

**INITIAL STUDY**  
**For**  
**Hammond Coastal Trail – Widow White Creek Interpretive**  
**Trail Section**

**HUMBOLDT COUNTY, CALIFORNIA**

**May 19, 2006**

Prepared by:

Humboldt County Department of Public Works  
Natural Resources Division  
1106 Second Street  
Eureka, CA 95501

# **PROPOSED MITIGATED NEGATIVE DECLARATION Hammond Coastal Trail – Widow White Creek Interpretive Trail Section**

**Humboldt County, California**

**May 19, 2006**

## **Lead Agency**

Humboldt County Department of Public Works  
Natural Resources Division  
1106 Second Street  
Eureka, CA 95501  
707-445-7741

Contact: Kirsten Ramey, Environmental Analyst

## **Project Description**

The proposed project consists of the construction of an approximately 1,500-foot-long pedestrian-only interpretive trail within the forested hillsides adjacent to Widow White Creek. The trail will be constructed within existing easements. The trail will connect the current northern terminus of the southern section of the Hammond Trail (located immediately north of the Sand Pointe subdivision) with the southern terminus of the northern section of trail (located at the southern end of Letz Avenue).

## **Project Location**

The site of the proposed project is situated between Highway 101 and the Pacific Ocean near the community of McKinleyville in Humboldt County, California. The site is located on the west side of State Highway 101 between Murray Road and Letz Avenue in Section 25, Township 7 North, Range 1 West, and Section 30, Township 7 North, Range 1 East of the Arcata North USGS 7.5' quadrangle map.

## **Determination**

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Humboldt County Department of Public Works' intent to adopt a Mitigated Negative Declaration for this project under the California Environmental Quality Act (CEQA). The Natural Resources Division of the Department of Public Works has prepared an Initial Study for this project and expects to determine from this study that the proposed project, with appropriate mitigation measures, would not have a significant effect on the environment.

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## **BACKGROUND/HISTORY**

The California Coastal Conservancy (the Conservancy), the County of Humboldt, and the Redwood Community Action Agency (RCAA) have been working together for more than 25 years on the development of the Hammond Trail. The Hammond Trail originated as a trail running along portions of the abandoned Little River and Hammond Railroad line west of McKinleyville. The ultimate goal is to have a continuous trail system linking the coastal communities between Trinidad and Fortuna. As part of the California Coastal Trail, the Hammond Trail is designated for non-motorized commuter travel as well as recreational use.

The Hammond Trail currently consists of two discontinuous segments, with the southern segment extending from the Mad River to Murray Road and the northern segment extending from Letz Avenue to Clam Beach County Park (Figure 1). The gap between the trail segments is known locally as the “Hole in the Hammond.” The proposed project would connect the two segments with a pedestrian-only interpretive trail (the Interpretive Trail) along Widow White Creek, which would enable continuous travel between the Mad River and Clam Beach County Park (approximately 5.5 miles) (Figure 2).

Under a related but separate project, a paved trail (the Bypass Trail) will be constructed between Murray Road and Letz Avenue within the rights-of-way of the California Department of Transportation (Caltrans) and the McKinleyville Community Services District (MCSD) adjacent to Highway 101. The Bypass Trail will be a multiple-use trail for pedestrians, bicyclists, and equestrians and will be accessible to people with disabilities. The Bypass Trail is categorically exempt from CEQA under California Code of Regulations Title 14, Chapter 3, Section 15304 (Minor Alterations to Land), Subpart h (“The creation of bicycle lanes on existing rights-of-way”). A Notice of Exemption for the Bypass Trail was filed with the County Clerk of the County of Humboldt on October 25, 2002.

A detailed description of the Interpretive Trail is presented below. It is anticipated that construction of the Interpretive Trail will be completed during the Fall of 2007.

## **PROJECT NEED**

The proposed project will connect two previously completed trail segments: the southern section of the Hammond Trail that ends immediately north of the Sand Pointe subdivision, and the northern section of the Hammond Trail that ends at the southern end of Letz Avenue. Construction of the proposed trail section will enhance public access to the Mad River and its estuary, coastal beaches, and area parks and will provide recreational and interpretive opportunities for pedestrians.

## **LOCATION**

The site of the proposed project is situated between Highway 101 and the Pacific Ocean near the community of McKinleyville in Humboldt County, California. The site is located on the west side of State Highway 101 between Murray Road and Letz Avenue in

Section 25, Township 7 North, Range 1 West, and Section 30, Township 7 North, Range 1 East of the Arcata North USGS 7.5' quadrangle map (Figure 3).

### **PROJECT DESCRIPTION**

The proposed project consists of the construction of an approximately 1,500-foot-long pedestrian-only interpretive trail within the forested hillsides adjacent to Widow White Creek. The width of the trail will be six feet. The trail will be constructed within existing easements on both the north and south side of Widow White Creek. The trail will connect the current northern terminus of the southern section of the Hammond Trail (located immediately north of the Sand Pointe subdivision) with the southern terminus of the northern section of the trail (located at the southern end of Letz Avenue) (Figure 4). The alignment of the trail is shown in Appendix A. Photos depicting the general setting of the Interpretive Trail can be found in Appendix B.

The northern end of the Interpretive Trail will meet the Bypass Trail at the southern end of the MCSD pump-house access road. The MCSD access road is a continuation of Letz Avenue that crosses private property owned by Bud and Diane Slagle. The MCSD owns an easement for the access road across the Slagle property. The southern end of the Interpretive Trail will connect into the existing section of pedestrian trail that ends just north of the Sand Pointe subdivision. This section of trail diverges from the paved trail at the end of Murray Road, travels north approximately 2,100 feet along the bluffs above the Mad River estuary, and wraps around the Sand Pointe subdivision.

Informational and interpretive signs will be placed at the trail entrances and along the trail to provide orientation, identify features within the local area, and provide guidance for interacting with other users. Signs notifying trail users of private property boundaries will be placed at appropriate locations along the trail to control, direct, and inform users to avoid inadvertent trespassing.

The trail will be constructed along the hillslope using a standard cut-and-fill approach, in which a series of flat benches are formed by excavating the upslope side and using the excavated soil to fill the downslope side. Construction of the proposed trail section will require the excavation of a total of approximately 2,150 cubic yards of ground material. Approximately 1,420 cubic yards of this material will be used as fill for the proposed trail. The surface of the trail will be finished with compacted gravel. Localized areas with poor soils may need to be over-excavated and filled with appropriate imported material. All excess excavated material will be disposed of at an approved off-site location.

Construction of the trail will require the removal of understory vegetation and some small-diameter trees (less than six inches in diameter). Straw will be placed on new slopes and soil that becomes bare due to construction activities. Stem cuttings of native plants will be planted on newly created slopes. The majority of the removed vegetation will be transplanted along the trail at other locations.

*MCS D Pump Station to Letz Avenue*

This 1,025-foot section of trail has existing pavement and a width of approximately 15 feet. A four-foot high wire mesh field fence with metal or wooden posts will be installed along the western edge of the MCS D pump station access road to delimit the trail boundaries and protect private property.

*MCS D Pump Station to Widow White Creek Footbridge*

This portion of the trail will travel approximately 1,000 feet west from the MCS D Pump Station through riparian vegetation along the north bank of Widow White Creek. The trail will have a width of approximately six feet and will be surfaced with compacted gravel. The trail will be constructed above the ordinary high water level of the creek, and the distance from the active channel will range from approximately 20 to over 100 feet. To minimize the extent of cutting and filling into the existing hillslope, interlocking steps will be installed in an area where the slopes steepen (located between project stations 13+80 and 14+30). Fencing will be installed on both sides of the trail to protect private land and direct users to stay on the trail. On the south side of the trail, the fencing will consist of a 2-½ foot high post and cable fence with posts installed at eight to ten foot intervals. A single ¾ inch diameter nylon rope (or similar material) will be used to span the posts. On the north side of the trail, the fencing will consist of a four-foot high wire mesh field fence with metal (“T” post) or wooden posts.

*Widow White Creek Footbridge*

A prefabricated fiberglass bridge will be installed to cross Widow White Creek. The span of the bridge (60 feet) is designed so that the bridge will be situated well above the banks on each side of the creek. Placement of the bridge will not require work within the stream channel and will not require excavation or fill placement within the creek banks. The bridge will be transported to the crossing site via an existing access road that extends from the MCS D Pump Station access road to the bridge site.

*Footbridge Southwest to Existing Road*

From the footbridge, the six-foot wide trail will turn upslope and proceed south for approximately 220 feet through riparian vegetation. The trail will then turn to the southwest and proceed approximately 100 feet along the southern edge of the closed-cone shore pine (*Pinus contorta ssp. contorta*) forest to its terminus, which is located immediately north of the Sand Pointe subdivision. Segment stairs will be installed in an area where the slopes steepen (located between project stations 21+50 and 22+40). Appropriate fencing will parallel this portion of trail on both sides, to delineate the trail for trail users and protect sensitive habitat and private property.

The majority of the construction activities will be accomplished with hand tools to minimize potential ground disturbance impacts associated with trail construction. A rubber-tired backhoe and/or a small Bobcat-type loader may be needed for certain activities. In addition, a crane may be needed for the installation of the prefabricated bridge structure over Widow White Creek.

Two types of stair design may be used depending on the steepness of the slope. An interlocking step design will be used in areas with a gentle slope and a cribbed step design will be used in areas with a steeper slope.

## ENVIRONMENTAL SETTING

The general setting for the proposed project is the riparian corridor of Widow White Creek located between State Highway 101 and the Pacific Ocean. Elevation ranges from  $\pm 30$  to 80 feet above sea level with flat to sloping topography. Vegetation within the project corridor is primarily semi-mature to mature riparian forest.

### Biology

The proposed Interpretive Trail traverses semi-mature to mature riparian forest composed of scattered coast redwood, Sitka spruce, and red alder with a dense to open understory composed primarily of evergreen huckleberry, salal, sword fern, and cow parsnip. The trail will also run adjacent to (but not pass through) a stand of closed-cone shore pine forest located south-southeast of the mouth of Widow White Creek. This forest type is locally considered rare. A fence will be installed along the edge of the trail, which is adjacent to the closed-cone shore pine forest stand.

North Coast streams, such as Widow White Creek, and the associated riparian areas are considered important to wildlife and fisheries. Wildlife often use these streams and associated riparian habitats (which are nutrient-rich and contain stratified vegetation and litter layers) as food sources, cover, and migration corridors.

The U.S. Fish & Wildlife Service (USFWS) lists thirteen species of plants, fish, birds, and mammals as threatened or endangered for the Arcata North 7.5' USGS quadrangle (Table 1).

Beach layia (*Layia carnosa*) prefers disturbed sandy areas, coastal dunes, and scrub habitats. The project area is situated within a riparian forest and does not contain habitat for beach layia.

The tidewater goby (*Eucyclogobius newberryi*) inhabits brackish water habitats and can be found in shallow lagoons and lower stream reaches. The tidewater goby prefers a sandy substrate for spawning and adjacent marshes for rearing areas. Widow White Creek is a freshwater stream that does not contain habitat for this species; thus it is unlikely to be impacted.

Widow White Creek may support populations of Southern Oregon/Northern California coho salmon (*Oncorhynchus kisutch*), Northern California steelhead (*Oncorhynchus mykiss*), and California coastal chinook salmon (*Oncorhynchus tshawytscha*). The culvert under Highway 101 on Widow White Creek was previously believed to be a total fish barrier; however, salmonids and other fish have been observed upstream of the culvert in recent years.

Coho salmon (*Oncorhynchus kisutch*) were observed in Widow White Creek in 2002. In January 2002, Michael Love of Michael Love & Associates observed a female coho defending a redd located on Norton Creek just upstream of the confluence with Widow White Creek. In September 2002, a coho was identified near the culvert crossing at McKinleyville Avenue during an electrofishing survey conducted by California Department of Fish and Game (CDFG). Although there have been no recorded observations of coho salmon within the project area, suitable spawning habitat is found in the project area and coho salmon have the potential to be present.

Northern California steelhead (*Oncorhynchus mykiss*) is likely the most widespread salmonid species in the Widow White Creek drainage and has the greatest potential to be present near the project area. Adult steelhead have been observed as far upstream as McKinleyville High School. CDFG records indicate that past electrofishing surveys have sampled only juvenile steelhead and that adult steelhead were last observed in Widow White Creek in 1987 (Taylor 2000). Although steelhead have not been directly observed within the project area, it is likely this species may be present.

In 1984, electrofishing surveys indicated that California coastal chinook salmon (*Oncorhynchus tshawytscha*) were found in the lower reaches of Widow White Creek, from the mouth to 500 feet upstream. There have been no recorded observations of Chinook salmon within the project area; however, functional aquatic habitat is found in the project area and coastal chinook salmon have the potential to be present.

Mitigation measures will minimize potential impacts to listed species to a less than significant level. These measures include effective erosion and pollution control measures to minimize the movement of soils and sediment into the creek during and after construction. In addition, work will only be performed during months when there are relatively low flows in the creek.

Of the seven listed bird species, California brown pelican (*Pelecanus occidentalis californicus*), short-tailed albatross (*Phoebastria albatrus*), and Western snowy plover (*Charadrius alexandrinus nivosus*) are primarily coastal dwelling. The California brown pelican and short-tailed albatross are pelagic birds found in marine habitats. The Western snowy plover prefers sandy beach habitats and needs sandy or gravelly soils for nesting. The project area does not contain the preferred habitat for these bird species and therefore these species are not likely to be affected by the project.

Marbled murrelets (*Brachyramphus marmoratus*) prefer marine subtidal and pelagic habitats where they feed mostly on small fish. Marbled murrelets roost and nest in dense mature forests of redwood and Douglas fir, up to 4-5 miles inland from the coast (Zeiner, et. al. 1990). The project area does not contain suitable habitat for marbled murrelets, and they are unlikely to be affected by the project.

Western yellow-billed cuckoos (*Coccyzus americanus*) inhabit extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, almost always willow dominant, and which are associated with slow-moving watercourses, backwater,

or seeps (Zeiner et. al. 1990). While the riparian portion of the project area contains some willow trees, there are no dense willow thickets within this area. The project area does not contain suitable habitat for Western yellow-billed cuckoos, and they are unlikely to be affected by the project.

Bald eagles (*Haliaeetus leucocephalus*) require large bodies of water or free-flowing rivers with abundant fish and adjacent snags for perching (Zeiner et. al. 1990). The project area does not contain the preferred habitat for bald eagles, and they are unlikely to be affected by the project.

Northern spotted owls (*Strix occidentalis caurina*) prefer old-growth or mixed-age stands of mature and old-growth trees. Superior habitat attributes include a multilayered, multispecies canopy dominated by large (>30-in diameter) conifer overstory with an understory of shade-tolerant conifers or hardwoods; moderate to high (60-80%) canopy closure; substantial decadence in the form of large live conifers with deformities (cavities, broken tops, mistletoe infection); numerous large snags; a large accumulation of logs and woody debris on the forest floor; and a canopy open enough to allow owls to fly within and beneath it. (Thomas et. al. 1990). Ken Hoffman, US Fish and Wildlife Service, was contacted on April 3, 2006 regarding the potential presence of northern spotted owls within the project area. Mr. Hoffman determined that there are no known northern spotted owl activity centers located within a mile of the proposed project. Based on this information, northern spotted owls are unlikely to be affected by the project.

The Pacific fisher (*Martes pennanti pacifica*) inhabits coniferous forests with intermediate to large-tree stages, and deciduous-riparian areas with high percent canopy closure and require large expanses of dense forest (Zeiner et. al. 1990). The project area does not contain the appropriate habitat features for the Pacific fisher, and they are unlikely to be affected by the project.

A search of the California Natural Diversity Database (CNDDDB) identified a list of 19 sensitive species of plants, fish, birds, and mammals for the Arcata North 7.5-minute USGS quadrangle (Table 2). Two of the species, beach layia and coho salmon, are state and federally listed and both are discussed above.

Of the remaining species, the project area contains habitat for coast cutthroat trout (*Oncorhynchus clarkii clarkii*), northern red-legged frog (*Rana aurora aurora*), and southern torrent salamander (*Rhyacotriton variegatus*).

Coastal cutthroat trout (*Ocorhynchus clarki clarki*) are known to inhabit Widow White Creek and will likely be present during construction activities. The mitigation measures described earlier for listed fish species will also minimize potential impacts to Coastal cutthroat trout to a less than significant level.

Northern red-legged frogs and southern torrent salamanders are found in and alongside streams with well-vegetated cover and in moist forest conditions adjacent to streams. Because the Widow White Creek corridor displays these habitat types, it is assumed that the project area could support populations of northern red-legged frogs and southern

torrent salamanders. As a mitigation measure, a 20-foot wide buffer of undisturbed vegetation will be maintained between Widow White Creek and the Interpretive Trail. Human access will be excluded from the buffer area by fencing. In addition, construction of the trail in late summer will avoid these species' breeding periods. The majority of construction will be accomplished with hand tools, which will provide time for individuals within the project area to re-locate during ground disturbing activities. All disturbed ground will be re-vegetated and mulched to control future sediment inputs to the creek. Based on these measures, the impact to northern red-legged frogs and southern torrent salamanders will be less than significant.

On May 4, 2006, a botanist from Natural Resources Management, Inc. surveyed the proposed trail alignment for the presence of rare plants and wetland indicator species (Appendix C). The botanical survey was conducted according to CDFG guidelines and targeted all special-status vascular plants species listed by the CNDDDB and the California Native Plant Society (CNPS) (Tables 2 and 3). Rare, endangered, or threatened plant species were not identified within the project area. One observed plant species, trailing black currant (*Ribes laxiflorum*), is listed on the CNPS List 4.3 as a plant of limited distribution; however, species of this list are not considered "rare, endangered, or threatened" under CEQA. An area, which may be a wetland, was observed along the left bank of Widow White Creek near the proposed bridge crossing location. This area is located below ordinary high water and will not be impacted during construction of the bridge. All construction activities will occur above top of bank and will not impact this area.

### **Cultural Resources**

An archeological investigation of the proposed project area was conducted by Roscoe & Associates Consulting Archaeologists in 1995 (Appendix D). The archeological report indicated that the project area lies within territory traditionally claimed by the Wiyot Indian tribe. A number of Wiyot habitation and procurement sites have been recorded near the proposed project area. The closest of these sites was an area of habitation recorded as occurring on the southern bank of Widow White Creek approximately ¼ of a mile from its mouth. The mouth of the Mad River has migrated north approximately two miles and has most likely destroyed any archaeological deposits that may have existed at this site. The Roscoe & Associates report concluded that no evidence of archaeological materials within the pedestrian route was discovered. No further studies were recommended because no significant cultural resources will be destroyed by the proposed trail construction.

If buried archaeological resources are encountered during ground disturbing activities, all work near the find will be temporarily halted and a qualified archaeologist will be consulted to determine the finds significance and appropriate treatment. If human remains are encountered during construction, the County coroner will be contacted immediately. If the Coroner determines that the remains are likely those of a Native American, he or she must contact the California Native American Heritage Commission. The Heritage Commission will consult with the most likely Indian descendents from the area to determine appropriate treatment of the remains.

**Geology/Soils**

The project is situated along the eroded banks of Widow White Creek, which has cut through an 80,000-year-old terrace of fairly consolidated, stratified, fluvial and shallow-water marine sediments (Early to Middle Pleistocene). The sediments include pebble conglomerate, sandstone and silt, and in some places contain abundant animal and plant remains (Kelley, 1984). The area has shown generally good stability over time, even during the major earthquakes of 1954, 1980, and 1992. Figure 5 illustrates the geologic and geomorphic features for the project area.

The project is located less than 0.5 miles south of the McKinleyville Fault, which is found within the Mad River Fault Zone. The Mad River Fault Zone cuts the marine terraces on four imbricate fault traces spaced several hundred meters apart. The resulting zone of faulted and deformed terraces is typical of thrusts in the north coast region. The McKinleyville Fault is a 29.8-mile long thrust fault that runs northwest through the southern portion of the Arcata/Eureka Airport. The fault follows a single trace northwest until it reaches Airport Road, where it diverges into two traces. The McKinleyville Fault ruptures at 3,000-5,000 year intervals, with the last event occurring more than 660 years before present (Cascadia Subduction Zone Fieldtrip 1991). Figure 6 depicts the McKinleyville Fault in the Fault Activity Map produced by The Department of Conservation, Division of Mines and Geology (Jennings, 1994).

The proposed trail is characterized in an area designated D0 on the Seismic Safety Map of Humboldt County (Figure 7). This is an area of shallow alluvium with older deposits on the surface. Earthquake shaking would be moderately high with accelerations of short to intermediate periods (i.e. moderate energy content) and intermediate duration of shaking. Slope stability rating is “relatively stable.”

Soils within the project corridor include Hely (forest soil) and three variants of the Arcata series (Figure 8). The three variants of the Arcata series within the project corridor are loams occurring on slopes ranging from 0-8%. Arcata soils are well drained, young alluvial soils developed in softly consolidated sedimentary alluvium, derived from the Hookton formation. Native vegetation for areas of Arcata soils is spruce and alder trees, native grass and bracken fern (McLaughlin, 1965). Arcata soils are well suited to flower bulb cultivation and permanent pasture, especially when managed well and fertilized (McLaughlin, 1965). Soils of the Hely series are typically 40-70 inches deep, dark brown to brown in color, with a texture of loam to fine sandy loam, that are slightly to strongly acid in reaction and derived from soft sedimentary parent material. The Hely soils are very highly suited to timber production and moderately suited to forage production (DeLapp, et al., 1960).

Figure 9 indicates that the project area presents a low hazard level in the event that a tsunami occurs (Patton & Dengler, 2004).

**Land Use**

Land use in the proposed project area is largely residential, recreational, and agricultural. The most southwesterly portion of the Interpretive Trail is located adjacent to fields that

have been subdivided and are undergoing residential development associated with the Pacific Sunset Subdivision and the Sand Pointe Subdivision. The Widow White Creek riparian corridor once had subdivision and residential development planned, however, that plan was discarded and permanent easements now protect the entire riparian zone.

The trail begins at the northwest corner of the Sand Pointe Subdivision and follows a County-owned easement onto the Slagle Property (APN 511-011-19), crosses the Norell property (APN 511-401-12), re-enters the Slagle Property, and ends on the property owned by the McKinleyville Community Services District (APN 511-011-08). Residential and agricultural lands border the trail along Letz Avenue. These parcels have the following General Plan and Zoning Designations:

<b>Parcel No.</b>	<b>General Plan Designation</b>	<b>Zoning Designation<sup>i</sup></b>
511-401-12	Residential Estates	RS-20/AP, G, A, F, N, R
511-011-19	Commercial Recreational; Residential Estates	CR/AP, F, R; RS-20/AP, G, A, F, N, R
511-011-08	Commercial Recreational	CR/AP, F, R

<sup>i</sup>Designations:

RS-20	Residential Single Family Use (min 20,000 ft <sup>2</sup> )
CR	Commercial Recreational
A	Archaeological Resource Area
AP	Airport Safety Review
F	Flood Hazard Area
G	Geologic Hazard Area
N	Noise Impact
R	Stream and Riparian Corridor Protection

The property owners have dedicated sections of trail easements to the County of Humboldt for this project. These and additional voluntary easements illustrate the community support for the proposed project.

The McKinleyville Area Plan of the Humboldt County Local Coastal Program was amended on August 27, 2002, to allow for public access trail development within riparian corridors (Section 3.41F5h). The McKinleyville Area Plan states that a public access trail is an allowable use within a riparian corridor provided the “length of the trail within the riparian corridor shall be minimized, where feasible, by rights of way which cross streams at right angles, which are kept as far up slope from the stream as possible, which involve a minimum of slope disturbance and vegetative clearing, and are the minimum width necessary.” The Widow White Creek Interpretive Trail has been designed to adhere to the conditions contained in the McKinleyville Area Plan for public access trails within a riparian corridor.

In addition, the McKinleyville Area Plan was amended on August 27, 2002 to allow trail crossings consistent with the provisions of 3.41F5h as new development within stream channels when there is no less environmentally damaging feasible alternative and where the best feasible mitigation measures have been provided to minimize adverse

environmental effects. The Widow White Creek Interpretive Trail has been designed in accordance with these conditions.

Construction of the Interpretive Trail is consistent with Section 4.54 (Access: McKinleyville Access Inventory and Development Recommendations) which recommends improvements to the accessway adjacent to Widow White Creek.

The project has been designed to comply with the conditions contained within the Humboldt County General Plan (Volume II – McKinleyville Community Plan) for Streamside Management Areas and Wetland Buffer Areas.

### **Water/Hydrology**

Widow White Creek is a perennial creek that originates from the coastal mountains immediately east of the community of McKinleyville and flows westward to join the Mad River estuary. The total watershed area is approximately 4.9 square miles with elevations ranging from 620 feet at the headwaters to sea level at the confluence with the estuary. The creek contains marginal rearing habitat for salmonids with occasional stretches of suitable spawning habitat available to anadromous fishes.

The Interpretive Trail alignment travels within the riparian corridor of Widow White Creek. The trail will be constructed above ordinary high water and will be located approximately 20 to 100 feet away from the channel. A footbridge will be constructed to cross the creek approximately 930 feet upstream from the mouth. The footbridge over Widow White Creek will be designed to avoid impeding the channel capacity and to accommodate a 100-year flood. Installation of the bridge will not require bank excavation or work in the water. At each bank, the bridge will pass over areas, which have undergone previous bank stabilization measures. Introduction of sediment to Widow White Creek will be minimized by appropriate trail location, construction techniques, and erosion control methods.

## **POTENTIAL IMPACTS**

(Discussion of Checklist Responses)

As part of the environmental analysis conducted for this project, 17 environmental factors were considered for potential impacts. A complete checklist is included in Appendix E (CEQA Checklist). The proposed project was determined to have no impacts associated with the following seven environmental factors:

- Agricultural Resources
- Air Quality
- Cultural Resources
- Hazards and Hazardous Materials
- Mineral Resources
- Population and Housing
- Utilities and Service Systems

These factors are not discussed further. The ten factors with potential impacts are discussed below.

### **Aesthetics**

#### **a. Scenic vista**

The project will not have a substantial adverse effect on a scenic vista (No Impact).

#### **b. Scenic resources**

The project will not substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway (No Impact).

#### **c. Visual character**

Views along the trail route include agricultural lands, residential development, coastal forestlands, Widow White Creek, and the Pacific Ocean. The proposed project will serve to provide the public with more opportunities for enjoying the existing views. Trail signs will be designed to minimize visual impacts.

The views from a residence located within 500 feet of the trail could be impacted during construction. However, these visual impacts will be temporary, and this landowner dedicated sections of the trail easement to the County of Humboldt to implement the project and is in support of the completion of the trail.

Project construction will result in short-term visual impacts including disturbed ground and the presence of heavy equipment and tools. All disturbed riparian areas will be re-vegetated with native trees, shrubs, and flowers after completion of the project. The project will take approximately four months to complete and all equipment and tools will be kept in a staging area while not in use during construction (Less than Significant Impact).

#### **d. New source of light or glare**

The project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (No Impact).

### **Biological Resources**

#### **a. Candidate, sensitive, or special status species**

The trail route was specifically designed to minimize impacts to sensitive areas in the Widow White Creek section, including a closed-cone shore pine stand. Protective fencing will be utilized as appropriate, and the fencing will be designed to allow passage of mammals. The majority of trail construction will be accomplished with hand tools in order to reduce potential ground disturbance impacts associated with construction. Numerous volunteer trails throughout the riparian zone will be eliminated to focus trail use to one path, thus decreasing habitat destruction and increasing the quality of the available habitat.

Impacts to fish species will be avoided by conducting work in late summer during low flow conditions. Work will also be completed before October 15, when fish migrations typically begin. No construction will take place in Widow White Creek, so there will be no direct effect on either resident or anadromous fish. If fish are present in Widow White Creek at the work site, construction-related noise and general disturbance could temporarily affect them by interrupting their upstream and downstream migration patterns. Direct impacts to aquatic organisms during construction could also include short-term sedimentation and increased turbidity in the creeks. Sediment sources could be generated during construction or erosion of exposed soil during and after project implementation. Large amounts of sediment can decrease the quality and quantity of spawning and rearing habitat. The amount of sediment generated from this project is expected to be low because no in-water work will be conducted and the project will implement erosion control measures to prevent sediment from entering the creek and minimize potential effects to fish (Less than Significant Impact with Mitigation Incorporation).

**b. Riparian habitat or other sensitive natural community**

Minimal amounts of vegetation will be removed as a result of trail and bridge construction. The majority of removed vegetation will be transplanted elsewhere in the area. Mature trees will not be removed. The proposed trail alignment is designed to skirt the edge of an approximately 1.5 acre stand of closed-cone shore pine forest, and this special habitat type will benefit from the removal of exotic species within the trail corridor (Less than Significant Impact).

**c. Federally protected wetlands**

The proposed footbridge passes near an area that displays potential wetland characteristics. This area is located below ordinary high water on the left bank of Widow White Creek. No construction activities will be conducted below top of bank and this area will not be impacted during installation of the bridge. Much of the Interpretive Trail follows a riparian corridor, which will be protected against future development by the dedication of permanent easements for the trail. The trail is designed to minimize impacts to native habitats (Less than Significant Impact with Mitigation Incorporation).

**d. Movement of any native resident or migratory fish or wildlife**

Passive recreational use of the Interpretive Trail through the riparian vegetation may have a minor impact on mammals that utilize this section of the riparian corridor. Use of this area is already occurring, and consolidation of “volunteer trails” into one main path through the riparian area will decrease destruction of important riparian habitat. Protective fencing will be utilized as appropriate, and will be designed and built to allow passage of mammals (Less than Significant Impact).

**e. Local policies protecting biological resources**

The project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (No Impact).

**f. Conflict with the provisions of an adopted local, regional or state habitat conservation plan**

The project will not conflict with the provision of an adopted Habitat Conservation Plan, Natural Community Conservation plan, or other approved local, regional or state habitat conservation plan (No Impact).

**Geology and Soils**

**a. Exposure of people or structures to potential substantial adverse effects**

**i. Fault rupture**

**ii. Seismic ground shaking**

A thrust fault runs along Widow White Creek in the project area. Due to the infrequency of large earthquake events in the area, the hazard posed to trail users is low and the potential impact is less than significant. According to geologists at Humboldt State University, large events in this region occur in the average range of every three hundred to thousands of years. During these large events, thrust faults may rupture so that one block is pushed above the other at a low angle. This activity may pose some danger to trail users on that section of trail *during* an event. However, the hazard on a trail during an earthquake event is much less than the hazard for people in or near structures. One of the best land uses of a fault zone is a trail, which poses the least amount of risk possible to people using the area. The elevation of the bridge will only be approximately 10 feet above the stream, minimizing risk to users. The bridge will be built to Uniform Building Codes to ensure safety (No Impact).

**iii. Seismic ground failure, including liquefaction**

Ground failure is not likely in an area with solid, well-drained forest soils of the Hely series. On the North Coast, liquefaction occurs in saturated soils of the “bottoms” areas and not commonly in upland areas. The project area displays gentle slopes, which are at a lesser risk for failure compared to high, steep bluffs. At the suggestion of the Office of Emergency Services, interpretive information along the Hammond Trail will incorporate the geologic history of the region, as well as earthquake and tsunami preparedness information (No Impact).

**iv. Landslides**

The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving landslides (No Impact).

**b. Substantial soil erosion or loss of topsoil**

To reduce potential ground disturbance impacts, the majority of the construction will be accomplished with hand tools. All appropriate sediment control measures will be taken during movement of soil to protect water resources from harm, including, but not limited to mulching, planting, and silt fencing. The project area is not located within agricultural lands (Less than Significant Impact with Mitigation Incorporation).

**c. Unstable geologic unit or soil**

The project will not be located on a geologic unit or soil that is unstable or would become unstable as a result of the project, or potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse (No Impact).

**d. Expansive soil**

The project will not be located on expansive soil, creating substantial risks to life or property (No Impact).

**e. Soils incapable of adequately supporting septic tanks**

The project will not require septic tanks or alternative wastewater disposal systems. The project will have no impact on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems (No Impact).

**Hydrology and Water Quality****a. Water quality standards or waste discharge requirements**

Potential water quality effects include increased siltation in Widow White Creek from the exposure of mineral soils during trail construction. The following minimization measures have been implemented to reduce potential impacts to water quality:

- ❖ A bridge will be installed at the creek crossing to reduce the potential for direct contamination.
- ❖ A 20 foot wide buffer of undisturbed vegetation will be maintained between the trail and Widow White Creek.
- ❖ The majority of the construction activities will be accomplished with hand tools to minimize potential ground disturbance impacts associated with construction.
- ❖ Sediment barriers in the form of silt fences will be placed along the construction site to prohibit loose rock and fine material from entering the water. After completion of the project, the sediment barriers will be removed.
- ❖ Work will be performed in late summer when flows are lowest. No work will be performed in the water.
- ❖ All disturbed riparian areas will be re-vegetated and mulched as necessary to control future sediment inputs.

The project has been designed to reduce potential impacts to water quality and will have a less than significant impact to water quality standards (Less than Significant Impact with Mitigation Incorporation).

**b. Depletion of groundwater supplies**

The project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge (No Impact).

**c. Alteration to existing drainage pattern resulting in erosion or siltation**

The project may alter the existing drainage pattern of the site. The trail will add a small area of semi-impermeable surface to the watershed; however, there will be no significant change in the volume or pattern of runoff. The width of semi-impermeable surfaces is

approximately six feet and is surrounded by large areas of natural permeable surfaces. The trail will be outsloped to allow flowing water to be diverted off of the trail. The project will have a less than significant impact on drainage patterns that would result in erosion or siltation (Less than Significant Impact).

**d. Alteration to existing pattern of the site resulting in flooding**

The project will not substantially alter the existing drainage pattern of the site, which would result in flooding on or off site (No Impact).

**e. Runoff**

The project will not 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 (No Impact).

**f. Otherwise substantially degrade water quality**

Overall, the amount of sediment contributed to the stream due to the proximity of the trail will be minimized by appropriate trail location and construction techniques. In areas where the proposed trail is near Widow White Creek, water from the trail could reach the stream during high intensity storm events when the soils are already saturated. Immediately after trail construction, turbidity of this water will be high but will decrease with time, as re-vegetated areas become stable. During the construction process, it is possible that an incidental amount of sediment could be released into the stream, affecting the turbidity of Widow White Creek. This impact will be minimized by appropriate erosion control measures such as silt fencing during construction and by planting the banks with vegetation after construction (Less than Significant Impact with Mitigation Incorporation).

**g. Housing within a 100-year flood zone**

The project is not located within or near a 100-year flood hazard area. It will not place housing into a 100-year flood hazard area (No Impact).

**h. Structures within a 100-year flood zone**

As noted above, there is no 100-year flood hazard area near the proposed project. It will not place structures into a 100-year flood hazard area (No Impact).

**i. Exposure of people or structures to risk of loss, injury or death involving flooding**

During brief periods of peak flood flows on Widow White Creek, persons attempting to use the section of trail just south of the bridge may be subject to shallow floodwaters around the south end of the bridge. Trail users will have the option of retreating back up the trail to Letz Avenue or Murray Road in the event that the trail is threatened. The bridge crossing will be designed to pass a 100-year flood, and information signs will be installed to alert trail users to potential hazards during winter storms. There are no levees or dams in the vicinity of the project (No Impact).

**j. Inundation by seiche, tsunami or mudflow**

Due to the infrequency of large earthquake events that trigger tsunamis, the actual hazard posed to trail users is low. It is unlikely that waves would reach the proposed sections of trail (No Impact).

**Land Use and Planning**

**a. Physically divide an established community**

The project will not physically divide an established community (No Impact).

**b. Conflict with land use plan**

The successful completion of the Hammond Trail will conform to Humboldt County's Trail Goals and Policies. On August 27, 2002 the County Board of Supervisors approved Resolution Number 02-77 to amend the McKinleyville Area Plan of the Humboldt County Local Coastal Program to include public access trails as an allowable use within a riparian corridor. The proposed project is consistent with the Humboldt County General Plan (Volume II – McKinleyville Community Plan) (No Impact).

**c. Conflict with any habitat conservation plan**

The project will not conflict with any applicable habitat conservation plan or natural community conservation plan (No Impact).

**Noise**

**a. Exposure or generation of noise**

The project will not expose persons to or generate noise levels in excess of local general plan, noise ordinance, or applicable standards of other agencies (No Impact).

**b. Exposure or generation of groundborne vibration**

The project will not expose persons to or generate excessive groundborne vibration or groundborne noise levels (No Impact).

**c. Increase in ambient noise levels**

Increased use of the trail route will involve minor, insignificant increases in noise levels for the residents that live along the trail route. Ambient noise in the area is already generated by Highway 101 traffic and the introduction of passive recreational use by pedestrians will not generate disturbance over ambient levels (Less than Significant Impact).

**d. Temporary or periodic increase in ambient noise levels**

The project will result in a temporary increase in ambient noise levels in the project vicinity during construction. Noise increases will be generated by heavy construction equipment traveling to and from, and working on the project site. The noise impacts related to construction of the trail will be of limited duration. The project will take approximately four months to complete and all work will be completed only on weekdays during daylight hours. Ambient noise in the area is already generated by Highway 101 traffic (Less than Significant Impact).

**e. Expose people to excessive noise levels within an airport land use plan area**

The project will not expose people visiting or working in the project area to excessive noise levels within an airport land use plan area (No Impact).

**f. Expose people to excessive noise levels within the vicinity of a private airstrip**

The project is not in the vicinity of a private airstrip (No Impact).

### **Public Services**

**a. Fire Protection**

The project will not result in the need for new or altered government facilities in order to maintain response times or other performance objectives for fire protection (No Impact).

**b. Police Protection**

The project will not result in the need for new or altered government facilities in order to maintain response times or other performance objectives for police protection (No Impact).

**c. Schools**

The project will not result in the need for new or altered government facilities in order to maintain acceptable service ratios or other performance objectives for schools (No Impact).

**d. Parks**

The project will not result in the need for new or altered government facilities in order to maintain acceptable service ratios or other performance objectives for parks (No Impact).

**e. Other public facilities**

Construction of the Interpretive Trail will create public facilities that will need periodic maintenance. Brush clearing, litter removal and trail and bridge maintenance will be necessary to ensure accessible trail resources. The Department of Public Works, the applicant, is committed to the long-term maintenance of all parts of the Hammond Trail as an important recreational resource (Less than Significant Impact).

### **Recreation**

**a. Deterioration due to increase of use**

The section of the Hammond Trail along Widow White Creek will provide a much-needed high-quality, coastal recreational opportunity for North Coast residents and visitors. Completion of this segment of the Hammond Trail creates the potential for increased use of Clam Beach County Park. Clam Beach County Park's intended use is for local residents and visitors to enjoy California's coastline. It also serves as an area for wildlife habitat for plants and animals. To maintain Clam Beach County Park for its intended purpose, visitors will be informed through interpretive signs to use the recreational opportunities in a manner that will protect natural resources and encourage responsible use (Less than Significant Impact).

**b. Require expansion of facilities that may have an adverse physical effect**

The project does not facilitate development that would result in an increase in demand for recreational facilities (i.e., a large residential subdivision that could bring new residents into the area requiring additional recreational opportunities) (No Impact).

**Transportation/Traffic****a. Cause an increase in traffic**

Construction of this trail may decrease traffic congestion in the general area by providing alternative routes of travel in the community of McKinleyville and by connecting a larger area with the Hammond Trail network. The Widow White Creek section of trail will provide access to and through a more wandering, natural setting for pedestrian traffic (No Impact).

**b. Exceed a level of service for roads or highways**

The project will not exceed either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways (No Impact).

**c. Result in change in air traffic patterns**

The project will not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (No Impact).

**d. Increase hazards due to design feature**

The project will not substantially increase hazards due to a design feature or incompatible use (No Impact).

**e. Result in inadequate emergency access**

The project will not result in inadequate emergency access (No Impact).

**f. Result in inadequate parking capacity**

Parking for users of the Hammond Trail is provided at primary trailhead locations. By increasing the number of access points to the Hammond Trail between Hiller Road and Clam Beach, it is expected that the need for parking will be spread more evenly along the route. Currently there is designated and street-side parking available at the west end of Murray Road and the north end of Letz Avenue that will allow access to the Interpretive Trail.

If parking becomes a problem in the future as the population of McKinleyville grows, improvement of trailhead and parking facilities is an approved use of Environmental Enhancement and Mitigation (EEM) and Intermodal Surface Transportation Efficiency Act (ISTEA) funds, and additional project proposal(s) can be submitted (Less than Significant Impact).

**g. Conflict with adopted policies supporting alternative transportation**

The project will not conflict with adopted policies, plans or programs supporting alternative transportation (No Impact).

## **Mandatory Findings of Significance**

### **a. Quality of the environment**

As discussed in this Initial Study, the project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory (Less than Significant Impacts).

### **b. Cumulative impacts**

Cumulative impacts associated with the McKinleyville Community Plan are analyzed and discussed in Section 5.3 of the Environmental Impact Report (draft issued June 7, 1999; final adopted December 10, 2002) which was prepared for the plan. The impacts associated with the proposed project are not considerable when viewed in connection with these cumulative impacts. In addition, the impacts associated with the proposed project are not considerable when viewed in connection with potential impacts associated with construction of the Bypass Trail (described in the Background/History section of this Initial Study) (Less than Significant Impacts).

### **c. Adverse effects on human beings**

The project will not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly (No Impact).

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Figure 1. Existing Hammond Coastal Trail, Mad River to Clam Beach

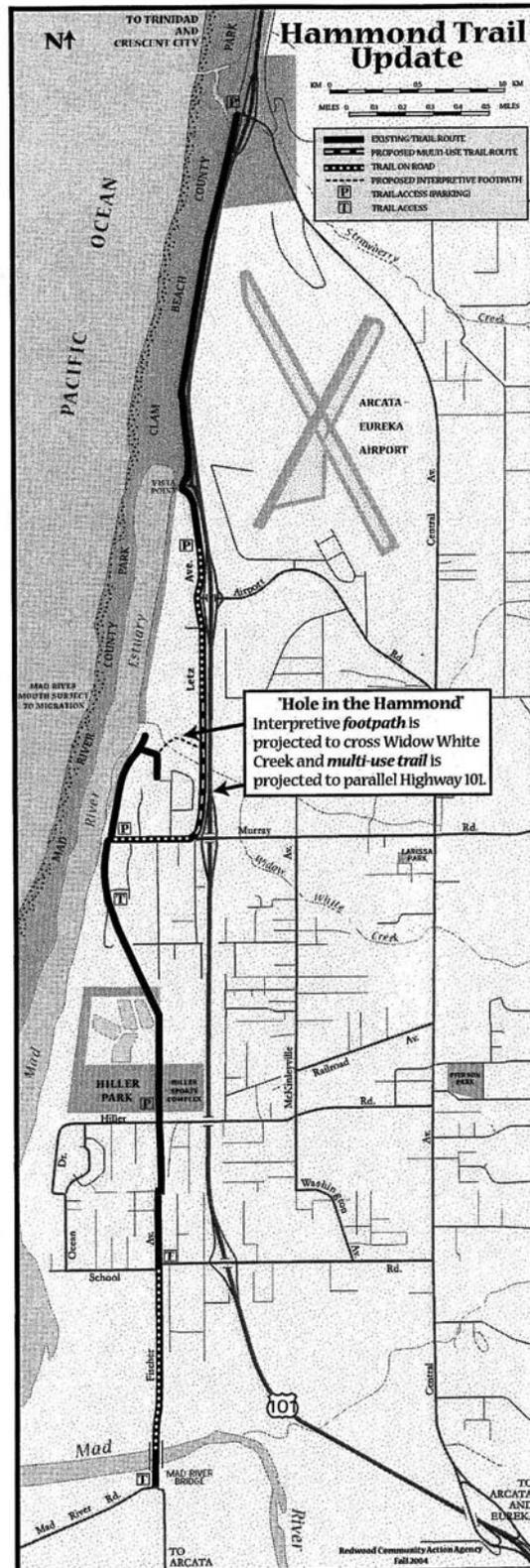


Figure 2. The 'Hole in the Hammond' completion will allow users continuous travel from Mad River to Clam Beach County Park.

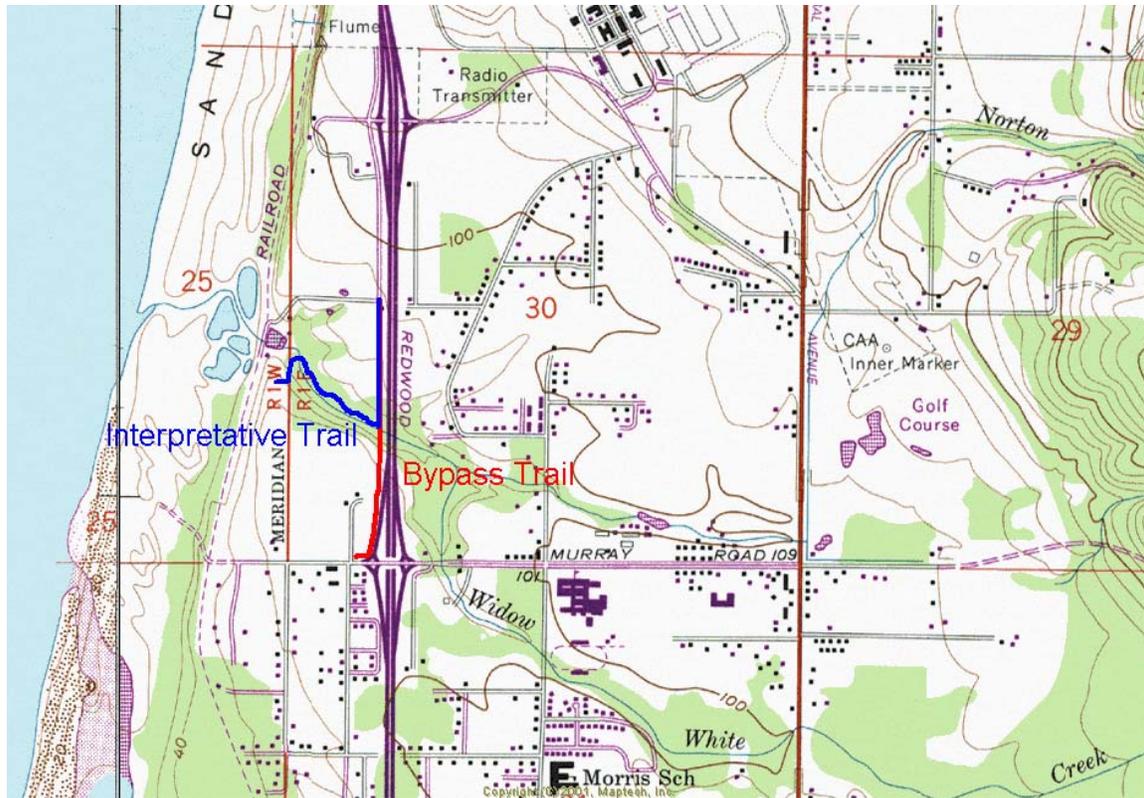


Figure 3. Project location map for the Hammond Trail. Arcata North USGS Quadrangle: Section 25, Township 7N, Range 1W and Section 30, Township 7N, Range 1E.

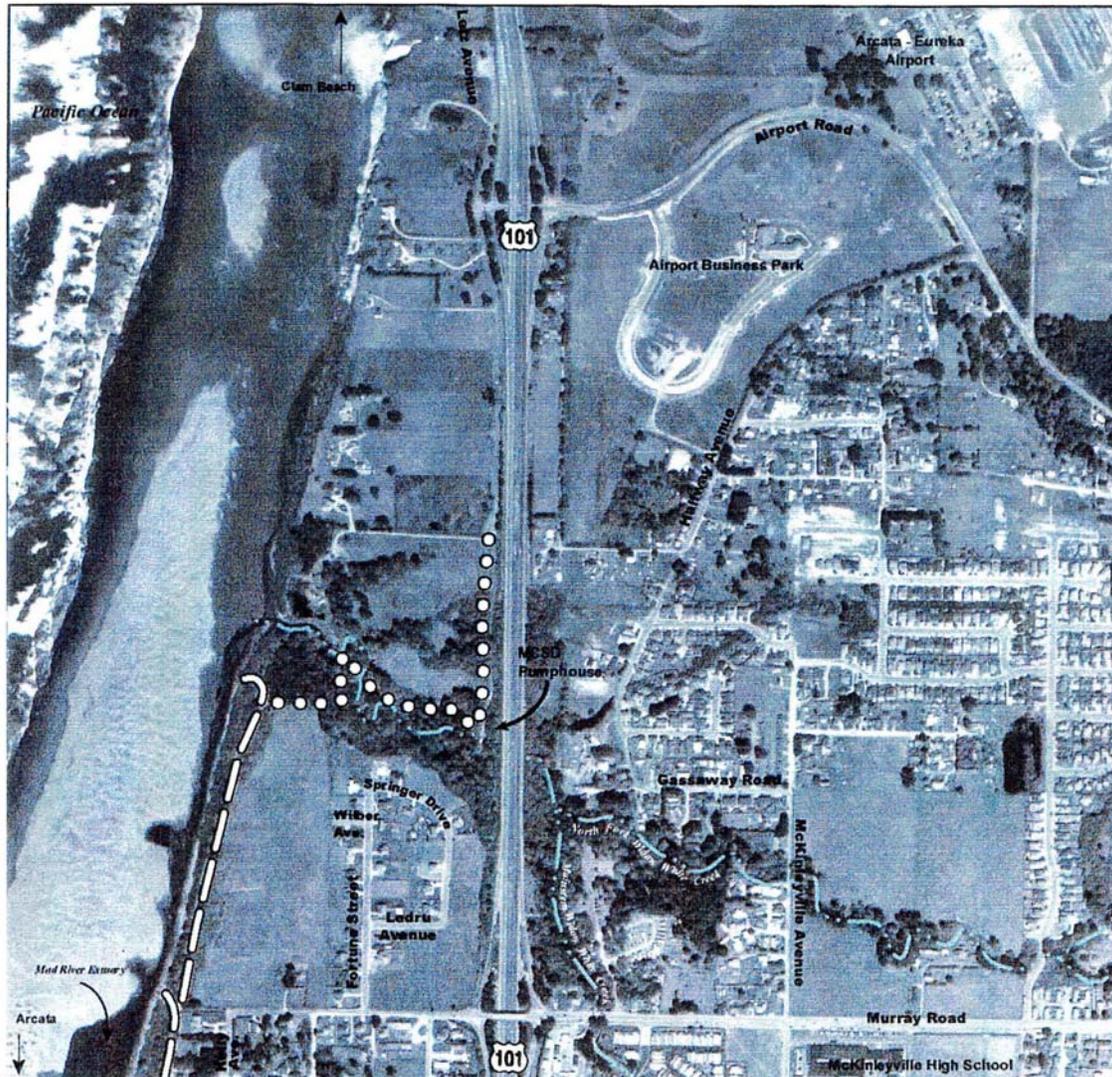


Figure 4. The Widow White Creek Pedestrian Interpretative Trail follows partially within the riparian zone of Widow White Creek.

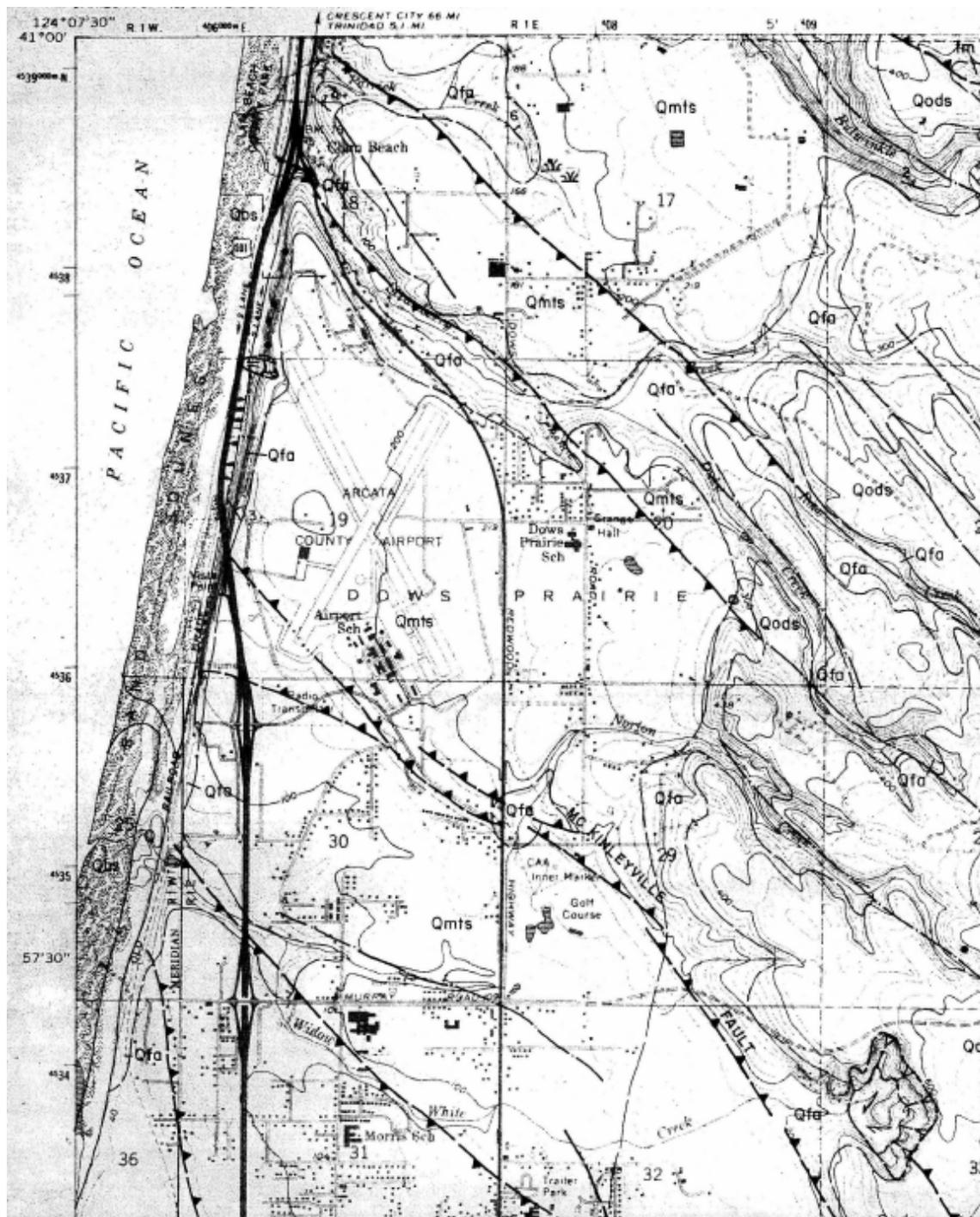


Figure 5. Geologic/geomorphic features map for the Arcata North USGS quadrangle.

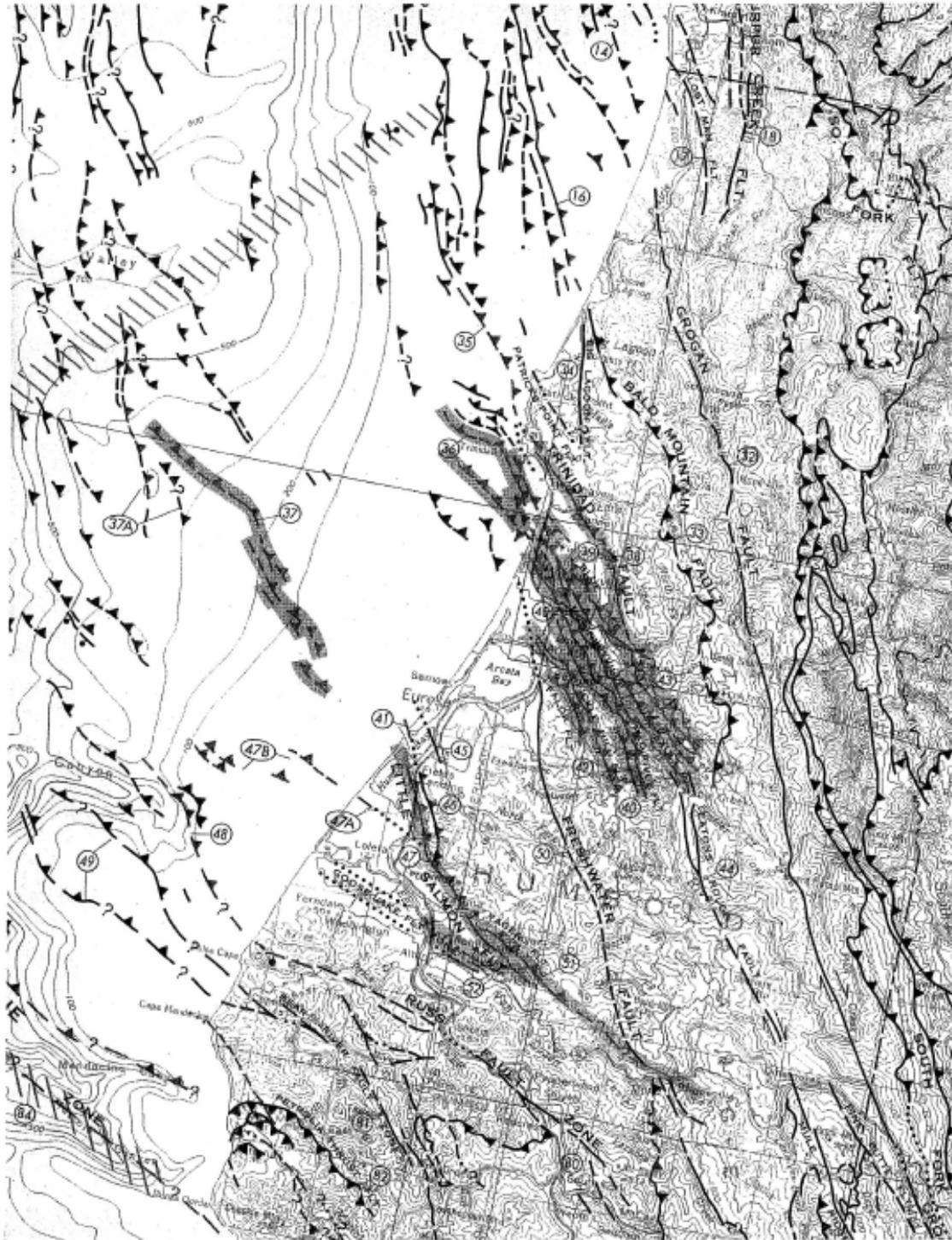


Figure 6. Fault activity map of project area depicting the approximate location of the McKinleyville Fault.

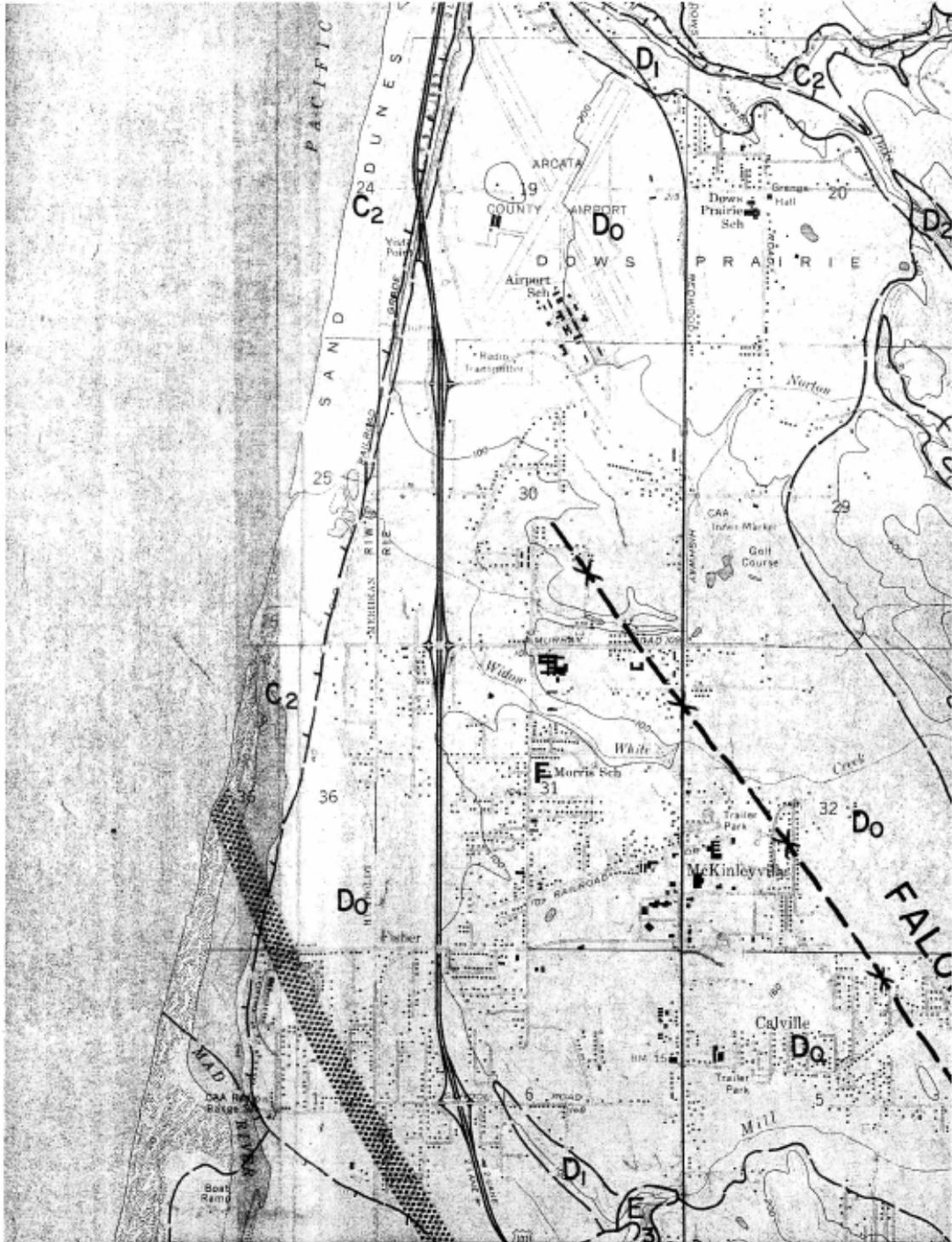


Figure 7. Seismic safety map for Humboldt Bay and vicinity.

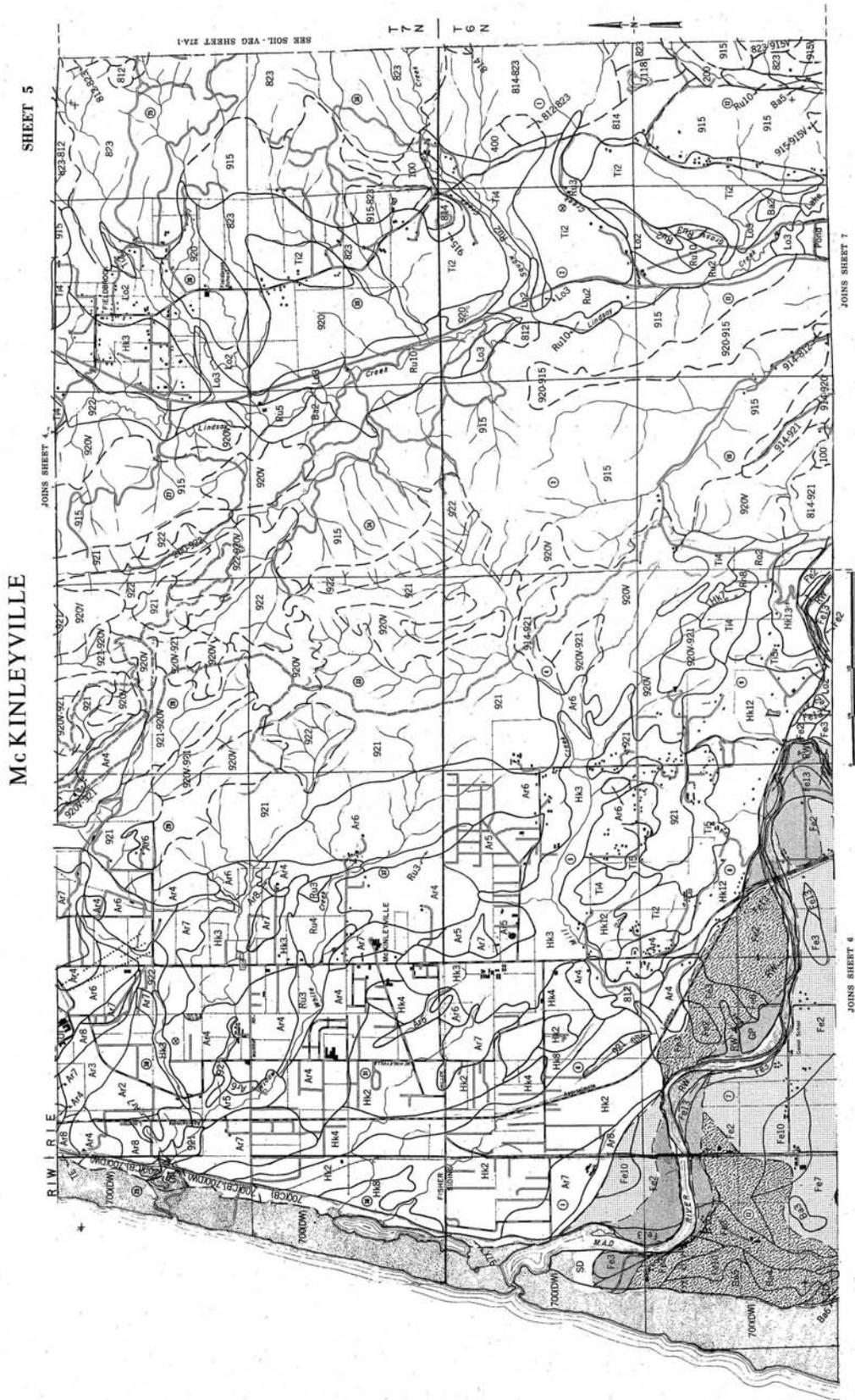


Figure 8. Soils map for the McKinleyville area.

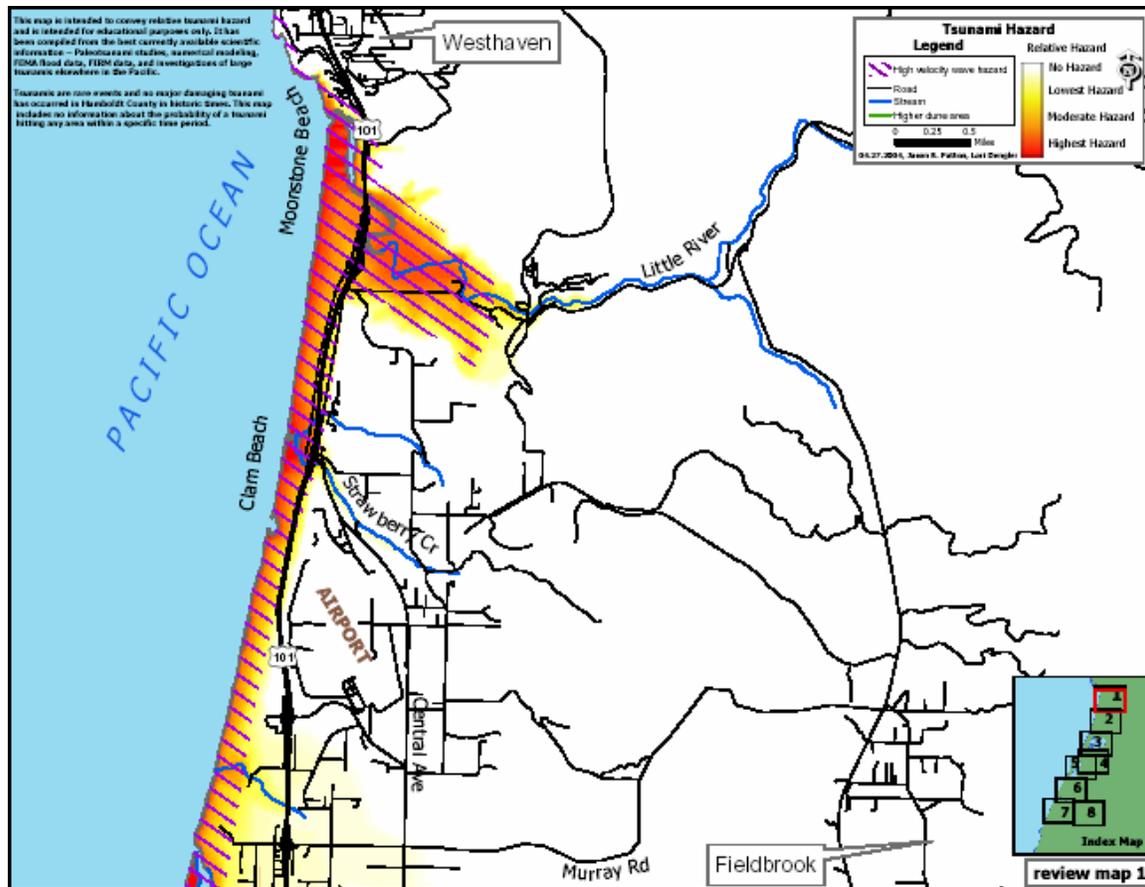


Figure 9. Tsunami Hazard Map: Westhaven to McKinleyville

Table 1. USFWS listed/proposed threatened and endangered species for the Arcata North USGS quadrangle

## Listed/Proposed Threatened and Endangered Species for the ARCATA NORTH Quad (Candidates Included)

May 18, 2006

*Document number: 841327518-121347*

Type	Scientific Name	Common Name	Category	Critical Habitat
<b>Plants</b>				
	<i>Layia carnosa</i>	beach layia	E	N
<b>Fish</b>				
	<i>Eucyclogobius newberryi</i>	tidewater goby	E	Y
	<i>Oncorhynchus kisutch</i>	S. OR/N. CA coho salmon	T	Y
	<i>Oncorhynchus mykiss</i>	Northern California steelhead	T	Y
	<i>Oncorhynchus tshawytscha</i>	CA coastal chinook salmon	T	Y
<b>Birds</b>				
	<i>Brachyramphus marmoratus</i>	marbled murrelet	T	Y
	<i>Charadrius alexandrinus nivosus</i>	western snowy plover	T	P
	<i>Coccyzus americanus</i>	western yellow-billed cuckoo	C	N
	<i>Haliaeetus leucocephalus</i>	bald eagle	T	N
	<i>Pelecanus occidentalis californicus</i>	California brown pelican	E	N
	<i>Phoebastris albatrus</i>	short-tailed albatross	E	N
	<i>Strix occidentalis caurina</i>	northern spotted owl	T	Y
<b>Mammals</b>				
	<i>Martes pennanti pacifica</i>	Pacific fisher	C	N

**KEY:**

(PE) Proposed Endangered

(PT) Proposed Threatened

(E) Endangered

(T) Threatened

(C) Candidate

Critical Habitat

Proposed in the Federal Register as being in danger of extinction

Proposed as likely to become endangered within the foreseeable future

Listed in the Federal Register as being in danger of extinction

Listed as likely to become endangered within the foreseeable future

Candidate which may become a proposed species

Y = Designated, P = Proposed, N = None Designated

Table 2. California's rare and endangered species for the Arcata North USGS quadrangle

**California Department of Fish and Game**  
**California Natural Diversity Database**  
**for**  
**the ARCATA NORTH Quad**

May 18, 2006

Type	Scientific Name	Common Name	Category
<b>Plants</b>			
	<i>Abronia umbellata ssp. breviflora</i>	pink sand-verbena	N
	<i>Carex arcta</i>	northern clustered sedge	N
	<i>Carex lyngbyei</i>	Lyngbye's sedge	N
	<i>Castilleja ambigua ssp. humboldtiensis</i>	Humboldt Bay owl's-clove	N
	<i>Fissidens pauperculus</i>	minute pocket-moss	N
	<i>Layia carnosa</i>	beach layia	FE/CE
	<i>Lycopodium clavatum</i>	running-pine	N
	<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	N
	<i>Sidalcea malviflora ssp. patula</i>	Siskiyou checkerbloom	N
	<i>Sidalcea oregana ssp. eximia</i>	coast checkerbloom	N
<b>Fish</b>			
	<i>Oncorhynchus clarkii clarkii</i>	coast cutthroat trout	N
	<i>Oncorhynchus kisutch</i>	S. OR/N. CA coho salmon	FT/CT
<b>Birds</b>			
	<i>Ardea herodias</i>	great blue heron	N
	<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT
	<i>Pandion haliaetus</i>	osprey	N
<b>Mammals</b>			
	<i>Arborimus pomo</i>	red tree vole	N
	<i>Emys (=Clemmys) marmorata marmorata</i>	northwestern pond turtle	N
	<i>Rana aurora aurora</i>	northern red-legged frog	N
	<i>Rhyacotriton variegatus</i>	southern torrent salamander	N

**KEY:**

(FE) Federally Endangered  
(FT) Federally Threatened  
(CE) California Endangered  
(CT) California Threatened  
(N) None

Listed in the Federal Register as being in danger of extinction  
Listed as likely to become endangered within the foreseeable future  
Listed in California as being in danger of extinction  
Listed in California as likely to become endangered within the foreseeable future  
Not listed in the Federal Register or in the State of California

Table 3. California Native Plant Society listed special status vascular plant species for the Arcata North USGS quadrangle.

PLANT SPECIES	FAMILY	LIFE FORM	BLOOMS <sup>i</sup>	CNPS LISTING <sup>ii</sup>	HABITAT <sup>iii</sup>
Pink sand-verbena ( <i>Abronia umbellata</i> ssp. <i>breviflora</i> )	Nyctaginaceae	perennial herb	Jun-Oct	1B.1	CoDns
Northern clustered sedge ( <i>Carex arcta</i> )	Cyperaceae	perennial herb	Jun-Sep	2.2	BgFns, NCFrs(mesic)
Lyngbye's sedge ( <i>Carex lyngbyei</i> )	Cyperaceae	perennial rhizomatous herb	May-Aug	2.2	MshSw(brackish or freshwater)
Humboldt Bay owl's-clover ( <i>Castilleja ambigua</i> ssp. <i>humboldtensis</i> )	Scrophulariaceae	annual herb; hemiparasitic	Apr-Aug	1B.2	MshSw(coastal salt)
Minute pocket-moss ( <i>Fissidens pauperculus</i> )	Fissidentaceae	moss		1B.2	NCFrs(damp coastal soil)
Running-pine ( <i>Lycopodium clavatum</i> )	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug	2.3	LCFrs(mesic), MshSw, NCFrs(mesic)
Northern bugleweed ( <i>Lycopus uniflorus</i> )	Lamiaceae	perennial herb	Jul-Sep	4.3	BgFns, MshSw
Three-ranked hump-moss ( <i>Meesia triquetra</i> )	Meesiaceae	moss		2.2	BgFns, Medws, UCFrs(mesic)/soil
Purple onion grass ( <i>Melica spectabilis</i> )	Poaceae	perennial rhizomatous herb	May-Jul	4.3	LCFrs, Medws, UCFrs/mesic
Northern microseris ( <i>Microseris borealis</i> )	Asteraceae	perennial herb	Jun-Sep	2.1	BgFns, LCFrs, Medws/mesic
Elongate copper-moss ( <i>Mielichhoferia elongata</i> )	Bryaceae	moss		2.2	CmWld(metamorphic, rock usually vernal mesic)
Leafy-stemmed mitrewort ( <i>Mitella caulescens</i> )	Saxifragaceae	perennial rhizomatous herb	Apr-Oct	2.3	BUFrs, LCFrs, Medws, NCFrs/mesic
Robust monardella ( <i>Monardella villosa</i> ssp. <i>globosa</i> )	Lamiaceae	perennial rhizomatous herb	Jun-Jul	1B.2	BUFrs(openings), Chprl(openings), CmWld, CoScr, VFGrs
Woodnymph ( <i>Moneses uniflora</i> )	Ericaceae	perennial herb	May-Jul	4.3	BUFrs, NCFrs
Indian-pipe ( <i>Monotropa uniflora</i> )	Ericaceae	perennial herb; achlorophyllous	Jun-Aug	2.2	BUFrs, NCFrs
Howell's montia ( <i>Montia howellii</i> )	Portulacaceae	annual herb	Mar-May	2.2	Medws, NCFrs, VnPls/vernal mesic
Pinnate-leaved navarretia ( <i>Navarretia sinistra</i> ssp. <i>pinnatisecta</i> )	Polemoniaceae	annual herb	Jun-Aug	4.3	Chprl, LCFrs/serpentine or volcanic
Wolf's evening-primrose ( <i>Oenothera wolfii</i> )	Onagraceae	perennial herb	May-Oct	1B.1	CBSr, CoDns, CoPrr, LCFrs/sandy, usually mesic
Siskiyou Mountains orthocarpus ( <i>Orthocarpus cuspidatus</i> ssp. <i>cuspidatus</i> )	Scrophulariaceae	annual herb	Jun-Aug	4.3	LCFrs, UCFrs
Suksdorf's wood-sorrel ( <i>Oxalis suksdorfii</i> )	Oxalidaceae	Perennial rhizomatous herb	May-Aug	4.3	BUFrs, NCFrs
White-flowered rein orchid ( <i>Piperia candida</i> )	Orchidaceae	perennial herb	May-Sep	4.3	BUFrs, LCFrs, NCFrs/sometimes serpentine
Michael's rein orchid ( <i>Piperia michaelii</i> )	Orchidaceae	perennial herb	Apr-Aug	4.2	CBSr, CCFrs, Chprl, CmWld, CoScr, LCFrs
California pinefoot ( <i>Pityopus californicus</i> )	Ericaceae	perennial herb; achlorophyllous	(Apr)May-Aug	4.2	BUFrs, LCFrs, NCFrs, UCFrs
Slender bog-orchid ( <i>Platanthera stricta</i> )	Orchidaceae	perennial herb	May-Aug	4.2	LCFrs, Medws/mesic
Nodding semaphore grass	Poaceae	perennial	Apr-Aug	4.2	LCFrs, Medws, NCFrs, RpFrs/mesic

Exhibit 4: CEQA Documentation

(Pleuropogon refractus)		rhizomatous herb			
Dwarf alkali grass (Puccinellia pumila)	Poaceae	perennial herb	Jul	2.2	MshSw (coastal salt)
Trailing black currant (Ribes laxiflorum)	Grossulariaceae	perennial deciduous shrub	Mar-May	4.3	NCFrs
Marshall's gooseberry (Ribes marshallii)	Grossulariaceae	perennial deciduous shrub	Jun-Jul	4.3	CCFrS, SCFrS, UCFrs
Hoary gooseberry (Ribes roezlii var. amictum)	Grossulariaceae	perennial deciduous shrub	Mar-Apr	4.3	BUFrS, CmWld, LCFrs, UCFrs
Tracy's romanzoffia (Romanzoffia tracyi)	Hydrophyllaceae	perennial herb	Mar-May	2.3	CBSCr, CoScR/rocky
Columbia yellow cress (Rorippa columbiae)	Brassicaceae	perennial rhizomatous herb	May-Sep	1B.2	Medws, Pinyon and juniper woodland, Playas/mesic
Great burnet (Sanguisorba officinalis)	Rosaceae	perennial rhizomatous herb	Jul-Oct	2.2	BgFns, BUFrS, Medws, MshSw, NCFrs, RpFrS/often serpentinite
Peck's sanicle (Sanicula peckiana)	Apiaceae	perennial herb	Mar-Jun	4.3	Chprl, LCFrs/often serpentinite
Tracy's sanicle (Sanicula tracyi)	Apiaceae	perennial herb	Apr-Jul	4.2	CmWld, LCFrs, UCFrs/openings
Water bulrush (Scirpus subterminalis)	Cyperaceae	perennial rhizomatous herb	Jul-Aug	2.3	BgFns, MshSw (montane lake margins)
Cascade stonecrop (Sedum divergens)	Crassulaceae	perennial herb	Jul-Sep	2.3	Alpine boulder and rock field
Pale yellow stonecrop (Sedum laxum ssp. flavidum)	Crassulaceae	perennial herb	May-Jul	4.3	BUFrS, Chprl, CmWld, LCFrs, UCFrS/serpentinite or volcanic
Heckner's stonecrop (Sedum laxum ssp. heckneri)	Crassulaceae	perennial herb	Jun-Jul	4.3	LCFrS, UCFrs/serpentinite or gabbroic
Seacoast ragwort (Senecio bolanderi var. bolanderi)	Asteraceae	Perennial rhizomatous herb	Jun-Jul	2.2	CoScR, NCFrs
Siskiyou Mountains ragwort (Senecio macounii)	Asteraceae	perennial herb	Jun-Jul	4.3	Chprl, LCFrs/sometimes serpentinite, often in disturbed areas
Maple-leaved checkerbloom (Sidalcea malachroides)	Malvaceae	perennial herb	Apr-Jul(Aug)	1B.2	BUFrS, CoPrr, CoScR, NCFrs, RpWld/often in disturbed areas
Siskiyou checkerbloom (Sidalcea malviflora ssp. patula)	Malvaceae	perennial rhizomatous herb	May-Aug	1B.2	CBSCr, CoPrr, NCFrs/often roadcuts
Coast checkerbloom (Sidalcea oregana ssp. eximia)	Malvaceae	perennial herb	Jun-Aug	1B.2	LCFrS, Medws, NCFrs
Marble Mountain campion (Silene marmorensis)	Caryophyllaceae	perennial herb	Jun-Aug	1B.2	BUFrS, Chprl, CmWld, LCFrs
Hitchcock's blue-eyed grass (Sisyrinchium hitchcockii)	Iridaceae	perennial rhizomatous herb	Jun	1B.1	CmWld(openings), VFGrS
Western sand-spurrey (Spergularia canadensis var. occidentalis)	Caryophyllaceae	annual herb	Jun-Aug	2.1	MshSw(coastal salt)
Beach starwort (Stellaria littoralis)	Caryophyllaceae	perennial rhizomatous herb	Mar-Jul	4.2	BgFns, CBSCr, CoDns, CoScR, MshSw
Obtuse starwort (Stellaria obtusa)	Caryophyllaceae	perennial rhizomatous herb	May-Sep(Oct)	4.3	LCFrS, RpWld, UCFrs/mesic
Glaucous tauschia (Tauschia glauca)	Apiaceae	perennial herb	Apr-Jun	4.3	LCFrS(gravelly, serpentinite)
Slender false lupine (Thermopsis gracilis var. gracilis)	Fabaceae	perennial rhizomatous herb	Mar-Jul	4.3	Chprl, CmWld, LCFrs, Medws, NCFrs/sometimes roadsides
Robust false lupine (Thermopsis robusta)	Fabaceae	perennial rhizomatous herb	May-Jul	1B.2	BUFrS, NCFrs
Kneeland Prairie pennycress	Brassicaceae	perennial herb	May-Jun	1B.1	CoPrr(serpentinite)

(Thlaspi californicum)					
Trifoliolate laceflower (Tiarella trifoliata var. trifoliata)	Saxifragaceae	perennial rhizomatous herb	Jun-Jul	3	LCFrS, NCFrS
Beaked tracyina (Tracyina rostrata)	Asteraceae	annual herb	May-Jun	1B.2	CmWld, VFGrs
Cylindrical trichodon (Trichodon cylindricus)	Ditrichaceae	moss		2.2	BUFrS, UCFrS/sandy, exposed soil_roadbanks
Howell's clover (Trifolium howellii)	Fabaceae	perennial herb	Jun-Aug	4.3	LCFrS, Medws, UCFrS/mesic
Siskiyou false-hellebore (Veratrum insolitum)	Liliaceae	perennial herb	Jun-Aug	4.3	Chprl, LCFrS/clay
Oval-leaved viburnum (Viburnum ellipticum)	Caprifoliaceae	perennial deciduous shrub	May-Jun	2.3	Chprl, CmWld, LCFrS
Marsh violet (Viola palustris)	Violaceae	perennial rhizomatous herb	Mar-Aug	2.2	BgFns(coastal), CoScr(mesic)
Humboldt County wyethia (Wyethia longicaulis)	Asteraceae	perennial herb	May-Jul	4.3	BUFrS, CoPrr, LCFrS

<sup>i</sup> Blooming windows are approximate and may vary from year to year depending on environmental conditions and other factors.

<sup>ii</sup> CNPS listing: 1A = presumed extinct in CA; 1B = rare, threatened, or endangered in CA and elsewhere; 2 = rare, threatened, or endangered in CA, but more common elsewhere; 3 = plants about which more information is needed – a review list; 4 = uncommon plants – a watch list. The Threat Code Extension that follows the CNPS List code (e.g. 1B.1) is defined as follows: .1 = seriously endangered in CA (over 80% of occurrences threatened/high degree and immediacy of threat); .2 = fairly endangered in CA (20-80% occurrences threatened); .3 = not very endangered in CA (<20% of occurrences threatened or no current threats known).

<sup>iii</sup> Plant community classifications are based on Holland (1986). Abbreviation codes are as follows:

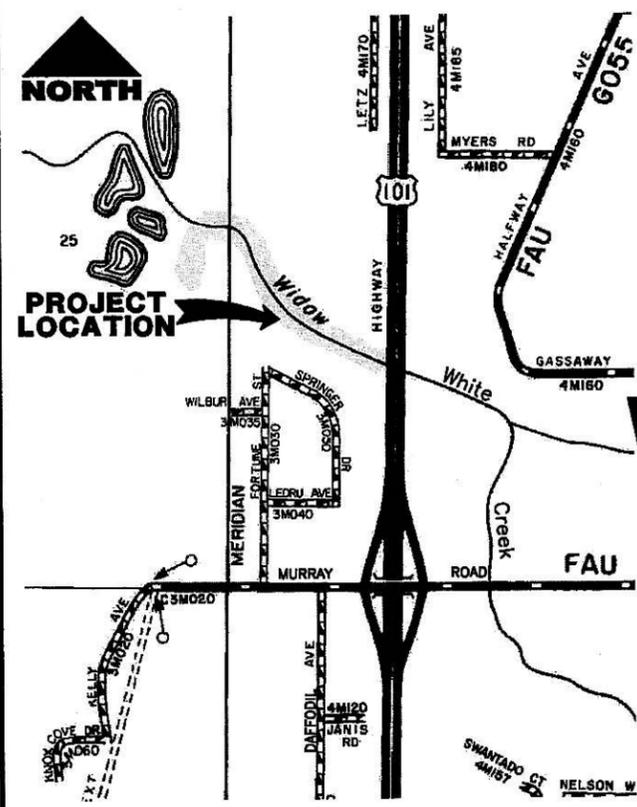
<b>BUFrS</b>	Broadleaved Upland Forest	<b>LcFrS</b>	Lower Montane Coniferous Forest
<b>BgFns</b>	Bogs and Fens	<b>Medws</b>	Meadows and Seeps
<b>CBScr</b>	Coastal Bluff Scrub	<b>MshSw</b>	Marshes and Swamps
<b>CCFrS</b>	Closed-cone Coniferous Forest	<b>NCFrS</b>	North Coast Coniferous Forest
<b>Chprl</b>	Chaparral	<b>RpScr</b>	Riparian Scrub
<b>ChScr</b>	Chenopod Scrub	<b>RpFrS</b>	Riparian Forest
<b>CmWld</b>	Cismontane Woodland	<b>RpWld</b>	Riparian Woodland
<b>CoDns</b>	Coastal Dunes	<b>UCFrS</b>	Upper Montane Coniferous Forest
<b>CoPrr</b>	Coastal Prairie	<b>VFGrs</b>	Valley and Foothill Grassland
<b>CoScr</b>	Coastal Scrub	<b>VnPls</b>	Vernal Pools

**APPENDIX A**  
**Project Plans**

**PRELIMINARY  
NOT FOR CONSTRUCTION**

ROAD NAME: HAMMOND TRAIL	DESIGN SECTION: R. W. BRONKALL
ROAD NO.:	MILE POST:
PROJECT NO.:	EA NO.:
CONTRACT NO.: 715090	PPNO.:
DRAWING FILE NAME: L:\PROJECTS\715090\DWG\CDSNB01.DWG	DESIGNED BY:
PLOT DATE: 04/05/2006	DRAWN BY:
	REVIEWED BY: RWB
	APPROVED BY: CJW

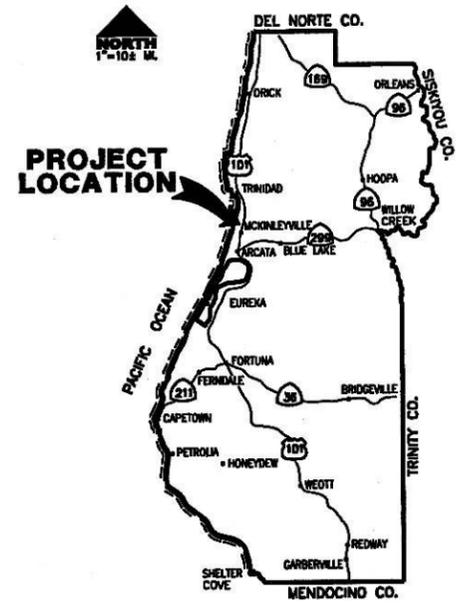
COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET 1 OF 7
WIDOW WHITE PEDESTRIAN INTERPRETIVE TRAIL	
COVER SHEET, SHEET INDEX AND DETAILS	



**VICINITY MAP**  
NOT TO SCALE

# COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS

## PROJECT PLANS FOR CONSTRUCTION OF WIDOW WHITE PEDESTRIAN INTERPRETIVE TRAIL MCSD PUMP STATION TO SAND POINTE CONTRACT NO. 715090



**LOCATION MAP**  
SCALE: 1"=10± MILE

**INDEX OF SHEETS**

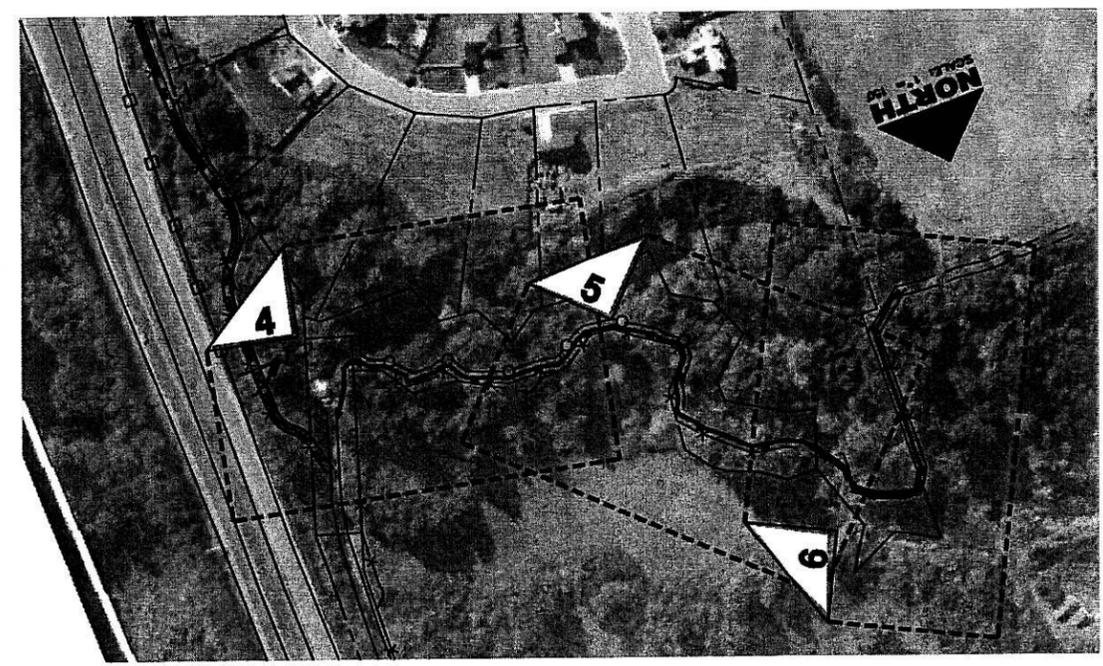
- 1 COVER SHEET
- 2 CONSTRUCTION AREA SIGNS, QUANTITIES, AND DETAILS
- 3 TYPICAL SECTIONS AND DETAILS
- 4-6 WIDOW WHITE CREEK INTERPRETIVE TRAIL PLAN AND PROFILE

**APPLICABLE STANDARD PLANS**

- REFERENCE TO CALTRANS STANDARD PLANS DATED JULY 1999.
- A10A ABBREVIATIONS
  - A10B SYMBOLS
  - T13 TRAFFIC CONTROL SYSTEM

**NOTES**

THE CONTRACTOR SHALL HAVE A CLASS "A" OR "C27" LICENSE FOR THIS PROJECT.



**SHEET INDEX**  
SCALE: 1"=150'

**RECOMMENDED**

ROBERT W. BRONKALL  
RCE 55361, EXP. 12/31/2004

DATE



**APPROVED**

CHRISTOPHER J. WHITWORTH  
RCE 51931, EXP. 6/30/2006

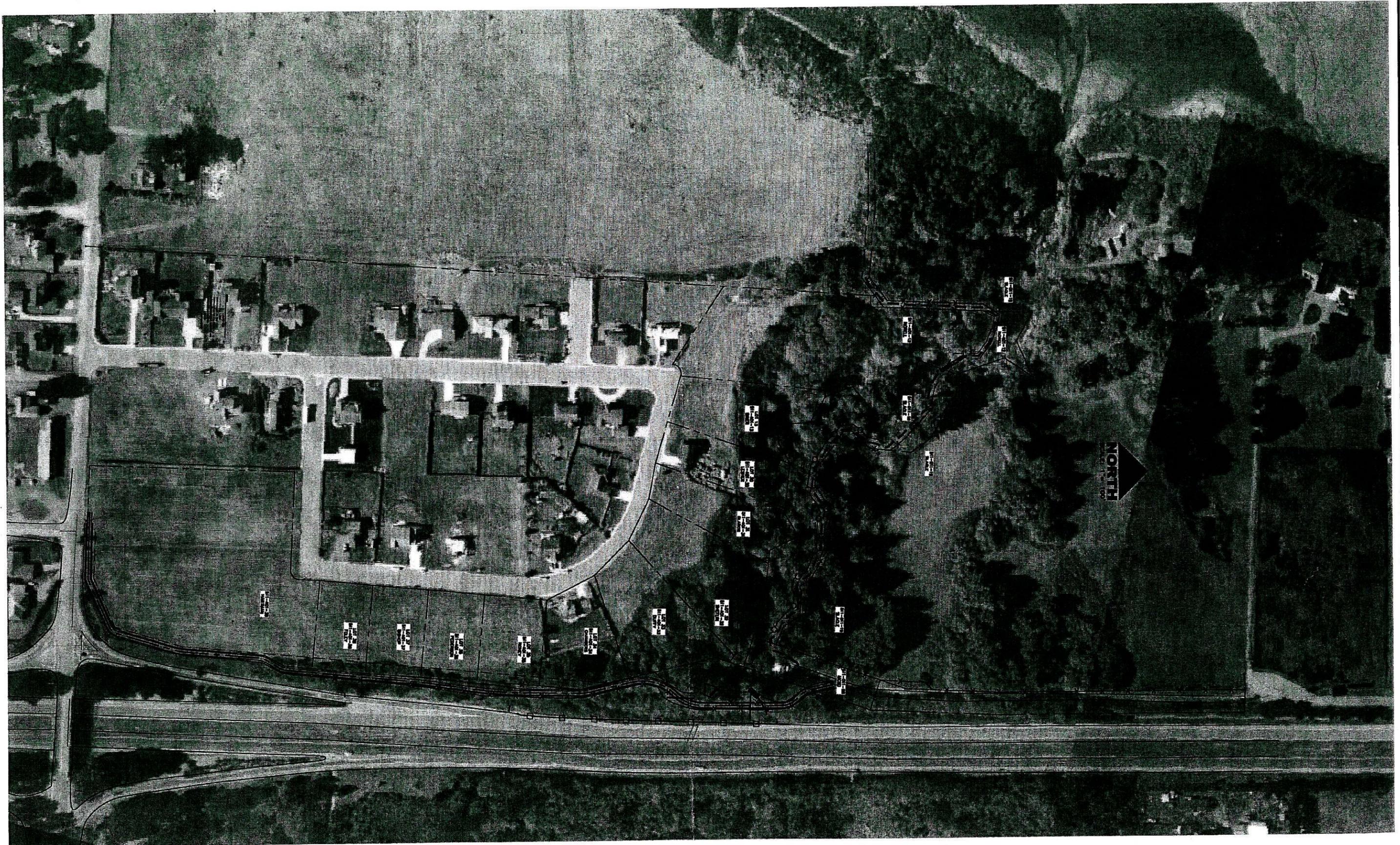
DATE



ORIGINAL LOW BID PRICE	CONSTRUCTED BY	RESIDENT ENGINEER
	PROJECT COMPLETED	CONSTRUCTION COST \$

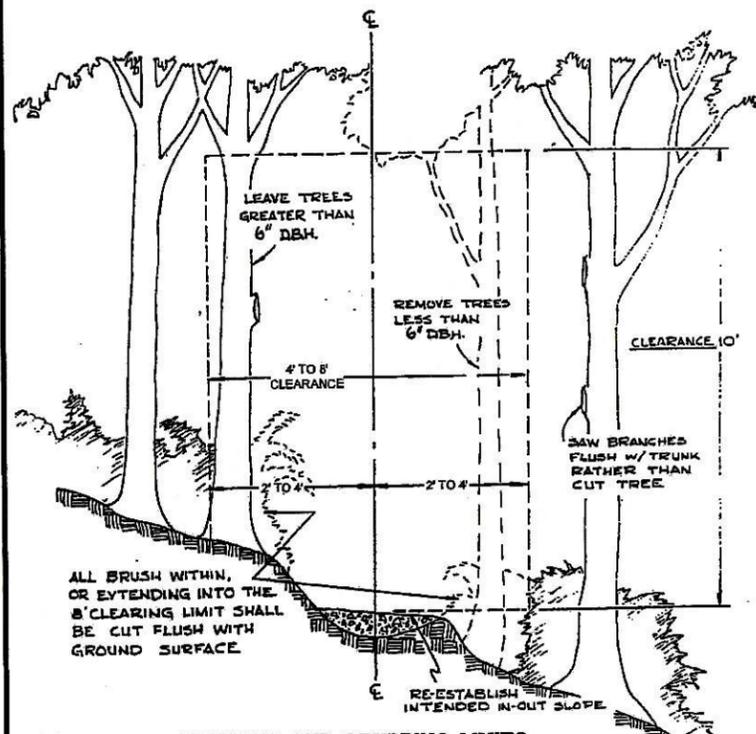
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**NOT FOR CONSTRUCTION**

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	PROJECT NO:	EA NO:	DESIGNED BY:	WIDOW WHITE PEDESTRIAN INTERPRETIVE TRAIL
	CONTRACT NO: 715090	PPNO:	DRAWN BY:	
	DRAWING FILE NAME: L:\PROJECTS\715090\DWG\CD5NB02.DWG	REVIEWED BY: RWB	APPROVED BY: CJW	
	PLOT DATE: 03/31/2006			



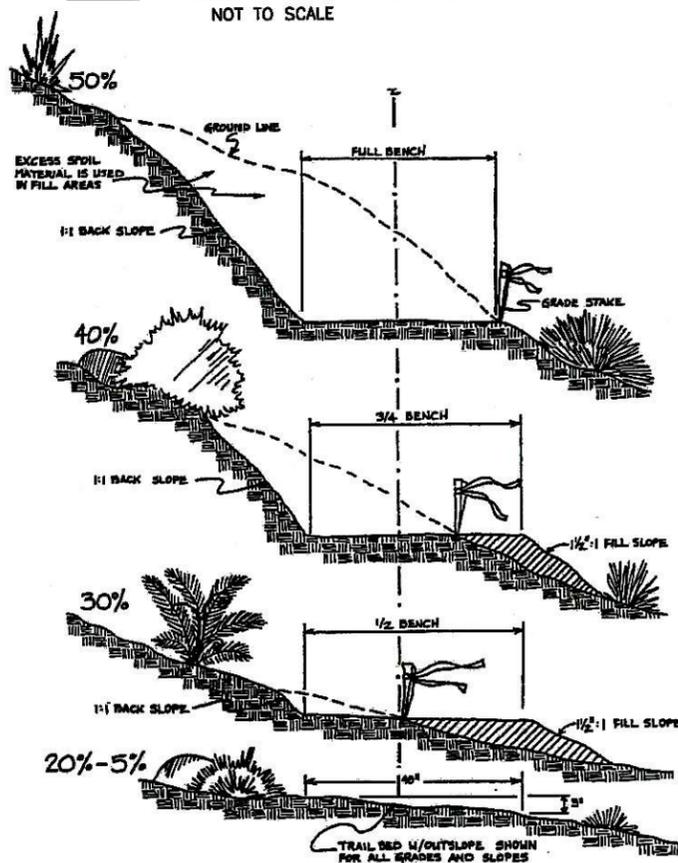
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NOT FOR CONSTRUCTION**

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	PROJECT NO.:	EA NO.:		DRAWN BY:	
	CONTRACT NO.: 715090	PPNO.:		REVIEWED BY: RWB	
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	PLOT DATE: 04/05/2006				



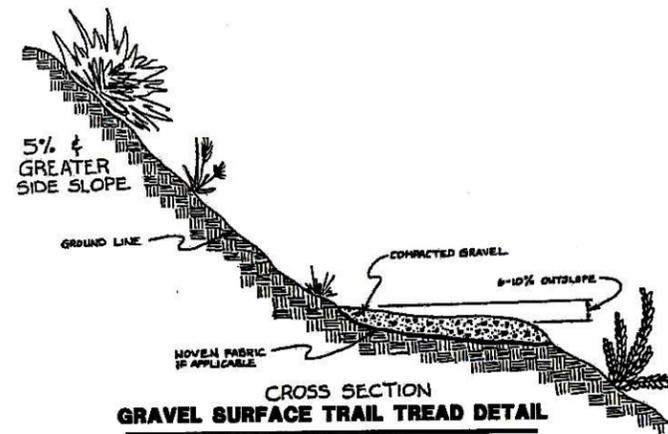
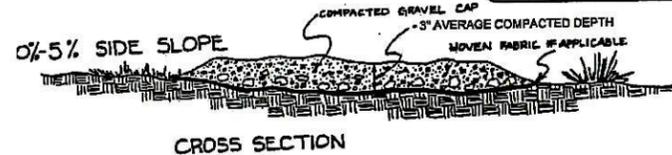
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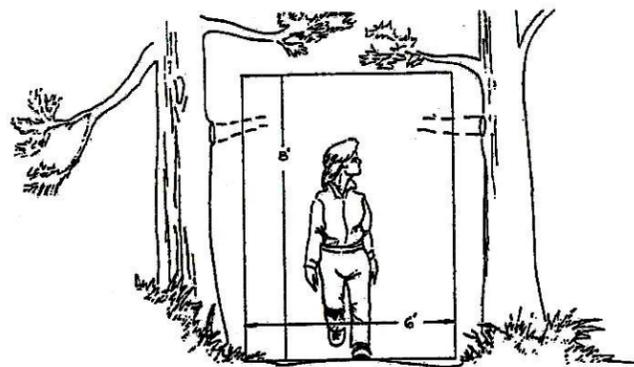
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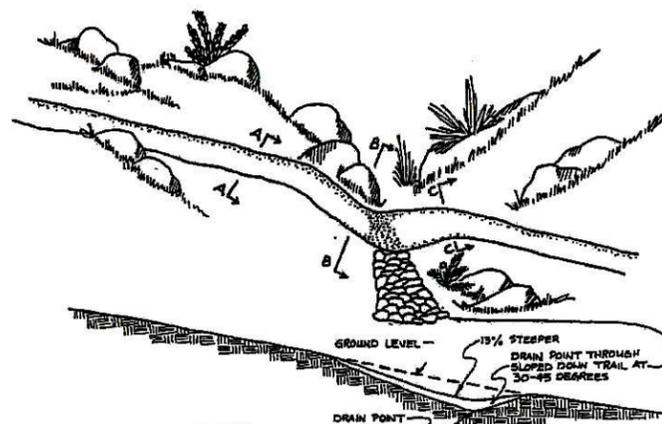
**CROSS SECTION GRAVEL SURFACE TRAIL TREAD DETAIL**

NOT TO SCALE



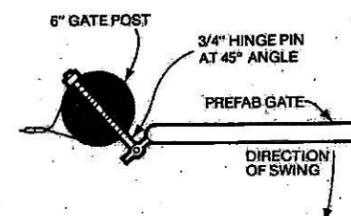
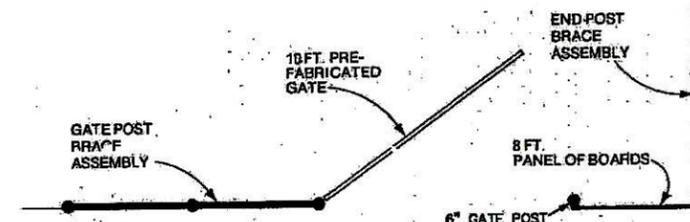
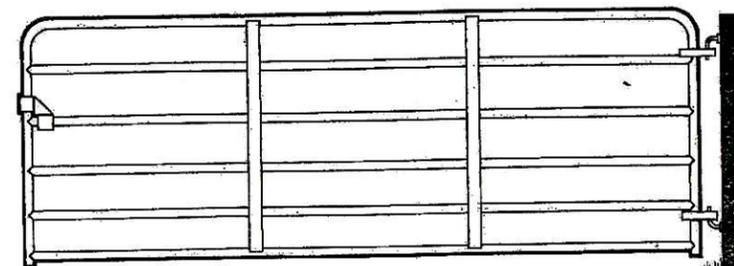
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NOT TO SCALE



**DRAIN DIP**

NOT TO SCALE

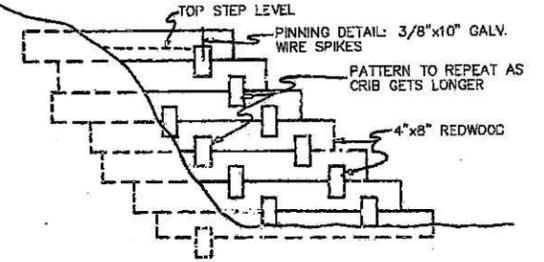
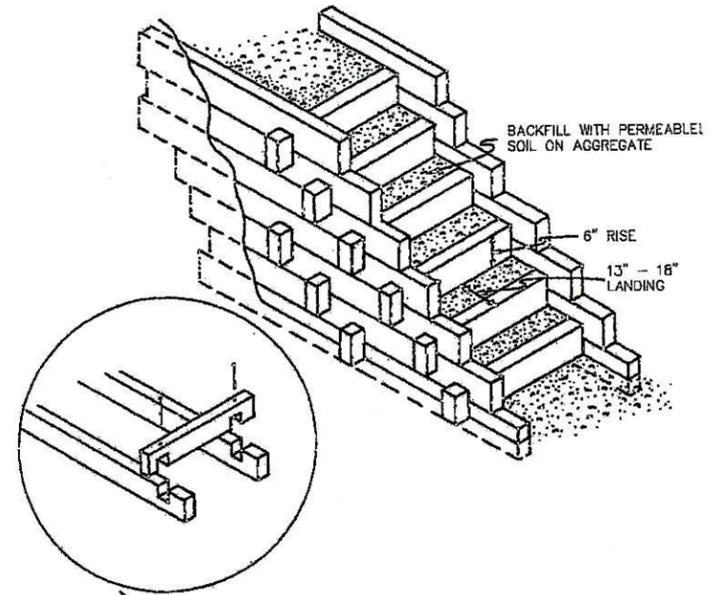


**METAL TUBE GATE DETAIL**

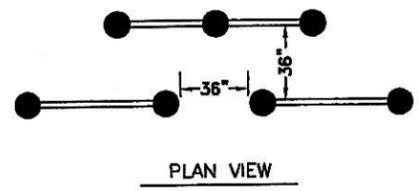
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**PRELIMINARY  
NOT FOR CONSTRUCTION**

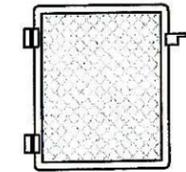
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PROJECT NO.:	EA NO.:
CONTRACT NO.: 715090	PPNC:
DRAWING FILE NAME: L:\PROJECTS\715090\DWG\CDSNB04.DWG	DESIGNED BY:
PLOT DATE: 04/05/2006	DRAWN BY:
	REVIEWED BY: RMB
	APPROVED BY: CJW



**CRIBBED STEPS**  
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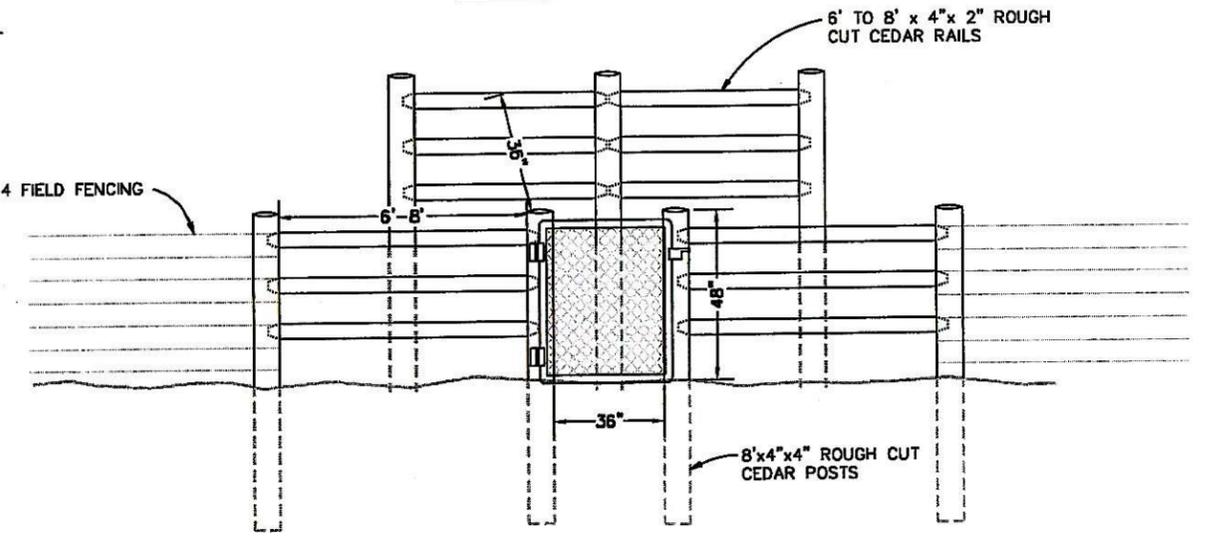


PLAN VIEW

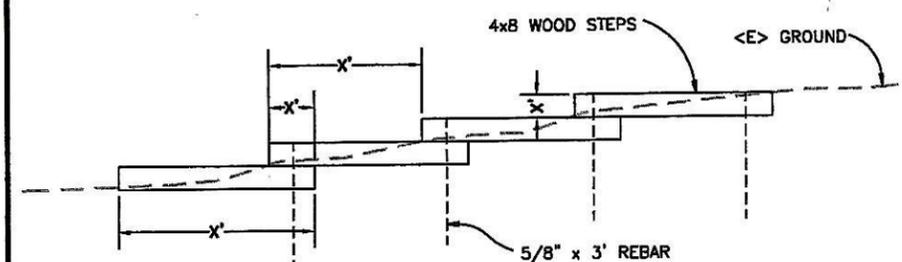


42" WIDE x 48" HIGH SWING GATE WITH LOCKABLE LATCH MOUNTED ON POST. ABLE TO LOCK IN BOTH OPEN AND CLOSED POSITIONS.

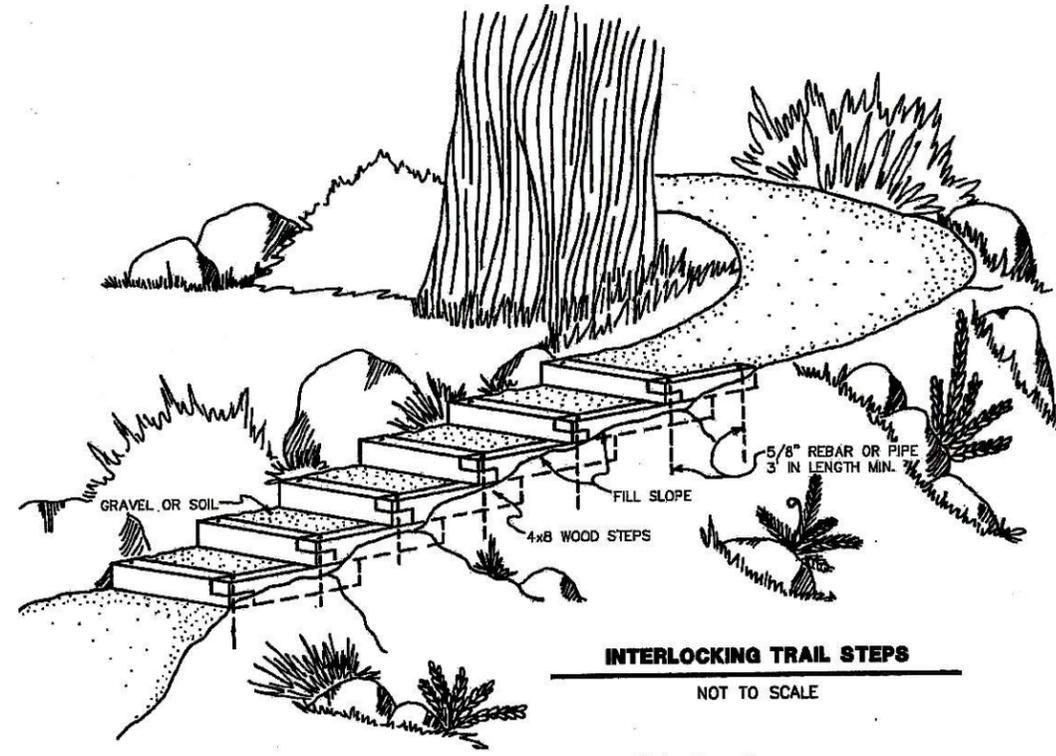
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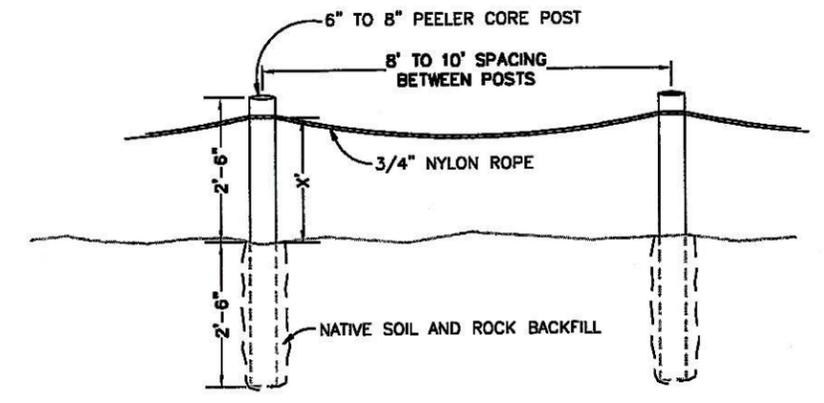
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**INTERLOCKING TRAIL STEPS SECTION**  
NOT TO SCALE



**INTERLOCKING TRAIL STEPS**  
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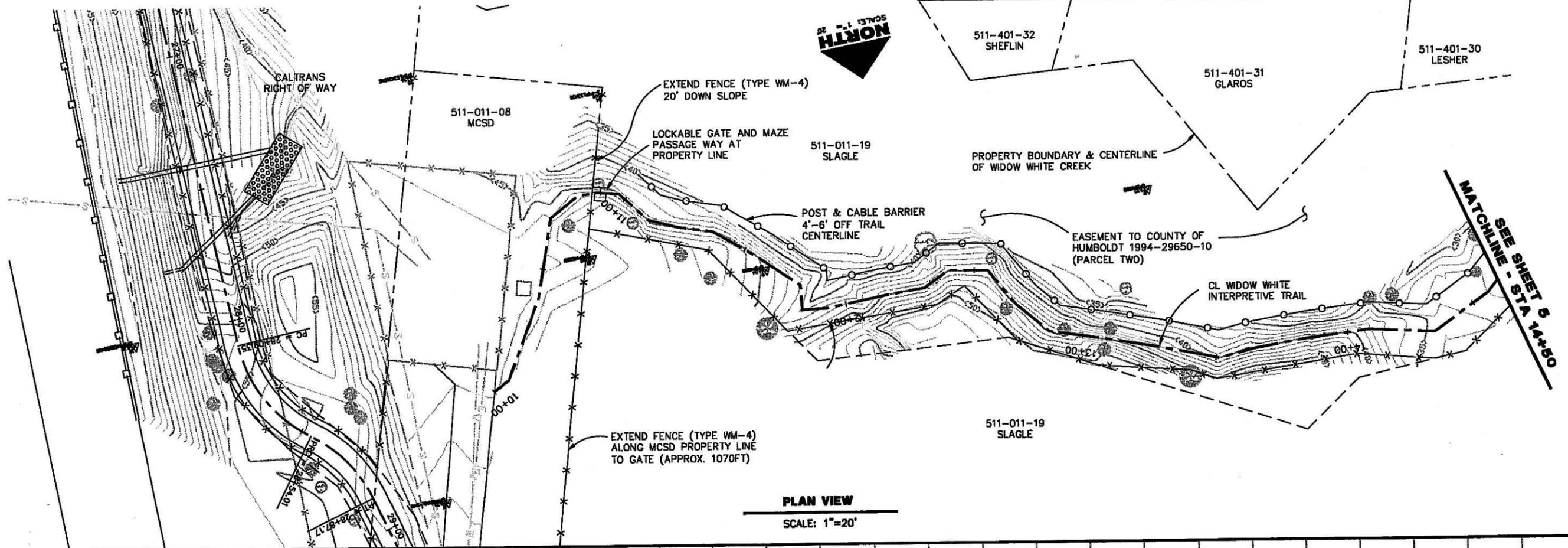


**POST & CABLE FENCE DETAIL**  
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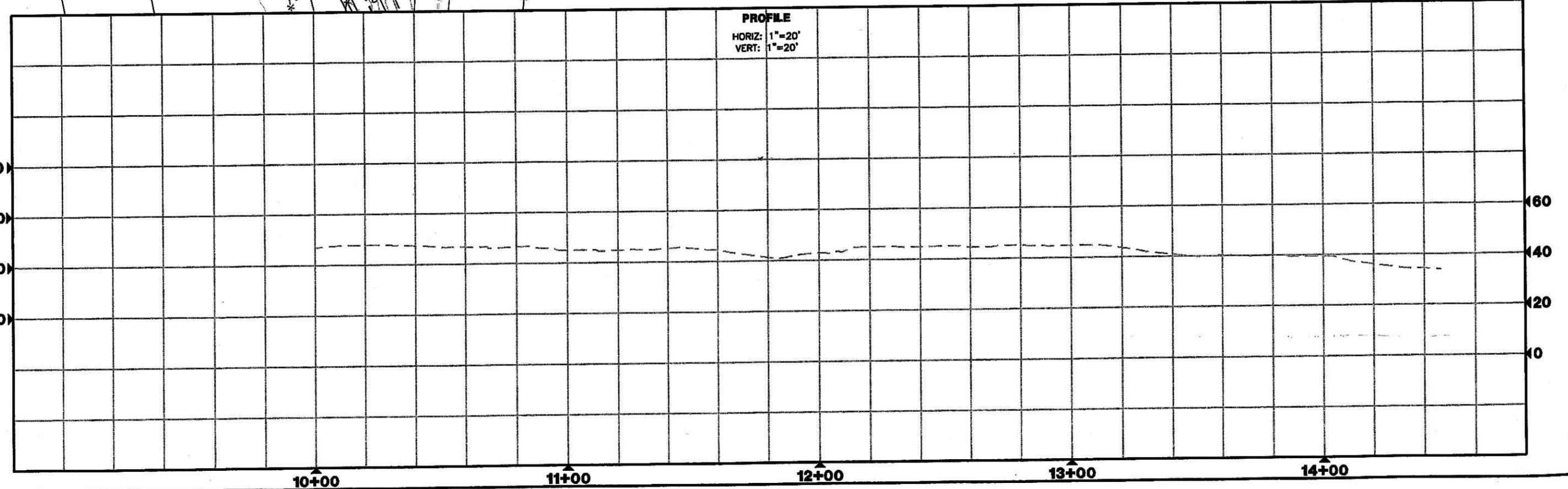
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**NOT FOR CONSTRUCTION**

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CONTRACT NO: 715090	PPNO:
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PLOT DATE: 04/05/2006	DRAWN BY: RMB
	REVIEWED BY: RMB
	APPROVED BY: CJW

COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS	SHEET <b>5</b>
WIDOW WHITE PEDESTRIAN INTERPRETIVE TRAIL	OF <b>7</b>
'T' LINE - INTERPRETIVE TAIL PLAN & PROFILE	



**PLAN VIEW**  
SCALE: 1"=20'



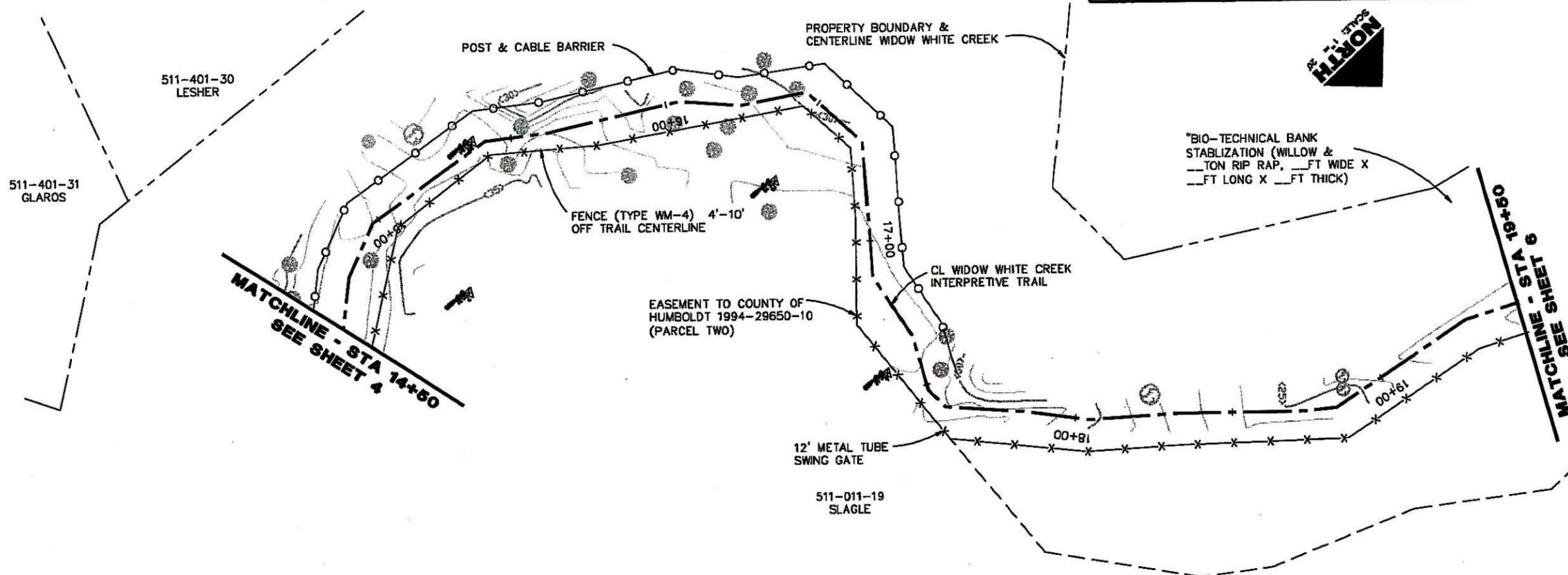
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HORIZ: 1"=20'  
VERT: 1"=20'

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

ROAD NAME: HAMMOND TRAIL		DESIGN SECTION
ROAD NO:	MILE POST:	R. W. BRONKALL
PROJECT NO:	EA NO.:	DESIGNED BY:
CONTRACT NO: 715090	PPNO:	DRAWN BY:
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DATE: 04/05/2006		APPROVED BY: CJW

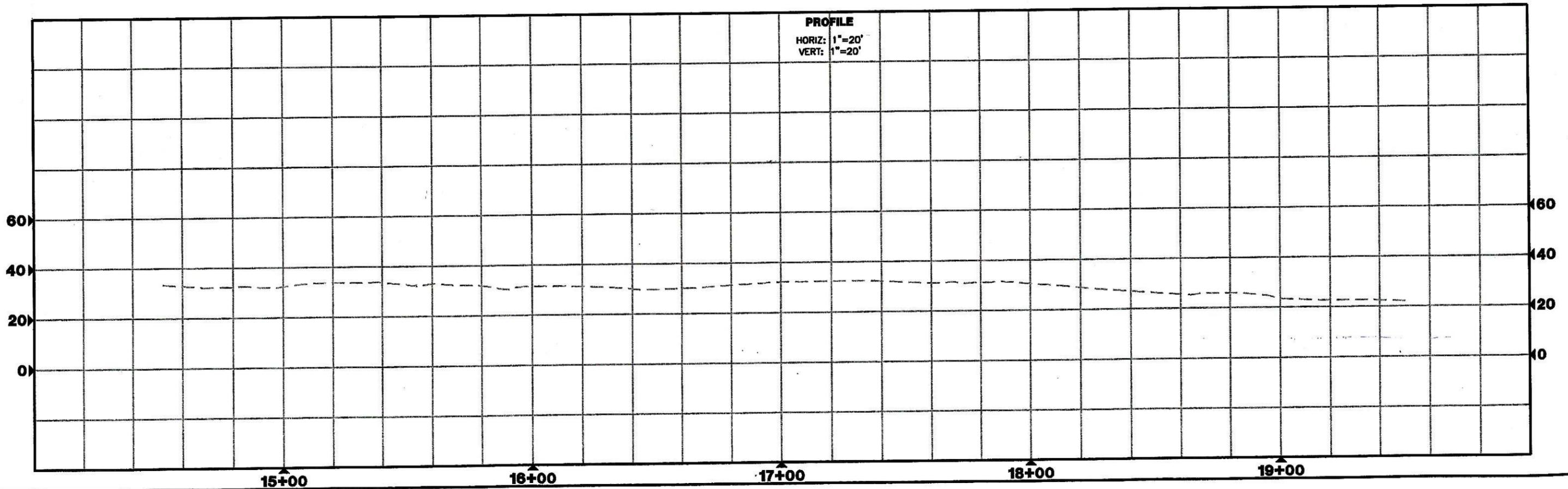
COUNTY OF HUMBOLDT  
DEPARTMENT OF PUBLIC WORKS  
WIDOW WHITE PEDESTRIAN INTERPRETIVE TRAIL  
"T" LINE - INTERPRETIVE TAIL  
PLAN & PROFILE

SHEET  
**6**  
OF  
**7**



**PLAN VIEW**  
SCALE: 1"=20'

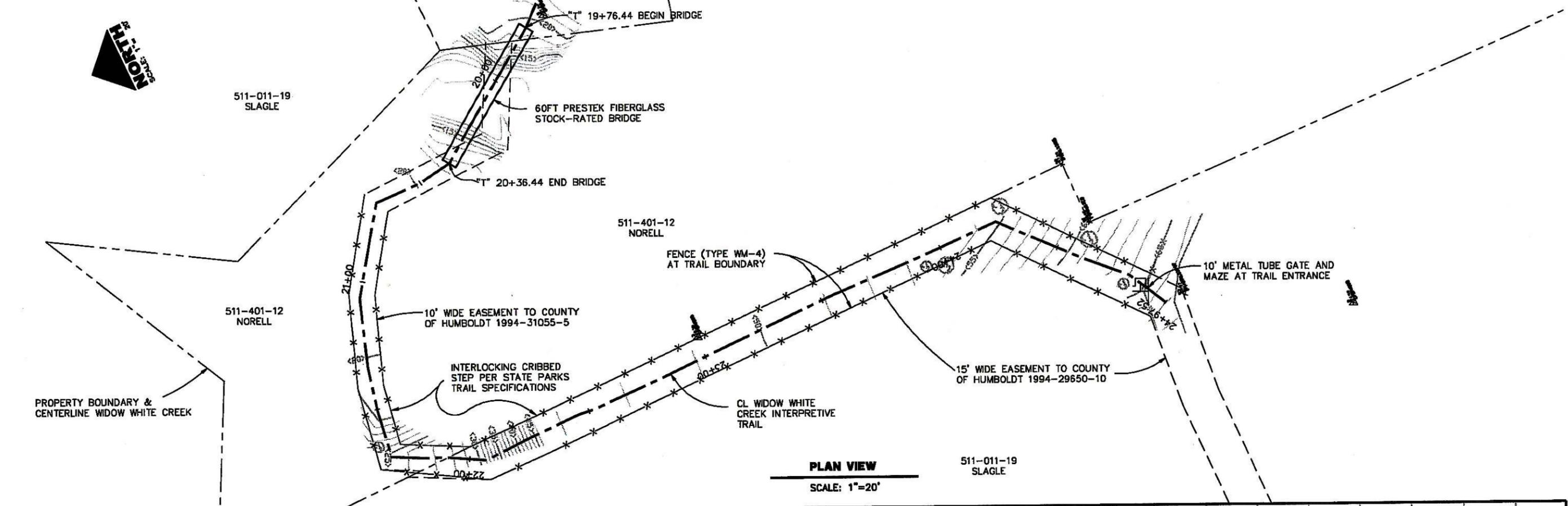
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VERT: 1"=20'



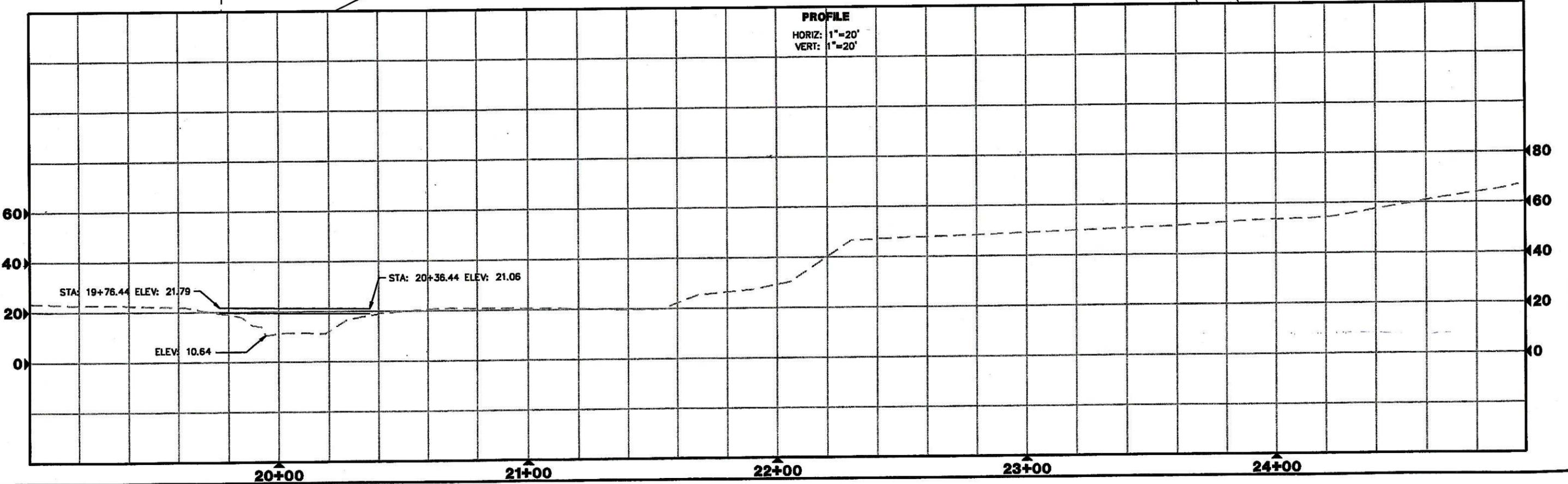
SEE SHEET 5  
MATCHLINE - STA 19+50

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

ROAD NAME: HAMMOND TRAIL		DESIGN SECTION	COUNTY OF HUMBOLDT DEPARTMENT OF PUBLIC WORKS <b>WIDOW WHITE PEDESTRIAN INTERPRETIVE TRAIL</b> "T" LINE - INTERPRETIVE TRAIL PLAN & PROFILE	SHEET <b>7</b> OF <b>7</b>
ROAD NO:	MILE POST:	R. W. BRONKALL		
PROJECT NO:	EA NO.:	DESIGNED BY:		
CONTRACT NO.: 715090	PPNO:	DRAWN BY:		
DRAWING FILE NAME: L:\PROJECTS\715090\DWG\CD5H807.DWG		REVIEWED BY: RWB		
PLOT DATE: 04/05/2006		APPROVED BY: CJW		



**PLAN VIEW**  
SCALE: 1"=20'



**PROFILE**  
HORIZ: 1"=20'  
VERT: 1"=20'

**APPENDIX B**  
**Photos**



Looking south along MCSD access road  
Photo taken 05-04-06



The Interpretive Trail will be constructed within the forested hillsides adjacent to Widow White Creek. The fence around the MCSD pump house is seen on the left.  
Photo taken 05-04-06



A 60 foot prefabricated fiberglass bridge will be installed to cross Widow White Creek  
Photo taken 05-04-06



The trail will connect to the current northern terminus of the southern section of the  
Hammond Trail (indicated by arrow)  
Photo taken 05-04-06

**APPENDIX C**  
**Rare Plant Survey/Wetland Assessment**



1434 Third Street • Eureka, CA • 95501-0682

707 442-1735 • fax: 707 442-8823

Email: nrm@nrmcorp.com

Web: www.nrmcorp.com

## Botanical Survey and Wetland Assessment Report for the "Hole in the Hammond Trail" Proposed Trail Alignments, McKinleyville, California

*Prepared by*

Natural Resources Management Corporation

1434 Third Street, Eureka, CA 95501

*Prepared for*

Humboldt County Department of Public Works/Natural Resources

1106 Second Street, Eureka, CA 95501

Signed: \_\_\_\_\_

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### 1.0 Summary

A botanical survey and wetland assessment were conducted concurrently for two different proposed trail alignments between Murray Road and Letz Avenue (McKinleyville, Humboldt County, California) which will connect existing portions of the Hammond Trail to the north and south of this "hole" in the Hammond Trail. The two proposed alignments, which total approximately 4500 linear feet, include a Nature Trail (NT) along Widow White Creek (~6 ft wide, compacted gravel) and a Bypass Trail (BT) along Murray Road and Highway 101 South (approximately 10 ft wide, paved, plus 2 ft shoulders on either side). The botanical survey was conducted according to California Department of Fish and Game Guidelines (CDFG 2000) and targeted all special-status vascular plant species listed by the California Native Plant Society and the CDFG Natural Diversity Database (CNPS 2006; CNDDDB 2006). The wetland assessment identified potential 1-, 2-, and 3-parameter wetlands in the proposed project area for compliance with the Coastal Act, McKinleyville Community Plan, Clean Water Act, and other relevant laws and regulations.

One special status plant species (CNPS List 4) was detected in the proposed project area: trailing black currant (*Ribes laxiflorum*). The species is ranked as relatively common globally but of limited distribution in California, thus it is on a "watch list." A relatively large occurrence of it occurs along the proposed NT, and a relatively small occurrence was detected along the proposed BT. Minimization of impacts to the NT occurrence is recommended; the BT occurrence likely will be impacted by trail placement. No further botanical surveys are recommended for the proposed trail alignments.

A formal wetland delineation is recommended for a small section of the proposed BT with hydrophytic vegetation and apparently hydric soils. A three parameter wetland was noted below the ordinary high water line on the left bank of Widow White Creek where the NT footbridge is proposed for placement, but the proposed trail design will avoid this wetland by placing the bridge above the ordinary high water line. A formal wetland delineation may be necessary in this area as well to ensure all impacts to the wetland are avoided.

## 2.0 Introduction & Project Setting

**Proposed Project:** The County of Humboldt, Department of Public Works, Natural Resources Division is proposing to construct the portion of the Hammond Trail known as "The Hole in the Hammond Trail" in McKinleyville, California between Murray Road to the south and Letz Road to the north (see Figure 1, Appendix A). Natural Resources Management Corporation (NRM) was hired by the County to conduct a botanical survey and preliminary wetland assessment of the proposed project area for compliance with various applicable laws and regulations.

Two different trail alignments are proposed totaling approximately 4500 linear feet. An interpretive Nature Trail (NT) approximately 1500 linear feet long will follow the existing paved MCSD pump house access road at the south end of Letz Avenue, contour the hillslope above lower Widow White Creek, cross the creek, and wind up slope to connect with the existing Hammond Trail north of Murray Road. Compacted gravel is proposed for placement for a width of 6 feet along the length of the NT alignment. Stairs are proposed for placement along steeper trail sections, and removal of small diameter trees (less than 6 inches) will be required in some places. A bicycle and equestrian Bypass Trail (BT) approximately 3000 linear feet long will align the Caltrans right-of-way along Highway 101 South from the pump house to Murray Road, run parallel to Murray Road for a short distance, and then connect with the road and existing Hammond Trail to the west. Pavement is proposed for a width of 10 feet along the length of the BT alignment, plus 2 feet wide shoulders on either side. Removal of small diameter trees (less than 12 inches) will be required in some places. Proposed trail alignments are generally depicted in Figures 2 and 3 (Appendix A)

**Location:** The proposed project area is located in the southwest  $\frac{1}{4}$  of Section 30 in Township 7 North, Range 1 East and in the southeast  $\frac{1}{4}$  of Section 25 in Township 7 North, Range 1 West (HB&M) on the USGS 7.5' Arcata North quadrangle map (Figure 1, Appendix A). The elevation of the project area is approximately 40 to 80 feet above sea level. The entire project area is within the Coastal Zone, and a portion of the proposed NT is within the Widow White Creek Streamside Management Area (SMA), as designated by the County (McKinleyville Community Plan 2002).

**General Environmental Setting:** The project area includes mostly Sitka spruce forest along the NT and disturbed grassland and red alder forest along the BT (see Figure 3, Appendix A). The soils of the area are mapped mostly as Arcata loam (Ar7 and Ar8), which are well drained, young, alluvial soils developed in softly consolidated sedimentary alluvium derived from the Hookton formation (McLaughlin & Harradine 1965). These soils are common on more-or-less level to gently sloping (0-8%) high marine terraces with native vegetation composed essentially of Sitka spruce and red alder. Indeed, the dominant vegetation in the project area consists of Sitka spruce (*Picea sitchensis*), red alder (*Alnus rubra*), cascara (*Rhamnus purshiana*), red elderberry (*Sambucus racemosa*), salmonberry (*Rubus spectabilis*), California blackberry (*Rubus ursinus*), twinberry (*Lonicera involucrata*), red flowering currant (*Ribes sanguineum* var. *glutinosum*), false lily-of-the-valley (*Maianthemum dilatatum*), lady fern (*Athyrium filix-femina*), and various other trees, shrubs, ferns, and flowering herbs (see Table 4, Appendix B).

## 3.0 Methods

### 3.1 Botanical survey/assessment methods

Pre-field scoping was conducted to determine the list of target species with the potential for occurrence in the project area. Scoping strategies and survey methods were consistent with the California Department of Fish and Game (CDFG 2000) and the California Environmental Quality Act (State of California 2001). The project area was scoped with the current inventories of the California Native Plant Society's (CNPS)

*Inventory of Rare and Endangered Plants of California* (7<sup>th</sup> edition, on-line version, CNPS 2006) and the CDFG California Natural Diversity Database (CNDDDB April 2006). Queries were run on the USGS 7.5' topographic quadrangle map containing the parcel (Arcata North) and all contiguous quadrangles (Trinidad, Crannell, Blue Lake, Korbel, Arcata South, Tyee City, Panther Creek, and Eureka). Forty vascular and nonvascular plant species resulted from this regional querying process. However, since the greater scoping region encompasses habitat types that are not present in the project area (e.g., coastal dunes), the resulting target list was reduced to include only those habitats with the potential for presence in the project area. Furthermore, since the database queries only result in those species that historically have been recorded in the specified quadrangle, they do not account for species that have not been recorded but for which habitat may be present in the quadrangle(s). Therefore, any additional species suspected of potentially occurring in the area were included on the target list. The target list of botanical taxa for the "Hole in the Hammond Trail" botanical survey is included in Table 1 (Appendix B).

The field survey/assessment was conducted according to the CDFG Guidelines (CDFG 2000) on May 4, 2006 by Melissa Brooks Kraemer. Kirstin Ramey of County Public Works/Natural Resources accompanied Ms. Kraemer in the field. The surveyor is qualified to conduct biological surveys/assessments, having a master's degree in biology (botany emphasis) as well as experience surveying for the target botanical species. The total number of field survey hours was approximately three. The survey was intuitively controlled, floristic, and high in coverage intensity along the proposed length and width of both trail alignments. The survey was seasonally appropriate for some, but not all, target species (see Table 1, Appendix B). For those target species for which the survey was not seasonally appropriate, the surveyor focused on identifying potential habitat for those species. Vascular plants encountered in the field were identified to the lowest taxonomic level necessary for a rare species determination. A species list was recorded and is attached (Table 4, Appendix B). The taxonomic nomenclature used follows Hickman (1993) and/or Kartesz (1994).

### **3.2 Wetland assessment methods**

At the request of the County, a preliminary wetlands assessment was conducted concurrently with the botanical survey/assessment. This involved generally noting wetland characteristics (if present) of vegetation, hydrology, and soils in each different "community type" throughout the project area (per Environmental Laboratory 1987 and WTI 1995). Community types were distinguished primarily based on changes in vegetative homogeneity across the area. Soils were examined for hydric characteristics in areas suspected of harboring a predominance of hydrophytic vegetation and/or wetland hydrology. No routine data forms (per Environmental Laboratory 1987) were completed for the wetlands assessment, but notes and separate species lists were made for the different community types in the area (see Table 3, Appendix B). The dominant plant species in each community type were ranked according to FWS (1996; see Table 3, Appendix B) to determine whether or not the type displayed a prevalence of hydrophytic (wetland-oriented) vegetation. Suspected wetland areas were generally mapped for future investigation by the County as deemed necessary.

## **4.0 Results**

### **4.1 Botanical survey/assessment results**

None of the target species were detected in the project area during the survey. For those target species for which the botanical survey was not seasonally appropriate (see Table 1 blooming column, Appendix B), either 1) the project area did not harbor habitat for those species; or 2) the species would have been detectable nonetheless based on vegetative features (e.g., leaves); or 3) marginal quality habitat was present for some species, but the habitat occurs outside of any area with the potential to be impacted by

activities associated with trail construction or trail use (e.g., coastal scrub habitat on the western edge of the NT south of and above the creek crossing). Table 2 (Appendix B) summarizes the results of the botanical survey.

One CNPS List 4 species was detected in the project area: trailing black currant (*Ribes laxiflorum*). This species is considered globally secure but of limited distribution in the state, thus it is on the California Native Plant Society's "watch list." In California it is known to occur only in Humboldt and Del Norte counties, though it is considered "not very endangered in California" with "21 to 80 occurrences or 3,000 to 10,000 individuals OR 10,000 to 50,000 acres" (CNPS 2006). Trailing black currant is a deciduous shrub of the Grossulariaceae (Gooseberry) family that typically blooms sometime between March and May. In California, it occurs in North Coast coniferous forests between 5 and 1395 meters in elevation. Along the NT, a relatively large patch of the species was found on the portion of the proposed alignment on the north side of Widow White Creek near the proposed footbridge crossing, approximately where the trail exits the forest and meets up with the existing access "road" (unimproved) that leads to the neighboring parcel (see Photos 1 and 2, Appendix C). Only a couple plants were in bloom while the majority were simply vegetative. A few additional plants (not blooming) were found in the closed-canopy red alder forest portion of the BT within a suspected wetland area (see Section 4.2 below and Photo 3, Appendix C). A Native Species Field Form (CNDDDB form) documenting the occurrence is attached in Appendix D.

#### 4.2 Wetland results

The different community types in the area include Sitka spruce forest, openings, and a creek-side wetland along the NT, and red alder forest, open grasslands, and a potential forest wetland along the BT. Table 3 (Appendix B) shows the dominant vegetative species in each community type and the wetland indicator status of each (from FWS 1996). As Table 3 shows, the community types that display a prevalence of hydrophytic vegetation include the NT wetland area, the BT forested area (barely), and the BT potential wetland area. It should be noted that no formal sampling methodology (e.g., Pierce 1999) was employed for determining vegetative species dominance in each community type. Furthermore, community types themselves were arbitrarily distinguished by the surveyor. It is possible that a formal wetland determination of the area (per Environmental Laboratory 1987 and WTI 1995) would yield different community types and different compositions of species dominance.

A potential wetland was located on the BT that should be investigated further by the County (see Photo 3, Appendix C). Dominant vegetation in this area includes the wetland-oriented slough sedge (*Carex obnupta*), California blackberry (*Rubus ursinus*), salmonberry (*R. spectabilis*), and red alder (*Alnus rubra*), as well as the upland-oriented cascara (*Frangula purshiana*) and elderberry (*Sambucus racemosa*) (see Table 3, Appendix B). Trailing black currant (*Ribes laxiflorum*), a CNPS List 4 species, was also found in this area. One soil pit that was examined may have displayed indicators of hydric soils (*i.e.*, low chroma matrix with high chroma mottles, per Munsell 1975). However, additional soil samples should be examined to verify whether or not soils in this area are hydric. No apparent indicators of wetland hydrology were readily observed, but a more in depth wetland determination of the area is recommended.

A three parameter wetland was observed below the ordinary high water line on the NT crossing of Widow White Creek (see Photos 4, 5, and 6 Appendix C). Dominant vegetation in this area includes the wetland-oriented small-flowered bulrush (*Scirpus microcarpus*), water cress (*Rorippa nasturtium-aquaticum*), creeping buttercup (*Ranunculus repens*), American brooklime (*Veronica americana*), and hedgenettle (*Stachys ajugoides*) (see Table 3, Appendix B). Soils in this area exhibited hydric characteristics (organic

pan layer). Because this wetland is below the ordinary high water line, it is not likely to be impacted by placement of the footbridge or trail construction activities.

## **5.0 Discussion/Recommendations**

### **5.1 Botanical**

If possible, the proposed trail alignments should be adjusted to avoid the trailing black currant plants. If it is not possible to avoid all the plants, as many as possible should be avoided. Due to the large size of the patch along the NT, it is likely that many plants may be avoided entirely by trail construction activities. Care should be taken not to trample plants during trail and fence construction, especially if construction occurs during the blooming season. Labor crews should be alerted to the presence of the plants in the area, and if deemed appropriate, plants may be flagged or staked off for avoidance during construction activities. It appears unlikely that the few trailing black currant plants seen along the BT alignment can be avoided with the plans as currently proposed.

No later season botanical surveys are recommended for the project area since 1) the project area did not harbor habitat for target species for which the May 4 survey was not seasonally appropriate; or 2) the species for which the May 4 survey was not seasonally appropriate would have been detectable nonetheless based on vegetative features (e.g., leaves); or 3) marginal quality habitat was present for some species, but the habitat occurs outside of any area with the potential to be impacted by activities associated with trail construction or trail use.

### **5.2 Wetlands**

The potential wetland on the BT should be investigated further by the County with a formal wetland determination per Environmental Laboratory (1987) and WTI (1995) methodology. The wetland determination should be conducted by a person with experience and/or training in wetland delineation techniques. Particular attention should be given to hydrology and soils in the area since the vegetation has been documented as hydrophytic (Table 3, Appendix B). However, the wetland investigator should clearly define the "community type" of the area and accurately record the dominant plant species using the "50/20 rule" (explained in Pierce 1999). This will verify whether or not the dominant vegetation of the area truly is hydrophytic. This should also be done for the vegetation of the BT forest in general, which, according to this preliminary assessment, ranked as slightly hydrophytic. As mentioned above, it is possible that a formal wetland delineation of the area would yield different a different community type composition with different dominant species.

The three-parameter, U.S. Army Corps of Engineers-jurisdictional wetland along the left bank of Widow White Creek should be noted and avoided in all trail plans and construction activities. Footbridge placement is not proposed to impact this wetland since the bridge will be placed above the ordinary high water line. It may be appropriate, nonetheless, to conduct a formal wetland delineation in this area to ensure that no impacts to the wetland result from bridge placement or trail construction activities.

## **6.0 Conclusion**

The County of Humboldt, the U.S. Army Corps of Engineers (ACOE), and/or the Department of Fish and Game (CDFG) have regulatory jurisdiction over any wetlands and sensitive resources in the proposed project area and should be consulted for the necessary permits and/or mitigation requirements. Please note that the final authority in wetland determination and mitigation in the area rests with the applicable agencies including the County, ACOE, and/or the CDFG.

Botanical Survey and Wetland Assessment Report for the "Hole in the Hammond Trail" Proposed Trail Alignments**7.0 References**

- CDFG (California Department of Fish and Game). May 8, 2000 (revised). *Guidelines for Assessing the Effects of Proposed Developments on Rare, Threatened and Endangered Plants and Plant Communities*. The Resources Agency, Department of Fish and Game, Sacramento, CA.
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- WTI (Wetland Training Institute Inc.). 1995. *Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual*. WTI 95-3, Poolesville, MD. 143 pp.

**8.0 Appendices (attached)**

- Appendix A: Figures (3)
- Appendix B: Tables (4)
- Appendix C: Photographs (6)
- Appendix D: California Native Species Field Form for *Ribes laxiflorum* (1)

## Appendix A: Figures



**Figure 1.** Approximate location of the "Hole in the Hammond Trail" proposed trail alignments. The legal description of the project area is Sec. 30 of T7N, R1E and Sec. 25 of T7N, R1W (HB&M) on the USGS 7.5' Arcata North quadrangle map. See Figures 2 and 3 for more details.

Appendix A: Figures

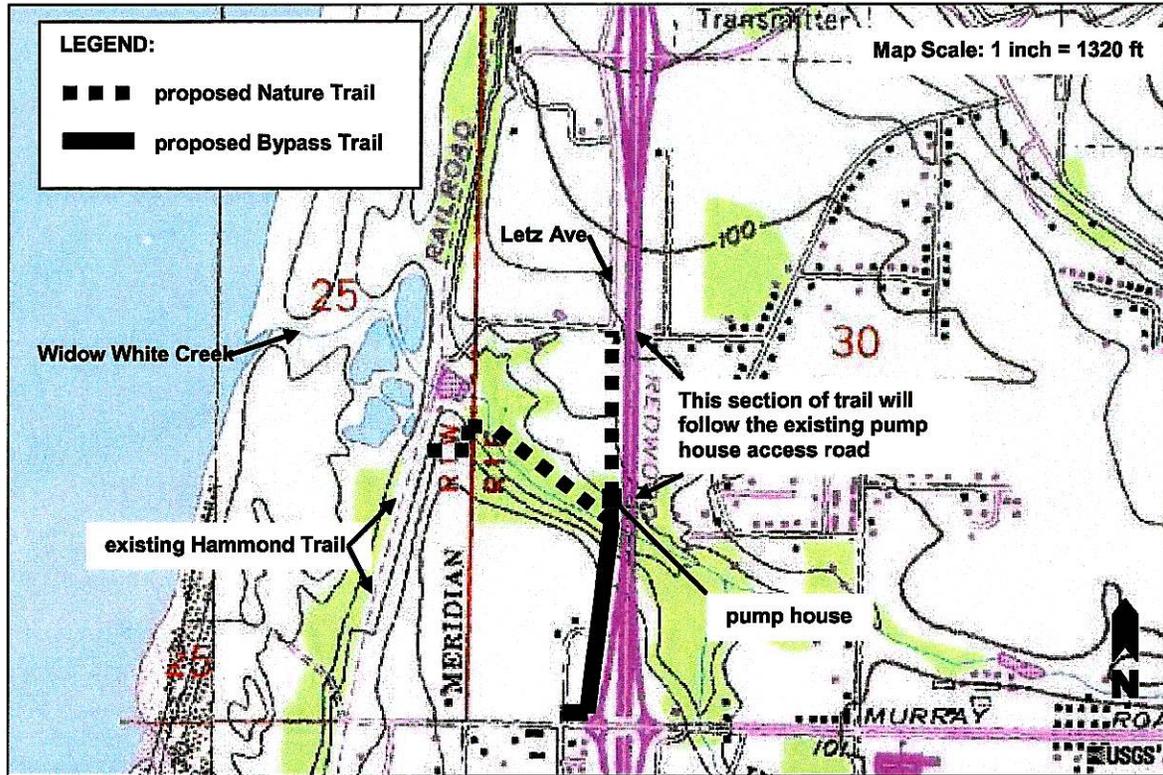


Figure 2. Detail of the proposed trail alignments (trail placement as shown is approximate).

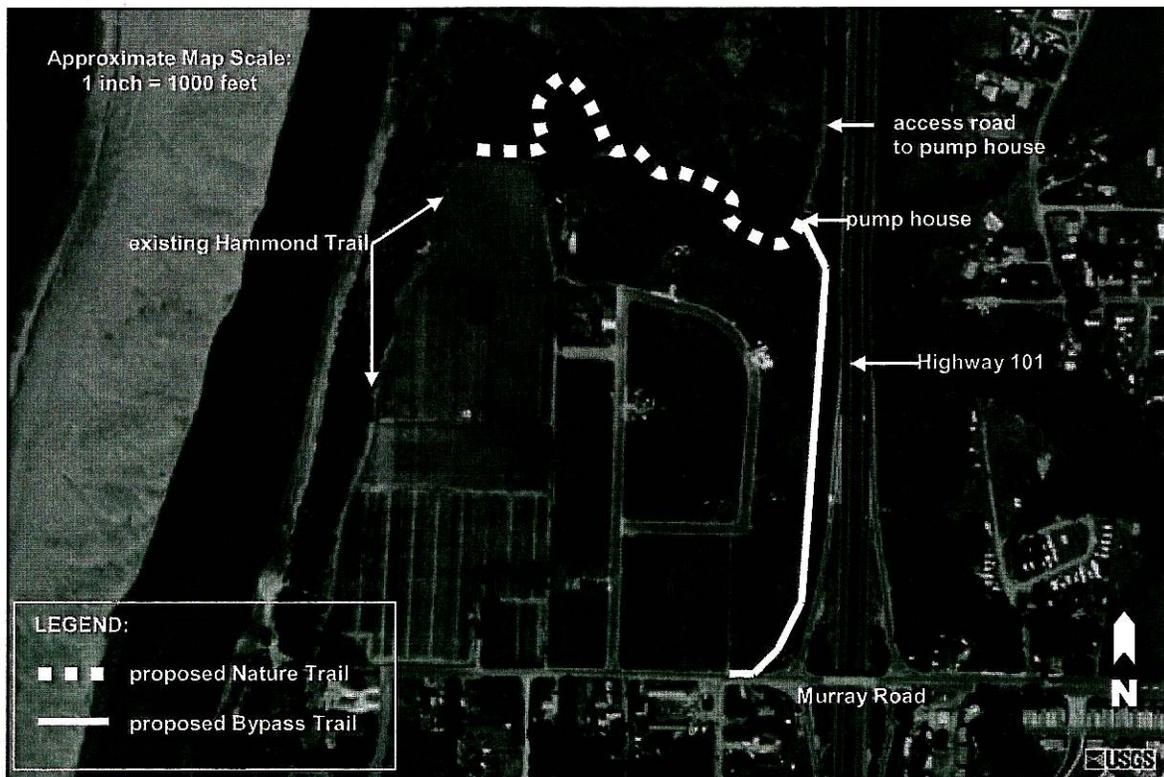


Figure 3. Aerial photo (1989) of the project area (trail placement as shown is approximate).

## Appendix B: Tables

Table 1. List of target species for the "Hole in the Hammond Trail" botanical survey (survey date: 5/4/06).

Plant Species	Listing <sup>i</sup>	Global /State Ranking <sup>ii</sup>	Family	Life Form	Blooms <sup>iii</sup>	Habitat & Elevation <sup>iv</sup>
<i>Carex arcta</i> Northern clustered sedge	CNPS 2.2	G5/S1S2	Cyperaceae	Perennial herb	June- Sept.	BgFns, NCFrs (mesic); 60-1400 m.
<i>Carex lenticularis</i> var. <i>limnophila</i> Lakeshore sedge	CNPS 2.2	G5T5/S1S2.2	Cyperaceae	Perennial herb	June- August	BgFns, MshSw, NCFrs/shores, beaches; often gravelly; 0-6 m.
<i>Carex leptalea</i> Flaccid sedge	CNPS 2.2	G5/S2?	Cyperaceae	Rhizomatous herb	March- July	BgFns, Mdws (mesic) MshSw; 0-700 m.
<i>Carex lyngbyei</i> Lyngbye's sedge	CNPS 2.2	G5/S2.2	Cyperaceae	Rhizomatous herb	May- August	MshSw (brackish or freshwater); 0-10 m.
<i>Carex praticola</i> Meadow sedge	CNPS 2.2	G5/S2S3	Cyperaceae	Perennial herb	May- July	Medws (mesic); 0- 3200 m.
<i>Carex viridula</i> var. <i>viridula</i> Green sedge	CNPS 2.3	G5T5/S1.3	Cyperaceae	Perennial herb	July- August	BgFns, MshSw (freshwater), NCFrs (mesic); 0-1600 m.
<i>Castilleja affinis</i> ssp. <i>litoralis</i> Oregon coast Indian paintbrush	CNPS 2.2	G4G5T4/S2.2	Scrophulariaceae	Perennial herb	June	CBSCr, CoDns, CoScr/sandy; 15-100m.
<i>Castilleja mendocinensis</i> Mendocino coast Indian paintbrush	CNPS 1B.2	G2/S2.2	Scrophulariaceae	Perennial herb; hemiparasitic	April- August	CBSCr, CCFrs, CoDns, CoPrr, CoScr; 0-160 m.
<i>Empetrum nigrum</i> ssp. <i>hermaphroditum</i> Black crowberry	CNPS 2.2	G5T5/S2?	Empetraceae	Evergreen shrub	April- June	CBSCr, CoPrr; 10-200 m.
<i>Erythronium revolutum</i> Coast fawn lily	CNPS 2.2	G4/S2.2	Liliaceae	Bulbiferous herb	March- July (Aug)	BgFns, BUFrs, NCFrs/ mesic, streambanks; 0-1325 m.
<i>Gilia capitata</i> ssp. <i>pacifica</i> Pacific gilia	CNPS 1B.2	G5T3T4/S2.2	Polemoniaceae	Annual herb	April- August	CBSCr, Chprl (open- ings) CoPrr, VFrs; 5-610 m.
<i>Lathyrus palustris</i> marsh pea	CNPS 2.2	G5/S2S3	Fabaceae	Perennial herb	March- August	BgFns, CoPrr, CoScr, LCFrs, MshSw, NCFrs / mesic; 1-100 m.
<i>Lilium occidentale</i> Western lily	CNPS 1B.1; FE; CE	G1/S1.2	Liliaceae	Bulbiferous herb	June- July	BgFns, CBSCr, CoPrr, CoScr, MshSw (fresh), NCFrs (openings); 2-185 m.
<i>Lycopodiella inundata</i> Bog club-moss	CNPS 2.2	G5/S1?	Lycopodiaceae	Rhizomatous herb	Sept. (fertile)	BgFns (coastal), LCFrs (mesic), MshSw (lake margins); 5-1000 m.
<i>Lycopodium clavatum</i> Running-pine	CNPS 2.3	G5/S2S3	Lycopodiaceae	Rhizomatous herb	Sept. (fertile)	LCFrs (mesic), MshSw, NCFrs (mesic)/often edges, openings, & road- sides; 45-1225 m.
<i>Mitella caulescens</i> leafy-stemmed mitrewort	CNPS 2.3	G5/S2.3	Saxifragaceae	Rhizomatous herb	April- October	BUFrs, LCFrs, Medws, NCFrs/mesic; 5-1700 m.
<i>Monotropa uniflora</i> Indian-pipe	CNPS 2.2	G5/S2S3	Ericaceae	Perennial herb; achlorophyllous	June- August	BUFrs, NCFrs; 10-550 m.
<i>Montia howellii</i> Howell's montia	CNPS 2.2	G3G4/S1.2	Portulacaceae	Annual herb	March- May	Medws, VnPls, NCFrs/vernally mesic; 0-730 m.
<i>Oenothera wolffii</i> Wolf's evening-primrose	CNPS 1B.1	G1/S1.1	Onagraceae	Perennial herb	May- October	CBSCr, CoDns, CoPrr, LCFrs/sandy, usually mesic; 3-800 m.
<i>Packera</i> (= <i>Senecio</i> ) <i>bolanderi</i> var. <i>bolanderi</i> Seacoast ragwort	CNPS 2.2	G4T4/S1.2	Asteraceae	Rhizomatous herb	June- July	CoScr, NCFrs; 30-650 m.
<i>Romanzoffia tracyi</i> Tracy's romanzoffia	CNPS 2.3	G4/S1.3	Hydrophyllaceae	Perennial herb	March- May	CBSCr, CoScr/rocky; 15-30 m.
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	CNPS 1B.2	G3/S3.2	Malvaceae	Perennial herb	April- August	BUFrs, CoPrr, CoScr, NCFrs, RpWld/often in disturbed areas; 2-730 m.

## Appendix B: Tables

Plant Species	Listing <sup>i</sup>	Global /State Ranking <sup>ii</sup>	Family	Life Form	Blooms <sup>iii</sup>	Habitat & Elevation <sup>iv</sup>
<i>Sidalcea malviflora</i> ssp. <i>patula</i> Siskiyou checkerbloom	CNPS 1B.2	G5T1/S1.1	Malvaceae	Rhizomatous herb	May- August	CBScr, CoPrr, NCFrs/ often roadcuts; 15-815 m.
<i>Sidalcea oregana</i> ssp. <i>eximia</i> Coast checkerbloom	CNPS 1B.2	G5T1/S1.2	Malvaceae	Perennial herb	June- August	LCFrs, Medws, NCFrs; 5-1340 m.
<i>Tiarella trifoliata</i> var. <i>trifoliata</i> Trifoliata laceflower	CNPS 3	G5T5/S2S3	Saxifragaceae	Rhizomatous herb	June- July	LCFrs, NCFrs; 170- 1500 m.
<i>Viola palustris</i> Marsh violet	CNPS 2.2	G5/S1S2	Violaceae	Rhizomatous herb	March- August	BgFns (coastal), CoScr (mesic); 0-150 m.

<sup>i</sup> Listing includes federal, state, and CNPS listed rare, threatened and/or endangered taxa. CNPS inventory quadrangle data include only CNPS list 1-3 plants (CNPS list 4 plants were only considered if they were also state- or federally-listed). CNPS 1A = presumed extinct in CA; CNPS 1B = rare, threatened, or endangered in CA and elsewhere; CNPS 2 = rare, threatened, or endangered in CA, but more common elsewhere; CNPS 3 = plants about which more information is needed—a review list; CNPS 4 = Uncommon plants—a watch list; FE or FT = Federally-listed Endangered or Threatened; CE or CT = State-listed Endangered or Threatened; SC = State-listed Species of Concern. The Threat Code Extension that follows the CNPS List Code (e.g., 1B.1) is defined as follows: .1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 - Fairly endangered in California (20-80% occurrences threatened); .3 - Not very endangered in California (<20% of occurrences threatened or no current threats known).

<sup>ii</sup> **Global & State Ranking:** The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range. The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. G1 = Less than 6 viable element occurrences (EOs) OR less than 1,000 individuals OR less than 2,000 acres; G2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres; G3 = 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres; G4 = Apparently secure; this rank is clearly lower than G3 but factors exist to cause some concern; i.e., there is some threat, or somewhat narrow habitat; G5 = Population or stand demonstrably secure to ineradicable due to being commonly found in the world. Subspecies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global situation of just the subspecies or variety; S1 = Less than 6 EOs OR less than 1,000 individuals OR less than 2,000 acres; S1.1 = very threatened; S1.2 = threatened; S1.3 = no current threats known; S2 = 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres; S2.1 = very threatened; S2.2 = threatened; S2.3 = no current threats known; S3 = 21-80 EOs or 3,000-10,000 individuals OR 10,000-50,000 acres; S3.1 = very threatened; S3.2 = threatened; S3.3 = no current threats known; S4 = Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. NO THREAT RANK; S5 = Demonstrably secure to ineradicable in California. NO THREAT RANK.

<sup>iii</sup> Blooming windows are approximate and may vary from year to year depending on environmental conditions and other factors.

<sup>iv</sup> Plant community classifications are based on Holland (1986). Abbreviation codes are as follows:

<b>BUFRs</b> Broadleaved Upland Forest	<b>CoDns</b> Coastal Dunes	<b>RpScr</b> Riparian Scrub
<b>BgFns</b> Bogs and Fens	<b>CoPrr</b> Coastal Prairie	<b>RpFrs</b> Riparian Forest
<b>CBScr</b> Coastal Bluff Scrub	<b>CoScr</b> Coastal Scrub	<b>RpWld</b> Riparian Woodland
<b>CCFRs</b> Closed-cone Coniferous Forest	<b>LCFRs</b> Lower Montane Coniferous Forest	<b>UCFRs</b> Upper Montane Coniferous Forest
<b>Chprl</b> Chaparral	<b>Medws</b> Meadows and Seeps	<b>VFGrs</b> Valley and Foothill Grassland
<b>ChSer</b> Chenopod Scrub	<b>MshSw</b> Marshes and Swamps	<b>VnPls</b> Vernal Pools
<b>CmWld</b> Cismontane Woodland	<b>NCFrs</b> North Coast Coniferous Forest	

## Appendix B: Tables

**Table 2.** Results of the May 4, 2006 botanical survey of the "Hole in the Hammond Trail" proposed alignments. See Table 1 for habitat abbreviations.

Species Name	Species detected?	Habitat present in/around area?	Notes
<i>Carex arcta</i> Northern clustered sedge	No	No	No bogs/boggy areas present
<i>Carex lenticularis</i> var. <i>limnophila</i> Lakeshore sedge	No	No	No bogs/boggy areas present
<i>Carex leptalea</i> Flaccid sedge	No	No	No bogs/boggy areas present
<i>Carex lyngbyei</i> Lyngbye's sedge	No	No	No bogs/boggy areas present
<i>Carex praticola</i> Meadow sedge	No	No	No moist meadows present
<i>Carex viridula</i> var. <i>viridula</i> Green sedge	No	No	No bogs/boggy areas present
<i>Castilleja affinis</i> ssp. <i>litoralis</i> Oregon coast Indian paintbrush	No	Marginal (CBScr, CoScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat
<i>Castilleja mendocinensis</i> Mendocino coast Indian paintbrush	No	Maybe (CBScr, CoScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat
<i>Empetrum nigrum</i> ssp. <i>hermaphroditum</i> Black crowberry	No	Marginal (CoScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat
<i>Erythronium revolutum</i> Coast fawn lily	No	No	Forested habitats mostly not mesic enough; species would have been blooming at the time of the survey
<i>Gilia capitata</i> ssp. <i>pacifica</i> Pacific gilia	No	No	Grassland areas too disturbed for this species (dominated by weedy <i>Anthoxanthum odoratum</i> )
<i>Lathyrus palustris</i> marsh pea	No	Maybe (CoScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat.
<i>Lilium occidentale</i> Western lily	No	No	No Pacific reed grass ( <i>Calamagrostis nutkaensis</i> ) present, which typically is associated with this species
<i>Lycopodiella inundata</i> Bog club-moss	No	No	No bogs/boggy areas present
<i>Lycopodium clavatum</i> Running-pine	No	Maybe (forest edges)	Species would have been apparent at the time of the survey.
<i>Mitella caulescens</i> leafy-stemmed mitrewort	No	Yes (NCFrs)	Leaves would have been apparent at the time of the survey.
<i>Monotropa uniflora</i> Indian-pipe	No	No	Understory layer too dense; no Douglas-fir present.
<i>Montia howellii</i> Howell's montia	No	No	No seasonally ponded areas with fine soils
<i>Oenothera wolfii</i> Wolf's evening-primrose	No	No	Leaves would have been apparent at the time of the survey.
<i>Packera</i> (= <i>Senecio</i> ) <i>bolanderi</i> var. <i>bolanderi</i> Seacoast ragwort	No	Maybe (CoScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat.
<i>Romanzoffia tracyi</i> Tracy's romanzoffia	No	Maybe (CBScr, CoScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat.
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	No	Yes (CoScr, forest edges)	Leaves would have been apparent at the time of the survey.
<i>Sidalcea malviflora</i> ssp. <i>patula</i> Siskiyou checkerbloom	No	Maybe (CBScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat.
<i>Sidalcea oregana</i> ssp. <i>eximia</i> Coast checkerbloom	No	Maybe (CBScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat.
<i>Tiarella trifoliata</i> var. <i>trifoliata</i> Trifoliata laceflower	No	Yes (NCFrs)	Forest habitats probably not mesic enough in most places for this species
<i>Viola palustris</i> Marsh violet	No	Maybe (CoScr)	The proposed NT will run adjacent to coastal scrub and/or coastal bluff scrub habitat on the south side of Widow White Creek, but will not impact the habitat.

## Appendix B: Tables

**Table 3.** Dominant plant species, by community type, and the wetland indicator rating for each (from FWS 1996) along the "Hole in the Hammond Trail" proposed trail alignments (date of field investigation = May 4, 2006). Taxonomy follows Hickman (1993) and/or Kartesz (1994). NOTE: No formal sampling methodology was employed for determining species dominance; instead, this preliminary wetlands assessment relied on general, informal, "best guess" estimates of species dominance for each arbitrarily distinguished community type. A formal wetland delineation might reveal different community types and/or that the dominant species composing each type are not as listed below (see Section 4.2 above for more details). Indicator definitions (bottom of page) are from Reed (1988).

Species Name	Common Name	Wetland Indicator (for California) <sup>1</sup>
<b>NATURE TRAIL SITKA SPRUCE FOREST</b>		
<i>Abies grandis</i>	grand fir	NI
<i>Alnus rubra</i>	red alder	FACW
<i>Athyrium filix-femina</i>	lady fern	FAC
<i>Carex deweyana</i>	Dewey's sedge	FACU
<i>Carex obnupta</i>	slough sedge	OBL
<i>Frangula (=Rhamnus) purshiana</i>	casacara	FACU*
<i>Galium aparine</i>	goose-grass	FACU
<i>Hedera helix</i>	English ivy	UPL
<i>Lonicera involucrata</i>	twinberry	FAC
<i>Maianthemum dilatatum</i>	false lily-of-the-valley	FAC*
<i>Picea sitchensis</i>	Sitka spruce	FAC
<i>Polystichum munitum</i>	sword fern	FACU
<i>Ribes laxiflorum</i>	trailing black currant	UPL
<i>Ribes sanguineum</i>	pink-flowering currant	UPL
<i>Rubus spectabilis</i>	salmonberry	FAC+
<i>Rubus ursinus</i>	California blackberry	FAC+
<i>Sambucus racemosa</i>	red elderberry	FACU
<i>Sanicula crassicaulis</i>	Pacific snakeroot	UPL
<b>NATURE TRAIL OPENINGS (e.g., where trail approaches creek crossing north and south of creek)</b>		
<i>Anthoxanthum odoratum</i>	sweet vernal grass	FACU
<i>Aster chilensis</i>	California aster	FAC
<i>Baccharis pilularis</i>	coyote brush	UPL
<i>Bromus carinatus</i>	California brome	UPL
<i>Cortaderia jubata</i>	pampas grass	UPL
<i>Daucus carota</i>	Queen Anne's lace	UPL
<i>Epilobium angustifolium</i>	fireweed	FAC
<i>Fragaria chiloensis</i>	beach strawberry	UPL
<i>Heracleum maximum (=lanatum)</i>	cow parsnip	FACU
<i>Hypochaeris radicata</i>	hairy cat's-ear	UPL
<i>Iris douglasiana</i>	Douglas iris	UPL
<i>Juncus effusus</i>	common rush	FACW+
<i>Lotus corniculatus</i>	bird's-foot trefoil	FAC
<i>Lupinus rivularis</i>	riverbank lupine	FAC
<i>Morella californica</i>	wax myrtle	FAC+
<i>Pinus contorta ssp. contorta</i>	shore pine	NI
<i>Plantago lanceolata</i>	English plantain	FAC-
<i>Rumex acetosella</i>	sheep sorrel	FAC-
<i>Rumex crispus</i>	curly dock	FACW-

<sup>1</sup> OBL = obligate wetland plants with >99% occurrence in wetlands; FACW = facultative wetland plants with 67-99% occurrence in wetlands; FAC = facultative plants with 34-66% occurrence in wetlands; FACU = facultative upland plants with 1-33% occurrence in wetlands; NI = no indicator (insufficient information) for the region; and UPL = obligate upland plants with <1% occurrence in wetlands. An asterisk (\*) next to an indicator ranking indicates a tentative assignment based on limited information. A plus (+) or minus (-) next to an indicator ranking indicates a greater or lesser propensity for that indicator.

## Appendix B: Tables

Species Name	Common Name	Wetland Indicator (for California) <sup>1</sup>
<b>NATURE TRAIL WETLAND AREA (see Section 4.2 and Appendix C for details)</b>		
<i>Alnus rubra</i>	red alder	FACW
<i>Ranunculus repens</i>	creeping buttercup	FACW
<i>Rorippa nasturtium-aquaticum</i>	water cress	OBL
<i>Scirpus microcarpus</i>	small-flowered bulrush	OBL
<i>Stachys ajugoides</i>	Hedgenettle	OBL
<i>Veronica americana</i>	American brooklime	OBL
<b>BYPASS TRAIL FORESTED AREAS</b>		
<i>Alnus rubra</i>	red alder	FACW
<i>Athyrium filix-femina</i>	lady fern	FAC
<i>Carex obnupta</i>	slough sedge	OBL
<i>Claytonia sibirica</i>	Siberian candyflower	OBL
<i>Frangula (=Rhamnus) purshiana</i>	casacara	FACU*
<i>Galium aparine</i>	goose-grass	FACU
<i>Maianthemum dilatatum</i>	false lily-of-the-valley	FAC*
<i>Marah</i> sp.	wild cucumber	UPL
<i>Polystichum munitum</i>	sword fern	FACU
<i>Pteridium aquilinum</i>	bracken fern	FACU
<i>Rubus parviflorus</i>	thimbleberry	FAC+
<i>Rubus spectabilis</i>	salmonberry	FAC+
<i>Rubus ursinus</i>	California blackberry	FAC+
<i>Sambucus racemosa</i>	red elderberry	FACU
<i>Sequoia sempervirens</i>	redwood	UPL
<b>BYPASS TRAIL OPENINGS (e.g., grassland along Murray Road and portions of the Caltrans right-of-way)</b>		
<i>Anthoxanthum odoratum</i>	sweet vernal grass	FACU
<i>Bromus carinatus</i>	California brome	UPL
<i>Geranium dissectum</i>	cut-leaved geranium	UPL
<i>Fragaria chiloensis</i>	beach strawberry	UPL
<i>Pinus radiata</i>	Monterrey pine	UPL
<i>Plantago lanceolata</i>	English plantain	FAC-
<i>Raphanus</i> sp.	wild radish	UPL
<i>Rubus ursinus</i>	California blackberry	FAC+
<i>Rumex acetosella</i>	sheep sorrel	FAC-
<i>Trifolium repens</i>	white clover	FAC
<b>BYPASS TRAIL POTENTIAL WETLAND AREA (see Section 4.2 and Appendix C for details)</b>		
<i>Alnus rubra</i>	red alder	FACW
<i>Carex obnupta</i>	slough sedge	OBL
<i>Frangula (=Rhamnus) purshiana</i>	casacara	FACU*
<i>Rubus spectabilis</i>	salmonberry	FAC+
<i>Rubus ursinus</i>	California blackberry	FAC+
<i>Sambucus racemosa</i>	red elderberry	FACU

## Appendix B: Tables

**Table 4.** Overall list of vascular plant species noted along the "Hole in the Hammond Trail" proposed trail alignments on May 4, 2006. Taxonomy follows Hickman (1993) and/or Kartesz (1994). Species in bold are listed in the California Natural Diversity Database and/or by the California Native Plant Society (CNPS 2006).

<b>TREES</b>		<b>OTHER FLOWERING HERBS (continued)</b>	
<i>Abies grandis</i>	grand fir	<b>Aquifoliaceae – Holly Family</b>	
<i>Alnus rubra</i>	red alder	<i>Hedera helix</i>	English ivy
<i>Frangula (Rhamnus) purshiana</i>	cascara	<b>Asteraceae – Sunflower Family</b>	
<i>Picea sitchensis</i>	Sitka spruce	<i>Aster chilensis</i>	California aster
<i>Pinus contorta</i> ssp. <i>contorta</i>	beach pine	<i>Erechtites</i> sp.	toothed coast fireweed
<i>Pinus radiata</i>	Monterey pine	<i>Hypochaeris radicata</i>	hairy cat's-ear
<i>Sequoia sempervirens</i>	coast redwood	<i>Sonchus oleraceus</i>	common sow thistle
<b>SHRUBS</b>		<b>Brassicaceae – Mustard Family</b>	
<i>Baccharis pilularis</i>	coyote brush	<i>Cardamine oligosperma</i>	western bittercress
<i>Ceanothus</i> sp.	ceanothus	<i>Raphanus</i> sp.	wild radish
<i>Cotoneaster pannosa</i>	cotoneaster	<i>Rorippa nasturtium-aquaticum</i>	water cress
<i>Cytisus scoparius</i>	Scotch broom	<b>Caryophyllaceae – Pink family</b>	
<i>Gaultheria shallon</i>	salal	<i>Cerastium glomeratum</i>	mouse ear chickweed
<i>Lonicera involucrata</i> var. <i>ledebourii</i>	black twinberry	<i>Stellaria media</i>	common chickweed
<i>Lupinus arboreus</i>	yellow bush lupine	<b>Cucurbitaceae – Squash family</b>	
<i>Morella (Myrica) californica</i>	wax myrtle	<i>Marah</i> sp.	wild cucumber
<i>Ribes laxiflorum</i>	trailing black currant	<b>Dipsacaceae – Teasel family</b>	
<i>Ribes sanguineum</i> var. <i>glutinosum</i>	pink-flowering currant	<i>Dipsacus fullonum</i>	wild teasel
<i>Rubus discolor</i>	Himalayan blackberry	<b>Fabaceae – Pea Family</b>	
<i>Rubus parviflorus</i>	thimbleberry	<i>Lotus corniculatus</i>	bird's-foot trefoil
<i>Rubus spectabilis</i>	salmonberry	<i>Lupinus rivularis</i>	riverbank lupine
<i>Rubus ursinus</i>	California blackberry	<i>Trifolium dubium</i>	little hop clover
<i>Sambucus racemosa</i> var. <i>racemosa</i>	red elderberry	<i>Trifolium repens</i>	white clover
<i>Vaccinium ovatum</i>	evergreen huckleberry	<i>Trifolium</i> sp.	clover
		<i>Vicia sativa</i> ssp. <i>sativa</i>	common vetch
<b>FERNS &amp; ALLIES (ferns, horsetails, spike- &amp; club-mosses)</b>		<b>Geraniaceae – Geranium Family</b>	
<i>Athyrium filix-femina</i>	lady fern	<i>Erodium</i> sp.	stork's-bill
<i>Blechnum spicant</i>	deer fern	<i>Geranium dissectum</i>	cut-leaved geranium
<i>Equisetum telmateia</i> ssp. <i>braunii</i>	giant horsetail	<b>Iridaceae – Iris Family</b>	
<i>Polystichum munitum</i>	sword fern	<i>Iris douglasiana</i>	Douglas iris
<i>Pteridium aquilinum</i> var. <i>pubescens</i>	western bracken fern	<b>Lamiaceae – Mint Family</b>	
		<i>Stachys ajugoides</i>	hedge nettle
<b>GRASSES &amp; GRAMINOIDS (grasses, sedges, rushes)</b>		<b>Liliaceae – Lily Family</b>	
<i>Anthoxanthum odoratum</i>	sweet vernal grass	<i>Disporum smithii</i>	Smith's fairy bells
<i>Avena</i> sp.	wild oat	<i>Maianthemum dilatatum</i>	false lily-of-the-valley
<i>Briza maxima</i>	large rattlesnake grass	<i>Narcissus</i> sp.	daffodil
<i>Bromus carinatus</i>	California brome	<b>Onagraceae – Evening Primrose Family</b>	
<i>Bromus diandrus</i>	ripgut grass	<i>Epilobium angustifolium</i> var. <i>circumvagum</i>	red fireweed
<i>Carex deweyana</i> ssp. <i>leptopoda</i>	short-scaled sedge	<i>Epilobium ciliatum</i>	northern willow herb
<i>Carex obnupta</i>	slough sedge	<b>Papaveraceae – Poppy Family</b>	
<i>Cortaderia jubata</i>	jubata grass	<i>Dicentra formosa</i>	Pacific bleeding heart
<i>Holcus lanatus</i>	common velvet grass	<b>Plantaginaceae – Plantain Family</b>	
<i>Juncus effusus</i>	common rush	<i>Plantago lanceolata</i>	English plantain
<i>Luzula comosa</i>	common wood rush	<b>Polygonaceae – Buckwheat Family</b>	
<i>Poa annua</i>	annual bluegrass	<i>Rumex acetosella</i>	sheep sorrel
<i>Poa</i> sp.	bluegrass	<i>Rumex crispus</i>	curly dock
<i>Scirpus microcarpus</i>	small-flowered bulrush	<b>Portulacaceae – Purslane Family</b>	
<i>Scirpus</i> sp.	bulrush	<i>Claytonia sibirica</i>	candy flower
<i>Trisetum cernuum</i>	nodding trisetum	<b>Ranunculaceae – Buttercup Family</b>	
		<i>Ranunculus repens</i>	creeping buttercup
<b>OTHER FLOWERING HERBS (by family)</b>		<b>Rosaceae – Rose Family</b>	
<b>Apiaceae – Carrot Family</b>		<i>Fragaria chiloensis</i>	beach strawberry
<i>Daucus carota</i>	Queen Anne's lace	<b>Rubiaceae – Madder Family</b>	
<i>Heracleum lanatum</i>	cow parsnip	<i>Galium aparine</i>	goose grass
<i>Sanicula crassicaulis</i>	Pacific snakeroot	<i>Galium</i> sp.	bedstraw
<b>Araceae – Arum Family</b>		<b>Scrophulariaceae – Figwort Family</b>	
<i>Lysichiton americanum</i>	skunk cabbage	<i>Digitalis purpurea</i>	foxglove
		<i>Scrophularia californica</i>	California figwort
		<i>Veronica americana</i>	American brooklime

**Appendix C: Photographs**

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**Photo 1.** Trailing black currant (*Ribes laxiflorum*) along the proposed Nature Trail on the north side of Widow White Creek. The species is listed as “uncommon” in California (CNPS List 4). Date of photo: May 4, 2006.

**Appendix C: Photographs**

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**Photo 2.** A portion of the relatively large patch of trailing black currant (*Ribes laxiflorum*) along the proposed Nature Trail on the north side of Widow White Creek. (NOTE: Only a portion of the patch is seen here.) California blackberry (*Rubus ursinus*) is intermingled with the currant. Date of photo: May 4, 2006.

**Appendix C: Photographs**

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**Photo 3.** A potential wetland on the Bypass Trail that should be investigated further by the County. Dominant vegetation in this area includes slough sedge (*Carex obnupta*), California blackberry (*Rubus ursinus*), salmonberry (*R. spectabilis*), cascara (*Frangula purshiana*), red alder (*Alnus rubra*), and elderberry (*Sambucus racemosa*). Trailing black currant (*Ribes laxiflorum*), a CNPS List 4 species, was also found in this area. Date of photo: May 4, 2006.

**Appendix C: Photographs**

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**Photo 4.** A three parameter wetland below the ordinary high water line on the Nature Trail crossing of Widow White Creek. Dominant vegetation in this area includes the wetland-oriented (apparent in photograph) small-flowered bulrush (*Scirpus microcarpus*) and water cress (*Rorippa nasturtium-aquaticum*) as well as (not readily apparent in photograph) creeping buttercup (*Ranunculus repens*), American brooklime (*Veronica americana*), hedgenettle (*Stachys ajugoides*), and other species. Soils in this area exhibited hydric characteristics (organic pan layer). Photograph was taken looking downstream (on left bank) on May 4, 2006.

**Appendix C: Photographs**



**Photo 5.** View from the potential three parameter wetland on the left bank of Widow White Creek looking across the creek. The proposed Nature Trail footbridge will be placed above the log seen on the right bank, which is above the ordinary high water line (the potential wetland is located below the ordinary high water line). See Photo 6 for proposed footbridge placement on the other side of the creek. Date of photo: May 4, 2006.

**Appendix C: Photographs**



**Photo 6.** View from the potential three parameter wetland on the left bank of Widow White Creek looking up the bank above the ordinary high water line where the proposed Nature Trail footbridge will be placed. Note that the proposed footbridge placement will not impact the wetland. See Photo 5 for proposed footbridge placement on the other side of the creek. Date of photo: May 4, 2006.

Mail to:  
 California Natural Diversity Database  
 Department of Fish and Game  
 1807 13<sup>th</sup> Street, Suite 202  
 Sacramento, CA 95814  
 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

*For Office Use Only*

Source Code \_\_\_\_\_ Quad Code \_\_\_\_\_  
 Elm Code \_\_\_\_\_ Occ. No. \_\_\_\_\_  
 EO Index No. \_\_\_\_\_ Map Index No. \_\_\_\_\_

Date of Field Work mm/dd/yyyy: 05/04/2006

**Reset**

## California Native Species Field Survey Form

**Send Form**

**Scientific Name:** Ribes laxiflorum

**Common Name:** trailing black currant

**Species Found?**  Yes  No \_\_\_\_\_ If not, why? \_\_\_\_\_

Total No. Individuals ? Subsequent Visit?  yes  no  
 Is this an existing NDDDB occurrence?  no  unk.  
 Yes, Occ. # \_\_\_\_\_

Collection? If yes: \_\_\_\_\_  
 Number \_\_\_\_\_ Museum / Herbarium \_\_\_\_\_

**Reporter:** Melissa Brooks Kraemer, NRM Corp.  
**Address:** 1434 Third Street  
Eureka, CA 95501  
**E-mail Address:** botany@nrmcorp.com  
**Phone:** (707) 269-1382

**Plant Information**

Phenology: 98 % vegetative 2 % flowering 0 % fruiting

**Animal Information**

# adults  # juveniles  # larvae  # egg masses  # unknown   
 breeding wintering burrow site rookery nesting other

**Location Description (please attach map AND/OR fill out your choice of coordinates, below)**

County: Humboldt Landowner / Mgr.: private  
 Quad Name: Arcata North Elevation: 40 ft.  
 T 7N R 1E Sec 30, \_\_\_\_\_ ¼ of SW ¼, Meridian:  H  M  S  Source of Coordinates (GPS, topo. map & type): \_\_\_\_\_  
 T \_\_\_\_\_ R \_\_\_\_\_ Sec \_\_\_\_\_, \_\_\_\_\_ ¼ of \_\_\_\_\_ ¼, Meridian:  H  M  S  GPS Make & Model \_\_\_\_\_  
 Datum:  NAD27  NAD83  WGS84  Horizontal Accuracy \_\_\_\_\_ meters/feet  
 Coordinate System: UTM Zone 10  UTM Zone 11  OR Geographic (Latitude & Longitude)   
 Coordinates: Easting/Longitude \_\_\_\_\_ Northing/Latitude \_\_\_\_\_

**Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):**  
 Occ.#1: Sitka spruce forest in lower Widow White Crk. watershed; patch size/# pls not estimated, but probably ~150-200 sq ft. Canopy partially open. Dominants/assoc.: Sitka spruce, red alder, cascara, Rubus ursinus, Maianthemum dilatatum, Polystichum munitum, Athyrium filix-femina, and others. Soils mapped as Arcata loam (McLaughlin & Harradine 1965). Occ#2: Red alder forest in Caltrans ROW off of Hwy 101; only a few pls noted, but more may be present in surrounding are, which wasn't surveyed. Closed canopy. Dom/assoc.: red alder, cascara, Carex obnupta, Rubus spectabilis, Sambucus racemosa. Note: Occurrences may be within 1/4 mile of one another  
 Other rare taxa seen at THIS site on THIS date: None

**Site Information** Overall site quality:  Excellent  Good  Fair  Poor  
 Current / surrounding land use: private  
 Visible disturbances: None  
 Threats: County is proposing to build an extension of the Hammond Trail alignment in this area. At most, a portion of occ. #1 and all of occ. #2 will be impacted.  
 Comments: Site quality ranking above refers to occ. #1; occ. #2 is rates as fair to poor. The report recommended avoidance/minimization of impacts for occ. #1. Occ. #2 likely will be impacted by trail construction.

**Determination:** (check one or more, and fill in blanks)

Keyed (cite reference): The Jepson Manual  
 Compared with specimen housed at: \_\_\_\_\_  
 Compared with photo / drawing in: \_\_\_\_\_  
 By another person (name): \_\_\_\_\_  
 Other: \_\_\_\_\_

**Photographs:** (check one or more)

Slide	Print	Digital
Plant / animal	<input type="checkbox"/>	<input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense?  yes  no

**APPENDIX D**  
**Archaeological Report**

**An Archaeological Investigation of the Proposed Hammond Trail,  
Located in Humboldt County, California.**

**Prepared for  
The Redwood Community Action Agency**

**Prepared by**

**Steve Hilton  
&  
James Roscoe**

**Roscoe & Associates  
Consulting Archaeologists  
3340 Montgomery Street  
Eureka, CA. 95503  
(707) 443-2646  
May 1995**

## Introduction

This report documents the background, methods, and results of an archaeological field reconnaissance and pre-field record search performed for the proposed Hammond trail from Murray Road to Clam Beach County Park. The investigation was undertaken at the request of the Redwood Community Action Agency, subsequent to a determination that the project area was within an archaeologically sensitive zone. The field investigation of the proposed project area was completed by Erik Whiteman, James Roscoe, and Steve Hilton, on April 20 and May 7, 1995. The purposes of the archaeological investigation were (1) to locate and identify cultural resources within the boundaries of the parcel; (2) to determine potential adverse impacts to project area cultural resources resulting from project implementation; (3) to perform preliminary evaluations of site significance and propose appropriate recommendations for mitigation of adverse impacts if necessary.

## Project Location and Description

As shown on the Arcata North, California, U.S.G.S., 7.5 minute series (1969) topographic quadrangle map, the project area is a linear corridor that begins at the foot of Murray Road and ends at the Clam Beach County Park immediately northwest of the Arcata-McKinleyville Airport (see Map 1). Vegetation noted during the field survey included an overstory of mixed conifer and hardwoods with an understory of brush and mixed grasses and forbes. Much of the southern portion of the trail will be constructed along the old railroad grade of the Little River Railroad. The northern portion of the trail climbs up from the old railroad grade and then runs north-south along the west side of State Highway 101.

## Investigation Methods

The background research for this project included an examination of the archaeological site records, maps, and project files of the Northwest Regional Information Center of the California Archaeological Inventory, located at Sonoma State University, Rohnert Park, California. This record search which updated the author's base maps and site records for the project area was completed on April 20, 1995 by Information Center staff (file # 60800-95-132). The Regional Information Centers have been established by the California Office of Historic Preservation as

the local repository for all archaeological reports which are prepared under cultural resource management regulations. The background literature search at the appropriate Regional Information Center is required by state guidelines and current professional standards. Following completion of the project, a copy of the report also must be deposited with that organization. The literature search is undertaken to determine if there are any previously recorded archaeological resources or historic structures within the project area, and whether the area has been included within any previous archaeological research or reconnaissance projects. Following this records search, ethnographic and historic published and unpublished documents pertaining to the project area were also reviewed at the office of the authors.

Following the pre-field research, a complete intensive archaeological field reconnaissance of the project area was conducted. During this field survey the entire trail route was walked in a transect approximately 20 meters wide by the above mentioned experienced three person team. Where heavy ground cover was present, hand tools were used to clear away small sections of the obscuring vegetation so that a clear view of the ground surface could be obtained. This field survey met the standards of an intensive general surface reconnaissance as defined by King, Moratto, and Leonard (1973).

#### Ethnographic Background and Land-use

The project area is located within the ethnographic territory of the Wiyot Indians. The Wiyot at the time of White contact were divided into three principal groups, speaking a mutually intelligible language which differed markedly from the Athabaskan languages to the east and south and the Yurok language to the north. Although Yurok and Wiyot are both considered by linguists to be Algonquian languages, they are not closely related. A speaker of Wiyot can not understand the speech of a Yurok. The three subdivisions of the Wiyot were (1) the Patawat, who lived in the villages on the lower Mad River, (2) the Wiki on Humboldt Bay, and (3) the Wiyot along the lower Eel River (Elsasser 1978). It is the name of the Eel River division which is now used exclusively in accounts pertaining to the entire group.

With a population numbering somewhere between a low estimate of 1,000 by Kroeber (1925) and a high estimate of 3,300 by Cook (1956), the

Wiyot lived almost exclusively in villages along the protected shores of Humboldt Bay and near the mouths of the Eel and Mad Rivers. Villages consisted of dwellings which were rectangular in plan, made from split redwood planks. Associated with most Wiyot villages was a sweathouse used by Wiyot men for sleeping, gambling, and ceremony. With these villages as their base, the Wiyot were able to hunt and gather a wide variety of plant and animal resources within their territory. Mollusks, sea lions, and stranded whales were among the ocean resources utilized by the Wiyot, white deer, elk, and acorns constituted more important land resources. Perhaps the most important protein source for the Wiyot were the yearly anadromous fish runs on the Eel and Mad rivers, during which the Wiyot were able to smoke and store enough salmon to last through the winters when other food resources were not as abundant.

Although the Wiyot had contacts with White explorers and fur trappers prior to the California Gold Rush, it was this monumental event that was to change the character of northwestern California forever and lead to the decimation and displacement of the Wiyot in the short course of 15 years. From 1850 to 1865, the territory of the Wiyot became the center for the largest concentration of Whites in California north of San Francisco, due to the use of Humboldt Bay as a shipping point to the mines, the establishment of a redwood timber industry, and the home-steading of the Eel River and Arcata bottoms for ranching and farming purposes. The whites who came into Humboldt County in the 1850's, and 1860's were not known for their tolerance toward cultures other than their own, and many came from areas to the east where Indians were feared and hated. Soon after the first White settlements were established on Humboldt Bay, the Wiyot population was decimated by Euro-American violence and introduced diseases. Those who did not die from these causes were displaced from their villages (often located on the best plots of land) and driven to distant reservations or marginal lands within the Humboldt Bay region.

Ethnographic and archaeological data collected by L.L. Loud (1918) for Wiyot territory provides the best published record of prehistoric landuse of the project area. As shown on Map 4, Loud (1918; Plate 1) identified a number of Wiyot habitation and resource procurement sites near the present study area. The closest to the project area was a habitation area Loud recorded on the southern bank of Widow White Creek approximately one quarter of a mile from its mouth. This habitation area which is listed in his monograph as site 3, and at the Northwest

Information Center as CA-HUM-3, was described by Loud as a site unoccupied within living Wiyots memory. Loud stated that due to time constraints, no further inquiries were made. There were few archaeological materials apparent when Loud recorded the site in 1914.

### Historic Overview

Early exploration along the northern coast of California included ships under the British, Spanish, and Russian flags, with the first recorded landing at Trinidad by the Spanish in 1775. Captain Jonathan Winship, master of the ship "O'Cain" and under contract with the Russian-American Company, entered Humboldt Bay in 1806 with Aleut hunters in search of sea otters. Finding the hunting poor, their stay was short and it was another 43 years before the Bay was "rediscovered" by a land party in December 1849. Under the leadership of Dr. Josiah Gregg, the party of eight, which included L.K. Wood who left record of the expedition, came westward from the mining district on the North Fork Trinity River in search of Trinidad Bay. After an arduous journey, the party reached the coast near Little River after a short excursion northward, turned back and proceeded down the coast, eventually reaching the shores of Humboldt Bay (Lewis, 1943). Wood's narrative describes the party's encounter with Mad River:

Little River was soon recrossed after which nothing occurred to interrupt our progress until we reached another stream which was then a large river being swollen by the heavy rains. Its banks ran full and its waters near the mouth appeared deep and moved so slowly and gently that we concluded that it must be a navigable stream. Our next difficulty was to cross this river. Here the harmony that had existed for so short a time was again disturbed. The Doctor wished to ascertain the latitude of the mouth of the river, in order hereafter to know where it was. This was of course opposed by the rest of the company. Regardless of this opposition he proceeded to take his observation. We were equally obstinate in adhering to the determination of proceeding without delay. Thus decided, our animals were speedily crossed over and our blankets and ourselves placed in canoes--which we had procured from the Indians for this purpose--ready to cross. As the canoes were about to push off, the Doctor, as if convinced that we would carry our determination into effect and he be left behind, hastily caught up his

instruments and ran for the canoe, to reach which, however, he was compelled to wade several steps in the water. His cup of wrath was now filled to the brim; but he remained silent until the opposite shore was gained, when he opened upon us a perfect battery of the most withering and violent abuse. Several times during the ebullition of the old man's passion he indulged in such insulting language and comparisons that some of the party, at best not too amiable in their disposition, came very near inflicting upon him summary punishment by consigning him, instruments and all, to his beautiful river. Fortunately for the old gentleman pacific councils prevailed and we were soon ready and off again. This stream in commemoration of the difficulty I have just related we called Mad River (Lewis, 1966 pp.134,135)

With the party's arrival in Sonoma County, without Dr. Gregg, who perished on the trip, news spread quickly about the Bay and the first settlement companies reached its shores in April 1850. The towns of Union (Arcata) and Eureka were established on the Bay along with a number of outlying communities. On lower Mad River, the bottomland provided rich soils for growing grains and potatoes, the first agricultural products of the area; in time, however, cultivated crops gave way to the dairy industry, which continues as a major land-use in the Bottom.

Mad River was an important part of this area's daily life: it flooded periodically, it had to be crossed to go up the coast or inland to Trinity, it had a significant fishery, and its banks were lined with a dense forest of immense trees. A description of the lower river in 1878 is found in a local newspaper:

Mad River runs in a northwesterly direction and empties into the Pacific Ocean about a mile north of the sloughs of Humboldt Bay. The first three miles of the south side of the river from its mouth is what might truly be termed river bottom land, very rich and mostly covered with goose thimble and salmonberry brush, willow, dogwood, and a few spruces interspersed (enough of either to make a full crop in any other country) though there are some fine farms under cultivation in this section. This portion is a part of what is commonly called Arcata Valley.

The next sixteen miles up the river on the south side is redwood

timber, with the exception of a few small farms. The belt extends to the tops of the ridges, which on an average are about four miles, making about sixty-four square miles of redwood timber yet to be rolled into Mad river from the south. The next sixteen miles up the river on the same side are fir and mountain oak, but only extends about two miles back....

The first three miles on the north side of the river from its mouth is a strip of land averaging about one-half mile in width of excellent quality covered with the same growth as the south side opposite with the exception of three or four cultivated farms....

Sixteen miles further up the stream will embrace first the Lindsey creek tributary, the mouth of which one of Humboldt county's enterprising citizens dammed thereby forming a large basin of water for logging purposes. At this place he has his shingle and sawmills and machinery for hauling up logs for loading his cars which are taken by a genuine locomotive over his own iron road some four miles down the river on the north side, then it crosses the stream on a substantial bridge runs one mile further to the tidewater of Humboldt Bay.

This Lindsey creek is about eight miles long and runs in a southeasterly direction. Its watershed is almost entirely covered with redwood timber and embraces thirty-two miles. The next order is the North Fork of Mad river which also runs in a south-easterly direction and empties into the main river about six miles above Lindsey Creek...(Daily Standard, 19 Jan. 1878).

By the 1870's the vast quantities of redwood timber surrounding Humboldt Bay were beginning to be logged on a massive scale. By the turn of the century hundreds of miles of railroads had been built to efficiently remove redwood logs from the woods to the mills.

A segment of the proposed Hammond trail follows the route of the Little River Railroad Company's tracks. The railroad was heavily used during the 1930's and 1940's. In the book "Steam in the Redwoods" written by Lynwood Carranco and Henry L. Sorensen the authors summarize the history of the redwood logging railroads in Humboldt County, and give an account of the Little River Railroad Company, which follows;

"In September 1922, the town of Bullwinkle was renamed Crannell in honor of Levi Crannell, a Canadian who was president of the Little River Redwood Company. In 1930 the Little River Redwood Company purchased the Humboldt Northern Railway from the Dolbeer and Carson Lumber Company. In 1929 the Little River Redwood Company built a railroad west from Crannell, crossing over Highway 101 to the ocean beach, then south along the beach to connect with the old line of the Humboldt Northern Railway. The former Carson line through McKinleyville was abandoned. After buying the Humboldt Northern Railway, the Little River Redwood Company used the NWP railroad through Samoa and the Jetty railroad south from Carson's Landing (formerly Cole's Landing) to Fairhaven where the company built a remanufacturing plant (on the land of the former Rolph shipyards (Carranco and Sorensen 1988: 58).

In 1930 the Little River Redwood Company had financial problems. Although the company had a huge sawmill at Crannell, thousands of acres of redwood timberlands, a planing mill and docks at Fairhaven, and two steamships, the investment ran up huge liabilities. From 1924 to 1931, the company had lost \$4 million. Facing the possibility of bankruptcy, the Little River Redwood Company merged with the Hammond Lumber Company whose interests controlled the two firms. The Hammond and Little River Redwood Company Ltd. was incorporated February 24, 1931, but in 1936 the name was again changed to the Hammond Redwood Company. The merger added twenty miles of logging railroad and seven locomotives to the Hammond logging railroad.

The Crannell Mill closed down on July 21, 1931, and many of the men were transferred to Samoa and to the woods operations. Although the Hammond operating rights from Little River Junction to Samoa were terminated on September 14, the trains of the Hammond and Little River Redwood Company had started hauling logs over its Humboldt Northern line to Samoa on August 12, 1931.

Although the Little River Mill at Crannell was closed down, the town became the headquarters for the railroad and woods crews. From 1934 to 1945, trains made as many as three trips

daily from Crannell to the log dump at the Samoa Mill, bringing from 120 to 140 cars loaded with logs.

In 1945 a big forest fire destroyed twenty-three bridges in the Hammond woods and stopped logging operations. Trucks were introduced at this time and the railroads were never repaired. On August 23, 1948 the logging trains made their last runs beyond Crannell. Because of the fire damage to the logging railroad in 1945, the company in 1947 began to concentrate on road construction to use trucks. The Crannell Camp was gradually phased out and replaced by the Big Lagoon Camp where an eighty acre log pond was built, capable of holding fifteen million board feet of logs.

On Thursday, May 24, 1956 the Hammond Lumber Company was sold to the Georgia-Pacific Corporation (G-P) of Atlanta, Georgia for \$80 million. The redwood operations were owned by Hammond-California Redwood Company, a wholly-owned subsidiary of G-P. The first diesel-electric locomotive was put into service on July 25, 1950, but in 1961 the Georgia-Pacific Corporation at Samoa (now Louisiana-Pacific) discontinued its mainline haul. Trucks now carry logs from the woods to the log dump in Samoa. The track from Crannell to Fishers Siding was dismantled in the summer of 1963 (Carranco and Sorensen, 1988).

## Results

During the survey of the proposed Hammond Trail several features of the former Little River Railroad were encountered. From the section of railroad grade at the end of Murray Road to where the proposed trail route leaves the old railroad grade and climbs to the terrace west of Highway 101, several sections of intact railroad ties were noted as well as two iron rails downslope of the grade which had not been salvaged with the rest of the rails in the 1960's. A flume which had been used to water the steam engines on the Little River Line was located just north of the northern end of Letz Avenue. The location is shown on the Arcata North USGS quadrangle (Map 1). All that was visible of the flume at the time of the survey was a ditch running east-west across the trail route and two concrete footings at the edge of the ocean bluff to the west of the trail route.

Since Loud recorded CA-HUM-3, the mouth of the Mad River has moved to the north slightly over two miles. The streambed of the Mad River now flows over the area where Loud had recorded the location of CA-HUM-3. The archaeological survey of the Hammond Trail Route confirmed that any archaeological deposits which may have once existed near the former mouth of Widow White Creek had undoubtedly been destroyed by erosion resulting from the shifting of the mouth of the Mad River to the north.

### Conclusions and Recommendations

No evidence of prehistoric archaeological materials were discovered within the proposed route of the Hammond Trail. A portion of the Little River Railroad Grade will be utilized for the trail route. The upper layer of gravel ballast of the railroad bed will be regraded and outsloped with heavy equipment and the trail tread constructed on top. Less than one quarter mile of the railroad grade will be reconstructed. The Redwood Community Action Agency plans to install several interpretive signs along the trail and at least one of them will include a description of the Little River Railroad and its history.

Because no significant cultural resources will be destroyed by the proposed trail construction, no further studies are recommended at this time. The construction of the Hammond Trail on top of a section of the Little River Railroad Grade is not considered a negative impact because at present the grade is overgrown with brush and unused and the construction of the trail with interpretive signs is an excellent reuse of this cultural resource.

Although no cultural resources are likely to be discovered during construction of the Hammond Trail there is the remote possibility that buried archaeological materials may be uncovered by future work involving subsurface impacts. Should concentrations of archaeological materials be encountered during such operations, all ground-disturbing work should be temporarily halted and shifted to another area. Work near the archaeological finds should not be resumed until a qualified archaeologist has evaluated the materials and offered recommendations for further action.

Prehistoric materials which could be encountered include: obsidian or chert flakes or tools, locally darkened midden soils, groundstone artifacts, deposits of shell, dietary bone, and human burials. Should human remains be encountered during future ground disturbing activities within the project area, State law requires that the County Coroner be contacted immediately. Should the Coroner determine that the remains are likely those of a Native American, he or she must contact the California Native American Heritage Commission. The Heritage Commission consults with the most likely Indian descendants from the area to determine appropriate treatment of the remains.

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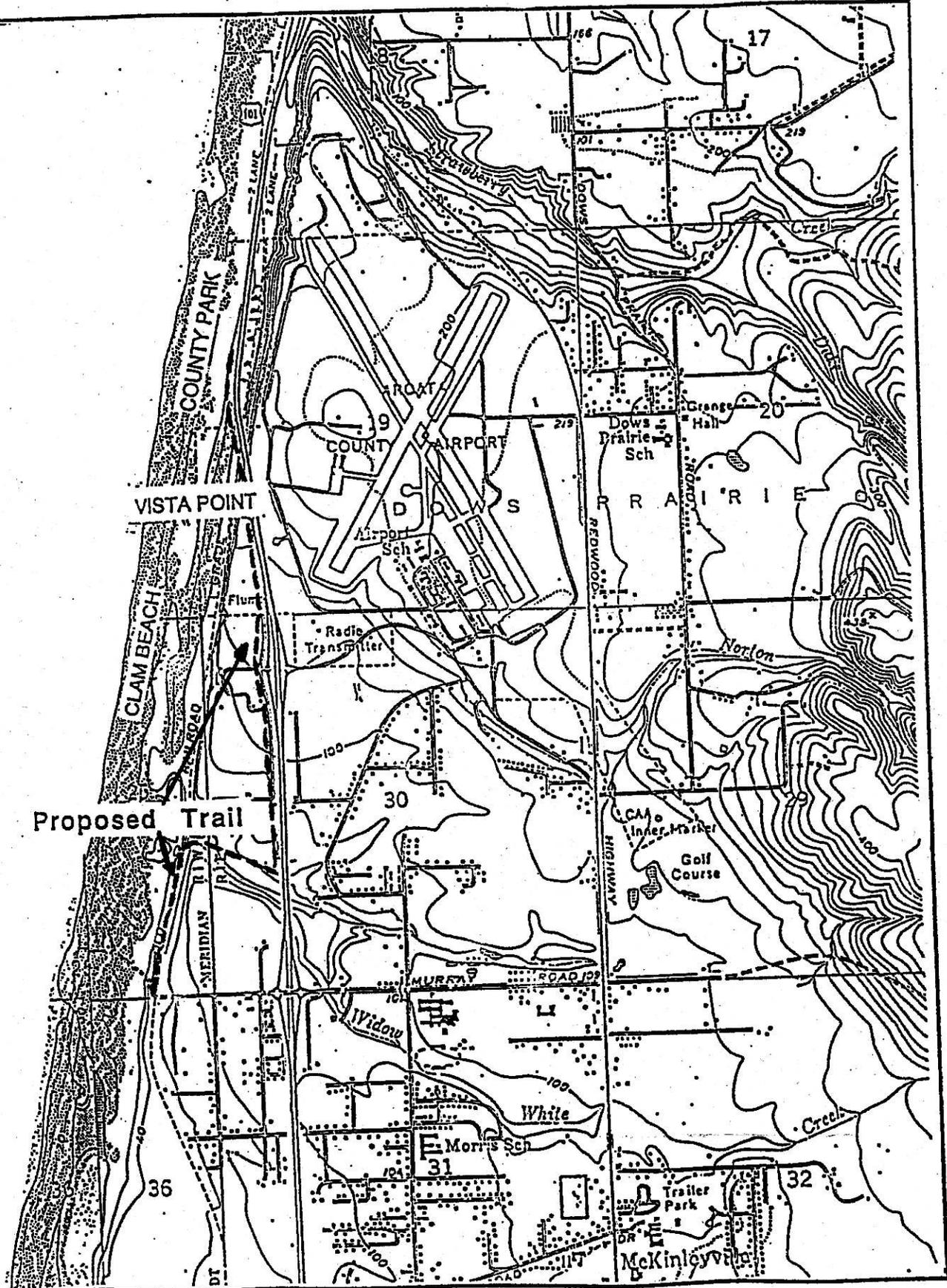
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# PROPOSED HAMMOND TRAIL ROUTE



**APPENDIX E**  
**CEQA Checklist**

**ENVIRONMENTAL CHECK LIST FORM**

1. Project Title: Widow White Creek Interpretive Trail Section
2. Lead Agency Name and Address: Humboldt County Department of Public Works  
1106 Second Street  
Eureka, CA 95501
3. Contact Person and Phone Number: Kirsten Ramey 707-445-7741
4. Project Location: McKinleyville, Humboldt County, California
5. Project Sponsor's Name and Address: Humboldt County Department of Public Works  
1106 Second Street  
Eureka, CA 95501

6. General Plan 511-401-12: Residential Estates  
Designation: 511-011-19: Commercial Recreational, Residential Estates  
511-011-08: Commercial Recreational
7. Zoning: 511-401-12: RS-20/AP, G, A, F, N, R  
511-011-19: CR/AP, F, R; RS-20/AP, G, A, F, N, R  
511-011-08: CR/AP, F, R

Designations:

RS-20	Residential Single Family Use (min 20,000 ft <sup>2</sup> )
CR	Commercial Recreational
A	Archaeological Resources Area
AP	Airport Safety Review
F	Flood Hazard Area
G	Geologic Hazard Area
N	Noise Impact
R	Stream and Riparian Corridor Protection

8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

The Hammond Trail currently consists of two discontinuous segments, with the southern segment extending from the Mad River to Murray Road and the northern segment extending from Letz Avenue to Clam Beach County Park. The gap between the trail segments is known locally as the "Hole in the Hammond." The proposed project would connect the two segments with a pedestrian-only interpretive trail along Widow White Creek, which would enable continuous travel between the Mad River and Clam Beach County Park (approximately 5.5 miles).

9. Surrounding Land Uses and Setting. Briefly describe the project's surroundings:

The general setting for the proposed project is the riparian corridor of Widow White Creek located between State Highway 101 and the Pacific Ocean. Elevation ranges from  $\pm$  30 to 80 feet above sea level with flat to sloping topography. Vegetation within the project corridor is primarily semi-mature to mature riparian forest.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement).

The California Coastal Conservancy is funding the proposed project. A Coastal Development Permit will be required from the Humboldt County Planning Department. A Streambed Alteration Agreement may be required from the California Department of Fish and Game. A Stormwater Discharge Permit for construction activities > 1 acre will be required from the North Coast Regional Water Quality Control Board.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- |                                      |                              |                               |
|--------------------------------------|------------------------------|-------------------------------|
| v Land Use and Planning              | v Transportation/Circulation | v Public Services             |
| ρ Population and Housing             | v Biological Resources       | ρ Utilities & Service Systems |
| v Geological Problems                | ρ Energy & Mineral Resources | v Aesthetics                  |
| v Water                              | ρ Hazards                    | ρ Cultural Resources          |
| ρ Air Quality                        | v Noise                      | v Recreation                  |
| ρ Mandatory Findings of Significance |                              |                               |

DETERMINATION

On the basis on this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

**v I find that, although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared.**

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a “potentially significant impact” or “potentially significant unless mitigated.” An ENVIRONMENTAL IMPACT REPORT is required, but must analyze only the effect that remains to be addressed.

I find that, although the proposed project could have a significant effect on the environment, there will NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.

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**Signature**

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**Date**

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**Printed Name**

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**For**

**EVALUATION OF ENVIRONMENTAL IMPACTS:**

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards.
2. All answers must take account of the whole action involved, including off-sites as well as on-site, cumulative as well as project-level, indirect, and construction as well as operational impacts.
3. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect is significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, and EIR is required.
4. “Potentially Significant Unless Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less than Significant Impact”. The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, “Earlier Analysis”, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, and effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). Earlier analyses are discussed in Section XVII at the end of the checklist.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. See the sample question below. A source list should be attached and other sources used or individual contacts should be cited in the discussion.
7. This is only a suggested form, and lead agencies are free to use different ones.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>I. AESTHETICS.</b> Would the project:				
a) Have a substantial adverse effect on a scenic vista?	ρ	ρ	ρ	v
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	ρ	ρ	ρ	v
c) Substantially degrade the existing visual character or quality of the site and its surroundings?  (See Initial Study for discussion)	ρ	ρ	v	ρ
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	ρ	ρ	ρ	v
<b>II. AGRICULTURE RESOURCES.</b> 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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	ρ	ρ	ρ	v
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	ρ	ρ	ρ	v
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	ρ	ρ	ρ	v

**III. 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. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	ρ	ρ	ρ	v
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	ρ	ρ	ρ	v

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	ρ	ρ	ρ	v
d) Expose sensitive receptors to substantial pollutant concentrations?	ρ	ρ	ρ	v
e) Create objectionable odors affecting a substantial number of people?	ρ	ρ	ρ	v

<b>IV. BIOLOGICAL RESOURCES.</b> 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 Game or U.S. Fish and Wildlife Service?	ρ	v	ρ	ρ
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(See Initial Study for discussion)

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	ρ	ρ	v	ρ
---	---	---	---	---

(See Initial Study for discussion)

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?  (See Initial Study for discussion)	ρ	v	ρ	ρ
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?  (See Initial Study for discussion)	ρ	ρ	v	ρ
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	ρ	ρ	ρ	v
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?	ρ	ρ	ρ	v

**V. CULTURAL RESOURCES.** Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in . 15064.5?	ρ	ρ	ρ	v
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to . 15064.5?	ρ	ρ	ρ	v

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature? (See Initial Study for discussion)	ρ	ρ	ρ	v
d) Disturb any human remains, including those interred outside of formal cemeteries? (See Initial Study for discussion)	ρ	ρ	ρ	v

<b>VI. GEOLOGY AND SOILS.</b> Would the project:
--

a) Expose people or structures to 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. (See Initial Study for discussion)	ρ	ρ	ρ	v
ii) Strong seismic ground shaking? (See Initial Study for discussion)	ρ	ρ	ρ	v
iii) Seismic-related ground failure, including liquefaction? (See Initial Study for discussion)	ρ	ρ	ρ	v
iv) Landslides?	ρ	ρ	ρ	v
b) Result in substantial soil erosion or the loss of topsoil? (See Initial Study for discussion)	ρ	v	ρ	ρ

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	ρ	ρ	ρ	v
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?	ρ	ρ	ρ	v
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	ρ	ρ	ρ	v

<b>VII. HAZARDS AND HAZARDOUS MATERIALS.</b> Would the project:
---

a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	ρ	ρ	ρ	v
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?	ρ	ρ	ρ	v

Exhibit 4: CEQA Documentation

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?	ρ	ρ	ρ	v
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code . 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	ρ	ρ	ρ	v
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	ρ	ρ	ρ	v
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	ρ	ρ	ρ	v
g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	ρ	ρ	ρ	v

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	ρ	ρ	ρ	v

<b>VIII. HYDROLOGY AND WATER QUALITY.</b> Would the project:
--

a) Violate any water quality standards or waste discharge requirements?	ρ	v	ρ	ρ
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(See Initial Study for discussion)

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	ρ	ρ	ρ	v
---	---	---	---	---

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	ρ	ρ	v	ρ
--	---	---	---	---

(See Initial Study for discussion)

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	ρ	ρ	ρ	v
e) 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?	ρ	ρ	ρ	v
f) Otherwise substantially degrade water quality?	ρ	v	ρ	ρ
(See Initial Study for discussion)				
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	ρ	ρ	ρ	v
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	ρ	ρ	ρ	v
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam?	ρ	ρ	ρ	v
j) Inundation by seiche, tsunami or mudflow?	ρ	ρ	ρ	v

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>IX. LAND USE AND PLANNING.</b> Would the project:				
a) Physically divide an established community?	ρ	ρ	ρ	v
b) Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?  (See Initial Study for discussion)	ρ	ρ	ρ	v
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	ρ	ρ	ρ	v
<b>X. MINERAL RESOURCES.</b> 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?	ρ	ρ	ρ	v
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?	ρ	ρ	ρ	v
<b>XI. NOISE.</b> Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?	ρ	ρ	ρ	v

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	ρ	ρ	ρ	v
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?  (See Initial Study for discussion)	ρ	ρ	v	ρ
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?  (See Initial Study for discussion)	ρ	ρ	v	ρ
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?	ρ	ρ	ρ	v
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	ρ	ρ	ρ	v

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XII. POPULATION AND HOUSING.</b> Would the project:				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	ρ	ρ	ρ	v
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	ρ	ρ	ρ	v
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	ρ	ρ	ρ	v
<b>XIII. PUBLIC SERVICES.</b> 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 following public services:				
a) Fire protection?	ρ	ρ	ρ	v
b) Police protection?	ρ	ρ	ρ	v
c) Schools?	ρ	ρ	ρ	v
d) Parks?	ρ	ρ	ρ	v
e) Other public facilities?	ρ	ρ	v	ρ
(See Initial Study for discussion)				
<b>XIV. RECREATION.</b>				

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	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?  (See Initial Study for discussion)	ρ	ρ	v	ρ
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?	ρ	ρ	ρ	v

<b>XV. TRANSPORTATION/TRAFFIC.</b> Would the project:
---

a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	ρ	ρ	ρ	v
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	ρ	ρ	ρ	v
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	ρ	ρ	ρ	v

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	ρ	ρ	ρ	v
e) Result in inadequate emergency access?	ρ	ρ	ρ	v
f) Result in inadequate parking capacity?	ρ	ρ	v	ρ
(See Initial Study for discussion)				
g) Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	ρ	ρ	ρ	v

<b>XVI. UTILITIES AND SERVICE SYSTEMS. Would the project:</b>
---

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	ρ	ρ	ρ	v
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	ρ	ρ	ρ	v
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	ρ	ρ	ρ	v

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	ρ	ρ	ρ	v
e) 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?	ρ	ρ	ρ	v
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	ρ	ρ	ρ	v
g) Comply with federal, state and local statutes and regulations related to solid waste?	ρ	ρ	ρ	v

<b>XVII. MANDATORY FINDINGS OF SIGNIFICANCE</b>
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a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?	ρ	ρ	v	ρ
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(See Initial Study for discussion)

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (See Initial Study for discussion)	ρ	ρ	v	ρ
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly? (See Initial Study for discussion)	ρ	ρ	ρ	v

HUMBOLDT COUNTY

NOTICE OF EXEMPTION

TO:        Secretary for Resources  
1416 Ninth Street, Room 1311  
Sacramento, CA 95814

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

County Clerk  
County of Humboldt

Project Title: Hammond Coastal Trail: Murray Road to Letz Avenue, Bicycle Bypass Route

Project Location-Specific: SW ¼ Section 30, Township 7 North, Range 1 East

Project Location-County: Humboldt

Description of Nature, Purpose, and Beneficiaries of Project: Construction of a portion of the Hammond Coastal Trail north from Murray Road, along the CalTrans right of way for Highway 101 to Letz Avenue in the form of a bicycle bypass route.

Name of Public Agency Approving Project: Humboldt County Planning Commission

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

Exempt Status: (Check One)

Ministerial (Sec. 15061)

Declared Emergency (Sec. 15071[a])

Emergency Project (Sec. 15071[b] and [c])

Categorical Exemption. State type and section number: 15304(h) – Minor Alterations to Land involving "the creation of bicycle lanes on existing rights-of-way."

Reason why project is exempt: The bicycle bypass trail will be constructed entirely in CalTrans right-of-way and McKinleyville Community Services District right-of-way.

Contact Person: Chris Whitworth

Telephone: 707-445-7377

Signature of Receiving Party

CAROLYN CRNICH  
Humboldt County Clerk

*A. Glubczynski*  
Signature of Humboldt Co. Rep.

Title

Environmental Analyst  
Title

Date received for filing

FILED  
OCT 25 2002  
BY *J. Holman* FILED

10/24/02  
Date Signed

**MITIGATION MONITORING PLAN**

Hammond Coastal Trail - Widow White  
Creek Interpretive Trail Section

Mitigation Monitoring Plan

*Humboldt County Department of Public Works*

June 1, 2006

## 1.0 ***INTRODUCTION***

This Mitigation Monitoring Plan was developed for the Mitigated Negative Declaration which was prepared for the Hammond Coastal Trail – Widow White Creek Interpretive Trail Section pursuant to the California Environmental Quality Act (CEQA).

Section 15097 of the Guidelines for CEQA requires a program for mitigation monitoring or reporting when a public agency adopts a mitigated negative declaration in conjunction with approving a project. The purpose of the Mitigation Monitoring Plan is to ensure that the mitigation measures outlined in the Initial Study for avoiding potential significant impacts are implemented.

As the Lead Agency, the Humboldt County Public Works Department is responsible for ensuring compliance with the mitigation measures adopted for the proposed project. For this project, the mitigation measures include project design, best management practices during construction, and vegetation management.

## 2.0 ***BIOLOGICAL RESOURCES***

### ***Mitigation Measure:***

- ❖ Impacts to fish species will be avoided by conducting work in late summer during low flow conditions. Work will also be completed before October 15, when fish migrations typically begin. No construction will take place in Widow White Creek, so there will be no direct effect on either resident or anadromous fish.
- ❖ Fencing will be installed on both sides of the trail in sensitive areas to direct users to stay on the trail and prevent environmental damage.
- ❖ Trail use will be limited to pedestrian-only traffic to minimize disturbance to sensitive habitats.
- ❖ Impacts to amphibian species will be avoided by maintaining a 20-foot wide buffer of undisturbed vegetation between Widow White Creek and the Interpretive Trail. Human access will be excluded from the buffer area by fencing, which will be designed to allow passage of mammals. In addition, construction of the trail in late summer will avoid these species' breeding periods. The majority of construction will be accomplished with hand tools, which will provide time for individuals within the project area to re-locate during ground disturbing activities. All disturbed ground will be re-vegetated and mulched to control future sediment inputs to the creek.

### ***Monitoring Plan:***

- ❖ The Department will review the required mitigation measures with the field supervisors prior to the initiation of construction activities.
- ❖ The Department will conduct periodic inspections at the project site during construction to verify that the trails are being constructed as designed and to look for evidence of impacts to wildlife. The results of each inspection will be documented using checklists.

### 3.0 ***GEOLOGY/SOILS***

#### ***Mitigation Measure:***

- ❖ All disturbed riparian areas will be re-vegetated and mulched as necessary to minimize erosion. Straw will be placed on new slopes and soil that becomes bare due to construction activities.
- ❖ Stem cuttings of native plants will be planted on newly created slopes. The majority of the removed vegetation will be transplanted along the trail at other locations.

#### ***Monitoring Plan:***

- ❖ The Department will review the required mitigation measures with the field supervisors prior to the initiation of construction activities.
- ❖ The Department will conduct periodic inspections at the project site during construction to verify that the trails are being constructed as designed. The results of each inspection will be documented using checklists.
- ❖ After construction, the Department will periodically monitor the re-vegetated areas and provide maintenance as needed.

### 4.0 ***WATER/HYDROLOGY***

#### ***Mitigation Measure:***

- ❖ Mitigation measures include effective erosion and pollution control measures to minimize the movement of soils and sediment into the creek during and after construction. In addition, work will only be performed during months when there are relatively low flows in the creek. No work will be performed in the water.
- ❖ A prefabricated fiberglass bridge will be installed at the creek crossing to avoid direct contact with the banks and channel. The span of the bridge (60 feet) is designed so that the bridge will be situated well above the banks on each side of the creek.

- ❖ The entire trail will be constructed above the ordinary high water level, and except at the creek crossing the trail will be located more than 20 feet away from the channel.
- ❖ Sediment barriers in the form of silt fences will be placed along the perimeter of the construction site to prevent loose rock and fine material from entering the water. After completion of the project, the sediment barriers will be removed.

***Monitoring Plan:***

- ❖ The Department will review the required mitigation measures with the field supervisors prior to the initiation of construction activities.
- ❖ The Department will conduct periodic inspections at the project site during construction to verify that the trails are being constructed as designed. The results of each inspection will be documented using checklists.