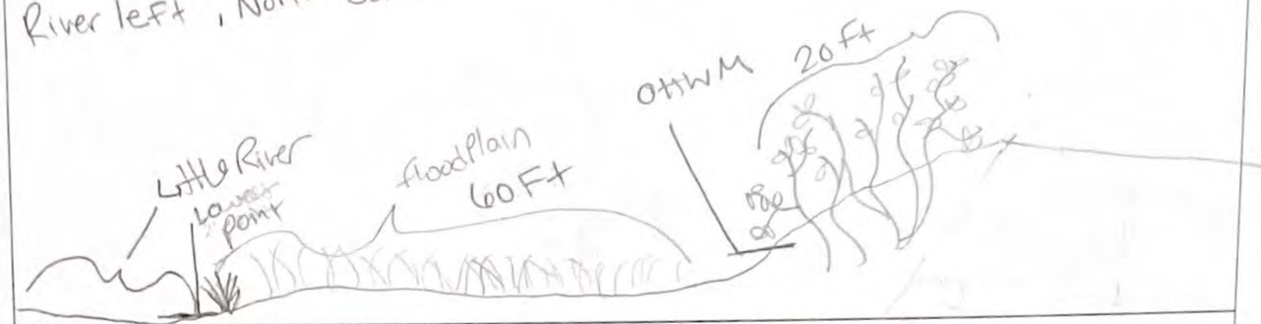
List and describe any other supporting information received/acquired:

Topo map, Soil map, GPS

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

River left, North Bank



Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☒ Gentle (< 30°) | ☐ None

Notes/Description: OHWM at edge of Salix hookeriana

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	50%	50%				
Below OHWM	50%	50%				

Notes/Description: OHWM seen on bridge pier as water staining, not seen on abutment above OHWM.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM		80	10	10
Below OHWM			90	10

Notes/Description: Dominant species include Calamagrostis nutkaensis, argentina (potentilla) anserina, Lotus corniculatus, Symphyotrichum chilense, Carex obnupta Below OHWM and Salix hookeriana above OHWM.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

The OHWM was mapped at the transition from herbaceous to woody vegetation and a gentle break in slope, this location also corresponded to water staining on the bridge piers.

Datasheet # OHWM-2 **OHWM Delineation Datasheet** Page 3 of 4

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

15ft total

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☒ Gentle (< 30°) | ☐ None

Notes/Description: Gentle slope from water (perenial stream)

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	50	50				
Below OHWM	50	25	25			

Notes/Description:
Stream flows East to west, further west sediment texture becomes mainly sandy/silt

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM			40	60
Below OHWM			70	10

Notes/Description: aquicetum spp., Stachys ajugoides, Skunk cabbage, Brackenfern, juncus balticus are the dominant species of plants along bank and terrace.

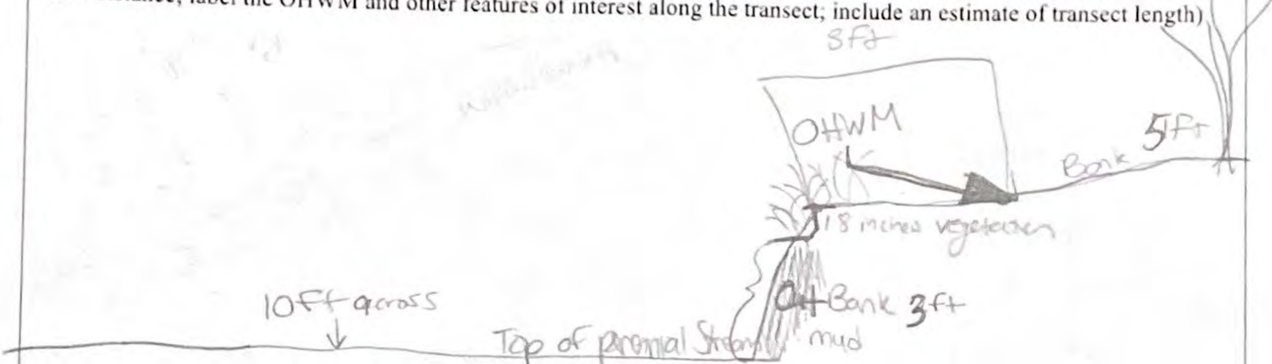
Stachys ajugoides

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

OHWM evidence by cutbank and absence of terrestrial vegetation

Datasheet # OHWM-3 **OHWM Delineation Datasheet** Page 4 of 4

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description: Cut bank has sharp decline to water.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM		100				
Below OHWM	90	10				

Notes/Description: OHWM evidence based on sediment deposits on willow & drift vegetation within willow hanging over perennial Stream

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM		50	50	
Below OHWM		90		10

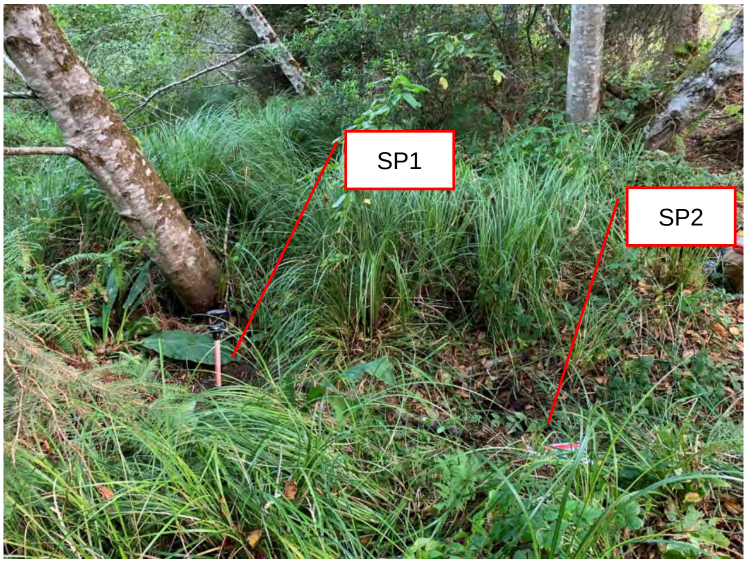
Notes/Description: Dominant Species include Chenopodium album, argentina anserina, Calamagrostis nutkaensis, Below OHWM and Salix Hookeriana above OHWM.

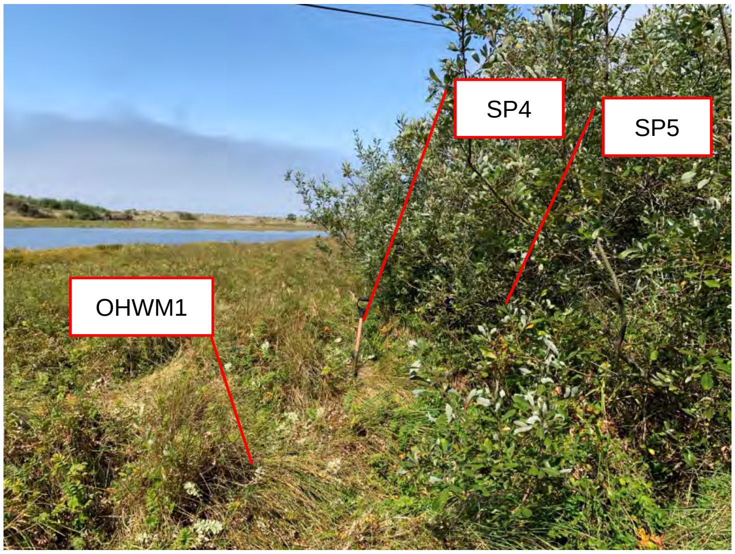
Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Dominant vegetation below OHWM spans 5 Ft from edge of water where Salix hookeriana then becomes the dominant species above OHWM.

APPENDIX D
REPRESENTATIVE PHOTOGRAPHS

Little River Trail Project
Delineation of Waters of the United States

Photograph #1	
Photo Location: Sample Point (SP) 1 and 2	
Survey Date: 9/2/2020	
Comments: Riparian/fresh emergent wetland complex. SP1 documents the feature and SP2 documents the adjacent uplands. Orientation: north.	
Photograph #2	
Photo Location: SP3	
Survey Date: 9/2/2020	
Comments: Upland. The shovel shows SP3, which documents a suspect area. Orientation: north.	

Photograph #3 **Photo Location:** SP4 and 5 and Ordinary High Water Mark (OHWM)1 **Survey Date:** 9/2/2020 **Comments:** Fresh emergent wetland. SP4 documents the feature and SP5 documents the adjacent upland. OHWM1 documents the OHWM of Little River. Orientation: east.	
Photograph #4 **Photo Location:** SP6 and 7 **Survey Date:** 9/2/2020 **Comments:** Riparian/fresh emergent wetland complex. SP6 documents the feature and SP7 documents the adjacent uplands. Orientation: east.	
Photograph #5 **Photo Location:** OHWM2 **Survey Date:** 9/2/2020 **Comments:** Perennial stream. Orientation: east.	

<table>
<tr><td>Photograph #:6
Photo Location:
SP8 and 9
Survey Date:
9/2/2020
Comments:
Riparian/fresh emergent wetland complex. SP8 documents the feature and SP9 documents the adjacent uplands. Orientation: north.</td><td></td></tr>
<tr><td>Photograph #7
Photo Location:
OHWM3
Survey Date:
9/2/2020
Comments:
Perennial stream. OHWM3 documents the feature. Orientation: east.</td><td></td></tr>
<tr><td>Photograph #8
Photo Location:
SP 11 and 12
Survey Date:
9/3/2020
Comments:
Vegetated ditch. The shovel shows SP11 and the feature and the orange vest shows SP12 and the adjacent uplands. Orientation: north.</td><td></td></tr>
</table>

<table>
<tr><td>Photograph #9</td><td rowspan="4">
</td></tr>
<tr><td>Photo Location:
SP13 and 14</td></tr>
<tr><td>Survey Date:
9/3/2020</td></tr>
<tr><td>Comments:
Riparian/fresh emergent wetland complex. SP13 documents the feature and SP14 documents the adjacent upland. Orientation: southwest.</td></tr>
</table>

APPENDIX E
PLANT LIST

Plant List

Scientific Name[1]	Common Name	Wetland Indicator Status[2]
Agrostis stolonifera	redtop	Facultative
Alnus rubra	red Alder	Facultative
Ammophila arenaria	European beachgrass	Facultative upland
Baccharis pilularis	coyote brush	Upland
Calamagrostis nutkaensis	Nootka reed grass	Facultative wetland
Carex obnupta	Slough sedge	Obligate
Daucus carota	Queen Anne's-Lace	Facultative upland
Equisetum telmateia	giant horsetail	Facultative wetland
Festuca rubra	red fescue	Facultative
Frangula purshiana	Cascara false buckthorn	Facultative
Hedera helix	English ivy	Facultative upland
Holcus lanatus	common velvet grass	Facultative
Juncus balticus	Baltic rush	Facultative wetland
Lonicera involucrata	four-line honeysuckle	Facultative
Lotus corniculatus	garden bird's-foot-trefoil	Facultative
Lupinus arboreus	coastal bush lupine	Upland
Lysichiton americanus	yellow-skunk-cabbage	Obligate
Mentha arvensis	American wild mint	Facultative wetland
Morella californica	Pacific bayberry	Facultative wetland
Pectiantia ovalis[3]	Coastal miterwort	Facultative wetland
Picea sitchensis	Sitka spruce	Facultative
Pinus contorta	Lodgepole pine	Facultative
Polystichum munitum	pineland sword fern	Facultative upland
Potentilla anserina[4]	Pacific silverweed	Obligate
Pseudotsuga menziesii	Douglas fir	Facultative upland
Pteridium aquilinum	northern bracken fern	Facultative upland
Rubus armeniacus	Himalayan blackberry	Facultative
Rubus spectabilis	salmon berry	Facultative
Rubus ursinus	California dewberry	Facultative upland
Salix hookeriana	coastal willow	Facultative wetland
Sambucus racemosa	red elder	Facultative upland
Scirpus microcarpus	red-tinge bulrush	Obligate
Stachys ajugoides	hedge-nettle	Obligate
Symphyotrichum chilense	Pacific American-aster	Facultative

[1] Taxonomic nomenclature for plant species followed: Baldwin, B. G.,D. H. Goldman,R. P. D. J. Keil,T. J. Rosatti, and D. H. Wilken. 2012. *The Jepson manual: vascular plants of California.* 2nd ed. Berkeley, California: University of California Press.

[2] Wetland indicator status for plant species followed United States Army Corps of Engineers. 2018. National Wetland Plant List, version 3.4. Available at: http://wetland-plants.usace.army.mil/. Accessed September 18, 2020.

[3] *Mitella ovalis* on 2018 National Wetland Plant List.

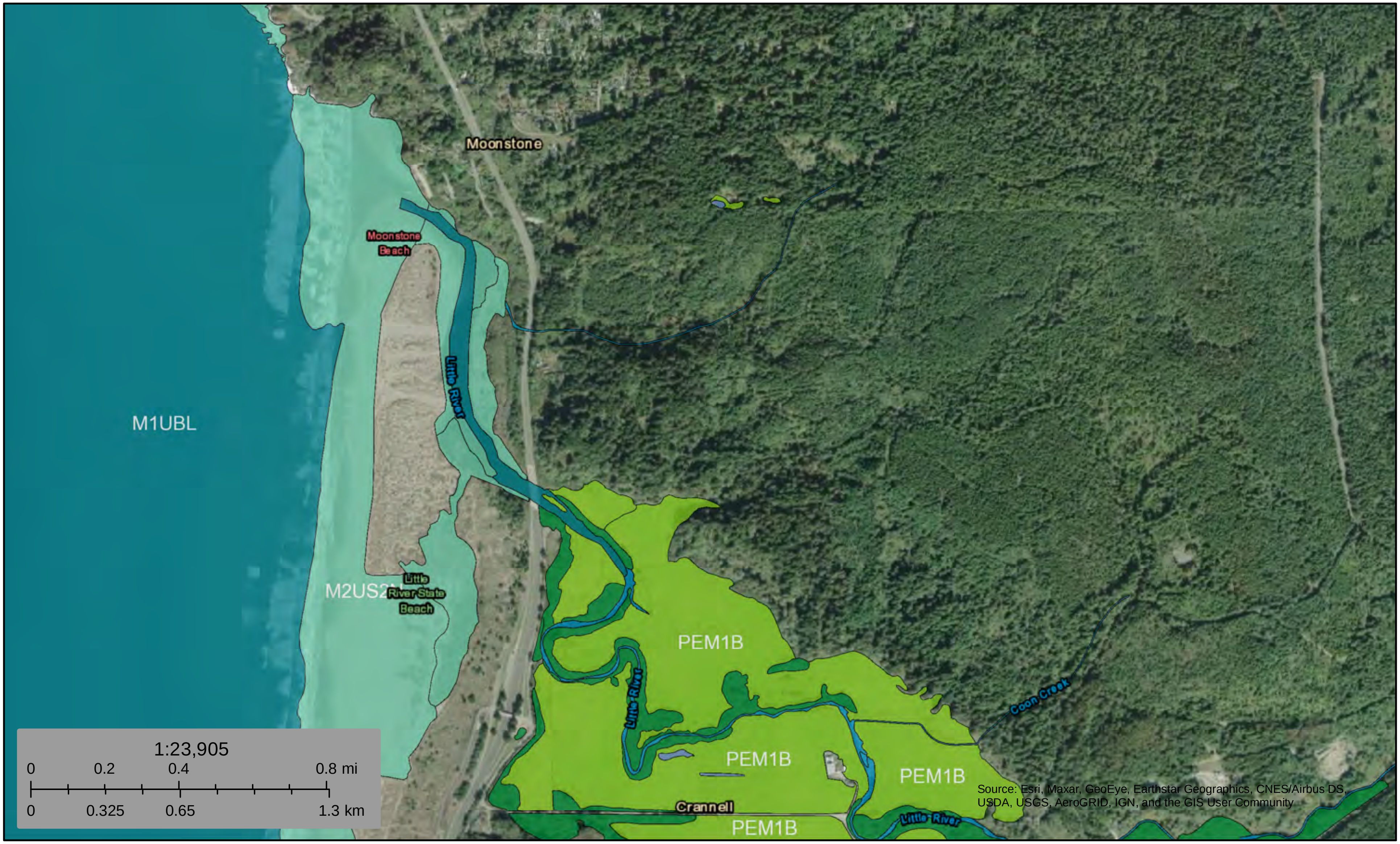
[4] *Argentina anserina* on 2018 National Wetland Plant List.

APPENDIX F
NATIONAL WETLANDS INVENTORY MAP

U.S. Fish and Wildlife Service

National Wetlands Inventory

Little River Trail Project



November 16, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Little River Trail Project

Delineation of Wetlands and Streams
under the California Coastal Act

December 7, 2020

Prepared for:

Redwood Community Action Agency
904 G Street
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Division Director
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(707) 269-2061

Prepared by:

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Table of Contents

LIST OF TABLES

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LIST OF APPENDICES

Executive Summary

On behalf of the Redwood Community Action Agency, Stantec Consulting Services Inc. (Stantec) conducted a delineation of wetlands and streams that may be subject to regulation under the California Coastal Act of 1976 (Coastal Act) for the 22.32-acre Little River Trail project study area. The study area is located adjacent to U.S. Highway 101 along the Little River near the community of McKinleyville, Humboldt County, California.

The study area contains wetlands and streams that meet the Coastal Act definition of wetlands. Three-parameter wetlands, single-parameter wetlands, and streams subject to Coastal Act regulation are collectively referred to as “Coastal Act waters.”

Stantec biologists conducted the field delineation from September 1 to 3, 2020, and mapped a total of 4.10 acres (367 linear feet) of Coastal Act waters. Coastal Act waters occur as riparian/fresh emergent wetland, riparian wetland, fresh emergent wetland, and vegetated ditch. This delineation of Coastal Act waters is subject to verification by the California Coastal Commission (CCC). Stantec advises all parties to treat the information contained herein as preliminary until the CCC provides written verification of the boundaries of its jurisdiction.

Abbreviations

CCC	California Coastal Commission
Coastal Act	California Coastal Act of 1976
County	Humboldt County
°F	degrees Fahrenheit
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
GPS	Global Positioning System
OBL	obligate
OHWM	ordinary high water mark
Stantec	Stantec Consulting Services Inc.
US 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers

1.0 COASTAL ACT BACKGROUND

One of the roles of the California Coastal Commission (CCC) in implementing the California Coastal Act of 1976 (Coastal Act) is to regulate the diking, filling, or dredging of wetlands within the coastal zone. Section 30121 of the Coastal Act defines the term "wetland" as follows:

> *Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens*

The CCC has provided further specificity for the definition of wetlands, and its administrative regulations (14 California Code of Regulations Section 13577) define wetlands as follows:

> *Wetlands shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.*

In some cases, the CCC definition may only require evidence of a single parameter to establish wetland conditions (i.e., hydrology, hydrophytic vegetation, or hydric soils) if the single parameter, when combined with other factors, indicates that shallow water is periodically present. This contrasts with the U.S. Army Corps of Engineers' (USACE) approach, which requires all three parameters to be present for an area to qualify as a wetland. The *Statewide Interpretive Guidelines for Wetlands and Other Wet Environmentally Sensitive Habitat Areas* (CCC 1981) states that hydric soils and hydrophytic vegetation "are useful indicators of wetland conditions, but the presence or absence of hydric soils and/or hydrophytes alone are not necessarily determinative when the CCC identifies wetlands under the Coastal Act." This acknowledges that determination of wetland status is not always easily identifiable by a simple one-parameter approach and provides the CCC with the discretion to consider multiple factors (e.g., soil characteristics, hydrology, size, landscape position) and to rely on professional judgment in making wetland determinations.

2.0 PROJECT LOCATION

The study area encompasses 22.32 acres located between the communities of Trinidad and McKinleyville, Humboldt County. It is adjacent to U.S. Highway 101 (US 101), the Little River State Beach, and the Pacific Ocean. It is shown on the *Crannell, California* United States Geological Service 7.5-minute quadrangle: Section 6 and 7, Township 7 North, Range 1 East; and Section 31, Township 8 North, Range 1 East (Figure 1). The center of the study area is located at approximately 41.011657 degrees latitude, -124.107515 degrees longitude (WGS 84 datum).

Study Area (22.32 acres)

Map Reference Point

0 1,000 2,000 Feet
(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location
Prepared by ST on 2020-09-10
IR by GY on 2020-09-10
T08N, R01E, Sec. 31, T07N, R01E,
Sec. 6 and 7 Crannell, California USGS 7.5' Quad

Client/Project 185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
1

Title
Project Location

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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3.0 ENVIRONMENTAL SETTING

The center of the study area is bisected by the Little River, a wide, slow-moving estuarine perennial stream. The Little River flows under a US 101 bridge, then runs adjacent to the study area to the northwest (Figure 1) and enters the Pacific Ocean approximately 2,000 feet from the northwest corner of the study area.

The portion of the study area north of the Little River and adjacent to US 101 is forested and dominated by mature Sitka spruce (*Picea sitchensis*) and red alder (*Alnus rubra*) with an understory of dense Himalayan blackberry (*Rubus armeniacus*), California blackberry (*Rubus ursinus*), and English ivy (*Helix hedera*). Extensive estuarine fresh emergent vegetation and riparian wetlands are located adjacent to the Little River, downslope and west of the forested area adjacent to US 101. This estuarine area is dominated by red alder, Hooker's willow (*Salix hookeriana*), skunk cabbage (*Lysichiton americanus*), and slough sedge (*Carex obnupta*). The hydrology in the estuarine area is tidally influenced due to the proximity to the Little River and the Pacific Ocean.

South of the Little River, the study area includes stabilized dune habitat located on a hillslope above the active dunes at Little River State Beach. The herbaceous layer of the stabilized dune habitat is dominated by European beachgrass (*Ammophila arenaria*) and sword fern (*Polystichum munitum*), while coyote brush (*Baccharis pilularis*) and Hooker's willow are common taxa in the shrub layer. The overstory is about 10 percent absolute cover and it is dominated by Sitka spruce and Monterey pine (*Pinus radiata*).

The far southern end of the study area includes a small disjunct area adjacent to US 101 that contains bare ground.

3.1 CURRENT/RECENT LAND USE

The study area encompasses a portion of US 101, road shoulders, a southbound highway offramp, a portion of the California Department of Transportation right-of-way, and a truck weigh station. It also includes a short reach of the Little River and densely vegetated riparian and swampy areas adjacent to US 101 and Little River State Beach.

3.2 SITE TOPOGRAPHY AND ELEVATION

The topography of the study area is generally characterized as stream floodplain and fresh emergent/riparian habitat that is associated with the Little River. The topography raises up to an upland terrace south, north, and east of the Little River. The Little River generally has a broad floodplain, except near the U.S. Highway 101 bridge, where it is steep. The elevation ranges from approximately 0 to 80 feet above mean sea level.

3.3 CLIMATE

Climate data, described in detail in the *Climate Analysis for Wetlands Table* is provided in Appendix A and includes:

Type: The climate within the study area is characterized by a Mediterranean Summer Fog with cool wet winters and cool foggy summers.

Precipitation: Average annual precipitation is approximately 47 inches. Most precipitation falls as rain between the months of October and May.

Air Temperature: Air temperatures range between an average January high of 56 degrees Fahrenheit (ºF), and an average August high of 64 ºF. The year-round average high temperature is approximately 60 ºF.

Growing Season: The growing season (i.e., 50 percent probability of air temperature 28 ºF or higher) is 354 days.

Current Weather Condition: Approximately 0.2inch of rain fell during the 10 days prior to the field visit and 0.01 inch of rain fell during the two months prior to the field visit (Weather Underground 2020).

3.4 HYDROLOGY/HYDROLOGIC FEATURES

Hydrology in the study area is primarily driven by the Little River, which is an estuarine perennial stream that drains westward and bisects the study area. Estuaries form a transition zone between river systems and the ocean, where freshwater features are influenced by the tide and the influx of saline water. Culverts under US 101 provide additional hydrology through unnamed perennial streams and overflow water during rain events.

3.5 SOIL MAP UNITS

Soil map units in the study area and vicinity are described in the *Custom Soil Resource Report for Humboldt, California* (Natural Resources Conservation Service 2020). Three soil map units occur in the study area (Figure 2):

- **Fluvaquents, 0 to 2 percent slopes (131).** This is a poorly drained hydric soil associated with alluvium derived from mixed sources in overflow stream channels. The depth to a restrictive layer is more than 80 inches.
- **Samoa-Clambeach complex, 0 to 50 percent slopes (155).** This soils complex consists of two soil types. Samoa is an excessively drained non-hydric soil associated with eolian and marine sand derived from mixed sources on sand dunes. The depth to a restrictive layer is more than 80 inches. Clambeach is very poorly drained hydric soil associated with eolian and marine sand derived from mixed sources in deflation basins. The depth to a restrictive layer is more than 80 inches.

- **Lepoil-Espa-Candymountain complex, 15 to 50 percent slopes (258).** This soil complex consists of well-drained non-hydric soils associated with mixed marine deposits derived from sedimentary rock on marine terraces. The depth to the restrictive layer is more than 80 inches. Hydric minor components occur in drainage ways and on marine terraces.

3.6 HABITAT TYPES

Habitat mapping followed the technical approach and vegetation alliance classification system described in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) and updated in the current online edition (CNPS 2020), or in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), as appropriate.

Stantec Consulting Services Inc. (Stantec) identified four vegetation communities in the study area that contain coastal waters: red alder forest, coastal dune willow thickets, slough sedge swards, and pacific silverweed marshes.

3.6.1 Red Alder Forest

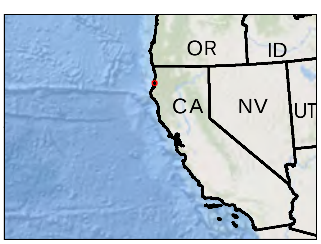
Red alder forest alliance occurs on the north side of the Little River. Red alder is the sole dominant tree in the upland areas of the study area, while in the lower elevation areas red alder are co-dominant with Hooker's willow. Shrubs in the understory include red elder (*Sambucus racemosa*), California blackberry, and Himalayan blackberry. The herbaceous layer contains sword fern and bracken fern (*Pteridium aquilinum*) in the upland areas and skunk cabbage, slough sedge, and small fruited bulrush (*Scirpus microcarpus*) in the wetland areas.

3.6.2 Coastal Dune Willow Thickets

Coastal dune willow shrubland alliance occurs in small patches throughout the study area. Hooker's willow is dominant in the shrub layer and moderate to dense at about 60 percent absolute cover. Scattered wax myrtle (*Morella californica*), coast twinberry (*Lonicera involucrata*), and Cascara sagrada (*Frangula purshiana*) are also present. Slough sedge and sword fern are common in the herbaceous layer.

3.6.3 Slough Sedge Swards

Slough sedge herbaceous alliance occurs along the edge and within the ordinary high water mark (OHWM) of the Little River. The Little River is an estuarine feature adjacent to the Pacific Ocean and is tidally influenced. The slough sedge community is partially inundated by the Little River when the tide is high. The alliance is dominated by slough sedge, and no other plant species occurs in the small area adjacent to the river.



Study Area (22.32 acres)

Soil Map Units

Soil Map Units in the Study Area
131 - Fluvaquents, 0 to 2 percent slopes
155 - Samoa-Clambeach complex, 0 to 50 percent slopes
258 - Lepoil-Espa-Candymountain complex,
15 to 50 percent slopes

0 500 1,000 Feet
(At original document size of 8.5x11)
1:12,000

N

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
2. Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

Project Location
Prepared by ST on 2020-09-10
IR by GY on 2020-09-10
T08N, R01E, Sec. 31, T07N, R01E, Sec. 6 and 7 Crannell, California USGS 7.5' Quad

Client/Project 185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
2

Title
Soils

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3.6.4 Pacific Silverweed Marshes

Pacific silverweed (*Argentina egedii*)[1] herbaceous alliance occurs on the north bank of the Little River, located between the slough sedge community and the coastal dune willow community on the river terrace. The community is dominated by Pacific silverweed and redtop (*Agrostis stolonifera*). Other common plants in the herbaceous community include bird's foot trefoil (*Lotus corniculatus*), Pacific aster (*Symphyotrichum chilense*), and Baltic rush (*Juncus balticus*).

4.0 METHODS

4.1 FIELD DELINEATION

The field delineation of wetlands used the routine methodology prescribed in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE 2010) to determine and document whether any of the three wetland parameters (dominant hydrophytic vegetation, hydric soils, and/or wetland hydrology) were present in suspect wetland features in the study area. Stantec biologists also considered other factors to determine if a feature qualified as Coastal Act waters, including its landscape position, size, and soil characteristics. If a feature met all three wetland parameters then it was mapped as a "3-parameter wetland," If a feature met one or two wetland parameters and also qualified as a Coastal Act waters when other factors were considered, then it was mapped as a "1-parameter wetland" (Figure 3)

Plant taxonomy followed *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012), including applicable errata and supplements (Jepson Flora Project 2020). Stantec confirmed wetland indicator status' for plant species using *The National Wetland Plant List* (USACE 2018) and the "50/20 Rule" and "Prevalence Index" were applied to determine plant dominance (USACE 2010). The presence of primary and secondary wetland hydrology indicators was documented for each wetland feature.

Soil pits were dug in representative wetland features to a depth sufficient to document the presence or confirm the absence of hydric soil or wetland hydrology indicators. Stantec examined the soils to assess field indicators of hydric soils. Positive indicators of hydric soils were observed in the field following the criteria outlined in *Field Indicators of Hydric Soils in the United States* (Vasilas et al. 2018). Soil colors were determined using a Munsell soil color chart. The hydric status of each soil map unit occurring in the study area was reviewed using the Web Soil Survey (Natural Resources Conservation Service 2020). At least one set of sample points was selected to best represent the wetland feature type and the adjacent uplands. Sample points were also placed in suspect areas to confirm wetland or upland status.

The delineation of streams was based on presence of an ordinary high water mark (OHWM) as defined in USACE regulations (33 Code of Federal Regulations 328.3 and 33 Code of Federal Regulations 328.4) and by using the approach outlined in *A Guide to Ordinary High Water Mark (OHWM) Delineation for*

[1] Synonym to *Potentilla anserina* in Jepson eflora (Jepson Flora Project 2020).

Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the Western United States (USACE 2008). Physical characteristics of an OHWM include, but are not limited to, a natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, presence of litter and debris, scour, deposition, presence of bed and bank, and water staining.

Prior to conducting the onsite routine delineation, the U.S. Fish and Wildlife Service's National Wetlands Inventory Wetlands Mapper (USFWS 2020) was reviewed to determine if any surface water and wetland features were previously mapped in the study area and general vicinity. Surface water and wetland features within the National Wetlands Inventory are described by the Cowardin et al. (1979) system. Features delineated during the onsite routine delineation were classified using the Cowardin et al. (1979) system as adapted by the Federal Geographic Data Committee (2013).

Field observations were conducted from September 1 to September 3, 2020. Stantec biologists collected 14 sample points throughout the study area representing each wetland feature type and associated uplands (Appendix B). The biologists also collected three OHWM data forms to document each stream in the study area (Appendix C).

The boundaries of delineated features and the associated sample points were mapped using an Eos Positioning Systems, Inc., Arrow 100 submeter Global Positioning System (GPS) receiver, paired with an Apple iPad using Esri Collector for ArcGIS app. The GPS location data were overlaid onto aerial imagery of the study area to develop the delineation map.

Study Area (22.32 acres)
Map Reference Point
Sample Point
Culvert
Ordinary High Water Mark
1-ft Contours

Coastal Act Waters

3-Parameter Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
Riparian Wetland (0.07 acre)
Vegetated Ditch (0.02 acre)

1-Parameter Wetlands

Riparian / Fresh Emergent Wetland Complex (0.54 acre)
Riparian Wetland (0.64 acre)

Streams

Perennial Stream (0.75 acre)

0 50 100 Feet
(At original document size of 11x17)
1:1,200

N

"Coastal Act Waters" are wetlands, coastal waters, and streams regulated under the California Coastal Act. This delineation of waters of the State is subject to verification by the California Coastal Commission (CCC). Statnec advises all parties that the delineation is preliminary until the CCC provides a written verification.

Stantec

Project Location
Humboldt County, California

Prepared by ST on 2020-09-10
IR by GY on 2020-09-10

Client/Project
185705051
Redwood Community Action Agency
Little River Trail Project

Figure No.
3

Title
Coastal Act Waters
September 2020

Notes
1. Coordinate System: NAD 1983 StatePlane California I FIPS 0401 Feet
NAD 1983 StatePlane California I FIPS 0401 Feet
2. Data Sources: Aerial Imagery: Vivid Maxar 11/7/2018
3. Delineator: Sarah Tona and Jacqueline Phipps
4. Delineation Date: September 1-3, 2020

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- Study Area (22.32 acres)
- Map Reference Point
- Sample Point
- Culvert
- Ordinary High Water Mark
- 1-ft Contours

Coastal Act Waters

3-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (1.89 acres)
- Fresh Emergent Wetland (0.19 acre)
- Riparian Wetland (0.07 acre)
- Vegetated Ditch (0.02 acre)

1-Parameter Wetlands

- Riparian / Fresh Emergent Wetland Complex (0.54 acre)
- Riparian Wetland (0.64 acre)

Streams

- Perennial Stream (0.75 acre)

0 50 100 Feet

(At original document size of 11x17)
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Figure No.
3

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September 2020

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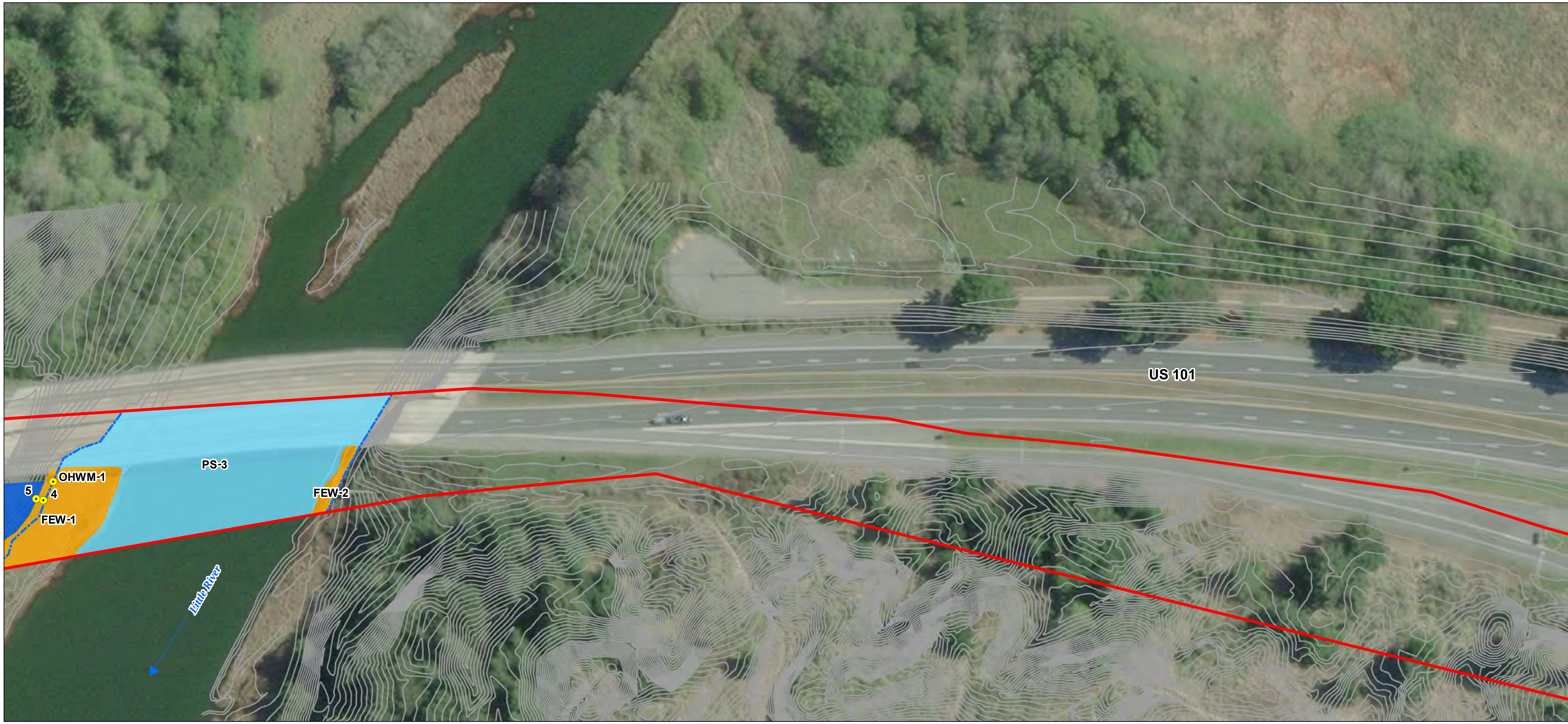

Study Area (22.32 acres)
Map Reference Point
Sample Point
Culvert
Ordinary High Water Mark
1-ft Contours

Coastal Act Waters

3-Parameter Wetlands

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Stantec

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Client/Project
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Figure No.
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Title
Coastal Act Waters
September 2020

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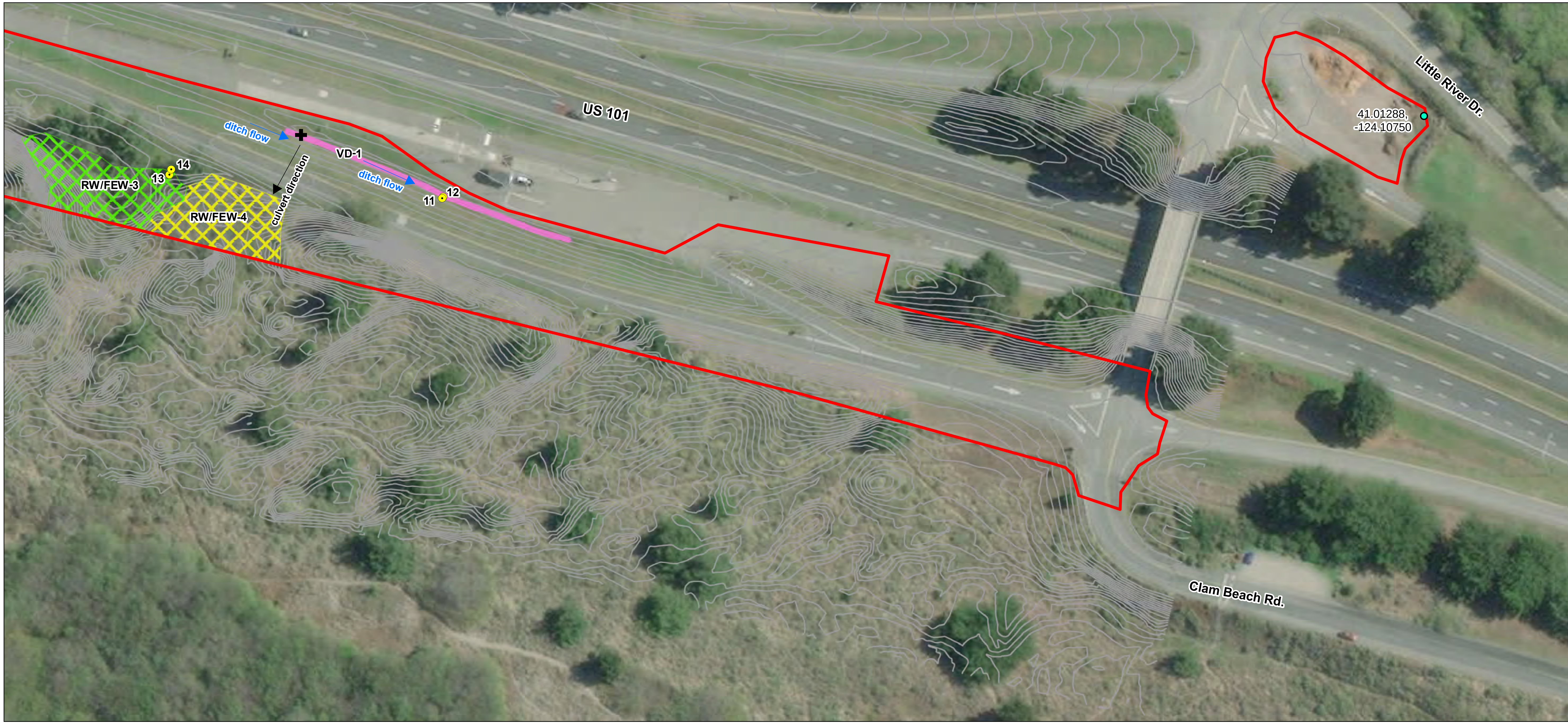

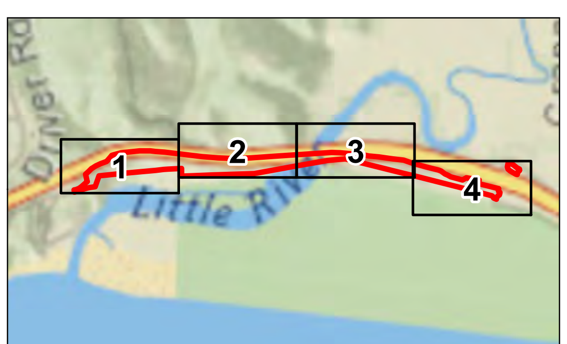

Study Area (22.32 acres)
Map Reference Point
Sample Point
Culvert
Ordinary High Water Mark
1-ft Contours

Coastal Act Waters

3-Parameter Wetlands

Riparian / Fresh Emergent Wetland Complex (1.89 acres)
Fresh Emergent Wetland (0.19 acre)
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Vegetated Ditch (0.02 acre)

1-Parameter Wetlands

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September 2020

Notes
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Potential Coastal Act Waters

3-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-1	Riparian / Fresh Emergent Wetland Complex	0.02	-	-	E2SS	41.02697	-124.10801
RW/FEW-2	Riparian / Fresh Emergent Wetland Complex	1.68	-	-	E2SS	41.02486	-124.10793
RW/FEW-3	Riparian / Fresh Emergent Wetland Complex	0.19	-	-	E2SS	41.01641	-124.10783
	Subtotal	**1.89**					
FEW-1	Fresh Emergent Wetland	0.17	-	-	E2EM	41.02072	-124.10734
FEW-2	Fresh Emergent Wetland	0.02	-	-	E2EM	41.02002	-124.10721
	Subtotal	**0.19**					
RW-1	Riparian Wetland	0.07	-	-	E2SS	41.02176	-124.10757
RW-3	Riparian Wetland	<0.01	-	-	E2SS	41.02476	-124.10753
	Subtotal	**0.07**					
VD-1	Vegetated Ditch	0.02	-	-	E2EM	41.01561	-124.10775
	Total 3-Parameter Wetlands	**2.17**					

1-Parameter Wetlands

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
RW/FEW-4	Riparian / Fresh Emergent Wetland Complex	0.17	-	-	N/A	41.01613	-124.10788
RW/FEW-5	Riparian / Fresh Emergent Wetland Complex	0.06	-	-	N/A	41.02606	-124.10767
RW/FEW-6	Riparian / Fresh Emergent Wetland Complex	0.07	-	-	N/A	41.02437	-124.10784
RW/FEW-7	Riparian / Fresh Emergent Wetland Complex	0.24	-	-	N/A	41.02295	-124.10786
	Subtotal	**0.54**					
RW-2	Riparian Wetland	0.29	-	-	N/A	41.02105	-124.10746
RW-4	Riparian Wetland	0.35	-	-	N/A	41.02105	-124.10746
	Subtotal	**0.64**					
	Total 1-Parameter Wetlands	**1.18**					

Other Waters

Label	Type	Area (Ac)	Length (ft)	Width (ft)	Cowardin	Location (lat)	Location (long)
PS-1	Perennial Stream	0.05	130	15	E1UB	41.02694	-124.10791
PS-2	Perennial Stream	0.01	96	5	E2SB	41.02478	-124.10759
PS-3	Perennial Stream	0.69	141	285	E1UB	41.02033	-124.10713
	Total Other Waters	**0.75**	**367**				
	Total Potential Coastal Act Waters	**4.10**	**367**				

Stantec

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IR by GY on 2020-09-10

Client/Project
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Little River Trail Project

185705051

Figure No.
3

Title
Coastal Act Waters
September 2020

Summary

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5.0 RESULTS AND DISCUSSION

Coastal Act waters within the study area occupy a total of 4.10 acres and include 3-parameter wetlands (2.17 acres), 1-parameter wetlands (1.18 acres) and streams (0.75 acre, 367 linear feet) (Table 1). The boundaries and area of each Coastal Act waters type within the study area are illustrated in Figure 3. Routine wetland determination data forms are provided in Appendix B and OHWM data forms are in Appendix C. Representative photographs of the delineated features, sample point locations, and OWHM data point locations are in Appendix D. A list of plants observed during the wetland delineation and their wetland indicator statuses are provided in Appendix E. A National Wetlands Inventory map of the study area region is provided in Appendix F.

Table 1. Coastal Act Waters Summary

Coastal Act Water	Total Acreage	Total Linear Feet	Cowardin Type1
3-Parameter Wetlands			
Riparian /Fresh Emergent Wetland Complex	1.89	N/A	E2SS
Fresh Emergent Wetland	0.19	N/A	E2EM
Riparian Wetland	0.07	N/A	E2SS
Vegetated Ditch	0.02	N/A	E2EM
Subtotal	**2.17**		
1-Parameter Wetlands			
Riparian /Fresh Emergent Wetland Complex	0.54	N/A	N/A
Riparian Wetland	0.64	N/A	N/A
Subtotal	**1.18**		
Streams			
Perennial Stream	0.75	367	E1UB and E2SB
Total Coastal Act Waters	**4.10**	**367**	

Note:
1. Federal Geographic Data Committee. 2013.

Several sample points were placed in areas determined to be uplands. These upland sample points document the upland/wetland transition point or document an area suspected to be a wetland. Several upland sample points met the hydrophytic vegetation criterion (sample points 3, 7, 10, 11, 14) (Figure 3); however, these upland points lacked hydric soils or wetland hydrology indicators. The sample points satisfied the vegetation criteria because red alder or Sitka spruce, both facultative plants, dominated the overstory. While they could qualify as Coastal Act waters by the presence of a single parameter, Stantec biologists determined that each area was upland based on its occurrence at a convex upland topographic position, the dominance of upland or facultative upland plants in the understory, and the lack of hydric soil or wetland hydrology indicators. See the datasheets in Appendix B for a detailed discussion of each location.

5.1 CHARACTERIZATION OF DELINEATED FEATURES

Features described in this section are shown on Figure 3.

5.1.1 Wetlands

5.1.1.1 Riparian/Fresh Emergent Wetland

Riparian wetlands generally consist of wetland areas near or adjacent to intermittent and perennial streams and include woody hydrophytic vegetation. Fresh emergent wetlands are ponded and/or flooded for long durations during the growing season and support herbaceous perennial hydrophytes. The complex type is used when both wetland types occur in the same general location.

Three riparian /fresh emergent wetland (RW/FEW) features occur in the study area as three-parameter wetlands (RW/FEW-1, RW/FEW-2, RW/FEW-3) (Figure 3). Hydrophytic vegetation is dominant in all three features, including red alder, Himalayan blackberry, slough sedge, coastal miterwort (*Pectiantia ovalis*), and yellow skunk cabbage. Hydric soils were evidenced by a depleted matrix (F3) with distinct redox concentrations. Wetland hydrology indicators included evidence of drift deposits (B3), geomorphic position (D2), and the FAC-neutral test (D5).

Four RW/FEW features are 1-parameter wetlands in the study area (RW/FEW-4 through RW/FEW-7) (Figure 3). All four features are adjacent to and continuous with 3-parameter wetlands. Three of the four 1-parameter wetland features (RW/FEW-4, RW/FEW-6, and RW/FEW-7) have hydrophytic vegetation indicators and either hydric soil indicators or wetland hydrology indicators. One feature only had one parameter (hydric soil indicators) (RW/FEW-5). Based on the location near Little River and its position in a wide depression, Stantec determined RW/FEW-5 qualified as a 1-parameter wetland. All four features are located at the base of a steep slope and are slightly upslope from the estuarine-influenced Little River, which indicates that water is present for at least part of the year. The understory in most of these features had a significant proportion of facultative wetland[2] or obligate[1] plants, such as slough sedge and coastal miterwort (*Mitella ovalis*). The uplands located to the east of these features are slightly upslope and are typically dominated by bracken fern and sword fern in the understory; both facultative upland[1] plants.

[2] Wetland indicator status for plant species is based on the National Wetland Plant List (USACE 2018):
Obligate Wetland (OBL) – Plants that occur almost always in wetlands
Facultative Wetland (FACW) – Plants that usually occur in wetlands, but also occur in non-wetlands (i.e., uplands)
Facultative Upland (FACU) – Plants that usually occur in uplands, but also occur in wetlands

5.1.1.2 Fresh Emergent Wetland

The area directly along the Little River was identified as fresh emergent wetland (FEW-1 and FEW-2) and are three-parameter wetlands. Since it is frequently flooded and does not contain woody riparian vegetation, it is considered a fresh emergent wetland. The features support perennial hydrophytes, including slough sedge, reedgrass (*Calamagrostis nutkaensis*), and silverweed. Hydric soils were evidenced by depleted matrix (F3), and hydrology was evidenced by oxidized rhizospheres along living roots (C3) and the FAC-neutral test (D5).

5.1.1.3 Riparian Wetland

Riparian wetlands in the study area are dominated by woody riparian vegetation and do not have a significant fresh emergent wetland component. Riparian wetland (RW)-1 and RW-3 occur just north of the Little River and are three-parameter wetlands. The features are dominated by coastal willow, cascara sagrada, California wax myrtle, and slough sedge. Hydrology is evidenced by FAC-neutral test (D5) and geomorphic position (G2). Hydric soils are evidenced by sandy redox (S5).

RW-2 and RW-4 are 1-parameter wetlands in the study area. The features are dominated by coastal willow. No indicators of hydric soils were observed in either feature, but hydrology is evidenced by oxidized rhizospheres (C3) and the FAC-neutral test (D5). They are considered Coastal Act waters because of the dominance of hydrophytic vegetation, and evidence of wetland hydrology, and in the case of RW-2, proximity to the Little River.

5.1.1.4 Vegetated Ditch

Vegetated ditches are vegetated, linear, drainage features that convey water. They are ditches that meet the requirements of wetlands by having hydric soils, indicators of wetland hydrology, and are dominated by wetland vegetation. A narrow roadside ditch (VD1) occurs in the southern portion of the study area and is a 3-parameter wetland. It is a concave feature that collects run-off from the pavement at the northern end, runs for a short distance to a concrete culvert, and continues flowing to a lesser extent south of the culvert. The ditch appears to dissipate and does not have indicators of hydrology, vegetation, or an OHWM at the southern end of the feature.

Vegetation is dominated by coastal willow and Baltic rush. Hydric soils were evidenced by depleted matrix (F3). Wetland hydrology indicators consisted of oxidized rhizospheres along living roots(C3) and FAC-neutral test (D5).

5.1.2 Streams

5.1.2.1 Perennial Stream

Perennial streams (PS) consist of natural drainages that convey waters year-round. Perennial streams typically support adjacent riparian vegetation.

The Little River (PS-3) and two unnamed perennial streams (PS-1, PS-2) occur in the study area, documented by sample points OHWM-1, OHWM-2, and OHWM-3 (Figure 3). A distinct bed and bank change in vegetation composition from herbaceous hydrophytes to woody riparian vegetation and drift deposits indicate the OHWM for all three perennial stream features. The Little River is the largest feature. At the time of the survey, the active flow channel was about 200 feet wide and 5 to 12 feet deep. Both unnamed streams (PS-1 and PS-2) are sourced by culverts that run under US 101 that surface in or near the study area on the west side of US 101. The upstream source of the streams are likely on the east side of US 101, outside the study area. PS-1 is covered by a canopy of willow above the OHWM. It is about 15 feet wide and 3 feet deep. The stream is likely sourced by a culvert under US 101, although the vegetation was too dense to confirm. The feature flows to the Little River. PS-2 is 5 feet wide and about 6 inches deep and is a tributary to the Little River. The canopy consists of red alder on either side of the stream and hydrophytic vegetation occurs along the OWHM, including wire rush, horsetails (*Equisetum* spp.), and hedge nettle (*Stachys ajugoides*).

6.0 CONCLUSION

A total of 4.10 acres (367 linear feet) of Coastal Act waters (3-parameter wetlands, 1-parameter wetlands, and streams) were delineated within the study area. Coastal Act waters identified in this report are subject to verification by the CCC. Stantec advises all parties to treat the information contained herein as preliminary until the CCC provides written verification of the boundaries of its jurisdiction.

7.0 REFERENCES

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APPENDIX A

Climate Analysis for Wetlands Table

WETS Table

WETS Station: ARCATA EUREKA AP, CA								
Requested years: 1971 - 2020								
Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	56.0	40.3	48.1	7.12	4.60	8.57	12	-
Feb	55.8	39.9	47.8	6.78	3.95	8.24	11	-
Mar	56.3	40.8	48.5	6.67	4.64	7.94	12	-
Apr	57.4	42.5	49.9	4.06	2.71	4.86	9	-
May	59.5	45.8	52.6	2.01	0.94	2.45	5	-
Jun	62.3	48.2	55.2	0.87	0.29	1.00	2	-
Jul	63.3	51.2	57.2	0.16	0.04	0.16	0	-
Aug	64.1	51.1	57.6	0.20	0.06	0.23	0	-
Sep	64.7	48.3	56.5	0.92	0.26	1.02	2	-
Oct	63.0	44.8	53.9	3.09	1.14	3.73	5	-
Nov	58.6	42.0	50.3	6.09	4.02	7.30	11	-
Dec	55.6	39.6	47.6	9.03	5.35	10.97	13	-
Annual:					40.33	51.58		
Average	59.7	44.5	52.1	-	-	-	-	-
Total	-	-	-	47.01			81	-

GROWING SEASON DATES

Years with missing data:	24 deg = 21	28 deg = 22	32 deg = 24
Years with no occurrence:	24 deg = 28	28 deg = 10	32 deg = 0
Data years used:	24 deg = 29	28 deg = 28	32 deg = 26
Probability	24 F or higher	28 F or higher	32 F or higher
50 percent *	No occurrence	1/3 to 1/14: 376 days	3/27 to 11/27: 245 days
70 percent *	No occurrence	No occurrence	3/18 to 12/7: 264 days
* Percent chance of the growing season occurring between the Beginning and Ending dates.			

STATS TABLE - total precipitation (inches)

Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1945					M4.07	MT	0.01	M0.00	M0.37	4.60	13.01	12.89	34.95
1946	5.01	6.44	5.31	M0.50									17.26
1947													
1948													
1949													
1950													
1951													
1952													
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1991													
1992													
1993													
1994													
1995													
1996													
1997													
1998		14.12	8.13	2.33	4.51	0.24	0.06	0.02	0.28	4.65	16.57		50.91
1999	5.80	12.28	9.94	2.42	2.31	0.06	0.01	0.25	0.01	1.53	8.32	3.66	46.59
2000	12.80	8.67	3.09	3.78	2.77	1.08	0.02	0.02	0.44	3.37	4.26	2.76	43.06
2001	3.92	4.53	2.21	3.07	0.99	1.00	0.17	0.23	0.41	1.78	9.54	11.41	39.26
2002	7.56	6.95	4.75	3.06	0.70	0.83	0.07	0.04	0.19	0.06	2.36	22.96	49.53
2003	7.81	3.78	5.63	12.92	1.45	0.11	0.04	0.58	0.55	0.56	6.08	12.97	52.48
2004	6.71	9.07	2.59	2.07	1.14	0.07	0.11	0.70	0.63	4.98	1.71	9.11	38.89
2005	5.54	2.16	6.13	6.55	4.86	4.10	0.10	0.14	0.17	3.42	9.38	13.99	56.54
2006	11.94	5.97	10.63	4.50	1.48	0.56	0.08	0.10	0.17	0.70	9.50	9.68	55.31
2007	2.63	13.11	3.66	3.71	0.95	0.67	0.86	0.12	1.03	5.73	3.23	7.78	43.48

2008	10.26	3.65	4.79	2.40	0.10	0.40	0.09	0.82	0.18	1.13	5.08	10.01	38.91
2009	2.06	6.78	6.78	1.38	3.86	0.31	0.19	0.14	0.63	2.45	4.34	5.08	34.00
2010	10.49	5.38	6.76	8.36	3.58	3.46	0.10	0.21	2.00	5.29	6.35	12.38	64.36
2011	2.69	4.66	12.57	5.07	1.72	1.31	0.25	M0.05	M0.37	5.16	4.64	3.31	41.80
2012	9.11	M2.12	12.65	5.66	1.08	2.41	0.76	0.08	0.10	3.55	6.93	11.06	55.51
2013	2.94	2.00	3.47	2.24	1.88	0.78	0.00	0.10	4.37	0.05	1.70	0.98	20.51
2014	2.16	7.90	8.85	1.84	1.05	0.73	T	0.00	3.23	5.74	5.11	9.96	46.57
2015	2.07	5.59	3.78	2.39	0.10	0.07	0.13	0.51	0.59	1.10	5.30	18.77	40.40
2016	12.30	2.93	10.48	3.27	0.64	0.11	0.59	0.02	T	12.03	7.20	8.22	57.79
2017	11.03	14.24	10.09	5.32	1.26	0.72	0.01	0.01	0.73	1.81	8.55	2.31	56.08
2018	9.19	2.97	8.35	5.34	0.97	0.48	0.02	0.02	0.32	0.89	5.68	5.40	39.63
2019	8.39	16.09	5.39	3.64	3.11	T	0.02	0.46	3.21	2.08	2.05	7.88	52.32
2020	9.26	1.01	2.80	2.11	5.66	0.53	MT	0.02	M0.13				21.52
Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.													
Data missing for all days in a month or year is blank.													
Creation date: 2016-07-22													

APPENDIX B

Routine Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 1
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6 , 7 N, 1 E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.023436 Long: -124.107818 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes X	No ___
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks:
Sample point documents a coastal wetland. Wetland hydrology not present, hydrophytic vegetation, and hydric soil present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus ursinus* / California blackberry	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 10 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	50	Yes	OBL
2. *Pteridium aquilinum* / Western brackenfern	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 60

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	130 (A)		320 (B)

Prevalence Index = B/A = 2.46

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation met.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/3	100					Loamy sand	
6-16	10YR 4/1	60	10YR 3/4	40	C	PL	Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:
Hydric soil present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No indicators of wetland hydrology present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River | City/County: Humboldt | Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency | State: CA | Sampling Point: 2
Investigator(s): J. Phipps, S. Tona | Section, Township, Range: S 6, 7 N, 1 E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): None | Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) | Lat: 41.022324 | Long: -124.107669 | Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?		X
Hydric Soil Present?		X
Wetland Hydrology Present?		X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks:
Sample point documents the upland pair point for a coastal wetland. Hydrophytic vegetation, hydric soil, and wetland hydrology indicators are not present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Frangula purshiana* / Cascara sagrada	30	Yes	FAC
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 10 foot radius)			
1. *Rubus ursinus* / California blackberry	25	Yes	FACU
2. *Carex obnupta* / Slough sedge, Slough sedge	5	No	OBL
3. *Pteridium aquilinum* / Western brackenfern	3	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	33	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 70

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	28	x 4 =	112
UPL species	0	x 5 =	0
Column Totals:	63 (A)		207 (B)

Prevalence Index = B/A = 3.29

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks:

No hydrophytic vegetation.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/2	100					Loamy sand	
6-16	10YR 4/1	100					Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): ______

Hydric Soil Present? Yes ______ No X

Remarks:

Hydric soil not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ______	No X	Depth (inches):	
Water Table Present?	Yes ______	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ______	No X	Depth (inches):	

Wetland Hydrology Present? Yes ______ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology met.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River | City/County: Humboldt | Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency | State: CA | Sampling Point: 3
Investigator(s): S. Tona, J. Phipps | Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): None | Slope (%): 0
Subregion (LRR): Northwest Forest and Coast (A) | Lat: 41.022324 | Long: -124.107669 | Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes | NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes ___	No X
Wetland Hydrology Present?	Yes ___	No X

Is the Sampled Area within a Wetland? Yes ___ No X

Remarks: Sample point 3 documents a suspect area. Soil and hydrology indicators were not met. Although hydrophytic vegetation is present, the area does not qualify as a coastal wetland due to the absence of hydric soil and hydrology indicators. The area is dominated by a FAC Sitka spruce in the overstory, however FAC plants occur in uplands part of the time. FACU bracken fern is common in the understory. Based on lack of other indicators and the upland topographic position, the area is upland.

VEGETATION - Use scientific names of plants.

Stratum / Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 10 foot radius)			
1. *Picea sitchensis* / Sitka spruce	30	Yes	FAC
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Frangula purshiana* / Cascara sagrada	2	Yes	FAC
2.			
3.			
4.			
5.			
	2	= Total Cover	
Herb Stratum (Plot size: 10 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	30	Yes	OBL
2. *Pteridium aquilinum* / Western brackenfern	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	32	x 3 =	96
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	82 (A)		206 (B)

Prevalence Index = B/A = 2.51

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation met.

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 3/2	100					Sand	Hydric soil not present

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ________
Depth (inches): ________

Hydric Soil Present? Yes ____ No X

Remarks:
Hydric soil not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) **(LRR A)**
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
X FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) **(LRR A)**
___ Frost-Heave Hummocks (D7)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present?		X	
Water Table Present?		X	
Saturation Present? (includes capillary fringe)		X	

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology not present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River | City/County: Humboldt | Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency | State: CA | Sampling Point: 4
Investigator(s): S. Tona, J. Phipps | Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): None | Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) | Lat: 41.020795 | Long: -124.107278 | Datum: NAD 1983
Soil Map Unit Name: 155: Samoa-Clambeach complex, 0 to 50 percent slopes | NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	X	
Hydric Soil Present?	X	
Wetland Hydrology Present?	X	

Is the Sampled Area within a Wetland? Yes X No ___

Remarks:
Hydrology soil, and vegetation meet wetland requirements. OHWM just above location. On edge of willows that represent the OHWM.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Calamagrostis nutkaensis* / Reedgrass, Pacific reed grass	50	Yes	FACW
2. *Argentina anserina* / Silverweed	40	Yes	OBL
3. *Lotus corniculatus* / Bird's foot trefoil, Bird's-foot trefoil	10	No	FAC
4. *Symphyotrichum chilense* / Pacific aster	10	No	FAC
5. *Juncus balticus* / Wire rush	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	112	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	52	x 2 =	104
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	112 (A)		204 (B)

Prevalence Index = B/A = 1.82

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation is dominant and the indicator has been met.

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-4	10YR 4/2	100					Loamy sand	
4-16	10YR 5/1	40	7.5YR 5/8	60	C	M	Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:

Hydric soil is present and meet the requirements for indicator F3 Depleted Matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland hydrology indicators present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River — City/County: Humboldt — Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency — State: CA — Sampling Point: 5
Investigator(s): S. Tona, J. Phipps — Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope — Local relief (concave, convex, none): None — Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) — Lat: 41.020814 — Long: -124.107274 — Datum: NAD 1983
Soil Map Unit Name: 155: Samoa-Clambeach complex, 0 to 50 percent slopes — NWI classification: E1UBL
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	X	
Hydric Soil Present?		X
Wetland Hydrology Present?	X	
Is the Sampled Area within a Wetland?	X	

Remarks:

Sample point documents a CCC wetland. Hydrophytic vegetation and wetland hydrology indicators are present, hydric soil indicators not present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 5 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 foot radius)			
1. *Salix hookeriana* / Coastal willow	100	Yes	FACW
2.			
3.			
4.			
5.			
	100	= Total Cover	
Herb Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:

Hydrophytic vegetation present.

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Loamy sand	
4-16	10YR 4/2	85	10YR 3/3	15	C	M	Loamy sand	faint concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ____
Depth (inches): ____

Hydric Soil Present? Yes ____ No X

Remarks:
Hydric soil indicators not met because redox concentrations are faint.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
X Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) **(LRR A)**
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
X FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) **(LRR A)**
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Oxidized rhizospheres and FAC-Neutral Test provides indicators of wetland hydrology.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site:	Little River	City/County:	Humboldt	Sampling Date:	09/02/2020
Applicant/Owner:	Redwood Community Action Agency	State:	CA	Sampling Point:	6
Investigator(s):	S. Tona, J. Phipps	Section, Township, Range:	S 6, T 7N, R 1E		
Landform (hillslope, terrace, etc):	Hillslope	Local relief (concave, convex, none):	Concave	Slope (%):	1
Subregion (LRR):	Northwest Forest and Coast (A)	Lat: 41.021686	Long: -124.107676	Datum:	NAD 1983
Soil Map Unit Name:	131: Fluvaquents, 0 to 2 percent slopes	NWI classification:	None		

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
Sample point documents a Riparian / Fresh Emergent Wetland Complex. Hydrophytic vegetation, hydric soil, and wetland hydrology indicators are present.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 10 foot radius)			
1. *Salix hookeriana* / Coastal willow	30	Yes	FACW
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Frangula purshiana* / Cascara sagrada	30	Yes	FAC
2. *Rubus ursinus* / California blackberry	20	Yes	FACU
3. *Morella californica* / California wax myrtle	20	Yes	FACW
4.			
5.			
	70	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Polystichum munitum* / Western sword fern	15	Yes	FACU
2. *Carex obnupta* / Slough sedge, Slough sedge	15	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:			Multiply by:	
OBL species	15	x 1 =	15	
FACW species	50	x 2 =	100	
FAC species	30	x 3 =	90	
FACU species	35	x 4 =	140	
UPL species	0	x 5 =	0	
Column Totals:	130	(A)	345	(B)

Prevalence Index = B/A = 2.65

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-4	10YR 4/3	100					Sand	
4-16	10YR 4/3	85	10YR 4/6	15	C	PL	Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ______
Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:
Hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland hydrology indicated by secondary indicators geomorphic poistion and FAC-Neutral Test. Swale/concave geomorphology at feature location.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 7
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.02166 Long: -124.10767 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	X	
Hydric Soil Present?		X
Wetland Hydrology Present?		X
Is the Sampled Area within a Wetland?		X

Remarks: Sample point documents a upland point paired with Sample point 6. Hydrophytic vegetation is present, but hydric soil and wetland hydrology indicators are not present. Although hydrophytic vegetation is present, the area does not qualify as a coastal wetland due to the absence of hydric soil and hydrology indicators. The area is dominated by a FAC Sitka spruce, however FAC plants occur in uplands part of the time. The understory is dominated by a FACU shrub, and the prevalence index is greater than 3.0. Based on lack of other indicators and the topographic position and substrate, the area is upland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 10 foot radius)			
1. *Picea sitchensis* / Sitka spruce	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus ursinus* / California blackberry	20	Yes	FACU
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	5	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 75

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	75 (A)		235 (B)

Prevalence Index = B/A = 3.13

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index ≤3.0¹
- ___ 4 - Morphological Adaptations¹ (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants¹
- ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation is dominant.

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 4/3	100					Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

Does not satisfy any hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology not present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River — City/County: Humboldt — Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency — State: CA — Sampling Point: 8
Investigator(s): S. Tona, J. Phipps — Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope — Local relief (concave, convex, none): Concave — Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) — Lat: 41.026046 — Long: -124.107762 — Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes — NWI classification: E2USM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	X	
Hydric Soil Present?	X	
Wetland Hydrology Present?	X	
Is the Sampled Area within a Wetland?	X	

Remarks:
Sample point documents a wetland. Hydrophytic vegetation, hydric soil, and wetland hydrology indicators are present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Alnus rubra* / Red alder	60	Yes	FAC
2.			
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus armeniacus* / Himalayan blackberry	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Mitella ovalis* / Coastal miterwort	60	Yes	FACW
2. *Lysichiton americanus* / Yellow skunk cabbage, Yellow skunk	25	Yes	OBL
3. *Equisetum telmateia* / Giant horsetail	15	No	FACW
4. *Pteridium aquilinum* / Western brackenfern	1	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	101	= Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	75	x 2 =	150
FAC species	80	x 3 =	240
FACU species	1	x 4 =	4
UPL species	0	x 5 =	0
Column Totals:	181 (A)		419 (B)

Prevalence Index = B/A = 2.31

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation indicators dominant.

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/1	90	10YR 3/6	10	C	PL,M	Loamy sand	
6-16	10YR 4/1	60	5YR 4/6	40	C	PL,M	Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

X Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Loamy Mucky Mineral (F1) **(except MLRA 1)**
__ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
X Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

__ 2 cm Muck (A10)
__ Red Parent Material (TF2)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ______
Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:
Hydric soil present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

__ Surface Water (A1)
__ High Water Table (A2)
__ Saturation (A3)
__ Water Marks (B1)
__ Sediment Deposits (B2)
__ Drift Deposits (B3)
__ Algal Mat or Crust (B4)
__ Iron Deposits (B5)
__ Surface Soil Cracks (B6)
__ Inundation Visible on Aerial Imagery (B7)
__ Sparsely Vegetated Concave Surface (B8)
__ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
__ Salt Crust (B11)
__ Aquatic Invertebrates (B13)
__ Hydrogen Sulfide Odor (C1)
X Oxidized Rhizospheres along Living Roots (C3)
__ Presence of Reduced Iron (C4)
__ Recent Iron Reduction in Tilled Soils (C6)
__ Stunted or Stressed Plants (D1) **(LRR A)**
__ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

__ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
__ Drainage Patterns (B10)
__ Dry-Season Water Table (C2)
__ Saturation Visible on Aerial Imagery (C9)
__ Geomorphic Position (D2)
__ Shallow Aquitard (D3)
X FAC-Neutral Test (D5)
__ Raised Ant Mounds (D6) **(LRR A)**
__ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology indicators present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River — City/County: Humboldt — Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency — State: CA — Sampling Point: 9
Investigator(s): S. Tona, J. Phipps — Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope — Local relief (concave, convex, none): None — Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) — Lat: 41.026046 — Long: -124.107736 — Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes — NWI classification: E2USM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?		X
Hydric Soil Present?	X	
Wetland Hydrology Present?		X
Is the Sampled Area within a Wetland?		X

Remarks:
Hydrophytic vegetation and wetland hydrology indicators not present, hydric soil indicators are present. The area qualifies as a coastal wetland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 10 foot radius)			
1. *Alnus rubra* / Red alder	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus armeniacus* / Himalayan blackberry	30	Yes	FAC
2. *Sambucus racemosa* / Red elderberry	20	Yes	FACU
3.			
4.			
5.			
	50	= Total Cover	
Herb Stratum (Plot size: 10 radius)			
1. *Pteridium aquilinum* / Western brackenfern	35	Yes	FACU
2. *Polystichum munitum* / Western sword fern	15	Yes	FACU
3. *Mitella ovalis* / Coastal miterwort	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	160 (A)		540 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks:
Hydrophytic veg is present but it is not dominant.

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-5	10YR 2/2	100					Sandy loam	
5-16	10YR 4/2	80	10YR 3/6	20	C	PL,M	Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ______
Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:
Hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

	Yes	No	Depth (inches)
Surface Water Present?		X	
Water Table Present?		X	
Saturation Present? (includes capillary fringe)		X	

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Hydrology not present.

Remarks:
No indicators of wetland hydrology were observed.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River City/County: Humboldt Sampling Date: 09/02/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 10
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.026014 Long: -124.107623 Datum: NAD 1983
Soil Map Unit Name: 258: Lepoil-Espa-Candymountain complex, 15 to 50 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X
Is the Sampled Area within a Wetland?	Yes ____	No X

Remarks: Documents upland conditions in a suspect area with hydrophytic vegetation. Hydric soil and wetland hydrology indicators are not present. Although hydrophytic vegetation is present, the area does not qualify as a coastal wetland due to the absence of hydric soil and hydrology indicators. The overstory is dominated by a FAC alder, however FAC plants occur in uplands part of the time. The understory shares dominance with FACU ferns, and the prevalence index is just under 3.0. Based on lack of other indicators and the topographic position and substrate, the area is upland.

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 10 foot radius)			
1. *Alnus rubra* / Red alder	70	Yes	FAC
2.			
3.			
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Sambucus racemosa* / Red elderberry	15	Yes	FACU
2. *Rubus spectabilis* / Salmon berry, Salmonberry	10	Yes	FAC
3. *Rubus ursinus* / California blackberry	5	No	FACU
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 10 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	30	Yes	OBL
2. *Polystichum munitum* / Western sword fern	15	Yes	FACU
3. *Pteridium aquilinum* / Western brackenfern	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	
% Bare Ground in Herb Statum 50			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	160 (A)		470 (B)

Prevalence Index = B/A = 2.94

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic veg present.

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 2/1	100					Loamy sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ___ No X

Remarks:

No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No hydrology present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River | City/County: Humboldt | Sampling Date: 09/03/2020
Applicant/Owner: Redwood Community Action Agency | State: CA | Sampling Point: 11
Investigator(s): J. Phipps, S. Tona | Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): None | Slope (%): 10
Subregion (LRR): Northwest Forest and Coast (A) | Lat: 41.015523 | Long: -124.107811 | Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	X	
Hydric Soil Present?		X
Wetland Hydrology Present?		X
Is the Sampled Area within a Wetland?		X

Remarks: Sample point documents an upland pair point for sample point 12. Hydrophytic vegetation indicators is present, hydric soil, and wetland hydrology indicators are not present. Although hydrophytic vegetation is present, the area does not qualify as a coastal wetland due to the absence of hydric soil and hydrology indicators and dominance of FAC plants, which are known to grow in uplands some of the time. Based on all other characteristics such as topographic position and substrate, the area is upland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2 feet by 10 feet)			
1. *Rubus ursinus* / California blackberry	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 2 feet by 10 feet)			
1. *Symphyotrichum chilense* / Pacific aster	25	Yes	FAC
2. *Festuca rubra* / Red fescue	15	Yes	FAC
3. *Holcus lanatus* / Common velvetgrass, Common velvet grass	5	No	FAC
4. *Daucus carota* / Carrot, Carrot, Queen anne's lace	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	47	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:			Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	45	x 3 =	135	
FACU species	12	x 4 =	48	
UPL species	0	x 5 =	0	
Column Totals:	57	(A)	183	(B)

Prevalence Index = B/A = 3.21

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation present.

SOIL

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 4/2	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ______

Depth (inches): ______

Hydric Soil Present? Yes ___ No X

Remarks:

Hydric soil not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) **(LRR A)**
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) **(LRR A)**
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? Yes ___ No X Depth (inches): ___
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hydrology not present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River   City/County: Humboldt   Sampling Date: 09/03/2020
Applicant/Owner: Redwood Community Action Agency   State: CA   Sampling Point: 12
Investigator(s): S. Tona, J. Phipps   Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope   Local relief (concave, convex, none): Concave   Slope (%): 1
Subregion (LRR): Northwest Forest and Coast (A)   Lat: 41.015526   Long: -124.107816   Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes   NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed?   Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ___
Hydric Soil Present? Yes X No ___
Wetland Hydrology Present? Yes X No ___

Is the Sampled Area within a Wetland? Yes X No ___

Remarks: Vegetated ditch located between two paved roads. Sample point documents a wetland. Hydrophytic vegetation, hydric soil, and wetland hydrology indicators are present.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 2 feet by 10 feet)			
1. *Salix hookeriana* / Coastal willow	25	Yes	FACW
2. *Rubus ursinus* / California blackberry	2	No	FACU
3.			
4.			
5.			
	27	= Total Cover	
Herb Stratum (Plot size: 2 feet by 10 feet)			
1. *Juncus balticus* / Wire rush	50	Yes	FACW
2. *Holcus lanatus* / Common velvetgrass, Common velvet grass	5	No	FAC
3. *Mentha arvensis* / American wild mint, Field mint	5	No	FACW
4. *Symphyotrichum chilense* / Pacific aster	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	62	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	7	x 3 =	21
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	89 (A)		189 (B)

Prevalence Index = B/A = 2.12

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydric vegetation present.

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/1	100					Clay loam	
6-16	10YR 4/2	80	10YR 5/8	20	C	PL,M	Clay loam	Gravelly

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:
Hydric soil is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology present.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River | City/County: Humboldt | Sampling Date: 09/03/2020
Applicant/Owner: Redwood Community Action Agency | State: CA | Sampling Point: 13
Investigator(s): S. Tona, J. Phipps | Section, Township, Range: S 6, T 7 N, R 1 E
Landform (hillslope, terrace, etc): Hillslope | Local relief (concave, convex, none): Concave | Slope (%): 30
Subregion (LRR): Northwest Forest and Coast (A) | Lat: 41.016263 | Long: -124.107755 | Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___
Hydric Soil Present?	Yes X	No ___
Wetland Hydrology Present?	Yes X	No ___

Is the Sampled Area within a Wetland? Yes X No ___

Remarks:
Wetland hydrology present along with standing water and floating aquatic vegetation below sample point.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix hookeriana* / Coastal willow	50	Yes	FACW
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 10 foot radius)			
1. *Rubus ursinus* / California blackberry	30	Yes	FACU
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Carex obnupta* / Slough sedge, Slough sedge	25	Yes	OBL
2. *Pteridium aquilinum* / Western brackenfern	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	110 (A)		265 (B)

Prevalence Index = B/A = 2.41

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index ≤3.0¹
- ___ 4 - Morphological Adaptations¹ (Provide supporting
- ___ 5 - Wetland Non-Vascular Plants¹
- ___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ___

Remarks:
Hydrophytic vegetation met.

SOIL

Sampling Point: 13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-6	10YR 3/2	100					Sand	
6-16	2.5Y 4/2	80	2.5Y 4/4	20	C	M	Sand	Distinct redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

___ 2 cm Muck (A10)
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ______
Depth (inches): ______

Hydric Soil Present? Yes X No ___

Remarks:
Hydric soil present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
X Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres along Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) **(LRR A)**
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
X FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) **(LRR A)**
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	
Water Table Present?	Yes ___	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Drift deposits indicate wetland hydrology at the sample point. Standing water with floating aquatic veg was observed in the feature below the sample point.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Little River south side City/County: Humboldt Sampling Date: 09/03/2020
Applicant/Owner: Redwood Community Action Agency State: CA Sampling Point: 14
Investigator(s): S. Tona, J. Phipps Section, Township, Range: S 6, T 7N, R 1E
Landform (hillslope, terrace, etc): Hillslope Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR): Northwest Forest and Coast (A) Lat: 41.016258 Long: -124.107737 Datum: NAD 1983
Soil Map Unit Name: 131: Fluvaquents, 0 to 2 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No
Hydrophytic Vegetation Present?	X	
Hydric Soil Present?		X
Wetland Hydrology Present?		X
Is the Sampled Area within a Wetland?		X

Remarks: Sample point provides the upland pair to sample point 13 and documents where hydric soils and wetland hydrology drop out. Although hydrophytic vegetation is present, the area does not qualify as a coastal wetland due to dominance of FACU vegetation in the understory and the absence of hydric soil and hydrology indicators. The point was placed at the transition area where willows overhang and dominate the overstory, however based on all other characteristics such as topographic position and substrate, the area is upland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 10 foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix hookeriana* / Coastal willow	30	Yes	FACW
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 foot radius)			
1. *Pteridium aquilinum* / Western brackenfern	40	Yes	FACU
2. *Carex obnupta* / Slough sedge, Slough sedge	20	Yes	OBL
3. *Rubus ursinus* / California blackberry	10	No	FACU
4. *Daucus carota* / Carrot, Carrot, Queen anne's lace	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Statum 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	105 (A)		300 (B)

Prevalence Index = B/A = 2.86

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation present.

SOIL

Sampling Point: 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-16	2.5Y 3/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:
Hydric soil not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland hydrology not present.

APPENDIX C

Ordinary High Water Mark Data Forms

OHWM Delineation Cover Sheet

Project: Little River **Date:** 9/2/20

Location: Little River Humboldt Co **Investigator(s):** S. Tona, J. Phipps

Project Description:
Creating paved bike trail to connect Mckinleyville to Trinidad communities. Trail runs along Coastal area beside HWY 101.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):
Perennial Stream with esturine influence, connected to the bay of Little River and Pacific Ocean. Potential Culvert connection further inland, but this location heavily connected to tides and perennial streamflow. Cutbank 2ft high above water followed by heavily vegetated terrace.

Off-site Information

Remotely sensed image(s) acquired? ☐ Yes ☒ No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ Yes ☒ No [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:
Topo map, Soil map, GPS

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Datasheet # OHWM-1 **OHWM Delineation Datasheet** Page 2 of 4

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☒ Gentle (< 30°) | ☐ None

Notes/Description: OHWM at edge of Salix hookeriana

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	50%	50%				
Below OHWM	50%	50%				

Notes/Description: OHWM seen on bridge pier as water staining, not seen on abutment above OHWM.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM		80	10	10
Below OHWM			90	10

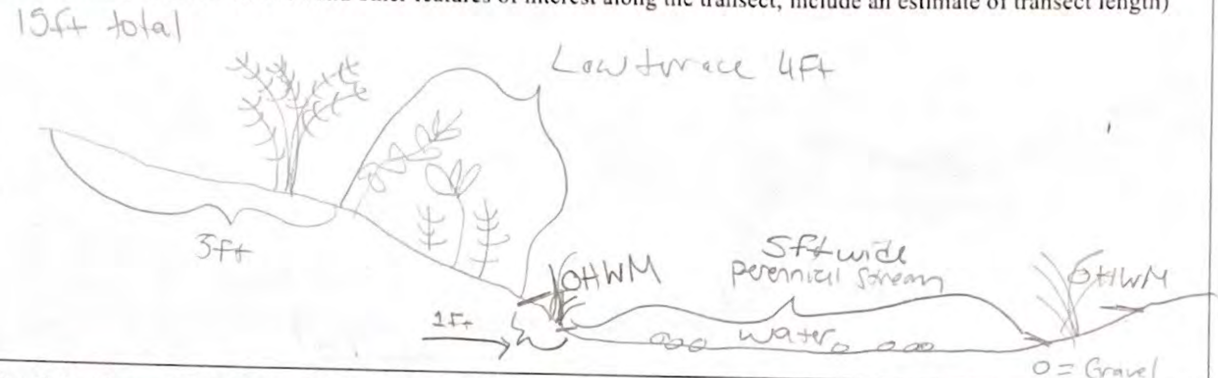
Notes/Description: Dominant species include Calamagrostis nutkaensis, argentina (potentilla) anserina, Lotus corniculatus, Symphyotrichum chilense, Carex obnupta Below OHWM and Salix hookeriana above OHWM.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

The OHWM was mapped at the transition from herbaceous to woody vegetation and a gentle break in slope, this location also corresponded to water staining on the bridge piers.

Datasheet # OHWM-2 **OHWM Delineation Datasheet** Page 3 of 4

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☒ Gentle (< 30°) | ☐ None

Notes/Description: Gentle slope from water (perenial stream)

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	50	50				
Below OHWM	50	25	25			

Notes/Description: Stream flows East to west, further west sediment texture becomes mainly sandy/silt

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM			40	60
Below OHWM			70	10

Notes/Description: aquicetum spp., Stachys ajugoides, Skunk cabbage, Brackenfern, juncus balticus are the dominant species of plants along bank and terrace.

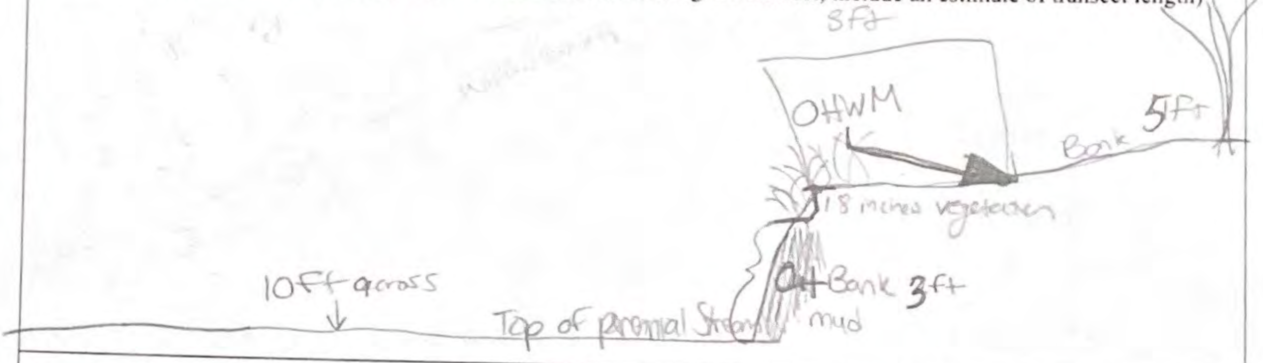
Stachys ajugoides

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

OHWM evidence by cutbank and absence of terrestrial vegetation

Datasheet # OHWM-3 **OHWM Delineation Datasheet** Page 4 of 4

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description: Cut bank has sharp decline to water.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM		100				
Below OHWM	90	10				

Notes/Description: OHWM evidence based on sediment deposits on willow & drift vegetation within willow hanging over perennial Stream

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM		50	50	
Below OHWM		90		10

Notes/Description: Dominant Species include Chenopodium album, argentina anserina, Calamagrostis nutkaensis, Below OHWM and Salix Hookeriana above OHWM.

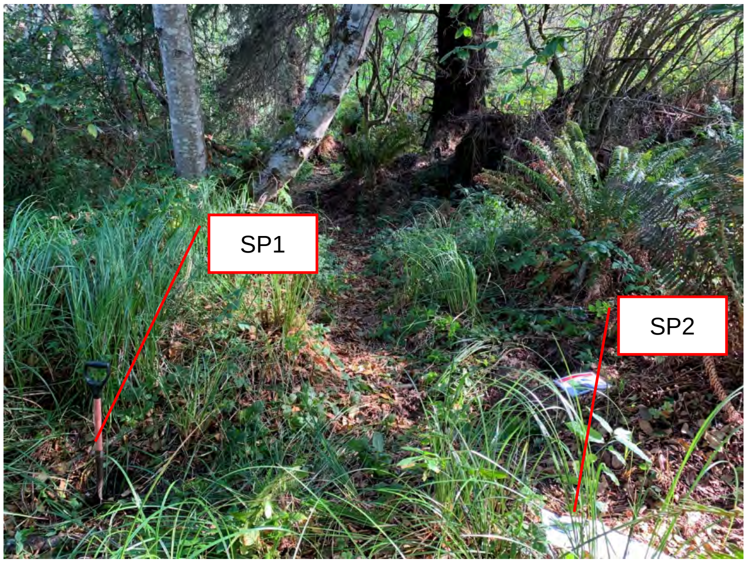
Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Dominant vegetation below OHWM spans 5 Ft from edge of water where Salix hookeriana then becomes the dominant species above OHWM.

APPENDIX D

Photograph Log

Little River Trail Project
Delineation of Coastal Act Waters

<table>
<tr><td>Photograph #1</td><td rowspan="4"></td></tr>
<tr><td>Photo Location:
Sample Point (SP) 1 and 2</td></tr>
<tr><td>Survey Date:
9/2/2020</td></tr>
<tr><td>Comments:
Riparian/fresh emergent wetland complex. SP1 documents the feature and SP2 documents the adjacent uplands. Orientation: north.</td></tr>
<tr><td>Photograph #2</td><td rowspan="4"></td></tr>
<tr><td>Photo Location:
SP3</td></tr>
<tr><td>Survey Date:
9/2/2020</td></tr>
<tr><td>Comments:
Upland. The shovel shows SP3, which documents a suspect area. Orientation: north.</td></tr>
</table>

<table>
<tr><td>Photograph #3

Photo Location:
SP4 and 5 and Ordinary High Water Mark (OHWM)1

Survey Date:
9/2/2020

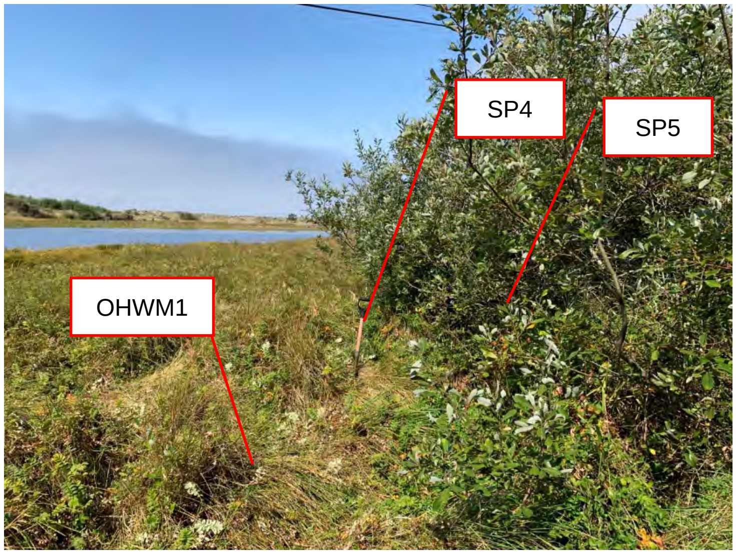
Comments:
SP4 documents the fresh emergent wetland, SP5 documents the riparian wetland, and. OHWM1 documents the OHWM of Little River. Orientation: east.</td><td>
</td></tr>
<tr><td>Photograph #4

Photo Location:
SP6 and 7

Survey Date:
9/2/2020

Comments:
Riparian/fresh emergent wetland complex. SP6 documents the feature and SP7 documents the adjacent uplands. Orientation: east.</td><td>
</td></tr>
<tr><td>Photograph #5

Photo Location:
OHWM2

Survey Date:
9/2/2020

Comments:
Perennial stream. Orientation: east.</td><td>
</td></tr>
</table>

Photograph #:6 **Photo Location:** SP8 and 9 **Survey Date:** 9/2/2020 **Comments:** Riparian/fresh emergent wetland complex. SP8 documents the feature and SP9 documents the adjacent uplands. Orientation: north.	
Photograph #7 **Photo Location:** OHWM3 **Survey Date:** 9/2/2020 **Comments:** Perennial stream. OHWM3 documents the feature. Orientation: east.	
Photograph #8 **Photo Location:** SP 11 and 12 **Survey Date:** 9/3/2020 **Comments:** Vegetated ditch. The shovel shows SP11 and the feature and the orange vest shows SP12 and the adjacent uplands. Orientation: north.	

<table>
<tr><td>Photograph #9</td><td rowspan="4">
</td></tr>
<tr><td>Photo Location:
SP13 and 14</td></tr>
<tr><td>Survey Date:
9/3/2020</td></tr>
<tr><td>Comments:
Riparian/fresh emergent wetland complex. SP13 documents the feature and SP14 documents the adjacent upland. Orientation: southwest.</td></tr>
</table>

APPENDIX E

Plants Observed

Appendix E. Plant List

Scientific Name[1]	Common Name	Wetland Indicator Status[2]
Agrostis stolonifera	redtop	Facultative
Alnus rubra	red Alder	Facultative
Ammophila arenaria	European beachgrass	Facultative upland
Baccharis pilularis	coyote brush	Upland
Calamagrostis nutkaensis	Nootka reed grass	Facultative wetland
Carex obnupta	Slough sedge	Obligate
Daucus carota	Queen Anne's-Lace	Facultative upland
Equisetum telmateia	giant horsetail	Facultative wetland
Festuca rubra	red fescue	Facultative
Frangula purshiana	Cascara false buckthorn	Facultative
Hedera helix	English ivy	Facultative upland
Holcus lanatus	common velvet grass	Facultative
Juncus balticus	Baltic rush	Facultative wetland
Lonicera involucrata	four-line honeysuckle	Facultative
Lotus corniculatus	garden bird's-foot-trefoil	Facultative
Lupinus arboreus	coastal bush lupine	Upland
Lysichiton americanus	yellow-skunk-cabbage	Obligate
Mentha arvensis	American wild mint	Facultative wetland
Morella californica	Pacific bayberry	Facultative wetland
Pectiantia ovalis[3]	Coastal miterwort	Facultative wetland
Picea sitchensis	Sitka spruce	Facultative
Pinus muricata	Bishop pine	Facultative
Polystichum munitum	pineland sword fern	Facultative upland
Potentilla anserina[4]	Pacific silverweed	Obligate
Pseudotsuga menziesii	Douglas fir	Facultative upland
Pteridium aquilinum	northern bracken fern	Facultative upland
Rubus armeniacus	Himalayan blackberry	Facultative
Rubus spectabilis	salmon berry	Facultative
Rubus ursinus	California dewberry	Facultative upland
Salix hookeriana	coastal willow	Facultative wetland
Sambucus racemosa	red elder	Facultative upland
Scirpus microcarpus	red-tinge bulrush	Obligate
Stachys ajugoides	hedge-nettle	Obligate
Symphyotrichum chilense	Pacific American-aster	Facultative

[1] Taxonomic nomenclature for plant species followed: Baldwin, B. G.,D. H. Goldman,R. P. D. J. Keil,T. J. Rosatti, and D. H. Wilken. 2012. *The Jepson manual: vascular plants of California.* 2nd ed. Berkeley, California: University of California Press.

[2] Wetland indicator status for plant species followed United States Army Corps of Engineers. 2018. National Wetland Plant List, version 3.4. Available at: http://wetland-plants.usace.army.mil/. Accessed September 18, 2020.

[3] *Mitella ovalis* on 2018 National Wetland Plant List.

[4] *Argentina anserina* on 2018 National Wetland Plant List.

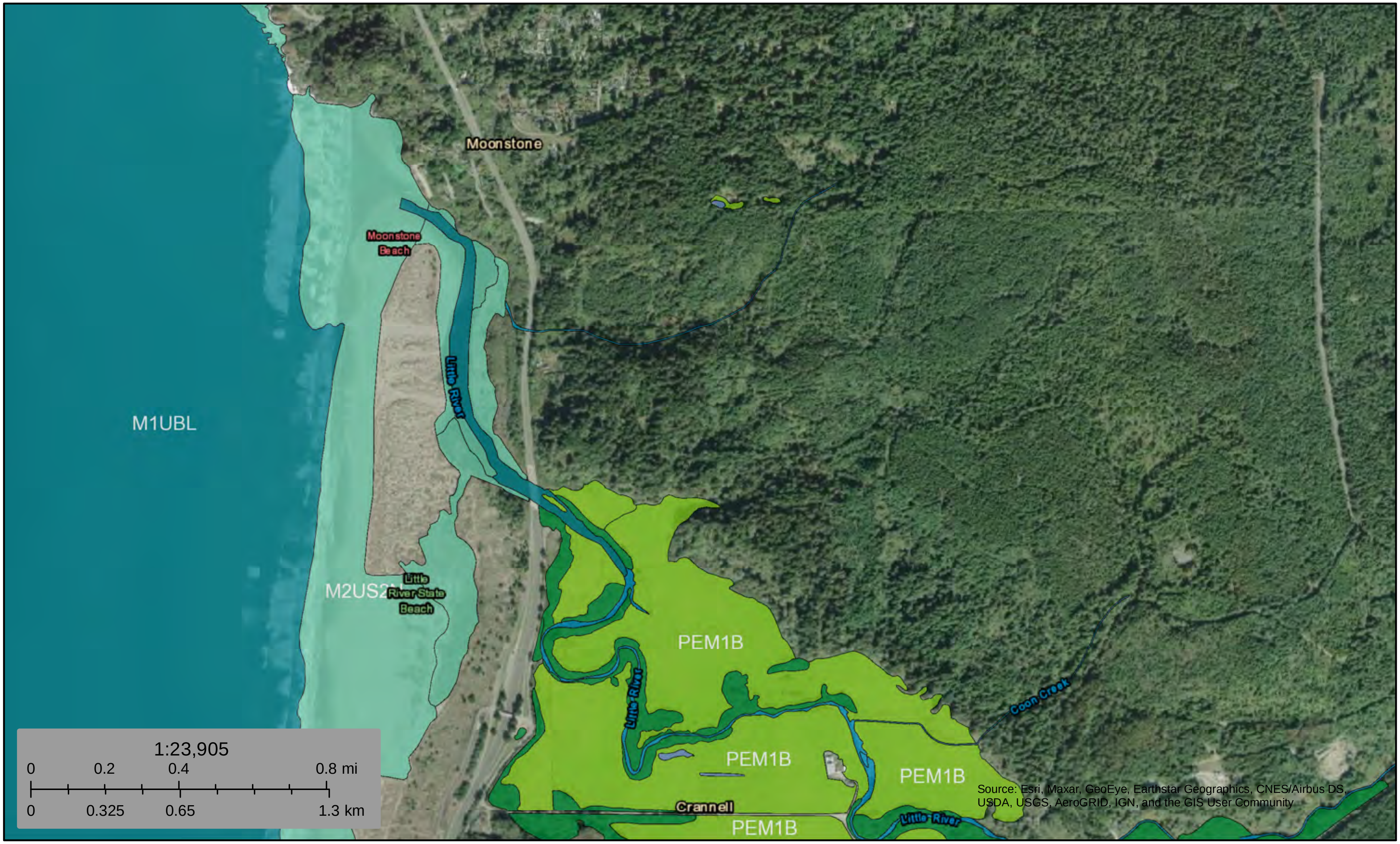
APPENDIX F

National Wetlands Inventory Map

U.S. Fish and Wildlife Service

National Wetlands Inventory

Little River Trail Project



November 16, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix G. Initial Site Assessment

Initial Site Assessment

Proposed Little River Trail
Clam Beach to Westhaven
Humboldt County, California

Prepared for:

GHD, Inc.

December 2021

020068.300

Phone: (707) 441-8855 **Email:** info@shn-engr.com
Web: shn-engr.com • 812 W. Wabash Avenue, Eureka, CA 95501-2138

Initial Site Assessment

Proposed Little River Trail Clam Beach to Westhaven, Humboldt County, California

Prepared for:
GHD, Inc.

PROFESSIONAL GEOLOGIST
ROLAND MICHAEL RUEBERT
No. 7629
Exp. 6-30-22
STATE OF CALIFORNIA

12-8-21

Prepared by:

SHN
812 W. Wabash Ave.
Eureka, CA 95501-2138
707-441-8855

December 2021

QA/QC:RMR

Reference: 020068.300

Table of Contents

List of Illustrations

Abbreviations and Acronyms

Additional Terms

Term	Definition
ADL	aerially deposited lead
ASTM	ASTM-International
Cal-EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EDR	Environmental Data Resources, Incorporated
ESA	environmental site assessment
ISA	initial site assessment
NAIP	National Agriculture Imagery Program
PL	photograph location
SGMP	Soil and Groundwater Management Plan
SWRCB	State Water Resources Control Board
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	underground storage tank

1.0 Introduction

1.1 Project Description

This Initial Site Assessment (ISA) was prepared to assist with identifying potentially hazardous materials that may be encountered during the Little River Trail project. The purpose of this ISA was to identify areas of potentially impacted soil and/or groundwater along the project alignment that may require special handling and disposal during construction or could pose a health exposure risk to construction workers. The results of this corridor study can be used to minimize potential construction schedule delays and contractor change orders by facilitating the necessary planning and coordinating with regulatory agencies, disposal facilities, and/or responsible parties prior to construction. Measures include protocols to reduce exposure to site workers from impacted soil and/or groundwater, offsite disposal (if necessary), or preparation of a construction soil and groundwater management plan (SGMP), which should be used to manage potentially impacted soil and groundwater within the project segments proactively.

The proposed Little River Trail Project is one continuous segment of trail located in Humboldt County, California (Appendix 1; Figure 1). The Redwood Community Action Agency in cooperation with the California Department of Transportation (Caltrans) proposes to develop a multi-use trail adjacent to the west side of Highway 101 between Clam Beach and Westhaven, just west of Highway 101, and includes a crossing of the Little River. The location of the proposed trail is shown in Appendix 1 on Figure 2.

The trail is intended as an extension of the Hammond Coastal Trail to the south and entails a similar design. We understand that the project consists of the development of a paved, 8- to 10-foot wide, multi-use trail extending for just over 6,000 feet. The trail would have 2-foot shoulders on either side for a total developed width of 12 to 14 feet. For maintenance purposes and emergency access, the trail will need to be capable of providing periodic vehicle access.

The trail has been planned predominantly within the Caltrans Highway 101 right-of-way, and portions of the trail are currently laid out along the fill prism for the highway. A continuous northward-ascending grade occurs between the Little River and Scenic Drive and portions of the trail will need to traverse the broad (Highway 101) fill slope that buries the natural sea cliff and the former roadway in the northern part of the alignment.

This report has been prepared on behalf of, and for the use of GHD and the designated organizations involved in the project; furthermore, it is subject to and issued in connection with GHD's agreement with SHN and the provisions thereof.

1.2 ISA Methodology

The purpose of conducting an ISA is to assess the site, largely based on current circumstances, with respect to the presence or absence in the environment of regulated or hazardous materials, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and Department of Toxic Substances Control (DTSC) Title 22 of the California Code of Regulations. This ISA was prepared in general accordance with ASTM-International (ASTM) Standard Practice E1527-13 for the Phase I ESA process and in accordance with Chapter 10 of Caltrans Standard Environmental Reference.

During the course of this ISA, SHN conducted field reconnaissance within the project alignment to determine if potential sites of concern existed that were not listed in the Environmental Data Resources Inc. (EDR) report. Photograph locations are shown in Appendix 1 on Figure 3. Photographs and descriptions of each photo location are presented in Appendix 2.

The ISA included reviewing government records for properties within one-eighth of a mile (660 feet) of the project alignment boundaries that may have potential for environmental concern during construction. The basis for the records review was a government database search conducted by EDR. EDR's historical maps are included in Appendix 3. The EDR Radius report is included as Appendix 4.

The EDR reports identify sites that government regulatory agencies have reported as having environmental concerns, such as releases of contaminants to the soil and/or groundwater, underground storage tanks (USTs), or use of hazardous materials. SHN further researched the area for listed sites that have the potential to affect the project by reviewing available records on the State Water Resources Control Board (SWRCB) GeoTracker website, California Department of Toxic Substances Control (DTSC), EnviroStor website, and the California Environmental Protection Agency (Cal-EPA) Regulated Site Portal. No listed sites were identified within the 1/8-mile search radius of the trail corridor by EDR. Two sites in the 1-mile EDR search radius were identified from the Geotracker database.

In 2010, Geocon prepared a report documenting lead paint and asbestos sampling on the Little River Bridge. Lead was detected in the roadway paint striping on the bridge, and no asbestos was detected (Geocon, 2010).

2.0 General Vicinity of the Project Alignment

2.1 Project Location

The proposed trail corridor is located between Clam Beach and Westhaven, within Humboldt County (Figure 1; United States Geological Survey [USGS] Crannell 7.5-minute Quadrangle, Township 7 North, Range 1 East, Sections 6 and 7, Humboldt Base and Meridian). The proposed trail is located just west of Highway 101 and includes a crossing of the Little River. The location of the proposed trail is shown in Figure 2.

2.2 Project Alignment Geology

The project area occurs in coastal Humboldt County; the project setting is defined by the occurrence of dynamic coastal processes within an active tectonic environment. A complete Preliminary Foundation Report was submitted by SHN in September 2021 that describes in detail the geology and geologic hazards located in the proposed trail corridor (SHN, 2021). A brief summary of the geology is provided here, but it is recommended that the Preliminary Foundation Report be referred to for geologic inquiries.

The project site is in the most seismically active part of California, and there are many active faults both onshore and offshore throughout the region. Seismic sources in the Humboldt County coastal area can produce moderate to large earthquakes that are likely to cause strong ground shaking at the site. The alignment is crossed by an active fault.

The trail alignment extends northward from the north end of Clam Beach, across the Little River, and then traverses the coastal bluff before reaching the rocky headland at Westhaven. Clam Beach is a long, straight beach extending several miles south from the project area; except along the active beach slope, Clam Beach is largely covered with Holocene age sand dunes. The entire project area south of the Little River is veneered by loose (windblown) dune sand. North of the Little River crossing, conditions change dramatically as the alignment approaches (and crosses) the Trinidad fault, which results in the exposure of older, uplifted marine deposits (Falor Formation) and Franciscan Complex bedrock. The ascent from the Little River, toward a significant bedrock outcrop ("Princess Rock") at the southern end of Westhaven, provided a hearty challenge for early road builders; as such, the northern end of the project area has been extensively graded, paved, and ultimately buried by fill materials. Construction of the current iteration of Highway 101 occurred in the mid-1960s and extensive earthwork was involved, including complete burial of significant portions of the old roadbed.

The trail alignment appears to be crossed by one, and possibly two, strands of the Trinidad fault. The Trinidad fault is an active fault within the Mad River fault zone. The fault is a northwest-striking, northeast-dipping thrust fault that thrusts Franciscan Complex mélange over the Pleistocene age Falor Formation. Princess Rock represents a large bedrock block within the mélange, directly northeast of the inferred fault trace.

2.3 Groundwater Elevation and Flow Direction

According to the Department of Water Resources (DWR) Groundwater Bulletin 118, the proposed Little River Trail lies within two groundwater basins, with the division being at the Little River (DWR, 2014). The section of trail that is south of the Little River is located in the Mad River Groundwater Basin, Dows Prairie Subbasin (Groundwater Basin # 1-8.02), and the section of trail that is north of the Little River is located in the Big Lagoon Area Groundwater Basin (Groundwater Basin # 1-27).

The Dows Prairie Subbasin is located north of the Mad River, south of the Little River, and west of the boundary of the Franciscan Formation. The primary water bearing unit is the Quaternary Hookton Formation, which consists of clay, sand, and thin gravel beds. The thickness of the Hookton formation is known to vary from 150 to 200 feet in the surrounding area. Seasonal fluctuations of groundwater levels in the subbasin range from 9 to 11 feet (DWR, 2004).

Information provided in DWR Bulletin 118 for the Big Lagoon Area Groundwater Basin is limited. The basin is located north of the Little River and extends approximately to the southern border of Big Lagoon. The Franciscan Complex outcrops throughout the basin. Basin deposits consist primarily of marine terrace deposits extending inland approximately 1 to 2.5 miles. Deposits are primarily massive, semi-consolidated clay, silt, sand, and gravel. Information on the water-bearing formations, groundwater levels, and groundwater storage was not provided (DWR, 2004).

3.0 Site Reconnaissance

SHN completed site reconnaissance of the proposed trail alignment in September 2021. Details of SHN's observations are presented below. Photo locations are shown in Appendix 1 on Figure 3, and site reconnaissance photographs are included in Appendix 2.

On September 29, 2021, SHN staff conducted field reconnaissance along the full length of the proposed trail corridor. The southern extent of the trail begins at the Crannell Road Highway 101 overpass and advances north toward the Little River. At the time of the field reconnaissance, no temporary foot path had been established from the southern extent of the proposed trail to the Little River. For this reason, SHN staff was limited to making observations from the shoulder areas of Highway 101 from the Crannell Road overpass north to the Little River.

Photograph location 1 (PL1) shows the area adjacent to Highway 101 looking north from the southbound off-ramp at the Crannell Road overpass. This area was observed to be relatively free of trash and debris. Minor oil or other vehicle related fluid stains were observed on the paved areas. A weigh station was observed on the east side of the off-ramp and undeveloped, vegetated dunes were observed on the west side of the off-ramp, where the proposed trail will be located. A chain link fence was observed through the dune area on the western side of the off-ramp and proposed trail corridor.

Progressing north toward the Little River was observed to have an increased density of large trees through the proposed trail alignment area (PL2), but otherwise remained similar in features to the area near the Crannell Road overpass. Utility lines were observed through this section, including light poles used to illuminate the off-ramp exit. Due to limited access along Highway 101, it was necessary to approach the section of trail north of the Little River from the cul-de-sac at the end of Scenic Drive.

The banks of the Little River were observed to be densely vegetated (PL3). Minimal amounts of trash and debris, likely thrown from cars, were observed north of the Little River Bridge on the west side of the Highway 101 guardrail (PL4). Areas setback from Highway 101 appear to be relatively undisturbed.

Moving north toward Scenic Drive, the proposed Trail alignment enters the coastal forest and becomes a temporary footpath trail. Powerlines were observed through this area for the extent of the remaining trail alignment (PL5). The trail alignment continues to parallel Highway 101 through coastal forest characterized by large spruce trees, alder trees, ferns, and grasses. Most of the trail appears to be undisturbed; however, one location was found to have minimal amounts of trash and debris and appeared to be frequented by people due to a nearby vehicle pullout on Highway 101 (PL 6).

Multiple small drainages were observed along the trail alignment, however only one was observed to have flowing water (PL7). The stream drainage was observed to have a large (approximately 3 feet diameter) concrete culvert and a gravel and sand streambed. A smaller, corrugated metal culvert was observed north of the concrete culvert and flowing stream but appeared to be part of a road drainage structure and likely for ephemeral flow during wetter months (PL8, Photo A). In the same area as the metal culvert, multiple buried sections of old road base were observed (PL8, Photo B). Due to deterioration and thick vegetation cover, it is difficult to determine if the buried road base was paved, chip sealed, or similar. The buried road base was observed to be dark grey to black in color and chunks of pavement (PL8C) were observed on the ground surface in the same area.

The area north of the corrugated metal culvert is relatively undisturbed (PL9). Powerlines continue to parallel the proposed alignment (PL10) all the way to the northern extent where the trail intersects Scenic Drive. The northern extent of the trail ends at the paved cul-de-sac at the end of Scenic Drive (PL11, Photos A and B).

Minimal amounts of trash and debris were observed in areas along the Highway 101 roadway. No area of stressed vegetation, pits, ponds, or lagoons were observed during the September 2021 site reconnaissance.

4.0 Historical Aerial Photographs

SHN reviewed aerial photos of the subject site taken during the past approximately 79 years (Appendix 3), which were provided by EDR. Table 1 presents a description of the features observed in the aerial photos of the site and surrounding properties.

Table 1. Historical Aerial Photographs Summary
Little River Trail Clam Beach to Westhaven, Humboldt County, California

Year	Source	Scale	Description
1942	USDA	1 inch =750 feet	The aerial photograph shows the area north, east, and south of the proposed trail corridor as largely undeveloped, except for Highway 101 and a few roads to the north and south. West of the proposed trail alignment is Clam Beach and the mouth of the Little River.
1954	USDA	1 inch =750 feet	Development appears to be occurring north of the proposed trail alignment in the areas of Moonstone and Westhaven. The width of flow in the Little River is decreased in comparison to the 1942 photo, and what are assumed to be large gravel bars are visible within the riverbanks. Areas east of Highway 101 appear to have remained largely undeveloped.
1964	USGS	1 inch =750 feet	Areas of Highway 101 have been widened with some realignment and it appears that the Crannell Road and Highway 101 overpass is being constructed. Vegetation coverage appears to be increasing in the dunes along Clam Beach.
1972	USGS	1 inch =750 feet	The Highway 101 alignment appears to be completed and the Crannell Road and Highway 101 overpass are fully constructed. The county road on the west side of the overpass that parallels Clam Beach and Little River State Park also appears to have been paved. The areas north of the trail alignment appear similar to previous photos. Dune vegetation coverage continues to increase in the dunes along Clam Beach.
1974	USGS	1 inch =750 feet	Similar to previous photos, except that additional development appears to have occurred northeast of the trail alignment in the area of Westhaven.
1983	USDA	1 inch =750 feet	The mouth of the Little River has broken through the sand dunes and joined the Pacific Ocean immediately west of the Little River Bridge, instead of continuing north to Moonstone Beach like in previous photos. Roads and developments appear the same.
1989	USGS/ DOQQ	1 inch =750 feet	The mouth of the Little River has once again migrated north toward Moonstone Beach and the sand dunes immediately west of the Little River Bridge appear to be repaired. Additional development appears to have occurred in the Moonstone and Westhaven areas.
1993	USGS/ DOQQ	1 inch =750 feet	Similar to previous photo.

Table 1. Historical Aerial Photographs Summary
Little River Trail Clam Beach to Westhaven, Humboldt County, California

Year	Source	Scale	Description
2005	USDA/ NAIP	1 inch =750 feet	The mouth of the Little River appears to have migrated even further north, until being forced to join the Pacific Ocean by sea cliffs. It appears that construction has occurred on the Little River Bridge, making it one solid bridge instead of two individual bridge lanes.
2009	USDA/ NAIP	1 inch =750 feet	The mouth of the Little River has once again migrated slightly south near Moonstone Beach to a similar position as the 1993 photo.
2012	USDA/ NAIP	1 inch =750 feet	Appears similar to the 2009 photo, except that vegetation on Clam Beach appears to have been removed or destroyed.
2016	USDA/ NAIP	1 inch =750 feet	Additional development has occurred in the Westhaven area. The mouth of the Little River appears to be migrating north again toward the sea cliffs. Areas along the proposed trail alignment appear similar to previous years.

5.0 Sanborn Maps

Sanborn Fire Insurance maps assist in the identification of historical land use and commonly illustrate the existence and location of aboveground and underground storage tanks, structures, improvements, and facility operations. The trail corridor has been identified as an unmapped property with no Sanborn map coverage. Copies of the EDR Certified Sanborn Map report is included in Appendix 3.

6.0 Historical Topographic Maps

SHN reviewed topographic maps with coverage of the subject site (Appendix 3). A description of the features observed at the site and surrounding properties is presented in Table 2.

Table 2. Topographic Map Summary
Little River Trail Clam Beach to Westhaven, Humboldt County, California

Year	USGS[a] Quadrangle	Minute	Description
1942, 1945	Eureka, Trinidad	15-minute	The topographic map shows developed structures along the Highway 101 corridor, through the same area as the proposed trail corridor. North and south of the trail corridor there are roads and scattered structures. The unincorporated community of Crannell is shown south east of the trail corridor and is shown as developed with roads and many structures. Several ranches are shown west of Crannell and east of Highway 101. Railroad lines are shown as traversing north along Clam Beach and then sharply heading east toward Crannell just south of the proposed trail corridor. The railroad lines are shown as wrapping around the eastern side of Crannell before continuing north, east of Highway 101.

Table 2. Topographic Map Summary
Little River Trail Clam Beach to Westhaven, Humboldt County, California

Year	USGS[a] Quadrangle	Minute	Description
1947	Trinidad	15-minute	Similar to previous topographic map.
1951, 1952	Eureka, Trinidad	15-minute	The unincorporated community of Moonstone is shown north of the mouth of the Little River. Additional roads and many structures have been constructed through the area of Moonstone. The Highway 101 corridor and mouth of the Little River appear unchanged. To the southeast, the unincorporated community of Crannell appears similar to previous years, except the railroad line that traversed northwest from Crannell is no longer shown.
1966	Crannell, Trinidad	7.5-minute	The unincorporated community of Westhaven is shown north, northeast of the proposed trail corridor and the mouth of the Little River. Many roads and structures are shown as developed in the Westhaven area. Construction of additional on and off ramps to Highway 101 appear to have been constructed at the very southern end of the proposed trail corridor. No active railroad lines are shown on the topographic map. The shape of the Little River and the location of the mouth appear similar to previous years.
1972, 1975	Arcata North, Tyee City, Crannell	7.5-minute	Clam Beach County Park and Little River State Beach appear established along the western side of Highway 101. The shape of the Little River and the location of the mouth appear similar to previous years. The unincorporated communities appear similar to previous years.
2012	Crannell, Trinidad, Tyee City, Arcata North	7.5-minute	Additional roads appear to have been constructed north of the proposed trail corridor in the areas of Moonstone and Westhaven. Individual structures are not shown on the topographic map. The shape of the Little River and the location of the mouth appear similar to previous years. The alignment of Highway 101 appears similar to previous years.

[a] USGS: United States Geological Survey

7.0 Agency-Listed Sites

The ISA included reviewing government records for properties within one-eighth of a mile (660 feet) of the project alignment boundaries that may have potential for environmental concern during construction. The basis for the records review was a government database search conducted by Environmental Data Resources Inc. (EDR). EDR's historical reports and study area maps are included in Appendix 3. The EDR Radius report is included as Appendix 4.

The EDR reports identify sites that government regulatory agencies have reported as having environmental concerns, such as releases of contaminants to the soil and/or groundwater, underground storage tanks (USTs), or use of hazardous materials. SHN further researched the area for listed sites that have the potential to affect the project by reviewing available records on the State Water Resources Control Board (SWRCB) GeoTracker website, California Department of Toxic Substances Control (DTSC), EnviroStor website, and the Cal-EPA Regulated Site Portal. No listed sites were identified within the EDR search radius of the trail corridor.

There is one former underground storage tank site within the 1-mile EDR search radius on the Geotracker database, to the north of the corridor (246 Loop Place, Trinidad, CA). There is one cleanup site on Geotracker within the EDR radius search to the southeast of the corridor (5464 Dows Prairie Road, McKinleyville, CA). Both are closed sites and given the distance to the corridor are not likely to be of issue.

8.0 Conclusions

SHN has performed an ISA in general conformance with the scope and limitations of ASTM Standard Practice E1527-13 and in accordance with chapter 10 of Caltrans Standard Environmental Reference for the proposed trail corridor. Any exceptions to, or deletions from this practice are described in Section 10 of this report.

Elevated lead concentrations may exist in soils along older roadways as a result of aerially deposited lead (ADL) from the historical use of leaded gasoline. ADL may be present adjacent to the current and former highways and may have been incorporated into the fill prism for the current highway during grading for the current highway configuration. Depending on the location of excavation and disturbance established during future design phases, construction workers may have the potential to be exposed to ADL. Earthmoving activities or driving on dry, exposed soil may expose workers to dust-containing contaminants.

Lead is present in the roadway striping paint on the Little River Bridge.

Given the lack of known contaminated sites and the lack of buildings proposed for the trail, the potential for vapor intrusion is not existent.

9.0 Recommendations

The purpose of this ISA was to identify areas of potentially impacted soil and/or groundwater within proximity to the project alignment that may require special handling and disposal during construction or could pose a health exposure risk to construction workers. This ISA identified that soil may contain aerially deposited lead with potential groundwater impacts from close proximity to major roadways and may have the potential to be present within, or adjacent to, the project alignment. Depending on the more specific location of ground disturbance and proximity to potentially impacted soil and/or groundwater, pre-construction soil borings are recommended in order to characterize soil and potentially groundwater (depending on the nature of work in the specific area) for lead in anticipation of implementation of construction activities. Once the areas of ground disturbance and potential dewatering are confirmed, SHN recommends preparation of a work plan that identifies potential constituents of concerns for laboratory analysis (lead), location, and number of borings necessary for pre-characterization and depth for sample collection.

Laboratory analytical results of soil and potentially groundwater samples collected from the borings shall be used to ascertain whether health and safety concerns are present for construction workers, and to determine potential soil and/or groundwater handling and disposal options. Proposed soil borings and/or grab groundwater sample locations shall be determined following identification of the areas and depths of soil excavation and dewatering activities. In order for proactive management of potentially impacted soil and groundwater (which may be encountered during construction) to occur, preparation of a construction SGMP is recommended.

Any disturbance of the roadway striping paint in the project area should be handled according to recommendations in the 2010 Geocon report.

10.0 Limitations

Information contained in this ISA was obtained in part from EDR (Appendices 3 and 4). SHN derived the data in this report primarily from visual inspections, and examination of records in the public domain.

Except as otherwise stated in this report, SHN has not attempted to verify the accuracy or completeness of any such information. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration; analysis of the data; and re-evaluation of the findings, observations, and conclusions expressed in this report.

Because of the limitations stated above, the findings, observations, and conclusions expressed by SHN in this report are not, and should not be, considered an opinion concerning the compliance of any past or present owner or operator of the property with any federal, state, or local laws or regulations. No warranty or guarantee, express or implied, is made with respect to the data reported or findings, observations, and conclusions expressed in this report. Such data, findings, observations, and conclusions are based solely on site conditions in existence at the time of the investigation, and are not representative of areas of the property that were not readily accessible or observable. No study can wholly eliminate uncertainty regarding the potential for encountering hazardous materials along the proposed corridor.

11.0 References

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12.0 Signatures of Environmental Professionals

Roland Rueber 12-8-21

Roland Rueber, PG **Date**

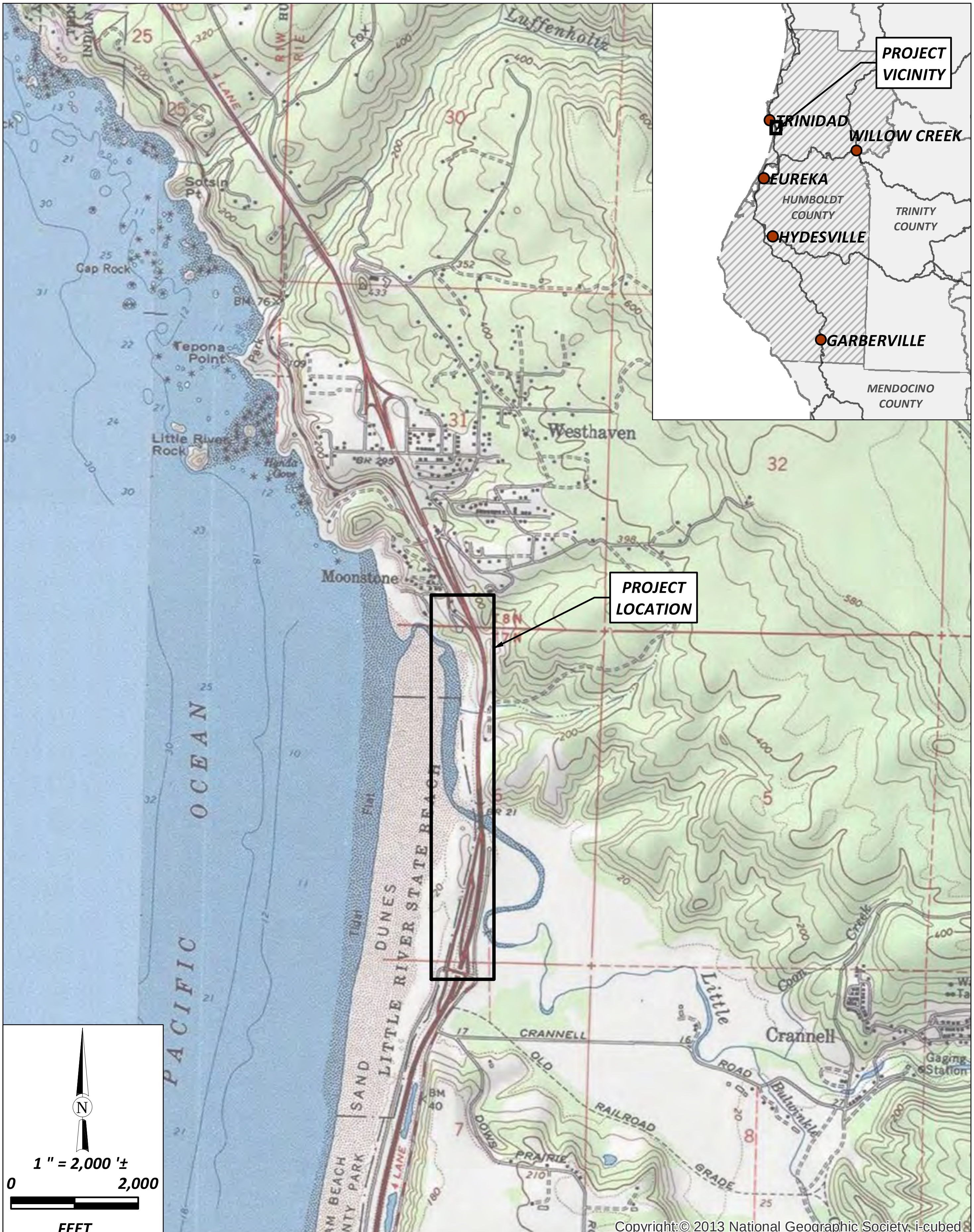
Senior Geologist

13.0 Statement of Qualifications of Environmental Professionals

SHN's project team included Mindi Curran, Diana Ward, and Roland Rueber. Roland Rueber is a Professional Geologist in the State of California and has worked for SHN for more than 22 years, and provided the quality assurance and quality control for this ISA.

We declare that, to the best of our professional knowledge and belief, we meet the definition of an Environmental Professional as defined in §312.10 of 40 Code of Federal Regulations (CFR) 312. We have the specific qualifications based on education, training, and experience to assess a property of this nature, history, and setting of the subject property. We have developed and performed the all-appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Figures 1



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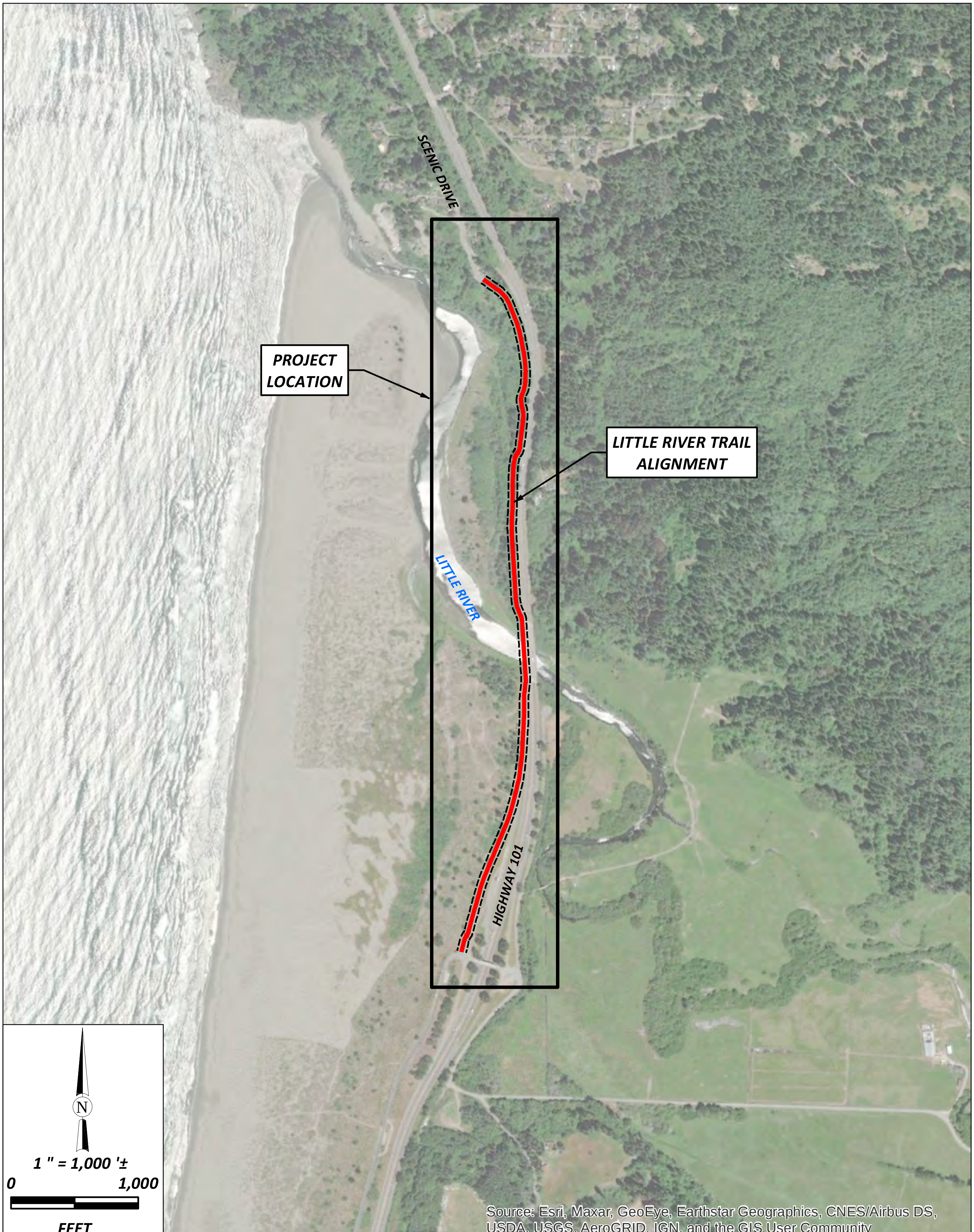
September 2021	Figure1_ProjectLocationMap	Figure 1



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	October 2021	Figure2_Project_Alignment	Figure 2

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GHD Little River Trail - Phase I ESA Humboldt County, California		Photo Location Areas SHN 020068.300
October 2021	Figure3_PhotoLocations	Figure 3

Site Photographs

2

Photograph Location No. 1: Looking north toward the Little River from the southbound off-ramp at the Crannell Road and Highway 101 overpass.

Photograph Location No. 2: Looking North toward the Little River from the southbound off-ramp near the juncture with Highway 101.

Photograph Location No. 3: Standing at the north end of the Little River Bridge, looking south at the densely vegetated banks.

Photograph Location No. 4: Facing north along Highway 101 north of Little River Bridge. Note the minimal amounts of scattered debris along the roadside.

Photograph Location No. 5: Looking north at powerlines that parallel the proposed trail corridor.

Photograph Location No. 6: Minimal amounts of trash located along the trail corridor footpath. Area appears to be frequented by people due to a nearby road pullout on Highway 101.

Photograph Location No. 7: Concrete culvert and flowing stream.

Photograph Location No. 8, Photo A: Corrugated metal culvert that appeared to be related to ephemeral road drainage for Hwy 101.

Photograph Location No. 8, Photo B: An exposed section of buried road base resting on sand, immediately downslope of the corrugated metal culvert.

Photograph Location No. 8, Photo C: Exposed chunks of pavement on the ground surface north of the corrugated metal culvert.

Photograph Location No. 9: Walking north along the trail alignment through relatively undisturbed areas.

Photograph Location No. 10: Continuing north along the trail alignment. Powerlines parallel the proposed trail alignment, but area is relatively undisturbed.

Photograph Location No. 11, Photo A: Looking south at the northern extent of the trail alignment at the end of Scenic Drive.

Photograph Location No. 11, Photo B: Looking north at the northern extent of the trail alignment at the end of Scenic Drive.

3

Historical Maps, Aerial Photographs, and Other Data

Little River Trail

Clam Beach To Westhaven

Trinidad, CA 95570

Inquiry Number: 6663524.8

September 16, 2021

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

09/16/21

Site Name:	Client Name:
Little River Trail	SHN Consulting Engineers
Clam Beach To Westhaven	812 West Wabash Avenue
Trinidad, CA 95570	Eureka, CA 95501
EDR Inquiry # 6663524.8	Contact: Diana Ward

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Search Results:

Year	Scale	Details	Source
2016	1"=750'	Flight Year: 2016	USDA/NAIP
2012	1"=750'	Flight Year: 2012	USDA/NAIP
2009	1"=750'	Flight Year: 2009	USDA/NAIP
2005	1"=750'	Flight Year: 2005	USDA/NAIP
1993	1"=750'	Acquisition Date: January 01, 1993	USGS/DOQQ
1989	1"=750'	Acquisition Date: January 01, 1989	USGS/DOQQ
1983	1"=750'	Flight Date: August 12, 1983	USDA
1974	1"=750'	Flight Date: January 28, 1974	USGS
1972	1"=750'	Flight Date: July 15, 1972	USGS
1964	1"=750'	Flight Date: June 22, 1964	USGS
1954	1"=750'	Flight Date: August 03, 1954	USDA
1942	1"=750'	Flight Date: February 16, 1942	USDA

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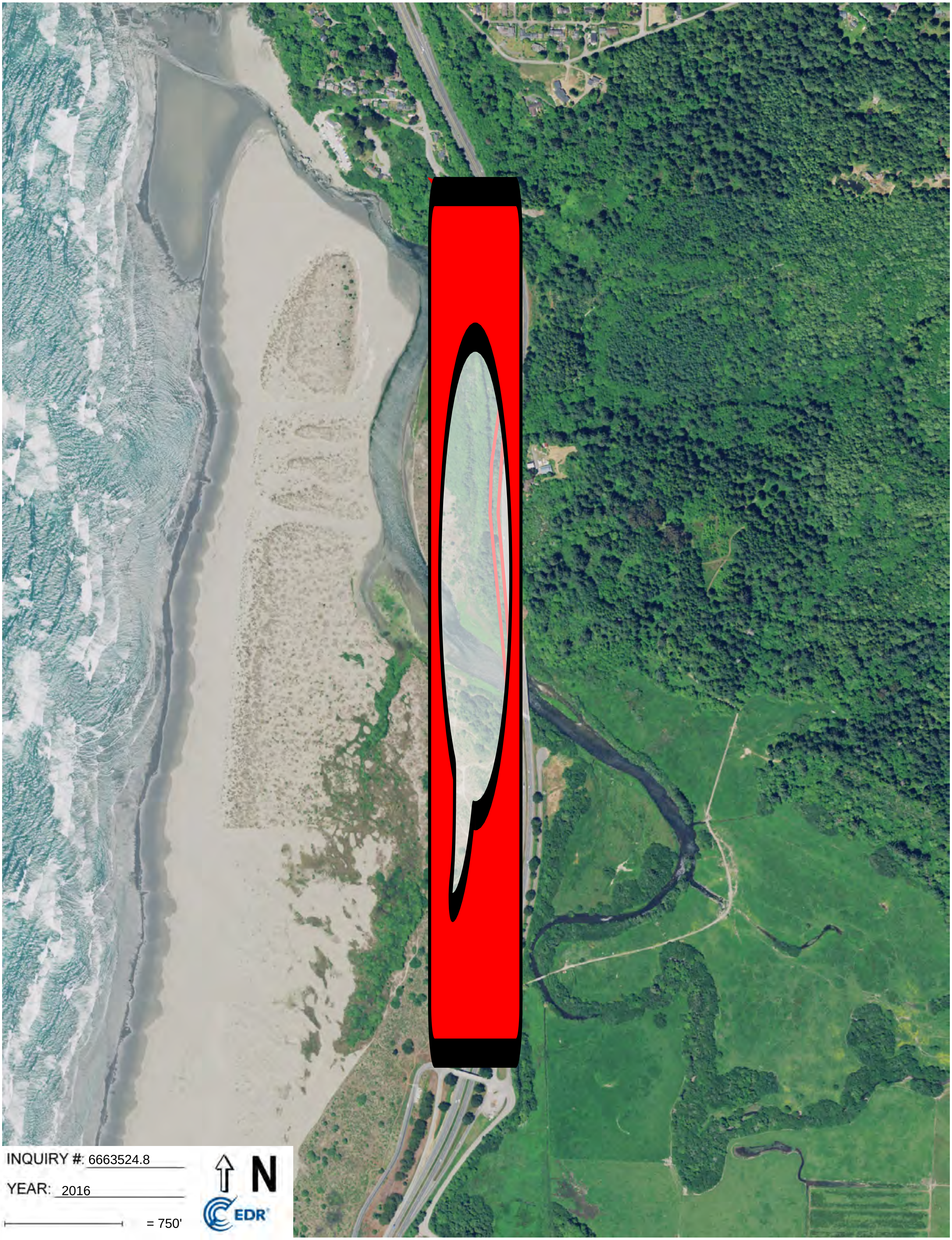

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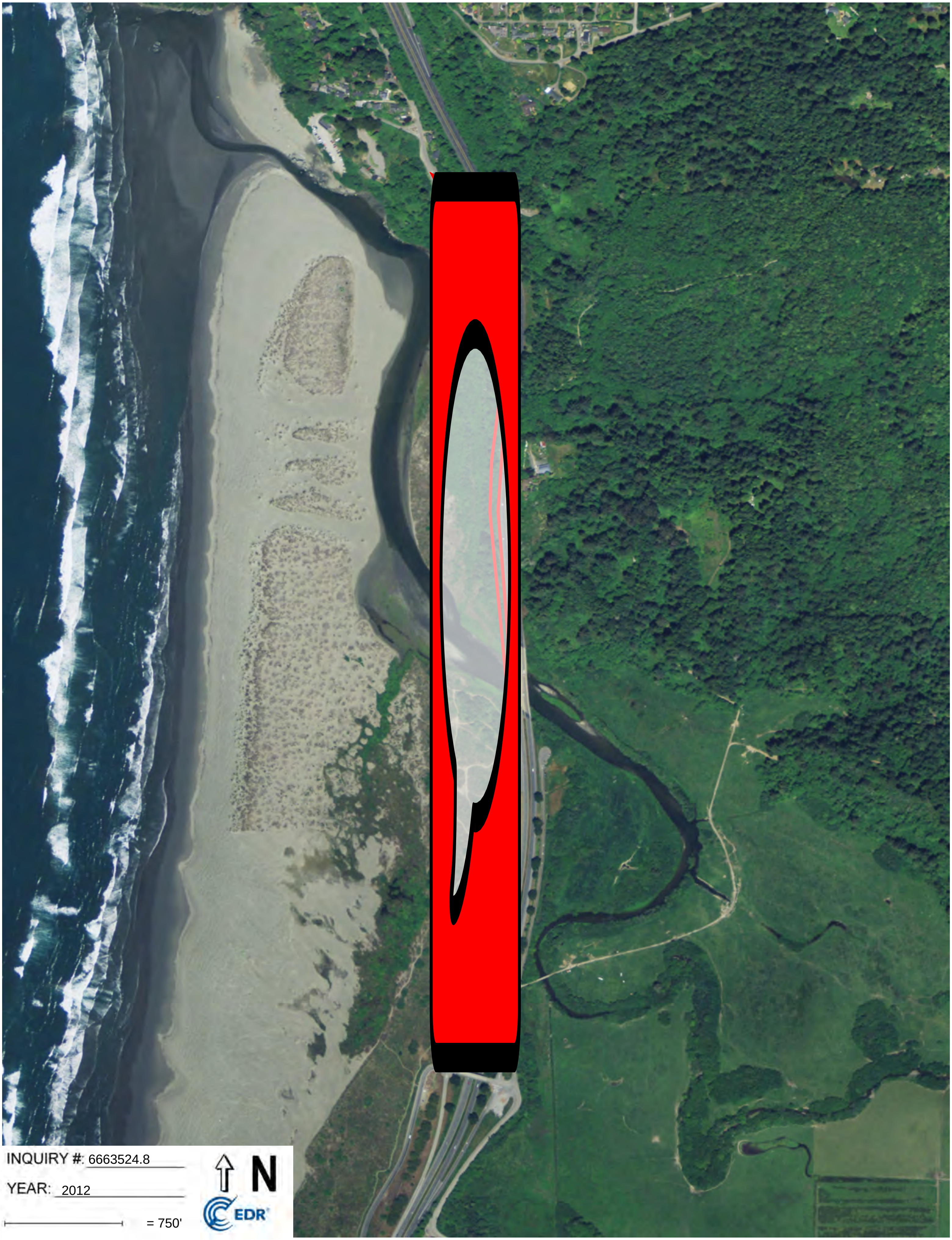
EDR



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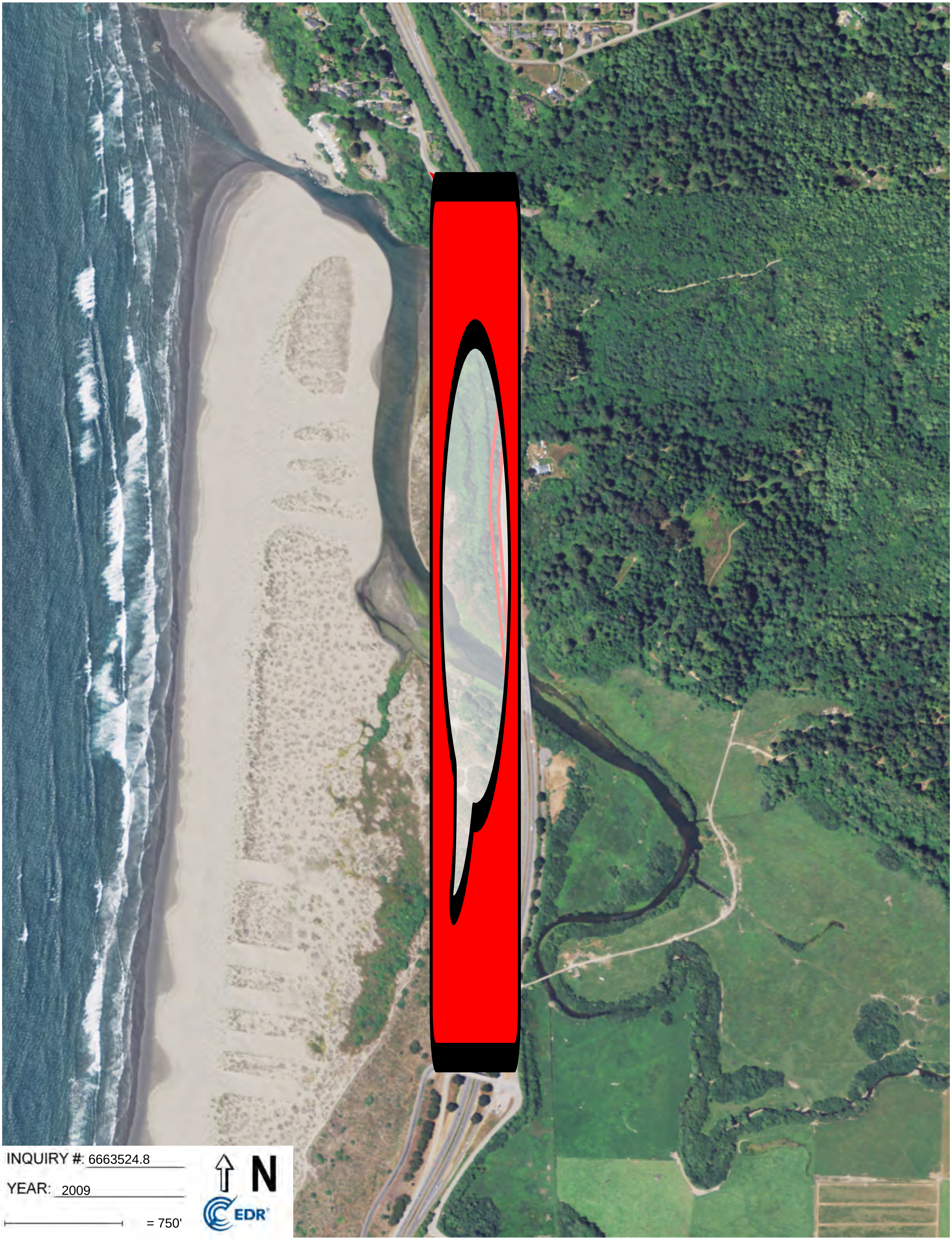

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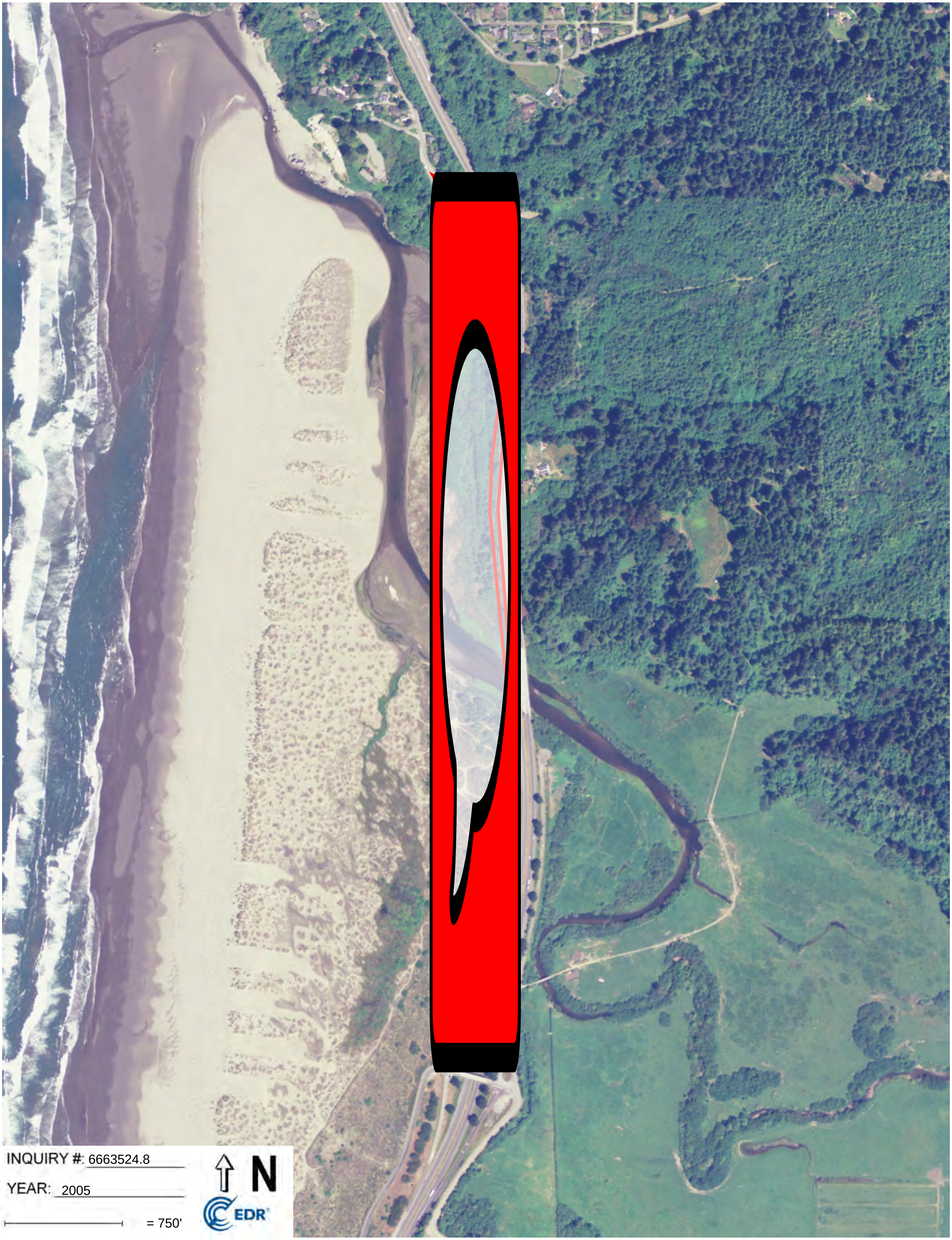

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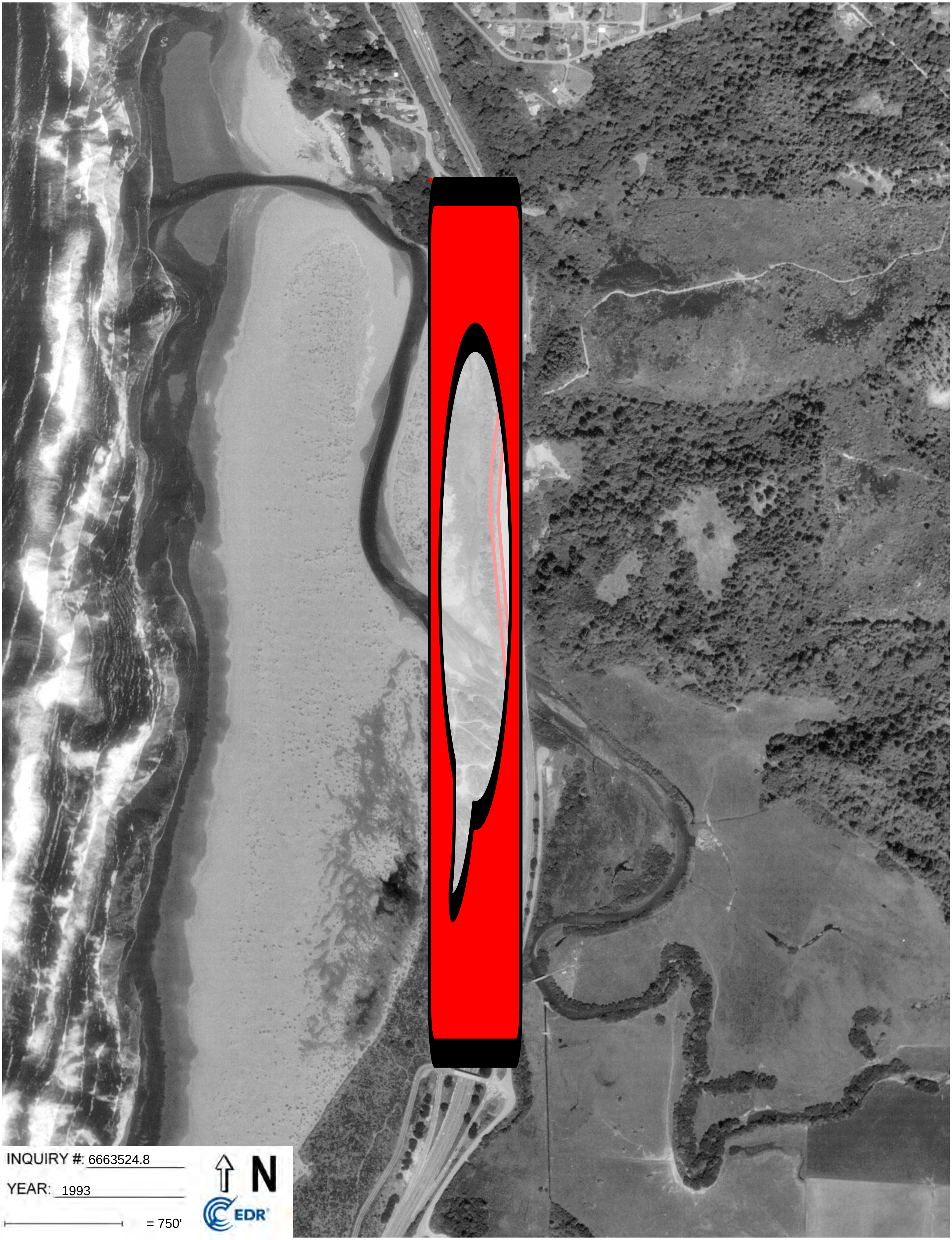

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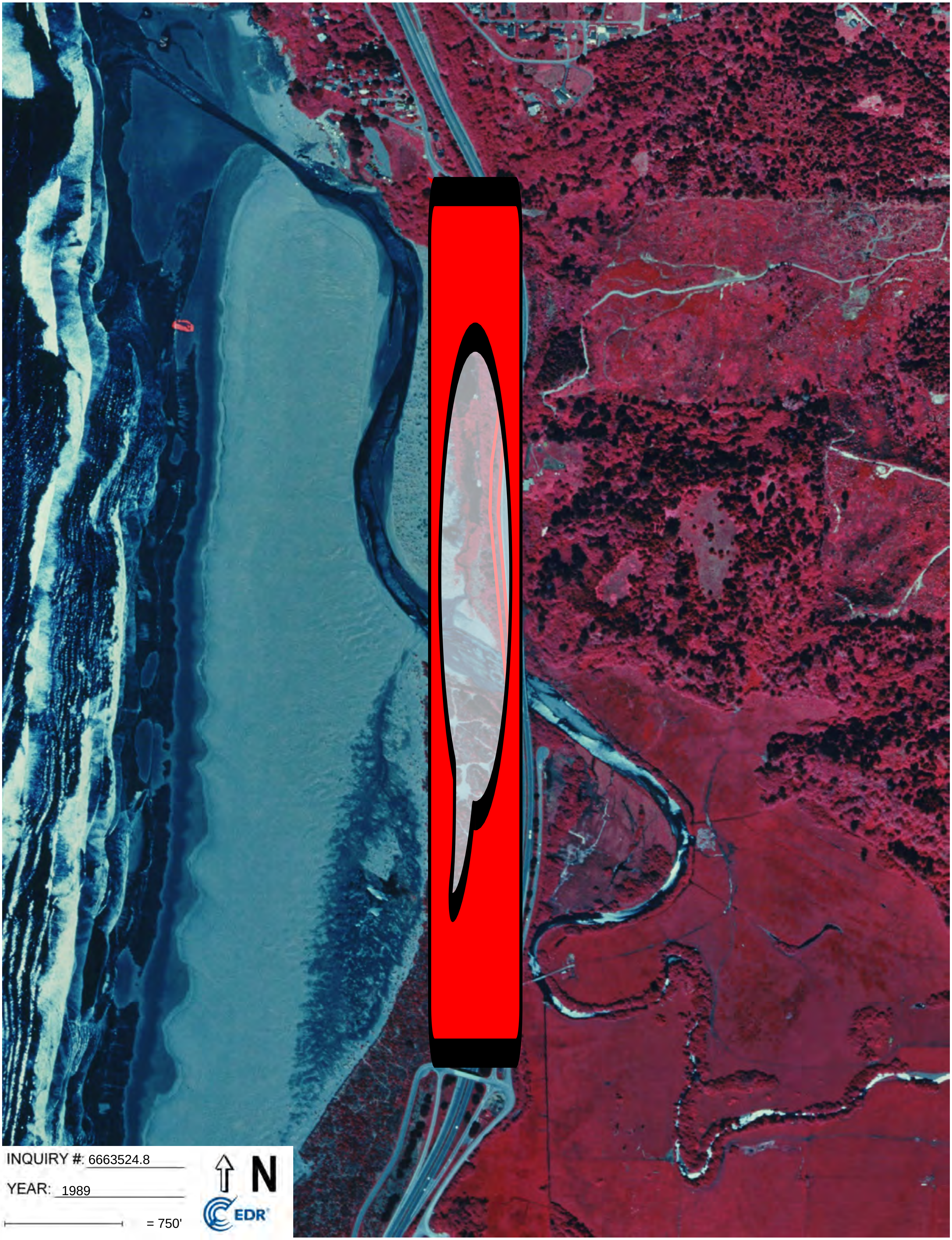
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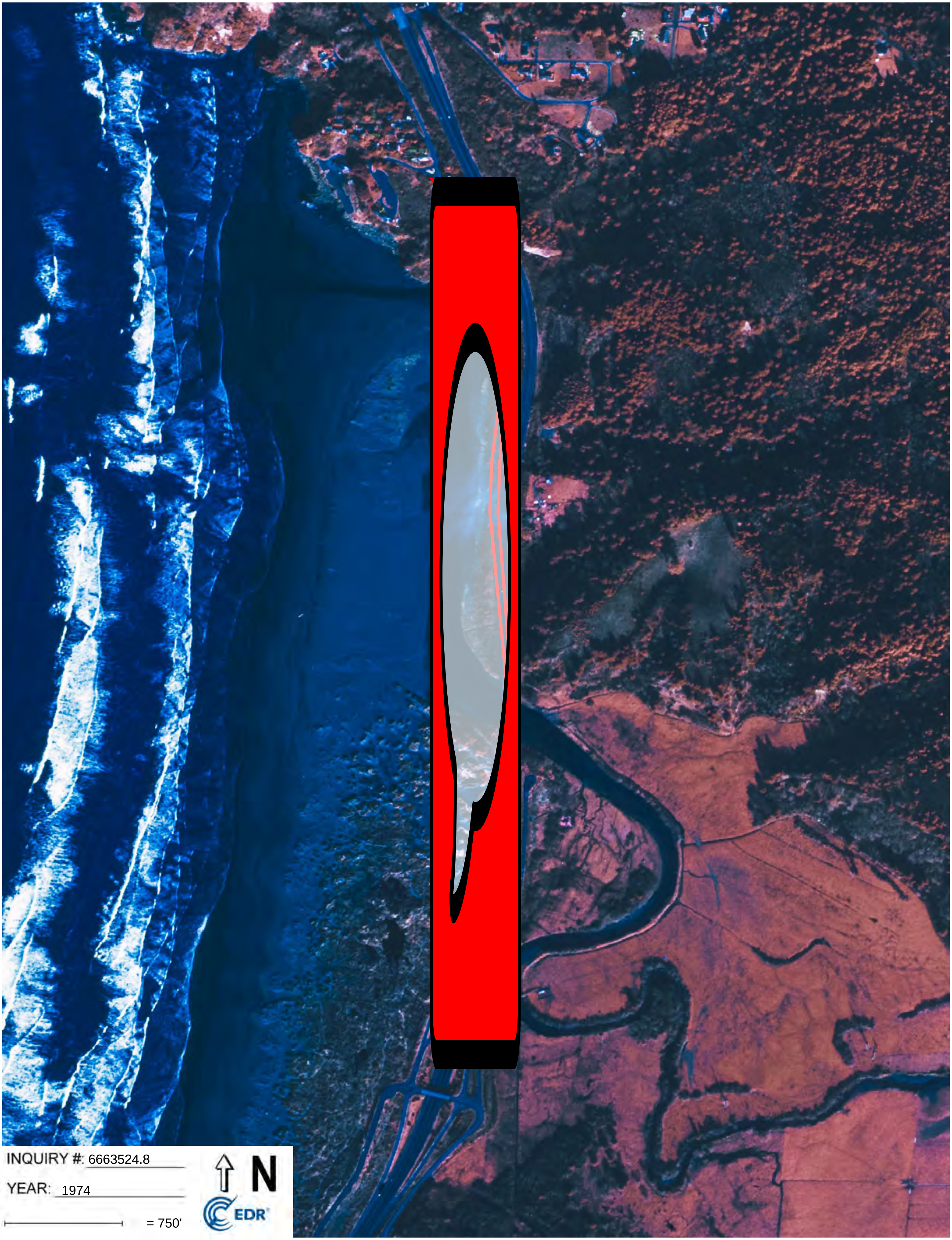
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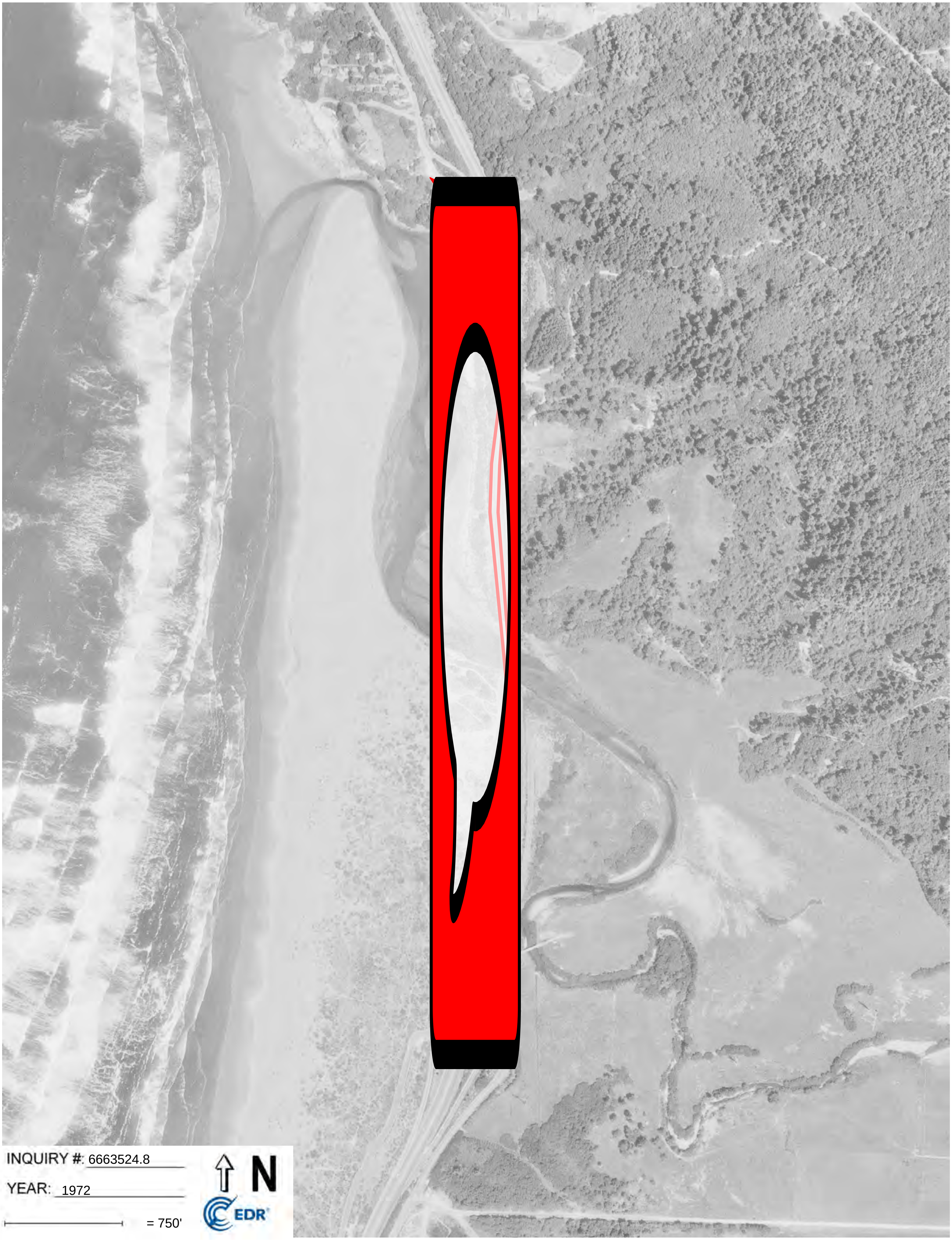
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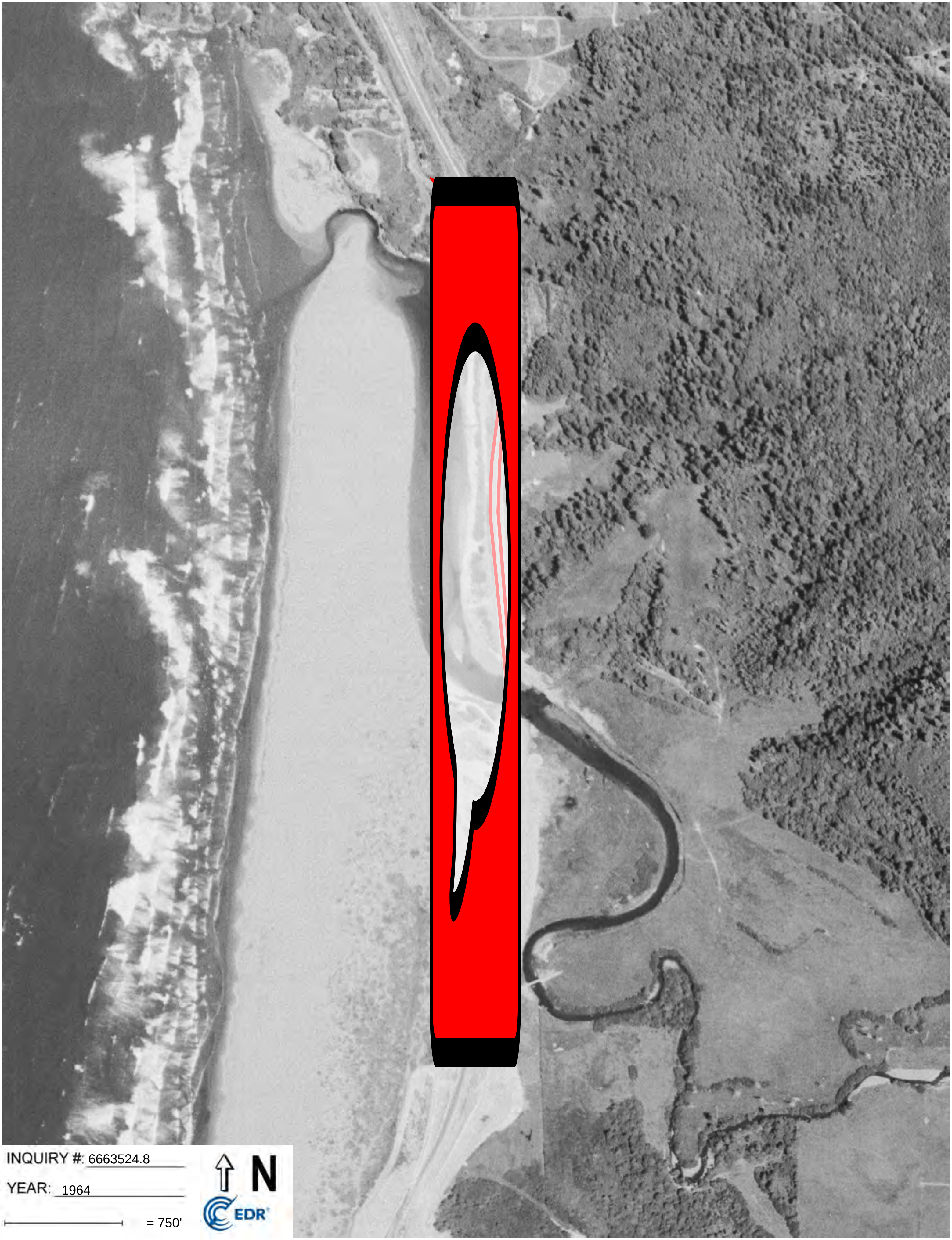
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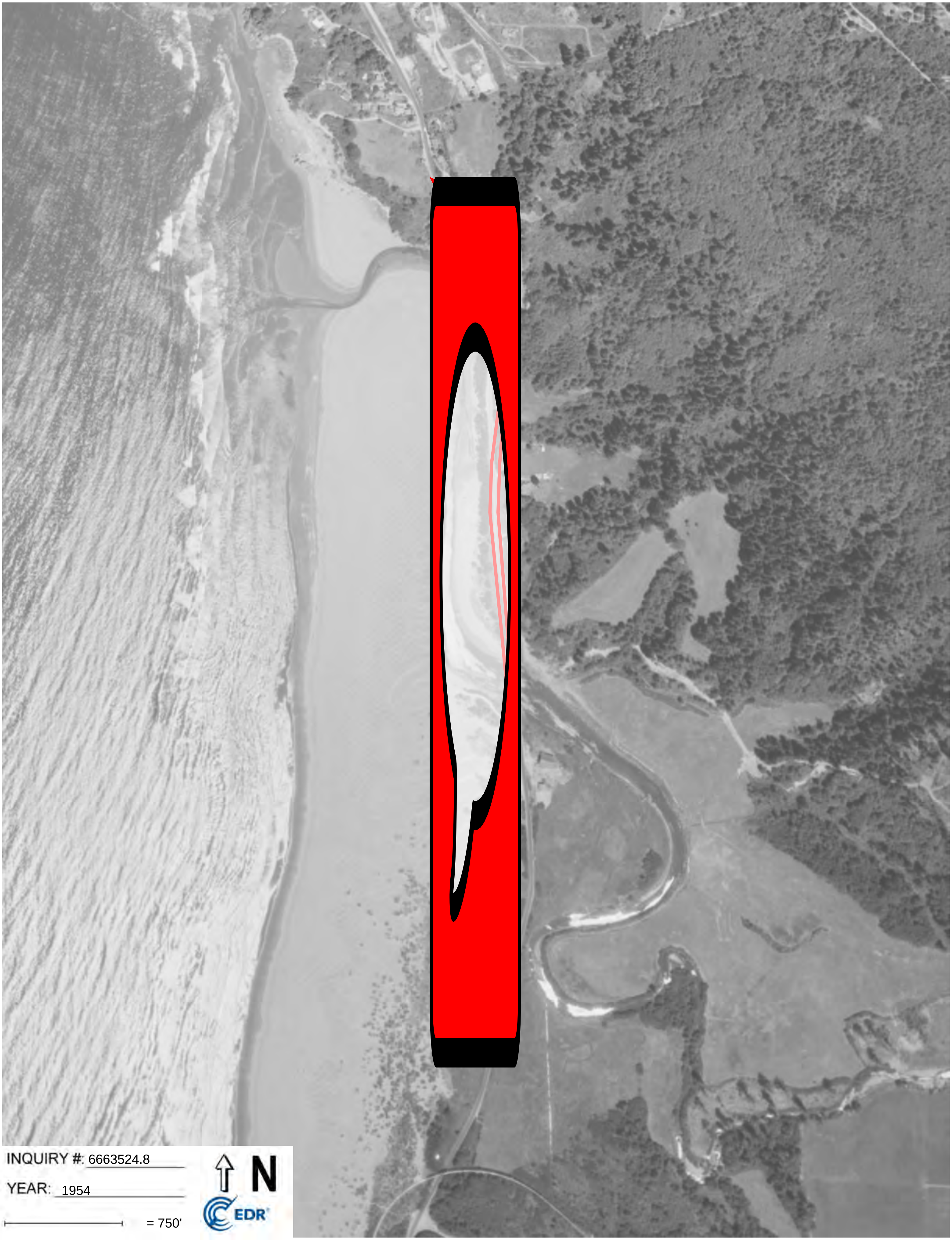

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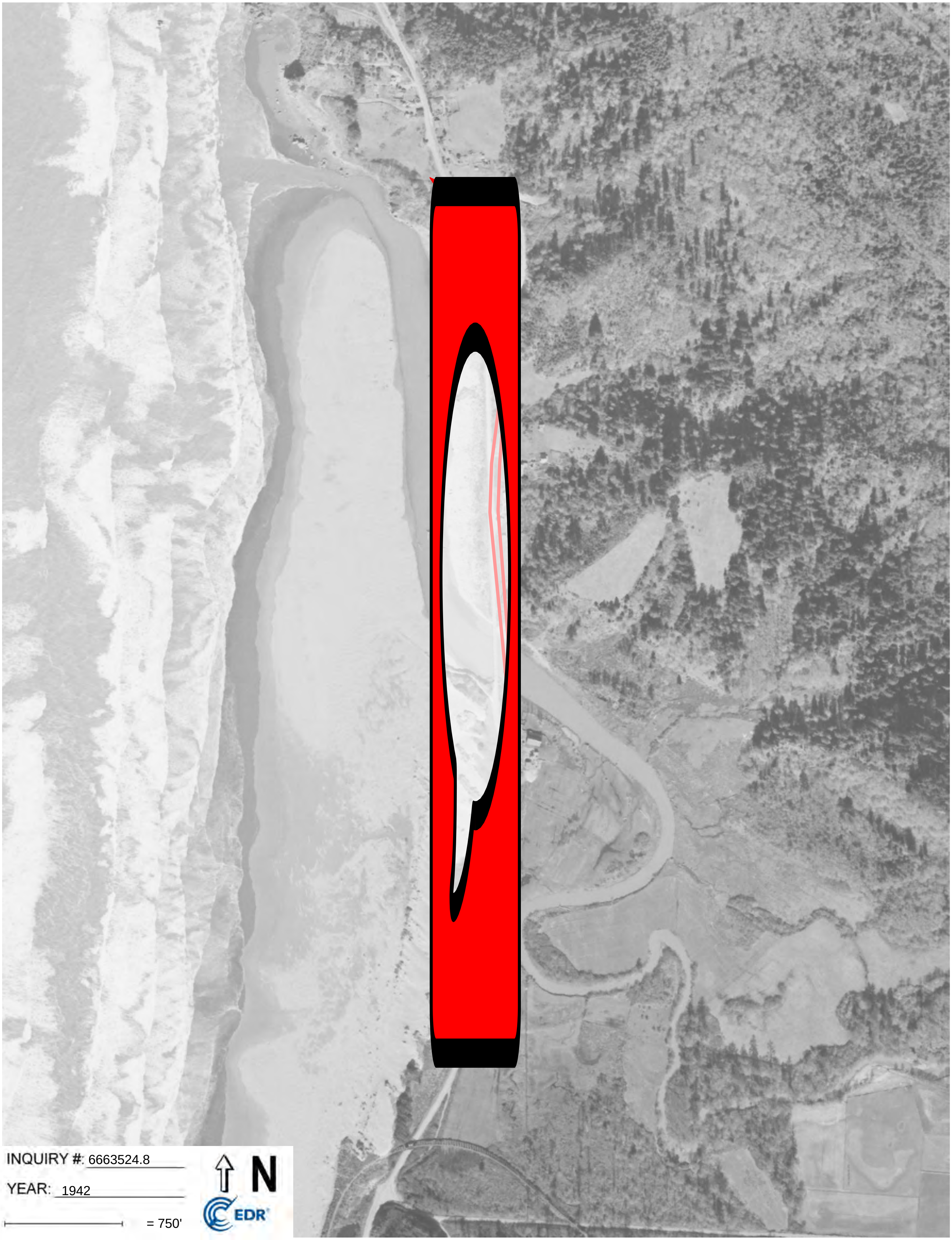
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YEAR: 1942
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EDR

Little River Trail
Clam Beach To Westhaven
Trinidad, CA 95570

Inquiry Number: 6663524.3
September 15, 2021

Certified Sanborn® Map Report

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Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

09/15/21

Site Name:	Client Name:
Little River Trail	SHN Consulting Engineers
Clam Beach To Westhaven	812 West Wabash Avenue
Trinidad, CA 95570	Eureka, CA 95501
EDR Inquiry # 6663524.3	Contact: Diana Ward

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Certified Sanborn Results:

Certification # 789A-4A14-8B5A

PO # 020068.300

Project Little River Trail Phase I ESA

UNMAPPED PROPERTY

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Sanborn® Library search results

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Little River Trail
Clam Beach To Westhaven
Trinidad, CA 95570

Inquiry Number: 6663524.4
September 15, 2021

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

09/15/21

Site Name:	**Client Name:**
Little River Trail	SHN Consulting Engineers
Clam Beach To Westhaven	812 West Wabash Avenue
Trinidad, CA 95570	Eureka, CA 95501
EDR Inquiry # 6663524.4	Contact: Diana Ward

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by SHN Consulting Engineers were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:		***Coordinates:***	
P.O.#	020068.300	**Latitude:**	41.022319 41° 1' 20" North
Project:	Little River Trail Phase I ESA	**Longitude:**	-124.107415 -124° 6' 27" West
		UTM Zone:	Zone 10 North
		UTM X Meters:	406895.31
		UTM Y Meters:	4541825.29
		Elevation:	26.92' above sea level

Maps Provided:

2012
1972, 1975
1966
1951, 1952
1947
1942, 1945

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets

Crannell
2012
7.5-minute, 24000

Trinidad
2012
7.5-minute, 24000

Tyee City
2012
7.5-minute, 24000

Arcata North
2012
7.5-minute, 24000

1972, 1975 Source Sheets

Arcata North
1972
7.5-minute, 24000
Aerial Photo Revised 1970

Tyee City
1972
7.5-minute, 24000
Aerial Photo Revised 1972

Crannell
1975
7.5-minute, 24000
Aerial Photo Revised 1964

1966 Source Sheets

Crannell
1966
7.5-minute, 24000
Aerial Photo Revised 1964

Trinidad
1966
7.5-minute, 24000
Aerial Photo Revised 1964

1951, 1952 Source Sheets

Eureka
1951
15-minute, 62500

Trinidad
1952
15-minute, 62500
Aerial Photo Revised 1942

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1947 Source Sheets

TRINIDAD
1947
15-minute, 50000

1942, 1945 Source Sheets

Eureka
1942
15-minute, 62500

Trinidad
1945
15-minute, 62500
Aerial Photo Revised 1942

Historical Topo Map

2012

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

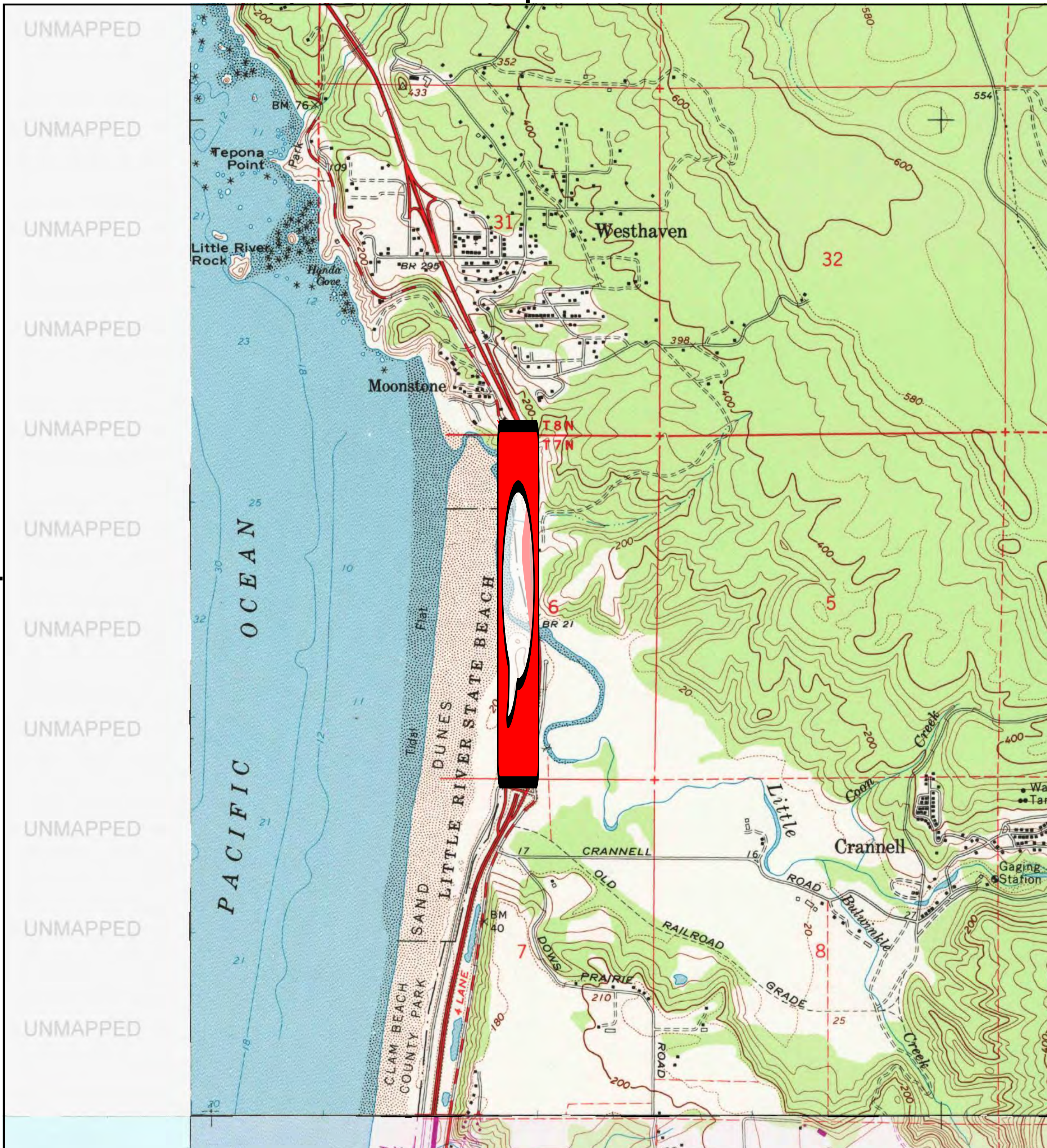
TP, Crannell, 2012, 7.5-minute
S, Arcata North, 2012, 7.5-minute
SW, Tyee City, 2012, 7.5-minute
NW, Trinidad, 2012, 7.5-minute

SITE NAME: Little River Trail
ADDRESS: Clam Beach To Westhaven
Trinidad, CA 95570
CLIENT: SHN Consulting Engineers

N

Historical Topo Map

1972, 1975



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

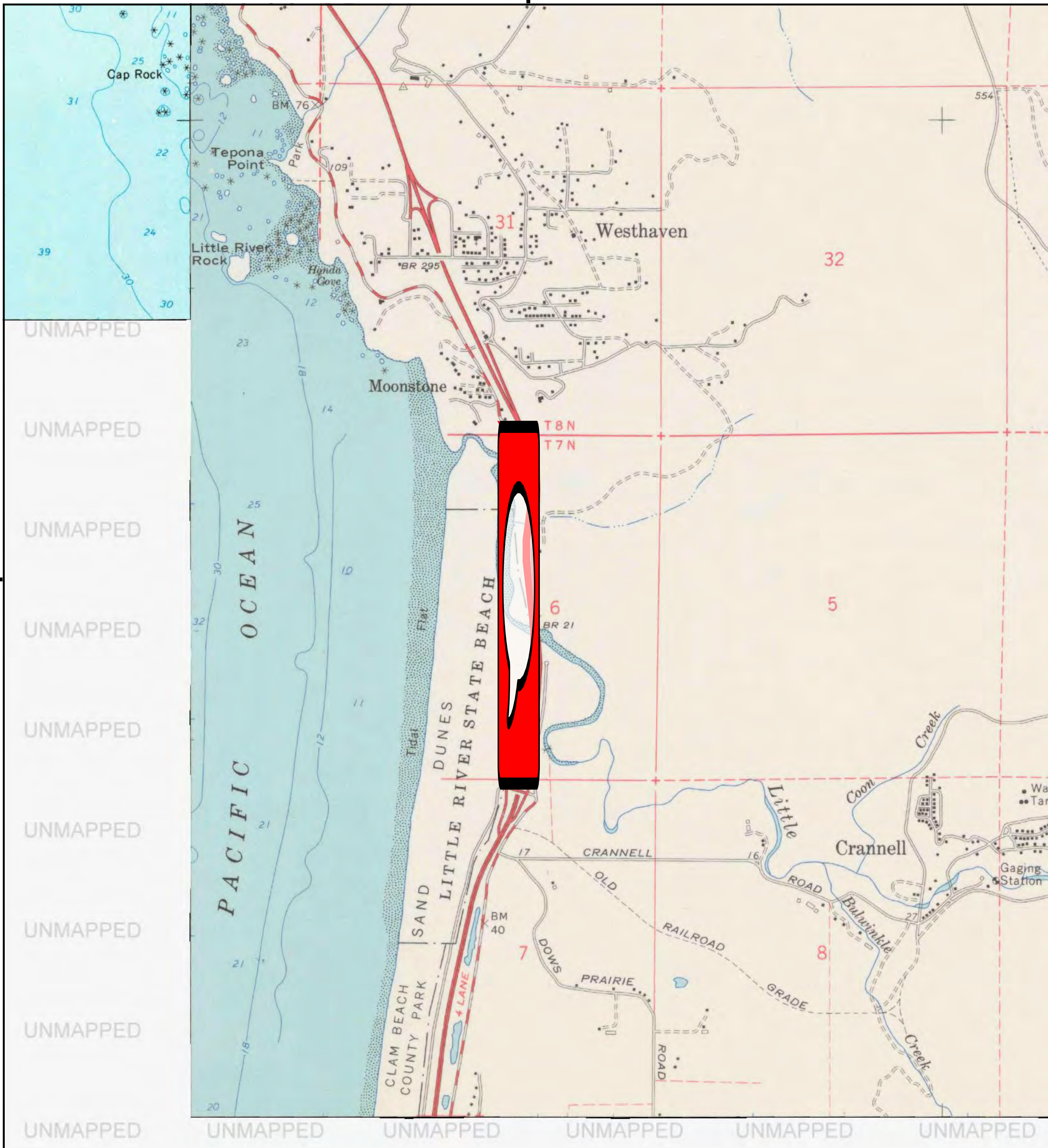
NW N NE W E SW S SE

TP, Crannell, 1975, 7.5-minute
S, Arcata North, 1972, 7.5-minute
SW, Tyee City, 1972, 7.5-minute

SITE NAME: Little River Trail
ADDRESS: Clam Beach To Westhaven
Trinidad, CA 95570
CLIENT: SHN Consulting Engineers

Historical Topo Map

1966



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE W E SW S SE

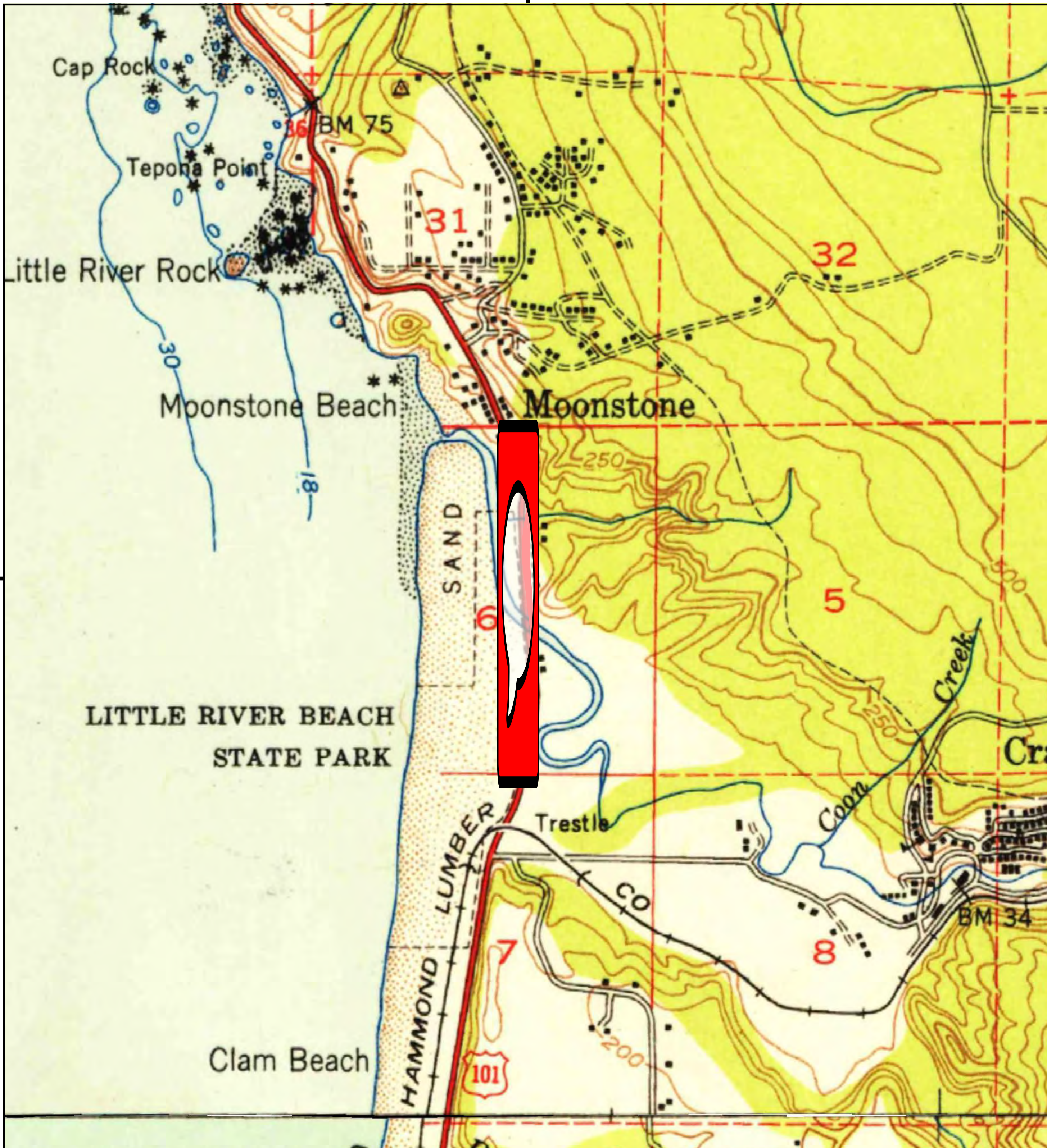
TP, Crannell, 1966, 7.5-minute
NW, Trinidad, 1966, 7.5-minute

SITE NAME: Little River Trail
ADDRESS: Clam Beach To Westhaven
Trinidad, CA 95570
CLIENT: SHN Consulting Engineers

N

Historical Topo Map

1951, 1952



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

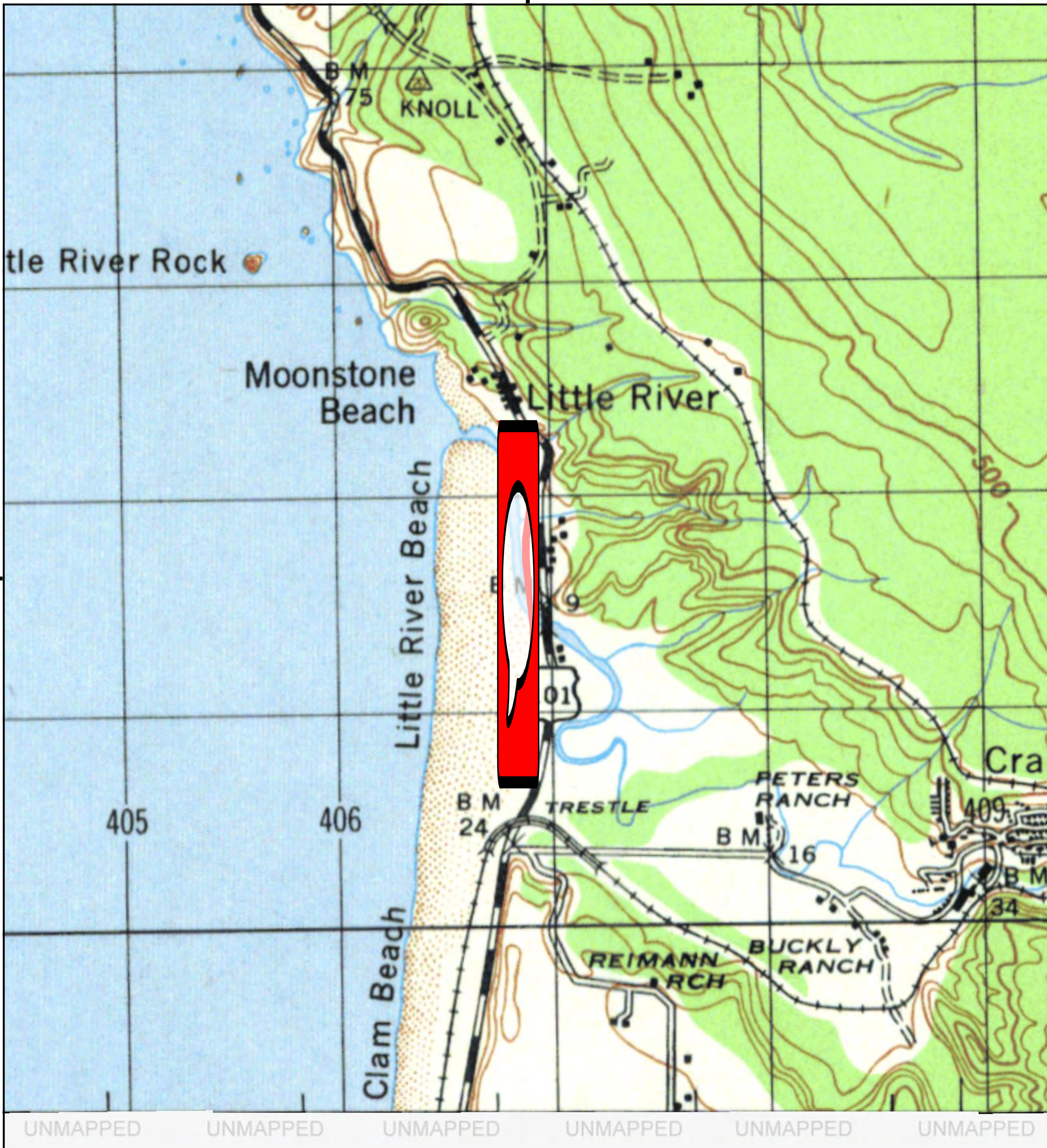
TP, Trinidad, 1952, 15-minute
S, Eureka, 1951, 15-minute

SITE NAME: Little River Trail
ADDRESS: Clam Beach To Westhaven
Trinidad, CA 95570
CLIENT: SHN Consulting Engineers

N

Historical Topo Map

1947



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

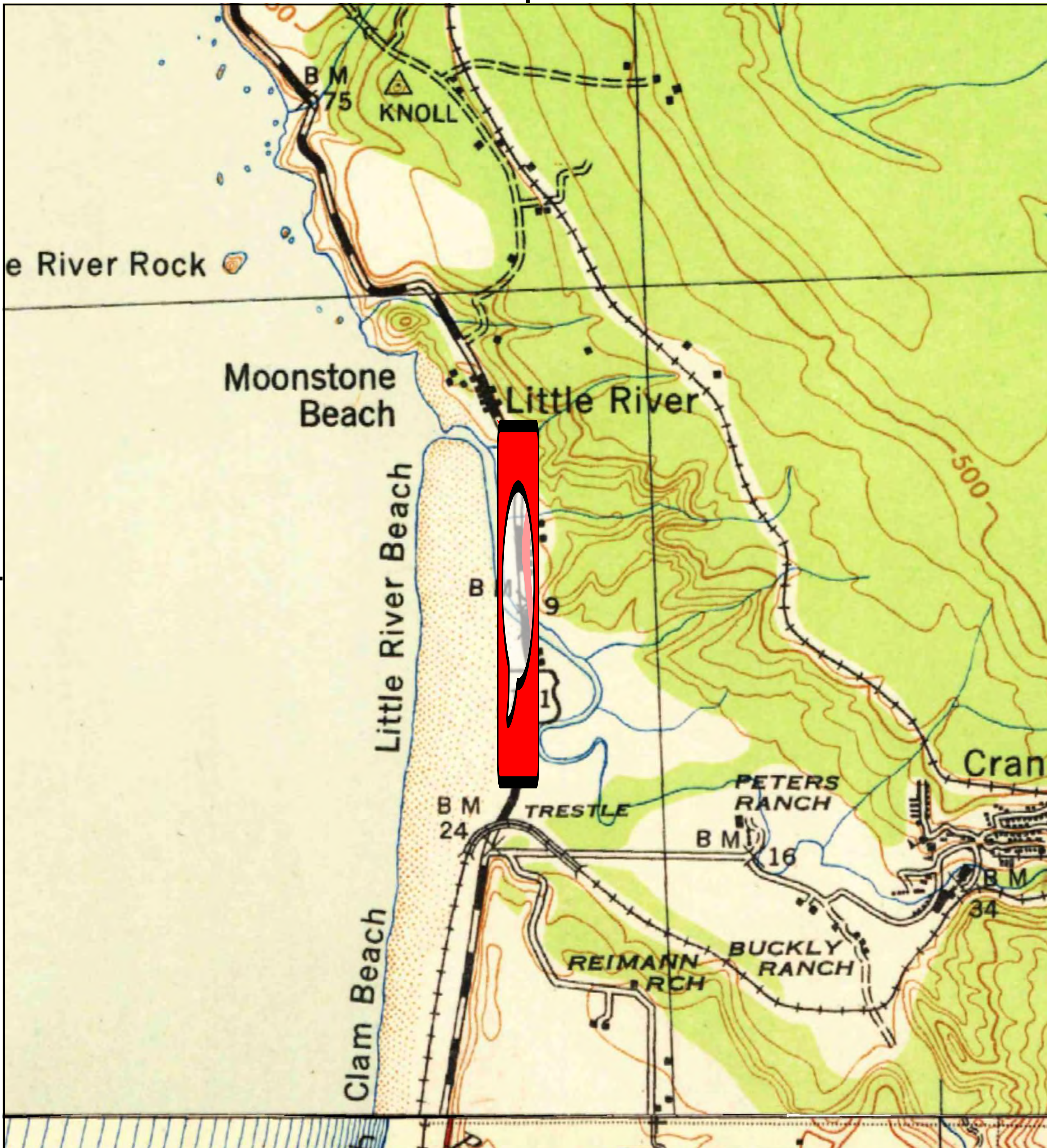
TP, TRINIDAD, 1947, 15-minute

SITE NAME: Little River Trail
ADDRESS: Clam Beach To Westhaven
Trinidad, CA 95570
CLIENT: SHN Consulting Engineers

N

Historical Topo Map

1942, 1945



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Trinidad, 1945, 15-minute
S, Eureka, 1942, 15-minute

SITE NAME: Little River Trail
ADDRESS: Clam Beach To Westhaven
Trinidad, CA 95570
CLIENT: SHN Consulting Engineers

N

EDR Radius Reports 4

Little River Trail
Clam Beach To Westhaven
Trinidad, CA 95570

Inquiry Number: 6663524.2s
September 15, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

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with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

CLAM BEACH TO WESTHAVEN
TRINIDAD, CA 95570

COORDINATES

Latitude (North):	41.0223190 - 41˚ 1' 20.34''
Longitude (West):	124.1074150 - 124˚ 6' 26.69''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	406892.8
UTM Y (Meters):	4541613.5
Elevation:	26 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5601328 CRANNELL, CA
Version Date:	2012
South Map:	5629078 ARCATA NORTH, CA
Version Date:	2012
Southwest Map:	5609290 TYEE CITY, CA
Version Date:	2012
Northwest Map:	5602246 TRINIDAD, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140607
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
CLAM BEACH TO WESTHAVEN
TRINIDAD, CA 95570

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System

EXECUTIVE SUMMARY

US ENG CONTROLS - - - - - - - - Engineering Controls Sites List
US INST CONTROLS - - - - - - - - Institutional Controls Sites List

Federal ERNS list

ERNS - Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE - - - - - - - - - - - - - - - - - State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR - - - - - - - - - - - - - - - EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF - Solid Waste Information System

State and tribal leaking storage tank lists

LUST - Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST - - - - - - - - - - - - - - - Leaking Underground Storage Tanks on Indian Land
CPS-SLIC - - - - - - - - - - - - - - - - - - - Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST - - - - - - - - - - - - - - - - - - Underground Storage Tank Listing
UST - Active UST Facilities
AST - Aboveground Petroleum Storage Tank Facilities
INDIAN UST - - - - - - - - - - - - - - - - - Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP - - - - - - - - - - - - - - - - - Voluntary Cleanup Priority Listing
VCP - Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS - - - - - - - - - - - - - - Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS - - - - - - - - - - A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT - - - - - - - - - - - - - - Waste Management Unit Database
SWRCY - Recycler Database
HAULERS - - - - - - - - - - - - - - - - - - - Registered Waste Tire Haulers Listing
INDIAN ODI - - - - - - - - - - - - - - - - - Report on the Status of Open Dumps on Indian Lands
ODI - Open Dump Inventory

EXECUTIVE SUMMARY

DEBRIS REGION 9 Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL Delisted National Clandestine Laboratory Register
HIST Cal-Sites Historical Calsites Database
SCH School Property Evaluation Program
CDL Clandestine Drug Labs
CERS HAZ WASTE CERS HAZ WASTE
Toxic Pits Toxic Pits Cleanup Act Sites
US CDL National Clandestine Laboratory Register
PFAS PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST SWEEPS UST Listing
HIST UST Hazardous Substance Storage Container Database
CA FID UST Facility Inventory Database
CERS TANKS California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS Environmental Liens Listing
LIENS 2 CERCLA Lien Information
DEED Deed Restriction Listing

Records of Emergency Release Reports

HMIRS Hazardous Materials Information Reporting System
CHMIRS California Hazardous Material Incident Report System
LDS Land Disposal Sites Listing
MCS Military Cleanup Sites Listing
SPILLS 90 SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR RCRA - Non Generators / No Longer Regulated
FUDS Formerly Used Defense Sites
DOD Department of Defense Sites
SCRD DRYCLEANERS State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR Financial Assurance Information
EPA WATCH LIST EPA WATCH LIST
2020 COR ACTION 2020 Corrective Action Program List
TSCA Toxic Substances Control Act
TRIS Toxic Chemical Release Inventory System
SSTS Section 7 Tracking Systems
ROD Records Of Decision
RMP Risk Management Plans
RAATS RCRA Administrative Action Tracking System
PRP Potentially Responsible Parties
PADS PCB Activity Database System
ICIS Integrated Compliance Information System
FTTS FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

EXECUTIVE SUMMARY

MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
ECHO	Enforcement & Compliance History Information
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
CERS	CERS
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)
MINES MRDS	Mineral Resources Data System
HWTS	Hazardous Waste Tracking System

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP - EDR Proprietary Manufactured Gas Plants
EDR Hist Auto - - - - - - - - - - - - - - - - EDR Exclusive Historical Auto Stations
EDR Hist Cleaner - - - - - - - - - - - - - EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF - Recovered Government Archive Solid Waste Facilities List
RGA LUST - - - - - - - - - - - - - - - - - - - Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

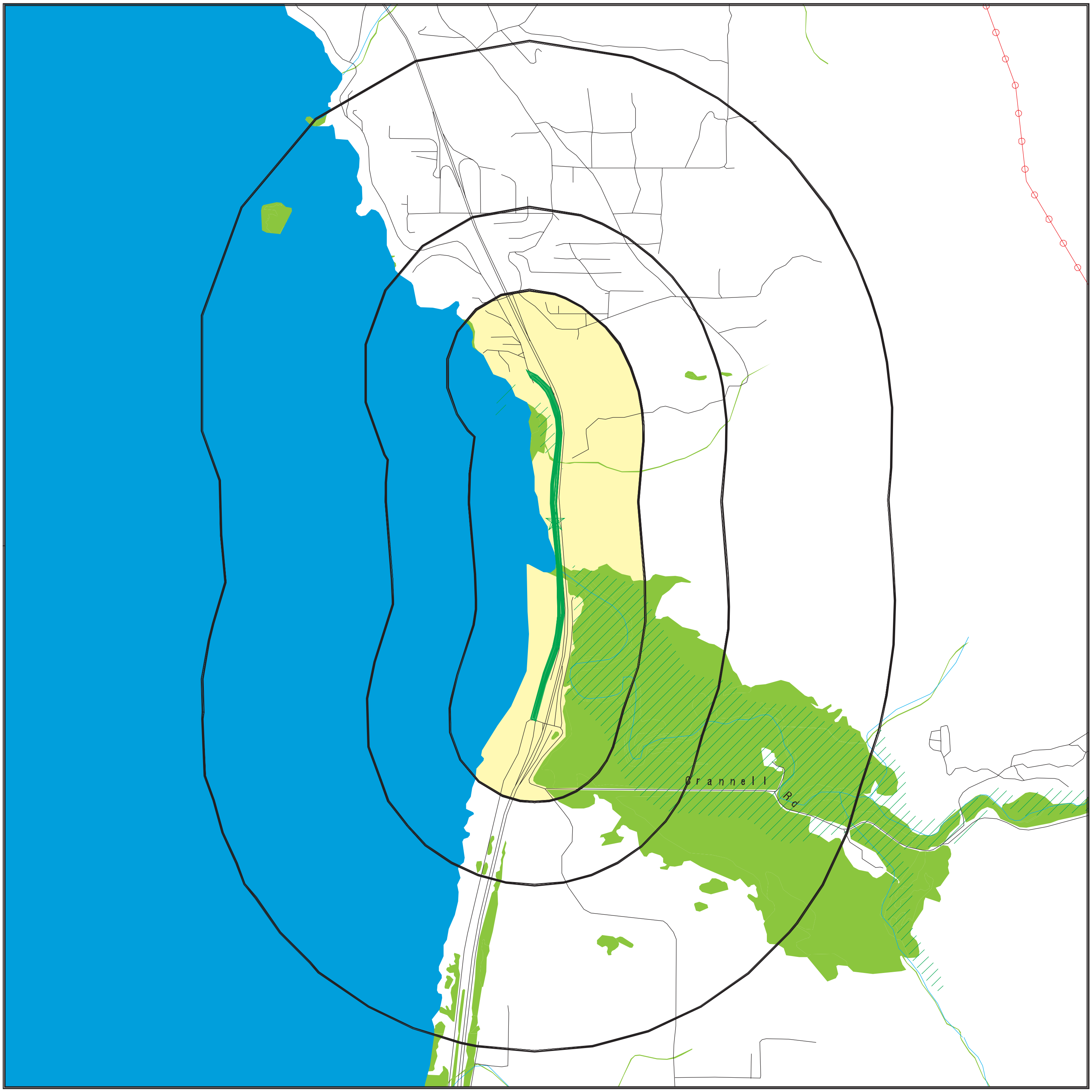
Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 6663524.2S



0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Little River Trail	CLIENT: SHN Consulting Engineers
ADDRESS: Clam Beach To Westhaven	CONTACT: Diana Ward
Trinidad CA 95570	INQUIRY #: 6663524.2s
LAT/LONG: 41.022319 / 124.107415	DATE: September 15, 2021 4:58 pm

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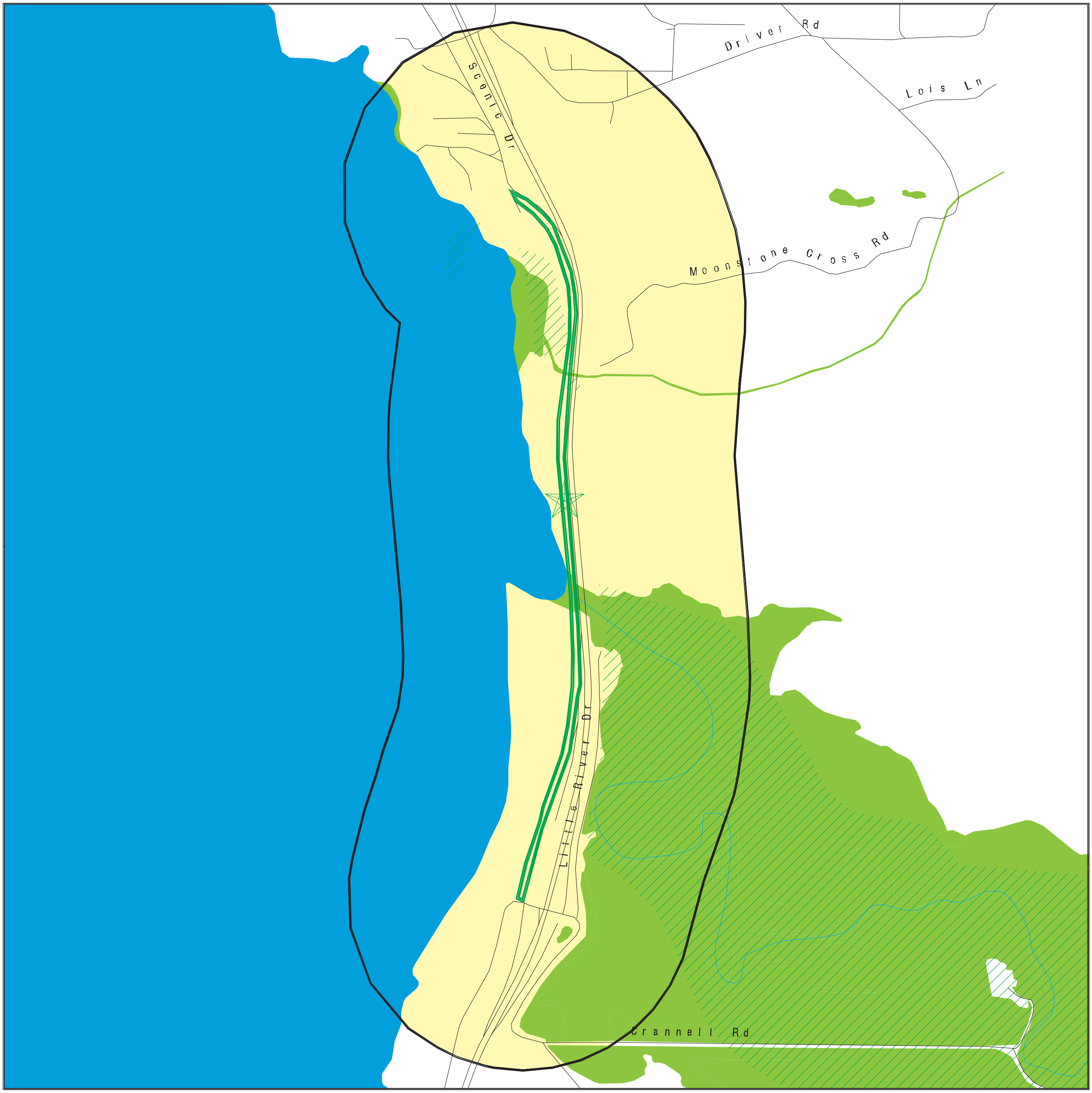
DETAIL MAP - 6663524.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Little River Trail ADDRESS: Clam Beach To Westhaven Trinidad CA 95570 LAT/LONG: 41.022319 / 124.107415	CLIENT: SHN Consulting Engineers CONTACT: Diana Ward INQUIRY #: 6663524.2s DATE: September 15, 2021 5:01 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID Direction Distance Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/30/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/10/2021
Date Data Arrived at EDR: 05/13/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 82

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/05/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/23/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/23/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/14/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 61

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 04/23/2021
Date Data Arrived at EDR: 04/23/2021
Date Made Active in Reports: 07/12/2021
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/22/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control’s (DTSC’s) Site Mitigation and Brownfields Reuse Program’s (SMBRP’s) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 04/23/2021
Date Data Arrived at EDR: 04/23/2021
Date Made Active in Reports: 07/12/2021
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/22/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/10/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 07/27/2021
Number of Days to Update: 77

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 05/20/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/30/2021
Number of Days to Update: 87

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Semi-Annually

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC’s costs.

Date of Government Version: 04/23/2021
Date Data Arrived at EDR: 04/23/2021
Date Made Active in Reports: 07/12/2021
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/22/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/17/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 09/13/2021
Number of Days to Update: 88

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/10/2021
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 68

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 07/20/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/04/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/20/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 07/20/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 77

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 04/23/2021
Date Data Arrived at EDR: 04/23/2021
Date Made Active in Reports: 07/12/2021
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 07/22/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 07/15/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 77

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/04/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990’s. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/07/2021
Date Made Active in Reports: 07/23/2021
Number of Days to Update: 77

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 07/26/2021
Next Scheduled EDR Contact: 11/14/2021
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/15/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/24/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 85

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/13/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/04/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 07/15/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA’s comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/04/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 85

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 07/26/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/16/2021
Number of Days to Update: 87

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/19/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/07/2021
Date Data Arrived at EDR: 05/13/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/14/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/05/2021
Number of Days to Update: 50

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB’s who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/11/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 61

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 07/14/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/03/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 07/23/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/14/2021
Date Made Active in Reports: 07/16/2021
Number of Days to Update: 2

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/02/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/02/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program
DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/23/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/12/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 05/27/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 14

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2021
Date Data Arrived at EDR: 05/25/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 78

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 08/26/2021
Number of Days to Update: 97	Next Scheduled EDR Contact: 12/06/2021
	Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/15/2021	Source: Department of Interior
Date Data Arrived at EDR: 06/16/2021	Telephone: 202-208-2609
Date Made Active in Reports: 08/17/2021	Last EDR Contact: 09/14/2021
Number of Days to Update: 62	Next Scheduled EDR Contact: 12/20/2021
	Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/05/2021	Source: EPA
Date Data Arrived at EDR: 05/18/2021	Telephone: (415) 947-8000
Date Made Active in Reports: 08/17/2021	Last EDR Contact: 08/31/2021
Number of Days to Update: 91	Next Scheduled EDR Contact: 12/13/2021
	Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/21/2021	Telephone: 202-564-0527
Date Made Active in Reports: 08/11/2021	Last EDR Contact: 08/26/2021
Number of Days to Update: 82	Next Scheduled EDR Contact: 12/06/2021
	Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2021	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/06/2021	Telephone: 202-564-2280
Date Made Active in Reports: 06/25/2021	Last EDR Contact: 07/01/2021
Number of Days to Update: 80	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 07/07/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/14/2021
Date Data Arrived at EDR: 05/14/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 81

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/17/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 09/14/2021
Number of Days to Update: 89

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 08/18/2021
Number of Days to Update: 84

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 08/05/2021
Number of Days to Update: 78

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 78

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/16/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 07/15/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/14/2021
Date Data Arrived at EDR: 04/15/2021
Date Made Active in Reports: 07/06/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/13/2021
Date Data Arrived at EDR: 05/13/2021
Date Made Active in Reports: 07/26/2021
Number of Days to Update: 74

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/04/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/14/2021	Source: Department of Toxic Subsances Control
Date Data Arrived at EDR: 05/14/2021	Telephone: 877-786-9427
Date Made Active in Reports: 07/27/2021	Last EDR Contact: 08/13/2021
Number of Days to Update: 74	Next Scheduled EDR Contact: 11/29/2021
	Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/14/2021	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 05/14/2021	Telephone: 916-323-3400
Date Made Active in Reports: 07/27/2021	Last EDR Contact: 08/13/2021
Number of Days to Update: 74	Next Scheduled EDR Contact: 11/29/2021
	Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/05/2021	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 04/06/2021	Telephone: 916-440-7145
Date Made Active in Reports: 06/23/2021	Last EDR Contact: 07/01/2021
Number of Days to Update: 78	Next Scheduled EDR Contact: 10/18/2021
	Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/03/2021	Source: Department of Conservation
Date Data Arrived at EDR: 06/03/2021	Telephone: 916-322-1080
Date Made Active in Reports: 08/24/2021	Last EDR Contact: 09/07/2021
Number of Days to Update: 82	Next Scheduled EDR Contact: 12/20/2021
	Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/06/2021	Source: Department of Public Health
Date Data Arrived at EDR: 05/28/2021	Telephone: 916-558-1784
Date Made Active in Reports: 08/20/2021	Last EDR Contact: 08/31/2021
Number of Days to Update: 84	Next Scheduled EDR Contact: 12/13/2021
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/10/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 07/27/2021
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/04/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/12/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/25/2021
Number of Days to Update: 83

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region’s active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 06/07/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 81

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System
The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 05/19/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 08/12/2021
Number of Days to Update: 85

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 07/15/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/25/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System
DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 04/08/2021
Date Data Arrived at EDR: 04/09/2021
Date Made Active in Reports: 04/20/2021
Number of Days to Update: 11

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 03/17/2021
Date Data Arrived at EDR: 03/18/2021
Date Made Active in Reports: 03/25/2021
Number of Days to Update: 7

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 07/26/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/15/2021
Date Data Arrived at EDR: 06/16/2021
Date Made Active in Reports: 07/02/2021
Number of Days to Update: 16

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 07/26/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 04/21/2021
Date Data Arrived at EDR: 04/22/2021
Date Made Active in Reports: 07/12/2021
Number of Days to Update: 81

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 07/20/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 12/17/2020
Date Data Arrived at EDR: 01/28/2021
Date Made Active in Reports: 04/16/2021
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 07/20/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/10/2021
Date Data Arrived at EDR: 05/12/2021
Date Made Active in Reports: 07/26/2021
Number of Days to Update: 75

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 07/20/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA’s are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/14/2021
Date Data Arrived at EDR: 01/15/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 80

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

GLENN COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018	Source: Glenn County Air Pollution Control District
Date Data Arrived at EDR: 01/24/2018	Telephone: 830-934-6500
Date Made Active in Reports: 03/14/2018	Last EDR Contact: 07/13/2021
Number of Days to Update: 49	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/17/2021	Source: Humboldt County Environmental Health
Date Data Arrived at EDR: 05/18/2021	Telephone: N/A
Date Made Active in Reports: 05/20/2021	Last EDR Contact: 08/10/2021
Number of Days to Update: 2	Next Scheduled EDR Contact: 11/29/2021
	Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/14/2021	Source: San Diego Border Field Office
Date Data Arrived at EDR: 04/15/2021	Telephone: 760-339-2777
Date Made Active in Reports: 07/06/2021	Last EDR Contact: 07/13/2021
Number of Days to Update: 82	Next Scheduled EDR Contact: 11/01/2021
	Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018	Source: Inyo County Environmental Health Services
Date Data Arrived at EDR: 04/03/2018	Telephone: 760-878-0238
Date Made Active in Reports: 06/14/2018	Last EDR Contact: 08/10/2021
Number of Days to Update: 72	Next Scheduled EDR Contact: 11/29/2021
	Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 04/22/2021	Source: Kern County Public Health
Date Data Arrived at EDR: 04/30/2021	Telephone: 661-321-3000
Date Made Active in Reports: 07/19/2021	Last EDR Contact: 08/10/2021
Number of Days to Update: 80	Next Scheduled EDR Contact: 11/15/2021
	Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/06/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 08/18/2021
Number of Days to Update: 6

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List

Cupa facility list

Date of Government Version: 05/10/2021
Date Data Arrived at EDR: 05/12/2021
Date Made Active in Reports: 07/26/2021
Number of Days to Update: 75

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/06/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List

Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/08/2021
Date Data Arrived at EDR: 04/13/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 76

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/12/2021
Date Data Arrived at EDR: 04/13/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 76

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 81

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/06/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 02/04/2021
Date Data Arrived at EDR: 04/16/2021
Date Made Active in Reports: 04/21/2021
Number of Days to Update: 5

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 07/12/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 11

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 09/14/2021
Number of Days to Update: 89

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 04/16/2021
Date Made Active in Reports: 07/06/2021
Number of Days to Update: 81

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/06/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 04/28/2021
Date Made Active in Reports: 07/13/2021
Number of Days to Update: 76

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List

A listing of sites included in the county’s Certified Unified Program Agency database. California’s Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 03/24/2021
Date Data Arrived at EDR: 04/07/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/13/2021
Date Data Arrived at EDR: 05/14/2021
Date Made Active in Reports: 07/26/2021
Number of Days to Update: 73

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/09/2021
Next Scheduled EDR Contact: 11/28/2021
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/06/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/23/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 1

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

NAPA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 04/29/2021
Date Made Active in Reports: 07/15/2021
Number of Days to Update: 77

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 07/20/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 04/30/2021
Date Made Active in Reports: 07/19/2021
Number of Days to Update: 80

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 07/29/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 9

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 04/29/2021
Date Data Arrived at EDR: 04/30/2021
Date Made Active in Reports: 07/19/2021
Number of Days to Update: 80

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 07/29/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 6

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 06/29/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 06/29/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/25/2021
Number of Days to Update: 85

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 08/04/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 04/29/2021
Date Made Active in Reports: 05/03/2021
Number of Days to Update: 4

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 07/26/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/19/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 06/07/2021
Number of Days to Update: 19

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 07/27/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 07/27/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing
A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/07/2021
Date Made Active in Reports: 07/23/2021
Number of Days to Update: 77

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 07/27/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 07/27/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/07/2021
Date Made Active in Reports: 07/23/2021
Number of Days to Update: 77

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 07/27/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List

Cupa Facility List.

Date of Government Version: 05/07/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 3

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/10/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/24/2021
Date Data Arrived at EDR: 02/26/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 82

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/04/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 07/27/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/23/2021
Date Data Arrived at EDR: 03/25/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 77

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/12/2021
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/01/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 05/14/2021
Date Data Arrived at EDR: 05/17/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 78

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/06/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 08/18/2021
Number of Days to Update: 84

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 04/06/2021
Number of Days to Update: 82

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 04/14/2021
Date Data Arrived at EDR: 04/15/2021
Date Made Active in Reports: 07/06/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 04/26/2021
Date Data Arrived at EDR: 04/28/2021
Date Made Active in Reports: 07/13/2021
Number of Days to Update: 76

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 03/29/2021
Date Data Arrived at EDR: 04/22/2021
Date Made Active in Reports: 07/12/2021
Number of Days to Update: 81

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 07/15/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/04/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/29/2021
Date Data Arrived at EDR: 04/21/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 2

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 07/15/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/26/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 04/21/2021
Date Data Arrived at EDR: 04/22/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 20

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 07/20/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 03/24/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 07/28/2021
Number of Days to Update: 78

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 07/29/2021
Next Scheduled EDR Contact: 11/08/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/07/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/11/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association’s annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

LITTLE RIVER TRAIL
CLAM BEACH TO WESTHAVEN
TRINIDAD, CA 95570

TARGET PROPERTY COORDINATES

Latitude (North):	41.022319 - 41˚ 1’ 20.35’’
Longitude (West):	124.107415 - 124˚ 6’ 26.69’’
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	406892.8
UTM Y (Meters):	4541613.5
Elevation:	26 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5601328 CRANNELL, CA
Version Date:	2012
South Map:	5629078 ARCATA NORTH, CA
Version Date:	2012
Southwest Map:	5609290 TYEE CITY, CA
Version Date:	2012
Northwest Map:	5602246 TRINIDAD, CA
Version Date:	2012

EDR’s GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

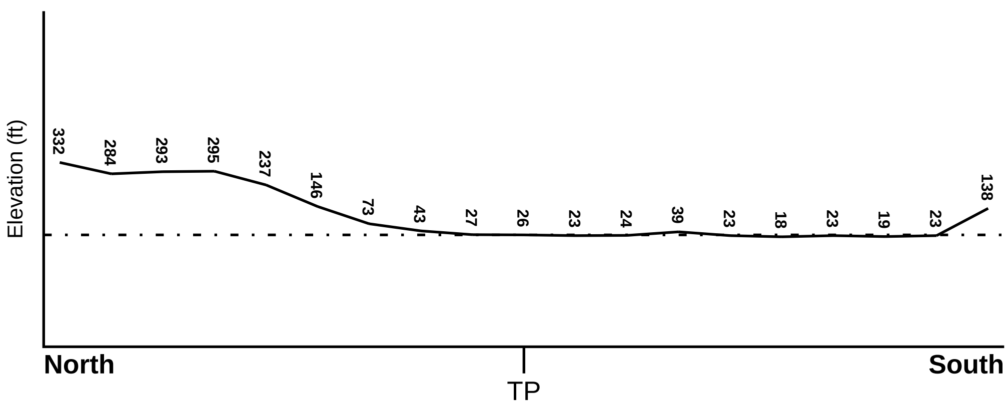
TOPOGRAPHIC INFORMATION

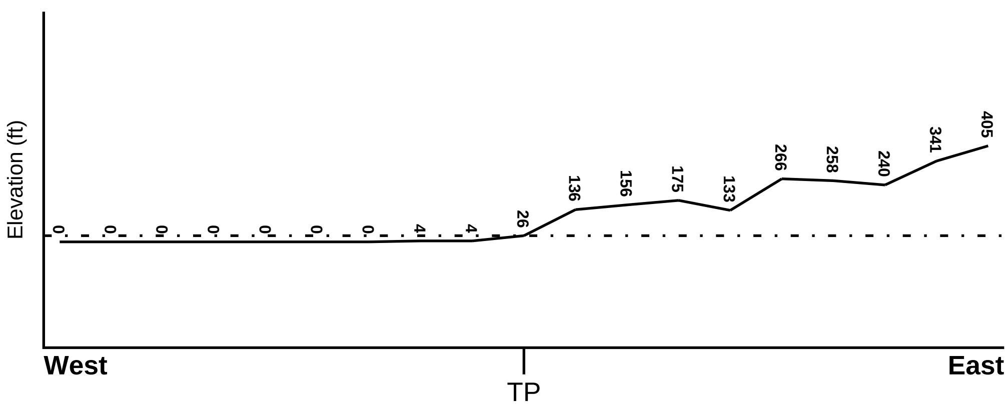
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 26 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
0600600450B	FEMA Q3 Flood data

Additional Panels in search area:	FEMA Source Type
Not Reported	

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CRANNELL	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles
Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: Cenozoic
System: Quaternary
Series: Quaternary
Code: Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: DUNE LAND

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

Soil Layer Information							
	Boundary			Classification			
Layer	**Upper**	**Lower**	**Soil Texture Class**	**AASHTO Group**	**Unified Soil**	**Permeability Rate (in/hr)**	**Soil Reaction (pH)**
1	0 inches	6 inches	sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 0.00 Min: 0.00
2	6 inches	60 inches	sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: fine sand
gravelly - coarse sand
silty clay loam

Surficial Soil Types: fine sand
gravelly - coarse sand
silty clay loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: coarse sand
fine sand
stratified
clay

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
C8	USGS40000194734	1/2 - 1 Mile North

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

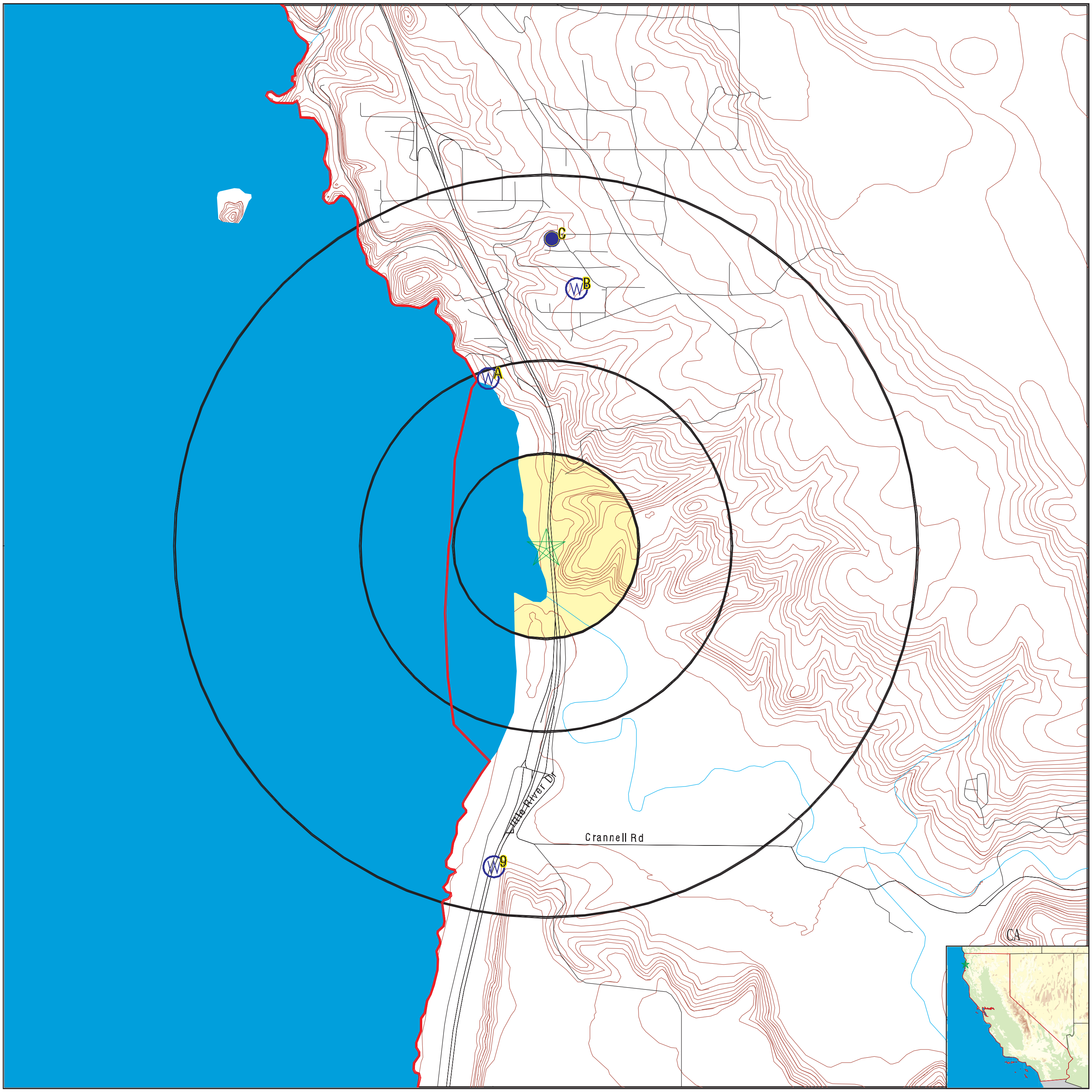
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CADDW0000019220	1/4 - 1/2 Mile NNW
A2	8149	1/4 - 1/2 Mile NNW
B3	CADDW0000002416	1/2 - 1 Mile North
B4	8152	1/2 - 1 Mile North
C5	CADDW0000016851	1/2 - 1 Mile North
C6	CAUSGSN00011147	1/2 - 1 Mile North
C7	CAUSGS000002613	1/2 - 1 Mile North
9	CADPR0000001941	1/2 - 1 Mile South

PHYSICAL SETTING SOURCE MAP - 6663524.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Little River Trail	CLIENT:	SHN Consulting Engineers
ADDRESS:	Clam Beach To Westhaven	CONTACT:	Diana Ward
	Trinidad CA 95570	INQUIRY #:	6663524.2s
LAT/LONG:	41.022319 / 124.107415	DATE:	September 15, 2021 5:01 pm

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Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
A1 **NNW** **1/4 - 1/2 Mile** **Higher**	**CA WELLS**	**CADDW0000019220**

	Database	EDR ID Number
A2 **NNW** **1/4 - 1/2 Mile** **Higher**	**CA WELLS**	**8149**

Seq:	8149	Prim sta c:	08N/01E-31P01 H
Frds no:	1200793001	County:	12
District:	01	User id:	ATT
System no:	1200793	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	410145.0	Longitude:	1240635.0
Precision:	3	Status:	AR

Comment 1: TAKE WESTHAVEN EXIT GOING NORTHON HWY 101 ~ 3 MI N OF MCKINLEYVILLE.
Comment 2: GO W UNDER HWY THEN S AT STOP SIGN ~ 200YDS. RESTAURANT IS DOWN THE
Comment 3: HILL TO MOONSTONE BEACH. CONTACT SAM MERRYMAN (707) 677-3111

Comment 4:	Not Reported	Comment 5:	Not Reported
Comment 6:	Not Reported	Comment 7:	Not Reported

System no:	1200793	System nam:	Merryman'S Restaurant
Hqname:	Not Reported	Address:	100 MOONSTONE BEACH RD.
City:	TRINIDAD	State:	CA
Zip:	95570	Zip ext:	Not Reported
Pop serv:	70	Connection:	1
Area serve:	Not Reported		

Sample date:	05-JUL-17	Finding:	5.5
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	05-JUL-17	Finding:	5.5
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		

	Database	EDR ID Number
B3 **North** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADDW0000002416**

	Database	EDR ID Number
B4 **North** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**8152**

Seq:	8152	Prim sta c:	08N/01E-35K01 H
Frds no:	1200590001	County:	12
District:	01	User id:	ATT
System no:	1200590	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	410158.0	Longitude:	1240616.0
Precision:	3	Status:	AR

Comment 1: TAKE WESTHAVEN EXIT NORTHBOUND ON HWY 101 ~ 3 MI N OF MCKINLEYVILLE.
Comment 2: GO RIGHT AT STOP SIGN THEN RIGHT ON DRIVER RD. WELL IS ON FERNCREST A

Comment 3:	VE AT TOP OF HILL. CONTACT MR. WADDLE (707) 677-3575		
Comment 4:	Not Reported	Comment 5:	Not Reported
Comment 6:	Not Reported	Comment 7:	Not Reported

System no:	1200590	System nam:	Moonstone Heights Water Co.
Hqname:	Not Reported	Address:	656 FERNCREST
City:	TRINIDAD	State:	CA
Zip:	95570	Zip ext:	Not Reported
Pop serv:	27	Connection:	13
Area serve:	Not Reported		

Sample date:	02-NOV-17	Finding:	2.2
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		

Sample date:	10-OCT-17	Finding:	98.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		

Sample date:	11-SEP-17	Finding:	1.3
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	27-SEP-16	Finding:	1.7
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	21-SEP-16	Finding:	10.
Chemical:	HALOACETIC ACIDS (5) (HAA5)	Report units:	UG/L
Dlr:	0.		

Sample date:	16-SEP-15	Finding:	2.2
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	23-MAR-15	Finding:	14.
Chemical:	DIBROMOCHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		

Sample date:	23-MAR-15	Finding:	44.
Chemical:	CHLOROFORM (THM)	Report units:	UG/L
Dlr:	1.		

Sample date:	23-MAR-15	Finding:	92.
Chemical:	TOTAL TRIHALOMETHANES	Report units:	UG/L
Dlr:	0.		

Sample date:	23-MAR-15	Finding:	34.
Chemical:	BROMODICHLOROMETHANE (THM)	Report units:	UG/L
Dlr:	1.		

Sample date:	05-MAR-15	Finding:	0.156
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		

Sample date:	05-MAR-15	Finding:	2200.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	05-MAR-15	Finding:	0.31
Chemical:	TURBIDITY, LABORATORY	Report units:	NTU
Dlr:	0.1		

Sample date:	05-MAR-15	Finding:	9.7
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	05-MAR-15	Finding:	140.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	5.5
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	05-MAR-15	Finding:	19.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	0.72
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	12.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	2.9
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	2.9
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	19.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	22.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	22.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	5.7
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	120.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	05-MAR-15	Finding:	1.07
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	12-NOV-14	Finding:	1.4
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	02-OCT-14	Finding:	120.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US

Dlr:	0.		
Sample date:	02-OCT-14	Finding:	2700.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		

C5
North
1/2 - 1 Mile
Higher

CA WELLS **CADDW0000016851**

C6
North
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00011147**

C7
North
1/2 - 1 Mile
Higher

CA WELLS **CAUSGS000002613**

C8
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000194734**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	008N001E31K001H	Type:	Well
Description:	Not Reported	HUC:	18010102
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19920915
Well Depth:	100	Well Depth Units:	ft
Well Hole Depth:	100	Well Hole Depth Units:	ft

9
South
1/2 - 1 Mile
Lower

CA WELLS **CADPR0000001941**

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95570	2	0

Federal EPA Radon Zone for HUMBOLDT County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 95570

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	-0.700 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5’ Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5’ Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture’s (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR’s Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California’s Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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Appendix H. Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation
a California Way of Life.

August 2020

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at <Title.VI@dot.ca.gov>.

Original signed by
Toks Omishakin
Director

Appendix I. Response to Comments

Humboldt Trails Council
Post Office Box 7164
Eureka, CA 95502

September 5, 2022

California Dept. of Transportation
Attn: Coady Reynolds
Caltrans District 1 Environmental Planning
1656 Union Street
Eureka, CA 95501
Email to: coady.reynolds@dot.ca.gov

RE: Comments on a notice of intent to Adopt a Mitigated Negative Declaration for the Little River Project

The Humboldt Trails Council (HTC) is writing in support of the adoption of the Mitigated Negative Declaration for a Class 1 Pathway - Little River Project. The Council serves as a unified voice to support development, maintenance, and use of trails for transportation and recreation throughout Humboldt County.

The Little River Trail will be an asset to the community and a welcome addition to the Humboldt Trail route maps. This trail will connect West Haven and Trinidad to the existing Hammond Trail encouraging active transportation for local and visiting folks. Currently, there are dangerous conditions facing pedestrians and bicyclists throughout the project area, and this project will improve the safety of the infrastructure people use.

I have reviewed the document and the study shows that this project will not have a significant effect on the quality of the environment.

As a regional priority with strong community support, we believe this project aligns with our mission, and is very important to our supporters and community partners. The Council strongly supports this trail project which will provide myriad transportation, healthy living, tourism, and quality of life benefits. If you have any questions or require further support, please contact me.

Sincerely,

Karen Underwood
Chair, Advocacy Committee

Caltrans' Response to Humboldt Trails Council

Caltrans appreciates the letter of support provided by the Humboldt Trails Council. As this comment does not pertain to environmental issues as defined in the CEQA Guidelines, no further response to comments is provided.

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

828 SEVENTH STREET, PO BOX 95 • EUREKA, CALIFORNIA 95502-0095
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FAX 707-443-5731 707-822-8245
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GENERAL MANAGER
JOHN FRIEDENBACH

September 13, 2022

VIA EMAIL: Coady.reynolds@dot.ca.gov
Coady Reynolds
California Department of Transportation
District 1 Office of Local Assistance
1656 Union Street
Eureka CA 95501

RE: Little River Trail Project
Humboldt County, California
District 1 – HUM – 101 – PM 96.96-97.83
Federal Project No. 01-0J280
SCH Number 2022080249

Dear Coady,

We are providing the following comments for the above referenced project. The Trinidad Rancheria (Rancheria) has requested a water mainline extension from our Humboldt Bay Municipal Water District (HBMWD). Our project is in its initial stages. However, during early 2020 we had a preliminary discussion with Cal Trans right of way staff regarding this project and possible alignment with the Little River Trail Project. Specifically, we had requested the consideration of combining the placement of a small waterline pipe on the west side of the 101-highway bridge spanning the Little River. Apparently, those discussions were not communicated to the project engineers.

We realize that the Little River Trail project CEQA document does not include the pipeline at this time. We also understand that the trail design plans are at only 30%, so it would be relatively easy to include the design to add a 6-inch water pipeline to the widening addition to the Little River bridge.

The Rancheria has obtained substantial funding to complete the waterline engineering, and I presume they would be willing to discuss cost sharing for design work.

Therefore, we respectfully request that CalTrans include the addition of a 6-inch domestic waterline on the widening section of the bridge crossing the Little River as a project note for future design consideration.

If you have any questions, please do not hesitate to contact us.

Regards,

John Friedenbach

John Friedenbach
General Manager

Cc: Jacque Hostler-Carmesin, Trinidad Rancheria

Caltrans' Response to Humboldt Bay Municipal Water District

Caltrans has noted the Humboldt Bay Municipal Water District would like to ensure the Little River Trail Project is compatible with their future water pipeline. As the design for the Little River Trail Project progresses, Caltrans will continue to coordinate with the Humboldt Bay Municipal Water District regarding the extension of a water pipeline to the Trinidad Rancheria.

TRINIDAD COASTAL LAND TRUST
P.O. Box 457, Trinidad, CA 95570
www.TrinidadCoastalLandTrust.org

September 15, 2022

California Department of Transportation
Attention: Coady Reynolds
District 1 Office of Local Assistance
1656 Union Street
Eureka, CA 95501

Dear Mr. Reynolds,

I am writing on behalf of the Trinidad Coastal Land Trust's to express support for the CalTrans Notice of Intent to Adopt a Mitigated Negative Declaration for a Class I Pathway Adjacent to U.S. 101 connecting the southern end of Scenic Drive to Clam Beach. This will be a great addition to our area's trail system and will be an important link in the California Coastal Trail.

The Land Trust has long been a supporter of developing this trail and will continue to be a strong advocate for the completion of this trail through the next phases of design and implementation. As a project partner, we have helped facilitate community outreach about the project and have received many comments of support. In public meetings during this initial phase of development, there has been an expressed desire to see future design phases that evaluate the potential for spur trails, overlooks and amenities that provide additional opportunities for the community to enjoy the stunning views of the river and access existing trails in the adjacent public properties.

Sincerely,

M. Kunst

Michelle Kunst, Executive Director

Caltrans' Response to Trinidad Coastal Land Trust

Caltrans appreciates the letter of support provided by the Trinidad Coastal Land Trust. As this comment does not pertain to environmental issues as defined in the CEQA Guidelines, no further response to comments is provided.