

REDWOOD PATHWAYS STRATEGY:

AN ACTION PLAN FOR TRAIL DEVELOPMENT



CHAPTER 6. SOUTH FORK HIGH TRAIL



PRIORITY PROJECT #1: SOUTH FORK HIGH TRAIL

PROJECT DESCRIPTION

The proposed trail from Miranda to Myers Flat is locally called the South Fork High Trail because local residents want to see this trail developed in order to give the high school's athletes a safer area for training runs that the Avenue of the Giants, which is what they currently use. The proposed pathway will be approximately six miles in length and will serve both residents of and visitors. It will parallel the Highway 254, or Avenue of the Giants, routed on the west side of the road along the river. There are several sections where the trail will not be visible from the road, hidden by groves of redwoods and natural changes in elevation along the river. The trail will be designed with visitors and residents in mind, with natural interpretive features along the trail, as well as the student athletes from South Fork High School.

The South Fork High Trail is recommended for development as a demonstration section of the proposed 72 mile long "Giants' Pathway" which proposes a multiple use trail parallel to the Avenue of the Giants from Stafford to Sylvandale. The South Fork High Trail makes the perfect demonstration project because:

- It connects two communities, Miranda and Myers Flat, providing a destination at either end and traveling through several habitats and beautiful scenery.
- There is substantial local support for the trail due to safety concerns associated with the use of the Avenue of the Giants by students.
- It takes advantage of several sections of existing trail through the Humboldt Redwoods State Park.
- Most of the six mile area is within State Park jurisdiction, enabling the demonstration project will to avoid dealing with multiple private owners.
- Trail design and construction will require dealing with many of the most challenging aspects of building the larger trail, including narrow roadways, traveling through the Redwoods, dealing with State Parks regulations concerning dogs and bikes on trails, crossing streams and designing a trail facility along the road where the Eel River constricts space. Therefore, it will be a true test.

SITE DESCRIPTION

The Avenue of the Giants is a nationally and internationally renowned tourist attraction due to its majestic stands of Redwoods, its scenic Eel River, and Humboldt Redwoods State Park (HRSP). HRSP lies in the rain-drenched coastal mountains of southern Humboldt County. Its approximately 53,000 acres protect one of the world's largest remaining contiguous stands of old growth redwoods. The area attracts visitors from around the world. In addition to its old growth redwoods, the park contains a diverse mix of open prairies, riparian vegetation along its many miles of creeks and rivers, large stands of second growth forest, and old growth Douglas fir and hardwood forests. The Park is situated 40 miles south of Eureka, eight miles north of Garberville, and 240 miles north of San Francisco. The Avenue of the Giants is 32 miles in length with many interpretive features for the visitor to enjoy. The steep and rugged Coast Range shelters the park's Redwood forests from the direct influence of the marine environment.

The project site is a mix of Redwood forest and Riparian zone that winds along the popular Avenue of the Giants. The primary land ownership is the California Department of Parks and Recreation within Humboldt Redwoods State Parks. The Avenue of the Giants corridor is a State owned facility, maintained by Caltrans.

The project area is approximately six miles in length, between the communities of Miranda and Myers Flat. The Eel River is to the west of the project area, and besides Bridge Creek and Elk Creek, there are a few small tributaries that flow into it. The Avenue of the Giants is just east of the project area.

For almost 8 months of the year, residents account for most of the auto traffic in the area. During the summer and fall months, there is a heavy tourist presence on the roads. Park attendance reached 570,000 during the 1998-99 year. Campgrounds are nearly empty between September and May, months when rain is likely. Campgrounds often are full during the summer weekends between the Memorial Day and Labor Day holidays.

There are a high number of visitors to the area traveling in recreational vehicles (RV's) along the Avenue, as well as local traffic. Although the Pacific Coast Bike Route is technically along State Route 101 through this area, many touring cyclists prefer the scenic Avenue of the Giants. Local cyclists use the roadway as well. Local motorists tend to use much higher speeds than visitors while traveling along the Avenue of the Giants, causing potential conflicts on the narrow road. The speed limit is predominantly 55 m.p.h. between communities, although it slows within them. The Redwoods, while beautiful, constrict the road width and cause many shaded areas of poor visibility.

EXISTING CONDITIONS

There are currently no friendly opportunities for bicyclists who wish to travel the Avenue of the Giants. There are no bike lanes, and in many places no shoulder. The road is windy with poor visibility. Locals report that they themselves travel too fast along the Avenue and that it is "unsafe." Adding to the unsafe conditions, are the tourists who go extremely slowly, sometimes stopping in the middle of the Highway. Park officials report regular instances where tourist park their cars and lay down in the middle of the roadway to take pictures!

The 6-mile project area closely parallels Highway 254 (the Avenue), and would place much of the pathway in the Redwood forest. Many short unofficial, or volunteer, trail spurs exist that are used by tourists and residents. There are a few formal trails, such as the trail that enters Miranda at the southern end, directly across Highway 254 from South Fork High School Agriculture sign. It is a well-maintained State Park trail with small wooden bridges over creeks and it shows significant signs of use. Other than this trail, it is not possible for walkers interested in taking a long walk to do so without leaving the path. Consequently, there is little pedestrian use of the area by locals, who choose to either risk the Avenue or drive short distances rather than walk. Currently the South Fork High School athletic teams use the Avenue for training purposes, because it is a relatively flat and even surface and they have no better option.

There are interesting interpretive features along the route between the two communities, such as the Eel River, a redwood log retaining wall built in the 1920's, the downed log that has been hollowed and is tall enough to walk through, and the hand-hewn redwood railings on the Bridge Creek bridge.

GENERAL RECOMMENDATIONS

The following trail development recommendations are purposefully broad in nature. The Redwood Pathways team acknowledges that the local State Park staff is nationally recognized for their trail design and construction expertise and set the region's standard for rural and backcountry trails. Consequently, design recommendations have been intentionally left general. The purpose of this implementation strategy is to document what the community has requested, to provide agencies with a "leg up" on acquiring funding, and to stimulate the involved agencies to move ideas forward.

Therefore, it is generally recommended that the "pathway" be a 6-8 feet wide. To meet the needs of tourists, local residents and cyclists, the development of the pathway will need to address State Park restrictions on the presence of dogs and bicycles within state parks. Perhaps, because the trail is primarily routed either near the Avenue or on existing paved "trail" a special designation can be created accommodating the necessary multiple uses within the park. Further discussions with park officials, community members, and trail proponents will be necessary.

Should this initial constraint be overcome, and a multiple use trail allowed, such a trail could be designed with a hardened, unpaved surface, with a few exceptions. The three sections of the proposed project adjacent to the road will need special consideration. For clarity, the proposed trail has been broken into four sections. Each is described below.

SECTION 1. MYERS FLAT TO BRIDGE CK. (PM 254 10.83) \$80,000.00*

Section 1 has two unique areas within its 2 mile distance. The project would be routed along the west side of the Highway leaving Myers Flat under the 101 overpass. It would be situated in the narrow strip of land between the Avenue and the Eel River. The trail will mildly meander and undulate in and out of Redwood Groves, along the river.

*Costs are estimated in 2002 dollars, exclusive of acquisition costs, and include recommended short-term improvements.

Insert Myers Flat – Miranda Project Area Map here

From Myers Flat, the trail will leave the Avenue at Nelson Road, milepost 12.0. It will proceed with the old road/trail in Robinson Grove, which parallels the Avenue of the Giants. This section of old roadbed needs very little improvement. With some brush clearing and small surfacing repairs, this roadway will convert nicely to a trail.



One point of particular interest along this section of the proposed trail is a support structure locally known as “The Lincoln Logs Bridge.” This magnificent feat of engineering, using hundreds of redwood logs, interlaced to support the Avenue, was built more than 70 years ago.



The old road/trail continues for approximately 1.5 miles with scenic views of the Eel River through a mix of hardwood and Redwood forest. (It is spectacularly colorful in the fall.) The southern portion of this trail would need two small sections of repair, where the old roadbed has blown out, probably due to a drainage ditch line and/or culvert failure. To maintain consistency with the rest of the trail, the repaired construction would be hardened surface, with a minimum of 6’-8’ width. These road blowouts currently contribute sediment to the river, and treatment would reduce long-term sedimentation.

The trail begins gradually heading uphill near its southern end, where the slight increase in elevation enables it to meet the Avenue of the Giants at approximately mile 11.16. There are two options for how the trail would meet the road. The first would have the trail follow the old road where it loops northward to the Avenue (intersecting it at about mile 11.25.) The alternative would be to leave the old road at the big bend, continuing south to meet the Avenue at mile marker 11.16.



From the point where the proposed trail meets the Avenue, south to Bridge Creek bridge, the trail would be adjacent to the Avenue of the Giants. The Avenue has a wide shoulder area that could easily accommodate a trail and protective guardrail, and, although this placement is not the most aesthetically pleasing, it is only for a short distance. The trail would be protected from the highway by a guardrail. If necessary to maintain a scenic river overlook- pull out for motorists at this area, a marked trail crossing and break in the

guardrail could be included in the design. Where the trail was adjacent to the roadway, the trail would somewhat resemble a bike lane rather than the more rustic, overgrown roadbed through the forest.

At Bridge Creek, the highway narrows to accommodate a tight bridge. Directing pedestrian or bicycle traffic across this bridge would not be prudent, due to the space limitations. This is

one of the trail’s “challenges” that would enable the proposed trail to demonstrate innovative and unique solutions to potential problems found throughout the Redwood Pathways corridor.

If the engineered plans for the original bridge can be located, or sufficient information related to the bearing capacity of the existing structure and footings can be otherwise determined, construction a light fiberglass or equivalent trail bridge could be attached to existing lateral concrete beams.



The proposed bridge crossing would be, approximately 40’ in length. The bridge could easily be signed to direct cyclists to walk their bicycles. This type of trail facility utilizing the existing roadway facilities has been proposed in the past, but never successfully implemented locally.

Of course, such a trail bridge below the grade of the existing road (and trail at this point) would require construction of approach ramps on either side. However, the impacts and monetary savings associated with using the existing structure and remaining outside of Bridge Creek’s floodplain, would likely balance or surpass costs associated with permitting and mitigation of placing new footings in the creek.



Another feature of note are the guardrails over Bridge Creek. They appear to be made from concrete, but upon closer inspection, it becomes clear that they are hand-hewn redwood timbers, from an era when buildings and bridges were designed and constructed with aesthetics in mind. The little creek now known as Bridge Creek was actually called by the much longer name Tub-bel-chin-tah Cha-gel-kok by the local Native Americans.

SECTION 2. BRIDGE CK TO LANDSDALE BAR (PM 254 9.73)

\$500,000.00

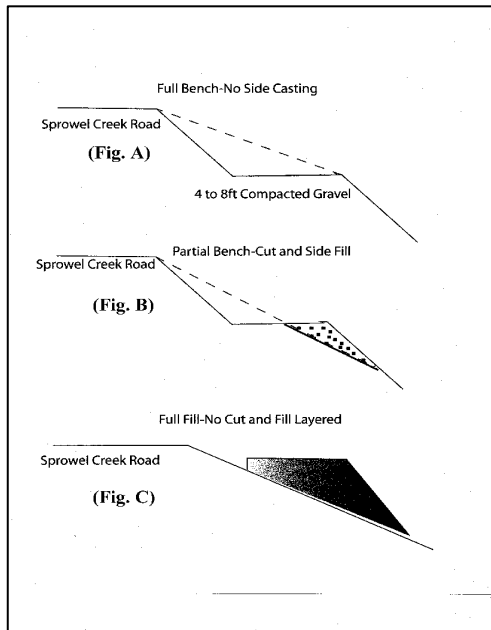
Section 2 has a variety of challenges intermixed with sections that will be fairly simple to implement.

From Bridge Creek south, the trail would continue to travel on the west side of the Avenue of the Giants. The shoulder area narrows considerably after Bridge Creek. For some of the area along the Avenue, the shoulder is wide enough to accommodate an 8’ trail, if the guardrail were moved closer to the road’s fog line to allow for trail placement to the outside.



In other areas, space restrictions could be addressed by having the trail remain parallel

to, but drop below, the level of the Avenue. Due to the limitations on available space, constriction on some of the curves, and costs of widening this area to accommodate both the road and an 8' trail, it would be reasonable to propose that this trail section narrow.



The trail width could here would narrow to a more appropriate to 4'-6', depending on available space. Where the trail gradually descends below the level of the roadway, a retaining wall may be necessary either upslope or a down slope from the trail (or a combination of the two,) beginning near PM 10.27. Design methods commonly utilized to place a trail along the slope below a roadway include a full bench (Figure A), a partial bench with both cut and side cast (Figure B,) or a full fill bench with fill placed and compacted in shallow layers (Fig. C.) Geo-grid “honeycomb” material or geo-textile fabric “burritos” could be used instead of, or in addition to, short retaining walls to add width in a stable manner. In addition, the trail through this area would require proper signage to alert trail users of the narrow conditions.

Initial site investigations disclosed a narrow bench on the slope below the roadway between Myers Flat and Miranda, (roughly visible at the base of the shrubs in the picture to the right.) Should deeper investigation prove such a flat area exists below the roadway along this section, the bench may make an appropriate foundation for the trail as it drops below the grad of the road.



Finally, an additional alternative to the conceptual design described above, could be to narrow a segment of the trail to less than 4' until designs and resources could be generated to accommodate the full trail width.

This section of the proposed trail continues along the Avenue in the described fashion until Lansdale Bar, at approximately PM 254 8.94.

SECTION 3 LANSDALE BAR TO THE FOUNTAIN (PM 254 8.94)

\$150,000.00

Section 3 begins at the Lansdale Bar gate. This river access road, (located at post mile 9.71,) winds through a grove of Redwoods on route to the river. From the gate, the proposed trail would meander south through Redwood groves for a short distance. Between mile markers 9.64 and 9.54 (approximate) the flat land beside the river disappears and the trail must once again be routed adjacent to, or immediately below, the Avenue. By narrowing the trail slightly, and routing it below the level of the



road, a vertical distance is created that shelters the trail from road noise and creates a physical and visual barrier, facilitating a safer and more enjoyable trail experience.

South of PM 9.54, the proposed trail would again meander through the Redwoods between the Avenue and the South Fork of the Eel River, heading southward and utilizing segments of existing use trails through the groves. Although there are several small creeks that would require small bridges, there are no more substantial design constraints.

At Dry Creek, a broad floodplain has been scoured and a bridge is definitely required, (approximately parallel to PM 254 7.71.) (State Parks provides several appropriate trail bridge designs in their Trail Design Manual, so none is necessary here.)



This trail segment ends, and the final segment begins at the historic structure know locally as “the Fountain,” (approximately PM 8.94.)

SECTION 4. THE FOUNTAIN TO MIRANDA

\$27,500.00

Section 4 begins at a small rock structure known locally as “The Fountain,” where there is a pull out with approximately two parking spaces and a small, volunteer trail that travels north for approximately 200 feet. (Local lore says that it once had running water and served as a water fountain.) This informal trail could be utilized as part of the proposed trail.

The proposed trail throughout section would generally be 8’ wide meandering path with little elevation change. Several small creeks/drainages would require small footbridges, which would be designed and constructed to State Park standards. Due to the proximity of the road and the gentle terrain, this section could be designed to easily accommodate wheel chairs and horses.

The first is a small drainage that would need a bridging is approximately parallel to post mile 8.21 along the Avenue. Another wooden bridge would be required in the Frank and Delphine Belotti Grove, (approximately PM 7.69,) which is a washed out creek bed, approximately 40’ in across. The creek crosses under the Avenue in a box culvert structure.

The proposed trail could then merge with an existing trail, used by the high school students, and proceed into Miranda.



The trail commonly used by the High School teams (called the Varsity Loop Trail by teachers at the Miranda public meeting) leaves the Avenue at mile marker 6.97 and follows a well maintained native-material path with small wooden bridges. This trail is also relatively flat, until it begins to climb into the southern entrance to

Miranda (PM 6.42.) At this fairly steep slope, the trail becomes much wider and has some erosion issues, which would need to be addressed.

Otherwise, this section would need some minor grading and brush removal. The trail ends at the Avenue directly across from the South Fork High Agricultural area in the community of Miranda.

PRELIMINARY ENVIRONMENTAL CHECKLIST

Issues and Supporting Information	Potentially Significant Impact	Less * than Significant Impact	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

I. Discussion:

a) The trail would only be visible from the road in three places where auto traffic has a river view. Neither the trail, nor its travelers will impede the view of the river. The trail will be hidden in the forest for the remainder of the route.

b) The proposed project will be routed through groves of Redwoods. The trail will be routed to minimize impact on the health of the forest. No mature trees will be lost to trail construction or use. The trail surfacing will be designed to minimize effect on tree roots. If mitigation is necessary, 2 trees of same species will be planted for each seedling lost due to routing the trail.

c-d). No. The project will not have an adverse effect on the scenic character of the area. The project will likely result in improved scenic conditions for visitors to the area.

II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use? (The Farmland Mapping and Monitoring Program in the California Resources Agency, Department of Conservation, maintain detailed maps of these and other farmland categories.)				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment, which, due to their location or nature, could individually or cumulatively result in loss of Farmland, to non-agricultural use?				X

II. Discussion:

a-c). No. There is no prime or unique farmland, or farmland of statewide importance within the proposed project area. There is no agricultural zoning or a Williamson Act contract for the site. No existing farmland will be impacted by the proposed project and trail development will not individually or cumulatively result in loss of farmland in the site. The proposed project is entirely within State-owned property. The portion within Humboldt Redwoods State Park is zoned "Recreation." The portion within Caltrans rights-of-way is zoned for transportation. Neither area supports any agricultural operations or farmland.

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 Attainment Plan or Congestion Management Plan?				X
b) Violate any stationary source air quality standard or contribute to an existing or projected air quality violation?				X
c) Result in a net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?				X
d) Create or contribute to a non-stationary source "hot spot" (primarily carbon monoxide)?				X
e) Expose sensitive receptors to substantial pollutant				X

concentrations?				
f) Create objectionable odors affecting a substantial number of people?				X

III. Discussion:

a-c). No. HRSP is in Humboldt County, which is part of the North Coast Air Basin (Basin) and North Coast Unified Air Quality Management District. Frequent rains, ocean winds, generally very low levels of commuter traffic, and a small industrial base result in relatively clean air throughout all of Humboldt and surrounding counties. Because of these conditions, Humboldt County is currently in attainment with California standards for carbon monoxide, hydrogen sulfide, lead, ozone, nitrogen dioxide, sulfur dioxide, and sulfides. There will be no air quality violation, nor net increase of any pollutant due to the project.

d-f) No significant vehicle congestion on roads or at intersections will result from the project. No sensitive receptors will be exposed to pollutants nor will any substantial odors occur due to the project. The trail project could reduce emissions by offering an alternative to auto use for residents and visitors. Residents have said that they currently use autos to travel locally because of the real or perceived danger of walking on the highway. Trail design will only allow for non-motorized use.

IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Adversely impact, either directly or through habitat modifications, any endangered, rare, or threatened species, as listed in Title 14 of the California Code of Regulations (sections 670.2 or 670.5) or in Title 50, Code of Federal Regulations (sections 17.11 or 17.12)?				X
b) Have a substantial adverse impact, 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?				X
c) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
d) Adversely impact federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological				X

interruption, or other means?				
e) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?				X
f) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
g) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?				X

IV. Discussion:

a). Within the park, five “special plants” listed in DFG Special Plant List are known to occur: 1) California pinefoot (*Pityopus californicus*); 2) Heart-leaved twayblade (*Listera cordata*); 3) Humboldt County fuchsia (*Epilobium septentrionale*); 4) Redwood lily (*Lilium rubescens*); and 5) White-flowered rein orchid (*Piperia candida*). About two-dozen other special plants have the potential to occur in the park, based on the available suitable habitat. To insure protection of biological resources, qualified botanists would conduct additional rare plant surveys in the project area prior to project implementation. Surveys immediately prior to implementation are necessary because of the transitory nature of some plants. If any rare plants were located, they would be avoided to the maximum extent practicable unless greater resource protection needs exist.

Three bird species exist within the park that are listed as Federal and State threatened or endangered: 1) Northern spotted owl (*Strix occidentalis caurina*); 2) Marbled murrelet (*brachyramphus marmoratus*); and 3) Bald eagle (*Haliaeetus leucocephalus*). Northern spotted owls and marbled murrelets nest within the old growth forests in the park, whereas bald eagles are rare visitors, primarily in winter. Work in the sites within one-quarter mile of potential habitat for marbled murrelet would take place after September 15 and before March 24. The site maps identify start dates for protection of murrelets. To avoid noise disturbances to Northern Spotted Owl, work within one-quarter mile of suitable roosting and nesting habitat for Northern Spotted Owl is restricted to the period after July 9 and before January 31 of each year. Because the entire project is within one-quarter mile of potential habitat, all work will occur within this timeframe.

There is one special status reptile (Federal and State Species of Special Concern), the northwestern pond turtle (*Clemmys marmorata*), that occurs in the park.

Four special status amphibians are documented as occurring, or have potential to occur, in the park: 1) Southern torrent salamander (*Rhyacotriton variegates*); 2) Tailed frog (*Ascaphus truei*); 3) Northern red-legged frog (*Rana aurora*); and 4) Foothill yellow-legged frog (*Rana boylei*). No threatened or endangered amphibians or reptiles are known to live in the park, and surveys for amphibians have not located any threatened or endangered species.

The network of watercourses within the park provides habitat for three sensitive fish species: 1) Coho salmon (*Onchorhynchus kisutch*); 2) Steelhead trout (*Onchorhynchus mykiss*), and 3) Chinook salmon (*Onchorhynchus tshawytscha*). Sensitive Species identified during a biological evaluation of the project area will be considered and mitigation developed to minimize any potential disturbance to sensitive habitat. On sections where potential sediment delivery to streams exists, construction activities after October 15th would proceed only after consultation and approval by NMFS.

- b) All work will be coordinated with USFWS and DFG to minimize any potential adverse impacts on species identified as a candidate, sensitive, or special species status.
- c) Some work may occur in riparian corridors at stream crossings. This project will be fully permitted and completed in coordination with the California Department of Fish and Game to avoid any significant impact to any riparian habitat or other sensitive natural community.
- d) Technical assistance will be requested from the U.S. Army Corps of Engineers to coordinate the design such that it does not involve the discharge of dredged or fill material into a water of the United States, including wetlands, pursuant to Section 404 of the Clean Water Act. No fill would be placed on springs, seeps, or wetlands. Therefore, this project would have no impact on any federally protected wetlands.
- e) This project would have less than significant impact on the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. Work would take place in coordination with the involved agencies such that the project would have less than significant impact.
- f) The project would not conflict with any local plan protecting biological resources because none currently exist. No impact.
- g) Research to date did not identify any Habitat Conservation Plan, Natural Conservation Community Plan or other approved plans exist in this site. The Humboldt Redwoods Master Plan is conceptually supportive of trail development parallel to the Avenue of the Giants. Further, the project is consistent with tourism, economic development, and non-motorized goals as set in the Humboldt County Regional Transportation Plan and *Prosperity!* The County's Overall Economic Development Plan.

V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource, which is either listed or eligible for listing on the National Register of Historic Places, the California Register of Historic Resources, or a local register of historic resources?				X
b) Cause a substantial adverse change in the significance of a unique archaeological resources (i.e., an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it contains information needed to answer important scientific research questions, has a special and				X

particular quality such as being the oldest or best available example of its type, or is directly associated with a scientifically recognized important prehistoric or historic event or person)?				
c) Disturb or destroy a unique paleontological resource or site?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X

Setting

The original inhabitants of HRSP were Lolangkok Sinkyone people who, prior to European settlement, had a population of 2,000 in the area. The Sinkyone living in the Bull Creek watershed moved seasonally, following food supplies. They spent most of the winter in a permanent village, located near the mouth of Cuneo Creek. The people gathered acorns, hunted small game, snared deer and elk, collected berries, and harvested the abundant salmon runs.

The first Europeans entered the area in 1849 seeking a route from San Francisco to Eureka, and by 1850, numerous settlers began to arrive. Disease spread rapidly through the Sinkyone people and serious conflicts developed with the settlers. By the 1860's, the indigenous culture in the South Fork Eel River region had been virtually destroyed. The settlers established small agricultural communities in the natural prairies and river flats and constructed small wood cabins.

V. Discussion:

a-d). Additional site-specific surveys would be conducted prior to construction to ensure that no historical resources have been overlooked. Further assistance will be sought from the HRSP cultural resources coordinator prior to project implementation.

VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X
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?				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?				X
iv) Inundation by seiche, tsunami, or mudflow?				X
v) Landslides?				X

vi) Flooding, including flooding as a result of the failure of a levee or dam?				X
vii) Wildland fires, including where wildlands are adjacent to urbanized areas and where residences are intermixed with wildlands?				X
b) Would the project result in substantial soil erosion or the loss of topsoil?				X
c) Would the project result in the loss of a unique geologic feature?				X
d) Is the project located on strata 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?			X	
e) Is the project located on expansive soil creating substantial risks to life or property?				X
f) Where sewers are not available for the disposal of wastewater, is the soil capable of supporting the use of septic tanks or alternative wastewater disposal systems?				X

Setting

HRSP is located in the California Coast Range, a northwest trending chain of mountains formed by the uplifted Pacific tectonic plate. The uplifted material consists of highly weathered sandstone, conglomerates, and sheared basalt. Soils developed from this parent material are deep, highly erosive soils with low cohesion. About 10 miles from the park, the Gorda tectonic plate collides with the North American and Pacific tectonic plates to form the Mendocino Triple Junction, the most seismically active area in the continental United States. Numerous other active faults exist within the park, including splinter portions of the northern San Andreas Fault.

The geologic activity, soil types, and high levels of rainfall have created steep and historically unstable slopes. The slopes were further destabilized by intensive land use practices in the Upper Bull Creek watershed that had no regulation, design, or engineering

The geology of the area is dominated by the Franciscan Complex, which includes the Coastal Belt, Yager, and Melange units. These geologic units were formed 38-80 million years ago during the Tertiary and Cretaceous periods. Deeply weathered rocks of the Franciscan Complex are highly unstable, largely due to the presence of many large and small faults and shear zones, and high precipitation rates. The landscape of the park is moderately dissected and dominated by large, inactive, deep-seated landslides. The park lies within a pull-apart basin, following east-west to northwest-southeast trending shear zones and faults.

VI. Discussion:

a). Humboldt County is very seismically active and relatively hazardous in terms of strong seismic ground shaking and landslides. The project will not create additional hazard.

ii-vii). b). A temporary, short-term increase in erosion may occur at some locations because fill is re-exposed as part of the trail construction, but the loss should not be substantial and will be controlled using Best Management Practices (BMP's).

All work would be designed using State Parks trail design standards. Any work involving Caltrans fill slope will be designed in coordination with Caltrans Engineers and State Parks Engineering Geologists.

c). No. The project will not impact geologic features in the area.

d). There will be less than significant impact. The DPR-approved construction techniques and appropriate BMPs will be incorporated to reduce the risks of landslides from the current conditions.

e) Further geological investigation is needed to determine if there are expansive soils in the project area.

f). No. No septic tanks or waste disposal systems would be constructed or impacted by this project. No waste disposal systems exist in the project sites. No impact.

VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?				X
c) Reasonably be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Is the project located on a site, which is included on a list of hazardous materials sites, compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X

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?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

VII. Discussion:

a-h. No. There will be no hazardous materials or conditions associated with the project. There is no airport within the Park or communities of Miranda and Myers Flat.

VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate Regional Water Quality Control Board water quality standards or waste discharge requirements?				X
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 (i.e., 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)?				X
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?				X
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?				X
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems to control?				X
f) Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X

g) Place within a 100-year floodplain structures which would impede or redirect flood flows?				X
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SETTING

HRSP, Miranda and Myers Flat are within the Eel River Hydrologic Unit of the North Coast Hydrologic Basin. Approximately 52,000 acres of HRSP drain into the Eel River through a network of 170 miles of streams. Many low lying areas of the park are subject to seasonal flooding and bank erosion, which is exacerbated by the tremendous quantities of sediment generated by decades of human land uses, primarily logging and road building. The large floods in 1955 and 1964 caused extensive landslides and severe erosion.

The Bull Creek basin has high precipitation rates, with rainfall averaging 60 to 115 inches per year in different parts of the basin; the upper end of this range represents the highest rainfall in the South Fork Eel River. Grasshopper Mountain has a strong orographic effect, creating very high rainfall rates.

Flooding has had a major impact on the natural and cultural histories and on the economic developments of the South Fork Eel and Bull Creek watersheds. Major flood events in 1937, 1955, and 1964 reshaped the regions topography, destroyed residences and towns, and caused park facilities and communities to be abandoned, rebuilt, or relocated.

Steep slopes and a high rate of natural erosion characterize landforms within the park. This relief, coupled with heavy winter rains, is capable of producing extensive flooding events with large volumes of transported sediment. Water quality in HRSP ranges from extremely clear and free of any pollutants in streams to turbid and of very poor quality in areas previously impacted by humans.

The North Coast Regional Water Quality Control Board regulates water quality in the park. The California Unified Watershed Assessment lists the Eel River as a Category 1 Watershed. The South Fork Eel is listed as “water quality limited” by the State of California, due to sediment and temperature.

Ground water in the Park and in nearby communities is free of pollutants and considered very high quality because very few potential pollution sources exist. The groundwater table fluctuates annually, depending on rainfall and seasonal temperatures and varies throughout the area because of the influences of geology and topography.

VIII. Discussion:

a-g. No. The project will not alter the area significantly. Impact to existing drainage and groundwater due to placement of the trail will be minor, and will likely improve water quality by addressing areas of long-term erosion and consolidating volunteer trails onto official, maintained trails. The project would be in compliance with all applicable water quality standards and waste discharge requirements. The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

IX. LAND USE AND PLANNING - Would the project:

a) Physically divide an established community?				X
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?				X
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?				X

SETTING

The project is primarily located in Humboldt Redwoods State Park and is under the planning guidelines of the newly adopted HRSP General Management Plan. The communities of Miranda and Myers Flat are under the Humboldt County’s recently updated Southern Humboldt Community Plan.

The HSP Plan presents the goals and guidelines that apply park-wide for resource management and facility planning for public access, recreation, interpretation, resource protection, and park administration in a setting where many resources are rare and sensitive. HRSP is classified as State Park in the Public Resources Code, Section 5019.53. The purpose of land under this classification is to preserve outstanding natural, scenic, and cultural values, and indigenous aquatic and terrestrial fauna and flora. The area is zoned for recreation in Humboldt County.

Other plans that influence the project area include a portion of the Humboldt County General Plan that addresses planning issues related to the communities adjacent to the park, along the Avenue of the Giants. The County General Plan update, although not completed, mentions that key findings from public input point out trails as a priority. It also mentions that future efforts should include plans for non-motorized transportation as well as rural community transportation plans to be developed. 5 of 5 communities along the Avenue named a multiple use trail along the Avenue of the Giants as a priority in the Avenue of the Giants Community Action Plan in 1998.

IX. Discussion: The project will not physically divide any community, nor conflict with any land use plan or habitat conservation plan. The land is zoned for recreation and in line with trail development efforts as stated by each community’s Action Plan. No impact.

X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific				X

plan or other land use plan?				
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X. Discussion:

a-b No significant mineral resources have been identified within the boundaries of Humboldt Redwoods State Park. Mineral resource extraction is not permitted under the Resource Management Directives of the Department of Parks and Recreation. The project would not result in the loss of availability of a known mineral resource because no known mineral resources exist within the park. The project would not result in the loss of availability of a locally important mineral resource recovery site because none exist within the park. No impact.

XI. NOISE -- 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 applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
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?				X

XI. Discussion:

Humboldt Redwoods State Park is located in rugged forested terrain in Northern California and is surrounded by steep mountains on all sides. The project area is impacted by noise from U.S. Highway 254, which has traffic 24 hours a day. The area contains county roads and private roads, which are used by local residents and heavy industry. Existing noise affecting the project area includes helicopter logging on property owned by Pacific Lumber Company to the north, traffic on the Avenue of the Giants and other very occasional air traffic, including small private planes and CDF firefighting aircraft. The project will not expose trail users to more noise from the Avenue than they would have without the project.

The amount of noise could potentially reduced by fewer autos using the highway due to residents and tourists having an alternative transportation opportunity.

XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

XII. Discussion:

a-c. No impact. The project area is zoned for recreational use where no houses exist so it will not displace people nor induce substantial population growth.

XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

XIII Discussion:

a. No. The project will not create substantial adverse effects on public services. The proposed project will enhance parks and recreation options within the Humboldt Redwoods State Parks and provide recreational opportunities for residents and visitors to the area.

XIV. RECREATION --				
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?				X
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?				X

XIV Discussion:

a-b. The project area provides river access for swimming, fishing, canoeing, kayaking, and rafting. The communities and the Park offer a variety of overnight accommodations, including developed campgrounds, and miles of trails that provide access to the park. The project may increase use of the areas of the park between the two communities of Miranda and Myers Flat once construction is completed.

The park does not provide any facility for cyclists in this area, although the Avenue of the Giants is a worldwide destination visited by thousands of international cyclists per year. Both local communities and the Park would potentially benefit from extended visits due to an increase in facilities to accommodate these visitors. However, the overall increase in use would not accelerate the deterioration of any facility. The trail would need periodic maintenance in coordination with the maintenance schedule of trails.

XV. TRANSPORTATION/TRAFFIC -- 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)?				X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
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?				X

d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

XV Discussion:

a-b) Traffic circulation in the project area is confined primarily to the Avenue of the Giants. The Avenue routes traffic North-South along the Eel River. Access to the project area is by the Avenue of the Giants. The Avenue is a narrow, winding road that is used by local residents who live near the park, truck traffic and visitors. Any increase in traffic will be non-motorized traffic, which the project will route away from the auto traffic. No road crossings are included in the design.

c) The project sites are not located within an airport land use plan, within two miles of a public airport, in the vicinity of a private air strip, and do not serve as a normal reporting point for air traffic in the area

d) The project does not contain a design feature or incompatible uses that would substantially increase traffic hazards. Trail sections that route close to auto traffic will be designed in coordination with Caltrans engineers to reduce any traffic hazards.

e) The project would not result in inadequate emergency access.

f) The project would not result in inadequate parking capacity because there are sufficient parking facilities in both communities and along the route. Trail heads will be marked and located near existing parking facilities.

g) The project will not conflict with current transportation policies in relation to alternative transportation, on the contrary, it can be seen as a demonstration project for the larger vision of an Avenue-length multiple-use trail, and larger Regional Alternative Transportation Planning efforts.

XVI. UTILITIES AND SERVICE SYSTEMS --Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
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 env. effects?				X

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?				X
d) Are sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) Has the wastewater treatment provider, which serves or may serve the project, determined that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f) Is the project served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

XVI. Discussion:

a-g. No. The project will have no significant impacts on water supplies or treatment facilities.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE --				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X
b) Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?				X
c) 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 of probable future projects)?				X
d) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?				X

XVII Discussion.

a-d. This development and improvement of recreational facilities associated with the Humboldt Redwoods State Park and the adjoining area, and will have no cumulative detrimental environmental impacts. In fact, it will help the county to achieve stated transportation, economic development, and tourism development goals.

NEXT STEPS

The Redwood Pathways project team was able to meet with State Park representatives and was given preliminary support for this concept, however, further in depth meetings with the Superintendent and staff of Humboldt Redwoods State Park is certainly necessary to see this project implemented. Initial meetings should concentrate of securing the park staff's support for the trail. Once the park staff supports the idea, dealing with the community's expressed desire for this pathway to accommodate bicycles and dogs—on leash—should become a focus for community-Park collaboration. Later partnership efforts can focus on working *with* the park staff to secure the needed resources (design, permitting, construction and maintenance funds) to implement the project.

Development of this pathway should be considered a long-term enterprise. (Also, note the use of the term “pathway” rather than trail—State Parks *does not allow dogs or bicycles* on its “trails”, therefore, this project should be referred to by another term to encourage the development of a link between the two communities that has a *special designation* which allows these uses.) Other ways that community organizations can facilitate implementation of the South Fork High School Trail by:

1. Organizing local community groups, such as the Avenue Trails Committee, and school groups, such as science teachers, athletic coaches and teams, parent groups, and students. Once organized in support of the pathway, these groups can hold letter and petition drives to demonstrate to State Parks and Caltrans the **breadth and depth of community support for the path between Myers Flat and Miranda.**

Southern Humboldt county communities have relatively small populations. It is necessary for these populations to show a **united** and **consistent** force in order to establish change and get agencies to commit resources to improvements.

2. In addition, community groups can work with the State Parks to organize trail maintenance and clean up events. This type of ongoing collaboration between the community and Parks will **demonstrate** to the Park staff the **commitment** of the community and, over the long-term, **establish a relationship** of trust.
3. State Parks has established this sort of trust – collaborative relationship with several organizations. It may be quite beneficial for community organizers to meet with the leadership of the Humboldt Redwoods Interpretive Association and the leadership of the equestrian groups active in the southern Humboldt area to **get first hand information** on how their successful relationships were developed with the parks.

4. When the State Parks proceed with implementation of the pathway, they will need certain documents and studies. Providing them with as much of this information as is possible can demonstrate interest **and** directly speed the process. For instance, school classes could conduct projects to:
 - research and identify endangered plants and animals found in the proposed pathway corridor;
 - conduct research into the history and potential archeological sites within the corridor;
 - preliminary investigations into the environmental impacts of the proposed trail
 - create interpretive materials for later use in brochures or on signs
 - younger students can create art expressing what such a trail would mean to them (this has been shown to be very effective elsewhere
 - political science classes can study the effectiveness of involving politicians in such a venture— by letter writing as well as organizing events inviting politicians to visit the area and see the communities and potential pathway route personally
 - There are indefinite other ways... creative and supportive (as long as the efforts are not adversarial. This is really important to building trust between the community and parks.)
5. Hold fund raising drives for seed money to begin the pathway implementation.
6. Identify potential grants and work with the State Parks to secure grant funds.
7. Meet regularly with the State Parks, to update them on community efforts, and discuss the pathway—keeping it fresh in their minds. Discuss the desire of the community for the path, for the ability to have bicycles and dogs on the facility. *Ask Parks how the community can assist!* (Then be sure to *follow through* and *do some* of their suggestions.)
8. Get Air photos of the proposed area.
9. Document the history of the pathway corridor. Get assistance from local historians such as Judith Bell. Walk whole trail path. Document the significance of special features along the path such as the redwood retaining wall.
10. Conduct a preliminary assessment of existing pieces of the pathway. Gather length, width, size of potholes of features needing repair; assess potential for vehicle parking improvements; and take lots of pictures.
11. Set up a web site that promotes the idea, its benefits, community goals, and asks for support (letters, financial, etc.)
12. Host guided walks to drum up support w/ locals.
13. Write regular articles for local papers! Get the issue on the radio! (Copy and send them to State Parks and Caltrans.)
14. Collect written information of similar trails elsewhere, their impact on tourism and the economy, and construction methods that may be suitable locally.

