

Two Rivers Trail Concept Plan Report

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Project Purpose and Description

Preface

We are rediscovering the urban river. We are rediscovering it with the round-eyed wonder and enthusiasm of a young Mark Twain apprehending the Mississippi sliding past Hannibal. One result of the discovery -- a quite tangible means we have to reclaim the rivers that run through our cities -- is the urban river greenway...a way of "returning the river to the people."

—adapted from Charles Little,
Greenways for America

It is a rare city that is not settled next to a river. Throughout history, people have been bound to the river for water, food, commerce, transportation, and recreation. Sacramento, California, is no exception, sited at the confluence of the Sacramento and American Rivers; dynamic rivers which drain the fertile plains of the Sacramento Valley and carry the snow melt of the wild Sierra Nevada Mountains.

The Two Rivers Trail is at the crux of these great streams, providing opportunity to return the river to the people by returning the people to the river, turning the tide against a century of technological advances and development which have taken us away from our riverside roots.

Purpose and Goals

The vision of the Two Rivers Trail is to provide a transitional zone which blends the urban waterfront of historic Old Sacramento along the Sacramento River with the naturalistic American River Parkway, extending 23 miles up to Folsom Lake. The Two Rivers Trail will ultimately include amenities such as an all-weather accessible surface, benches, lighting, and signage to link these two areas. The City of Sacramento's Downtown Development Group and Department of Parks and Recreation (City) are working cooperatively to plan the Two Rivers Trail Project (Figure 1), which will provide:

- approximately 2.5 miles of paved Class I trailway on the south bank of the American River, on and adjacent to the existing levee maintenance road;
- a key connection for recreational users between Tiscornia Park, at the confluence of the Sacramento and American Rivers, and the future Sutter's Landing Park, at the former 28th Street landfill site;
- a vital recreation link between the Jedediah Smith Trail in the American River Parkway, the Sacramento River Parkway, the Sacramento Northern Bikeway, the Ueda Parkway, and the 20th Street bike connection to the Central City, increasing the value and function of these City and County of Sacramento (County) facilities;
- alternative transportation access for commuters and residents between the Central City, North Sacramento, East Sacramento, and the emerging Richards Boulevard area; and
- opportunities for educating trail users through interpretive signage, establishing a connection to the river, and identifying habitat enhancement potential.

Planning Context

A dynamic linear feature like the American River cannot be easily bound by political and jurisdictional limits. However, the interjurisdictional relationships need not be a hindrance, rather they provide opportunity for creative partnering, sharing of resources, and joint stewardship. This is certainly the case for the Two Rivers Trail, under the aegis of the City, County, and Sacramento Area Flood Control Agency (SAFCA).

City of Sacramento

On December 13, 1994, the City Council adopted the Richards Boulevard Area Plan for a more than 1,000 acre area bounded by the American River on the north, and the Sacramento River on the west. The plan calls for redevelopment of the area from a relatively low density warehouse district to a mixed use urban district of office, housing, and general commercial uses. Redevelopment to the land side of the American River levee would create a landscaped parkway, and "Riverfront Drive" along the 2.5 mile length. Development of a continuous bike trail and other passive recreational uses was envisioned along the length of the parkway.

This concept plan addresses the initial development of a bike trail along the crown of the levee, as well as access to the land side development and street system. Later phases in development of the parkway, including the land side park development and Riverfront Drive, are envisioned as future projects.

A programmatic environmental impact report (EIR) in compliance with the California Environmental Quality Act (CEQA) was prepared for the entire redevelopment project (with the City as the lead agency), which addressed the development of a recreation trail on the south side of the American River, and the final EIR was certified on December 13, 1994. Additional project-specific environmental analysis will be prepared for the initial bikeway project addressed in this concept plan, discussed below.

County of Sacramento and Sacramento Area Flood Control Agency

The County Department of Parks, Recreation, and Open Space and SAFCA have been jointly and concurrently facilitating ongoing planning efforts within the Lower American River corridor (defined from the confluence to Folsom Lake). Through the Lower American River Task Force (a collaborative forum created to improve environmental, flood management, and recreation resources along the Lower American River), the County and SAFCA are developing a Recreation Management Element as part of a River Corridor Management Plan, which will eventually lead to a comprehensive update of the American River Parkway Plan. These studies recognize the value of the Two Rivers Trail as the greatest new recreation amenity within the American River Parkway to come in decades. For the purposes of these greater planning efforts, the Two Rivers Trail includes the segment from Sutter's Landing Park upstream to California State University, Sacramento; however, this concept plan focuses on the downstream segment from the confluence to the park. The environmental documentation for compliance with CEQA for the River Corridor Management Plan will include analysis of the Two Rivers Trail in its entirety.

Project Description

Alignment

The western access to the Two Rivers Trail would be located at Tiscornia Park beneath Interstate 5 (see Figures 2 through 4 and Photos 1 through 16). Running east on the crown of the existing flood control levee, the trail would pass commercial and industrial buildings on the right and mature riparian vegetation on the riverbank to the left. Access points at 5th, 7th, and 10th Streets on the land side of the levee would facilitate ingress or egress between the trail and neighborhood.

The trail would cross State Route (SR) 160 via an at-grade demand-activated signal at the Richards Boulevard and SR 160 interchange (see Figure 5). Circulation and access improvements are currently being planned for this interchange as part of the City's new ownership and operation of this section of

SR 160. As proposed under this plan, the improvements would include connecting ramps between the levee and Richards Boulevard, paralleling SR 160 on the east and west. From the easterly ramp, the trail would continue eastward on the crown of the levee and intersect the 20th Street bike connection. The trail would then ramp beneath the Union Pacific Railroad bridge and then back up to the crown of the levee. The trail would remain on the crown of the levee and terminate at the future Sutter's Landing Park, located at the former 28th Street landfill site. An option for accessing the park would be a trail spur that ramps off the levee crown to the south and circumvents the Bell Marine property. The scope of this project terminates at the Sutter's Landing Park. Bike circulation within the park and to the Central City street grid is addressed in the City's Sutter's Landing Park Master Plan.

Key Connections and Circulation Nodes

Points West

From west to east, the trail begins at Tiscornia Park (owned and operated by the City), which in turn connects to the Sacramento River Parkway to the west (also owned and operated by the City), Discovery Park to the north (owned and operated by the County), and Old Sacramento to the south (a National Historic Landmark/National Register of Historic Places Historic District). From Old Sacramento across the Sacramento River to West Sacramento, trail users may connect to the bikeway along the causeway crossing the Yolo Basin, leading to the City of Davis' broad trail network, with views of the Vic Fazio Wildlife Refuge en route.

Downtown/Richards Boulevard

Proceeding east, the trail provides ramped connections at 5th, 7th, and 10th Streets. These nodes link the trail to the Downtown area of the Central City, via the Richards Boulevard/Capitol Station District/Union Pacific railyards redevelopment area. This area is transitioning from a commercial warehouse and industrial district to an emerging mixed use district of 15 million square feet of new commercial uses and 6,800 new residential units.

Midtown/20th Street Bike Bridge

Approaching 12th Street, the trail crossing of the SR 160 roadway would be a demand-activated signal at the Richards Boulevard/SR 160 interchange (Figure 5). The trail will then intersect (via a bike circle) the 20th Street Bike Bridge, which connects the Midtown area of the Central City with the popular Jedediah Smith Trail in the American River Parkway (owned and operated by the County), and the proposed Ueda Parkway (scheduled for construction in 2002, to be

owned and operated by the City). The Ueda Parkway will in-turn provide regional links to the Sacramento Northern Bikeway and the proposed Dry Creek Greenway, and thereby complete a continuous loop back to the American River Parkway via Folsom Lake. The Ueda Parkway and Two Rivers Trail are in combination the key alternative transportation corridors between the established communities of the Central City, North Sacramento, and East Sacramento with the developing communities of Natomas and the Richards Boulevard area.

Points East

East of 20th Street, the trail will provide a continuous, safe, grade-separated undercrossing of the Union Pacific Railroad bridge over the American River and proceed to the proposed 170-acre regional park, Sutter's Landing Park. Sutter's Landing Park is currently being developed, and widespread public usage is expected to increase dramatically in future years. From the park, the trail may then eventually be continued along the river to serve the East Sacramento and River Park neighborhoods, and connect to the existing trail on the south side of the American River at the H Street Bridge near California State University, Sacramento. Farther east, the American River Parkway trail network extends into the Folsom Lake State Recreation Area and the City of Folsom's burgeoning trail system, which will ultimately stretch into the foothill communities and the Sierra Nevada.

Trail Specifications

Trail Segment Limits

On the west, the trail will commence under the Interstate 5 bridge structure in Tiscornia Park, where an existing unpaved underpass will allow direct access for recreational users who presently must cross the Jibboom Street Bridge to the northern bank of the American River to continue traveling eastward along the American River. The eastern terminus is Sutter's Landing Park (approximately 28th Street).

Paved Trail

The bicycle and pedestrian trail would be a continuous 12-foot width, paved with asphalt concrete (Figures 6 and 7). The cross section of the paved trail should consist of a minimum of four inches of asphalt placed over eight inches of compacted aggregate base. The trail should be constructed by scarifying the existing gravel on the levee crown (assumed to be a depth of four inches), spreading and compacting an additional four inches of aggregate base (for a total of eight inches of base material), and placing four inches of asphalt concrete paving. These materials, dimensions, and methods are critical for providing

sufficient load-bearing capacity for heavy equipment used for levee maintenance and emergency operations, while maintaining the integrity of the pavement for recreational use. These specifications have been developed and approved by geotechnical engineers and local flood control management districts for use on local levees.

Shoulder

A two-foot wide compacted aggregate base shoulder would be on both sides of the paving to provide a walking and jogging course, as well as a load-bearing surface and backing for the asphalt. This shoulder material and configuration is critical for maintaining the function of the flood control levee crown as a patrol, maintenance, and emergency access route to ensure flood safety. The two-foot shoulders with the paved trail total 16 feet across the section, which is the minimum distance adequate for safe passing of vehicles and equipment. This specification is consistent with proposed and existing trails in the region, as discussed above.

Connecting Ramps

All ramps should have a minimum paved width of 12 feet, and the shoulders should be as wide as possible to provide a safe recovery area off the pavement edge. All ramps should meet the maximum slope criteria stipulated in the Americans with Disabilities Act (ADA).

Landscaping

The existing natural setting along the levee provides for a scenic, vegetated experience without need for much additional planting. Some planting may be desirable in the portion of the trail east of the railroad bridge, where vegetation is more sparse. Maintenance of vegetation adjacent to the path is important to enhance safety for recreational users. A vegetation management program is being established through the River Corridor Management Plan. Management of vegetation for safety and security of trail users could largely be accomplished incidental to this program through existing programs of the American River Flood Control District; however, minor additional trimming may be periodically necessary to maintain minimum trail clearance standards as dictated by the California Department of Transportation (Caltrans).

Lighting and Signage

This concept plan does not provide specific recommendations for other amenities to enhance usage of the bike trail, but recommends these improvements be

developed in later phases. A specific program should be developed to address the need for lighting and directional and interpretive signage along the trail.

Security

Due to the existence of transient, illicit, and non-conforming uses along portions of the American River, a program of security should also be addressed as part of future plan development. The Sacramento Police Department and County Park Rangers provide occasional surveillance of the levee system. Presently, the Capital Station District, a non-profit property owner and business organization serving the Richards Boulevard Area, provides private security patrol surveillance that includes portions of the levee system. Development of the trail will serve to improve the safety and perception of the overall character of this area by attracting more legitimate recreational uses and facilitating police patrol and emergency access. Safety will further be enhanced by inclusion of solar-powered, wireless emergency call boxes, provided by the Sacramento Area Council of Governments (SACOG).

Setting and Existing Conditions

Site Use and Context

General Description

The Richards Boulevard Area Plan (ROMA 1994a) describes the existing conditions and provides development guidelines for the American River Parkway Corridor Zone, which includes the Two Rivers Trail. The plan designates the corridor as an overlay zone where special development requirements are applied to improve public access and enjoyment of the riverfront, and to strengthen the amenity that the riverfront can provide to the Richards area.

Presently, many of the influences of the past decades are reflected in the development pattern and uses that are established in the planning area. The central portion of the planning area is primarily devoted to warehousing and distribution uses. The Basler-Dreher and Dos Rios housing developments remain in the area, but are isolated from each other and have been encroached upon by commercial and industrial uses. More recent development trends have added to the diversity of land uses in the Richards area. Highway-oriented commercial uses, which provide moderately priced accommodations and food as well as automotive services, have become concentrated around the Interstate 5/Richards boulevard interchange. Recently, older industrial uses have given way to low-density office development. Office uses are currently located north of Richards Boulevard, along North 10th and North 7th Streets. (ROMA 1994a)

At the present time, public access to the American River corridor from the Richards area is constrained by a lack of roadways and private development parcels which “back up” to the riverfront. In addition to precluding access, this orientation of development results in unsightly storage yards located adjacent to the river corridor, detracting from the visual amenity of the riverfront. To address these issues, the Richards plan provides for the development of a well-landscaped roadway along the perimeter of the Parkway zone which provides a clear edge between the public riverfront and private development. The roadway will also provide numerous opportunities for public access to the Parkway and improve the visibility of the riverfront open space. Along Jibboom Street, where development parcels will abut the Parkway, guidelines which orient active public

areas to the Parkway edge will serve to enliven the river corridor and provide a positive transition between public and private uses. (ROMA 1994a)

As new development is planned along Riverfront Drive, the Richards Boulevard Area Plan further dictates that it should be oriented to the street (and therefore the bikeway and river corridor) to define the street space and reinforce the pedestrian nature of the area. Buildings should be oriented such that the most active areas are located along the riverfront roadway. Parking areas for private uses should not be visible from the drive, and in no case should parking areas or buildings be located within 100 feet of the Parkway (measured from the landside toe of the levee). The setback area should be planned for active public use or developed as open space complementary to the Parkway. Landscaping within the river setback should incorporate riparian species that make reference to the adjoining riverfront vegetation. (ROMA 1994a)

Specific Issues

Development of Bikeway Will Occur in Phases

While the Richards Boulevard Area Plan envisions the creation of a parkway and access road along the approximately 2.5 mile length to the landside of the existing levee, and the County considers the trail as extending to California State University, Sacramento, this concept plan addresses initial development of the bikeway up to Sutter's Landing Park. The bikeway element can be developed utilizing the existing levee trail and city street connections. Future studies will address later phases of the project (including the segment upstream of the park and negotiation of the trail across SR 160). Other future actions may occur as part of the landside development, and will be evaluated on a case-by-case basis.

Redevelopment of Former Cannery Site

The 52+-acre former Sierra Cannery site has recently been purchased by a development group which intends to redevelop the site to residential and commercial uses. The three-block length of river frontage creates an excellent opportunity to connect the bikeway to the overall master plan for the site.

Land Ownership along Levee

Development of the bike trail will require the acquisition of fee title, right-of-way, or easement across privately owned parcels.

Bell Marine Site

At the eastern edge of the proposed project, the bike trail will need to be developed in a manner to avoid affecting the operations of an active business, Bell Marine and Gravel. The Bell Marine site represents the portion of the proposed project where an operating business abuts the river's edge. Realignment of the trail to the south of the site may be necessary, this alignment is presented in the concept plan. Alternatively, a right-of-way, easement, or outright acquisition of the property may be an option. The property is already in parcels which may facilitate a more efficient acquisition process.

Sutter's Landing Park

The park is scheduled to open in 2001, which will generate greater demand for regional and neighborhood linkages.

Biological Resources

General Description

The Lower American River supports a rich array of plants and wildlife. The 5,000 acre American River Parkway is composed primarily of native riparian, wetland, and upland vegetation. The biological study area (i.e., the low-flow portion of the American River on the north, the levee on the south, Tiscornia Park on the west, and the future Sutter's Landing Park site on the east) includes riverine habitat, riparian cottonwood forest, riparian willow scrub, palustrine scrub (i.e., scrub vegetation in a wetland), and grassland (Jones & Stokes 1998). The American River and associated riparian vegetation is confined by constructed levees on the north and south sides of the river. Residential and commercial development and fields are adjacent to the south levee.

There is very little vegetation in the riverine portion of the American River, except scattered willows (*Salix* sp.) present on sandbars. The riparian cottonwood forest consists of a narrow strip of tall Fremont's cottonwoods (*Populus fremontii*), Goodding's willows (*Salix gooddingii*), poison oak (*Toxicodendron diversilobum*), blue elderberry (*Sambucus mexicana*), and California wild grape (*Vitis californica*). The riparian willow scrub consists of a narrow strip of willows (*Salix* spp.) and young cottonwoods. Palustrine scrub consists primarily of willows. The grasslands consist of native and non-native grasses and forbs including wild oats (*Avena fatua*), erodium (*Erodium* spp.), California poppies (*Eschscholzia californica*), lupine (*Lupinus* spp.), and vetch (*Vicia* sp.).

The American River Parkway is a locally, regionally, and statewide significant wildlife area as wildlife habitat and a wildlife corridor. The American River extends from the Sacramento River on the floor of the Central Valley to the Sierra Nevada. Over 220 bird species have been recorded along the parkway (Johnson 1982) and approximately 65 species nest in riparian habitats of the Central Valley (Gaines 1977). The riparian habitats along the Lower American River provide habitat for wintering, breeding, and migrating birds. Many species of songbirds occur in the riparian habitats, including ruby-crowned kinglets (*Regulus calendula*), yellow-rumped warblers (*Dendroica coronata*), yellow warblers (*Dendroica petechia*), bushtits (*Psaltriparus minimus*), and oak titmice (*Baeolophus inornatus*). Many species of raptors also nest in the riparian habitats along the river, including red-tailed hawks (*Buteo jamaicensis*), red-shouldered hawks (*Buteo lineatus*), white-tailed kites (*Elanus leucurus*), great horned owls (*Bubo virginianus*), and western screech-owls (*Otus kennicottii*). Waterbirds also forage or roost along the Lower American River, including wood ducks (*Aix sponsa*), mallards (*Anas platyrhynchos*), common mergansers (*Mergus merganser*), gulls (*Larus* spp.), and egrets (*Egretta* spp. and *Ardea* spp.).

The Lower American River is also a significant area for many mammal species. Fur-bearing and semi-aquatic mammals such as beavers, river otters, mink, and muskrats have been observed in the parkway. These species depend on riparian and wetland vegetation and aquatic habitats for foraging habitat, cover, and rearing of their young. Upland mammals such as coyotes (*Canis latrans*), gray foxes (*Urocyon cinereoargenteus*), California voles (*Microtus californicus*), and western gray squirrels (*Sciurus griseus*), use the riparian habitats and grasslands in study area for foraging habitat, breeding areas, and cover from predators and adverse weather conditions.

The Lower American River also supports many species of amphibians and reptiles. Pacific treefrogs (*Pseudacris [Hyla] regilla*), western toads (*Bufo boreas*), and bullfrogs (*Rana catesbeiana*) breed in the Lower American River. During the non-breeding season, treefrogs and toads move into adjacent riparian and upland habitats for cover and feeding. Several species of reptiles also use the Lower American River habitats, including gopher snakes (*Pituophis melanoleucus*), common kingsnakes (*Lampropeltis getulus*), southern alligator lizards (*Gerrhonotus multicarinatus*), and western fence lizards (*Sceloporus occidentalis*).

Several special-status plant and wildlife species have potential to occur in the study area. Special-status species include: state and federally listed species; candidates for federal listing; state species of special concern; and federal species of concern.

No state-listed or federally listed plants or candidates for federal listing are known to occur along the Lower American River. One federal plant species of concern is known to occur along the Lower American River. Sanford's arrowhead (*Sagittaria sandordii*) occurs in the floodplain of the Lower American River between Howe Avenue and SR 160 (Jones & Stokes 1998). The Sanford's arrowhead occurs in shallow freshwater marsh. The northern California black

walnut (*Juglans hindsii*) historically occurred in the Sacramento River Delta. There are no known native occurrences along the Lower American River, but black walnuts occur in scattered numbers along the river (USCOE 1996). These black walnuts are probably not native occurrences. The black walnut occurs in riparian forest and woodlands.

Several special-status wildlife species have potential to occur in the Lower American River (Jones & Stokes 1998). Five special-status wildlife species have been observed in the study area: valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), northwestern pond turtle (*Clemmys marmorata marmorata*), Swainson's hawk (*Buteo swainsoni*), bank swallow (*Riparia riparia*), and white-tailed kite (*Elanus leucurus*). The giant garter snake (*Thamnophis gigas*) occurs in the Natomas Basin, but there are no records in the American River.

VELB (federally-listed as threatened) is dependent on elderberry shrubs for foraging habitat, breeding and rearing sites, and cover. VELB occurs in elderberry shrubs that have stems 1 inch or greater at ground level. Elderberry shrubs occur throughout the length of the Lower American River, and adult beetles have been observed in the area. Critical habitat has been designated in portions of the American River Parkway, east of the study area. The study area supports many elderberry shrubs that are suitable VELB habitat. The U.S. Fish and Wildlife Service considers the area within 100 feet of an elderberry shrub as part of VELB habitat.

Northwestern pond turtles (federal species of concern and state species of special concern) occur along the American River. The river is considered suitable aquatic habitat and adjacent fields are potential nesting areas. The American River levee is marginal quality nesting habitat and this species is not likely to nest on the levee.

Swainson's hawks (state-listed as threatened) nest in mature trees and forage in grasslands and agricultural fields. This species formerly nested along the Lower American River downstream of SR 160 (i.e., near Discovery Park). Swainson's hawks have not been observed nesting in the study area in recent years. This species is not likely to nest along the southside of the American River in the study area, but it is possible.

Banks swallows (state-listed as threatened) nest in steep and erodible river banks and feed on aerial insects over rivers, wetlands, grasslands, and agricultural fields. This species has been recorded nesting along the Lower American River east of Capitol City Freeway. No suitable nesting habitat occurs in the study area, and bank swallows are not likely to nest there.

The white-tailed kite (California fully protected) nests in trees and tree-like shrubs and forages in wetlands, grasslands, and agricultural fields. This species has been observed nesting along the Lower American River (Jones & Stokes

1998). The riparian trees in the study area are potential nesting sites for the white-tailed kite.

Giant garter snake (federally- and state-listed as threatened) occurrences have been recorded in the Natomas Basin and the Natomas East Main Drainage Canal which flows into the American River downstream of SR 160. The giant garter snake occurs in sloughs, marshes, rice fields, and ditches. These snakes use adjacent unforested uplands within 200 feet of aquatic habitat for hibernation. Giant garter snakes usually do not use upland areas with dense riparian vegetation. They can also occur in portions of slow moving rivers with no or minimal riparian forest. Giant garter snakes are not likely to occur along the southside of the American River in study area because there is no suitable upland habitat.

Specific Issues

The major biological issues in the study area are: potential loss or damage to riparian habitats; potential harm to VELB and VELB habitat; potential disturbance to nesting Swainson's hawks, white-tailed kites, and other raptors; potential harm to giant garter snakes; and wildlife disturbance during construction. The northwestern pond turtle would not likely be affected by construction or operation of the bikeway; therefore, it will not be discussed further in this section.

Prior Impacts

It should be noted that recent and ongoing construction of the slurry wall levee improvement project along the Sacramento and American Rivers shares the same potential for effects on biological resources as the Two Rivers Trail. The construction-related potential effects of the slurry wall work, sponsored by the U.S. Army Corps of Engineers, State Reclamation Board, and SAFCA, are nearly identical in footprint, access points, duration, and presence of heavy equipment, although the Two Rivers Trail will involve less extensive earthwork and less heavy equipment. Therefore, resultant impacts from construction of the Two Rivers Trail should be less than that for the slurry wall construction.

Riparian Habitat

Construction of the bikeway could result in the removal of or damage to riparian vegetation along the proposed bike route or at staging areas. Riparian vegetation is a sensitive biological resource and would require protection during construction and compensation for the loss of mature riparian trees and shrubs. An inventory of riparian trees and shrubs would need to be conducted to determine the number and species that could be damaged or removed, if any. A

mitigation plan would need be to prepared and implemented to protect riparian vegetation and mitigate for the loss of riparian vegetation. The project proponent should confer with DFG for approval of the mitigation plan.

Valley Elderberry Longhorn Beetle

Construction of the bikeway could result in damage to or removal of elderberry shrubs or require construction activity within 100 feet of elderberry shrubs. An inventory of elderberry shrubs within 100 feet of construction activities and staging areas would need to be conducted by a qualified biologist experienced with VELB. If elderberry shrubs could be directly (e.g., removal, damage, or pruning) or indirectly (e.g., damage to habitat within 100 feet of an elderberry shrub) affected by construction activities, the project proponent would need to consult with the USFWS and comply with the USFWS's VELB compensation guidelines and obtain a permit under the federal Endangered Species Act, if needed. The compensation guidelines include avoidance measures, compensation measures, and monitoring and reporting requirements.

The County, SAFCA, and USFWS will be developing a VELB management plan for the entire American River Parkway (including the Two Rivers Trail) which will include avoidance strategies, management practices, and compensation opportunities for VELB habitat. The results of this specific planning effort could supercede the general compensation guidelines and consultation process.

Swainson's Hawk

It is not likely that Swainson's hawks nest or will nest in the study area, but it would be prudent to conduct preconstruction surveys consistent with the levee improvement projects in the study area and DFG's Swainson's hawk mitigation guidelines. Before construction begins, the project proponent should consult with DFG regarding preconstruction surveys and potential impacts on Swainson's hawks.

White-Tailed Kite and Other Raptors

Although it is unlikely that white-tailed kites or other raptors would nest in the study area, it would be prudent to perform preconstruction surveys along with the Swainson's hawk surveys. Before construction begins, the project proponent should consult with DFG regarding preconstruction surveys and potential impacts on white-tailed kites and other raptors.

Giant Garter Snake

Although it is unlikely that the study area is potential giant garter snake habitat, it would be prudent to consult with the USFWS and DFG to obtain confirmation that construction of the bikeway would not harm giant garter snakes and that state and federal endangered species compliance is not needed. If USFWS or DFG determine that the study area is potential giant garter snake habitat, the project proponent would need to comply with USFWS's and DFG's giant garter snake mitigation guidelines.

Wildlife Disturbance

Construction activities could disturb riparian birds during the nesting season. Generally, most nesting activity occurs from March 15 to July 15 in the Sacramento Valley. Because there already is human disturbance along the levee and river from recreational activities, construction of the bikeway may have minimal impacts on riparian songbirds and other wildlife. To minimize construction disturbance on riparian nesting birds, construction should occur between July 16 and March 14, if feasible.

Cultural Resources

General Description

The cultural resources constraints for the Two Rivers Trail Project are determined by the permits and regulatory processes governing the project. The project is subject to CEQA compliance and, depending on federal funding sources, may be subject to the requirements of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations (36 Code of Federal Regulations [CFR], Part 800). Section 106 requires federal agencies to take into account the effects of their actions on properties that may be eligible for listing or are listed in the National Register of Historic Places (NRHP). These resources are referred to as historic properties and include historic and prehistoric buildings, features, and archaeological sites. The Area of Potential Effects (APE) is thus subject to the requirements of Section 106 of the NHPA. This responsibility can be delegated but before the Corps can grant permits completion of the Section 106 process is required.

To determine whether an undertaking could affect NRHP-eligible properties, cultural sites, including archaeological, historical, and architectural properties, and traditional cultural properties must be inventoried and evaluated for eligibility for listing in the NRHP. Such an inventory must identify all such properties within the Area of Potential Effects (APE). Although compliance with

Section 106 is the responsibility of the federal lead agency, the work necessary to comply can be delegated to others.

This cultural resources constraints analysis identifies recorded cultural resources in the project area and recommends further work necessary to complete the requirements of Section 106.

In October of 2000 Jones & Stokes completed a record search with the Northeast Information Center of the California Historic Resources Information System. This record search revealed that numerous cultural resource studies cross portions of the project area (Cultural Resources Unlimited 1993, Derr 1993, USCOE 1999, Lindstrom 1990, Nilsson 1995, Peak 1974, and Windmiller 1997). Together these studies encompass the entire project area. Two cultural resources have been identified in the project area. One of the resources, simply referred to in the associated report as Site 1, consists of an abandoned railroad grade (Windmiller 1997). This segment of grade occurs just south of the levee and approximately ½ of a mile east of the Highway 160 overpass. The other resource consists of the river levee itself, and runs along the south side of the American River through the entire project area. The levee is designated CA-SAC-482-H.

Specific Issues

Known Resources

Because the project area has been surveyed in its entirety no further survey is recommended. Two recorded resources exist within the project area. Completion of Section 106 will require evaluation of these resources and assessment of the effects of this undertaking on any properties determined eligible for listing in the NRHP. Evaluation requires application of the National Register significance criteria and assessment of the integrity of the resource. If the resource possesses both integrity and significance it is eligible for listing on the NRHP. Jones & Stokes thus recommends implementation of the following tasks.

- Gather data sufficient to evaluate Site 1 as identified by Windmiller (1997). This task will likely require a field visit to determine integrity, and sufficient historic research to evaluate the significance of the resource. It is not expected that this resource will be eligible.
- Gather sufficient data to evaluate CA-SAC-482-H. This task will require a field visit and historic research. It is expected that the levee will be eligible for listing in the NRHP. Because the levee is probably eligible it will also be necessary to assess the effects of the undertaking on CA-SAC-482-H. While the trail will certainly constitute an effect it is not expected to create an adverse effect. Levees are historically associated with transportation, roads, and other diverse uses. The proposed trail will therefore be congruent with the character of the levee.

Prior Impacts

It should be noted that recent and ongoing construction of the slurry wall levee improvement project along the Sacramento and American Rivers shares the same potential for effects on cultural resources as the Two Rivers Trail. The construction-related potential effects of the slurry wall work, sponsored by the U.S. Army Corps of Engineers and SAFCA, are nearly identical in footprint, access points, duration, and presence of heavy equipment, although the Two Rivers Trail will involve less extensive earthwork and less heavy equipment. Therefore, resultant impacts from construction of the Two Rivers Trail should be less than that for the slurry wall construction.

Section 3

Next Steps and Costs

To realize the vision of the Two Rivers Trail beyond the conceptual level, the following steps are recommended and will be required for project implementation. These recommendations are not sequential steps in a linear process; rather, some may be accomplished concurrently to ensure an efficient and quality final product.

Community Outreach

The ultimate success of the trail relies upon meeting the needs of the trail users. However, recreational uses must be balanced with the concerns of adjacent land owners, the requirements of operations and maintenance entities, and coordination with the resource agencies to ensure environmental protection. Much of this outreach has been ongoing as part of the River Corridor Management Plan effort through the Lower American River Task Force, and its various ad hoc working groups. With this concept plan as a guide, the input from the various stakeholder groups should be sought during the design development and environmental phases.

Community outreach is currently underway. Costs for additional community outreach are implicit in the environmental compliance process, in the form of public scoping and comment meeting.

Master Planning and Detailed Design

The specific elements of the concept plan require design development to further identify exact locations, configurations, connections, type, size, and number for all proposed improvements. During this phase, a detailed project program will be developed which describes all elements to be included as part of the Two Rivers Trail, as well as their desired qualities. The design concepts will be further explored through technical studies to ensure feasibility. A project description will also be developed for the purpose of the environmental analyses. Further, this phase will be coordinated with planning efforts for adjacent properties and other overlay plans within the study area to ensure consistency, compatibility, and integration.

The cost for additional planning and detailed design would range from \$25,000 to \$50,000.

Environmental Compliance

During detailed design and development of the project description, the project should be evaluated for triggers for environmental reviews, permits, and approvals. CEQA compliance should already be satisfied at a programmatic level as part of the environmental compliance for the River Corridor Management Plan. The need for additional compliance, such as for the National Environmental Policy Act (NEPA), would have to be determined based on funding sources (e.g., federal funds require federal compliance).

The estimated cost for implementation-level CEQA analysis and other permitting is approximately \$40,000 to \$100,000.

Land Acquisition

The current phase of the Two Rivers Trail discussed in this concept plan report includes the crossing of 14,380 linear feet of property not owned by the City of Sacramento, affecting 18 land owners. Rights-of-way, easements, or entire parcels will need to be acquired by the City to facilitate routing of the trail. The required right-of-way or easement is assumed at 14,380 linear feet of trail by 30 feet wide, although in some circumstances entire parcels may be acquired.

The cost for land acquisition is not well-known, since right-of-way engineering and appraisals have not been conducted. The costs could range from \$100,000 to over \$1,000,000.

Funding

Municipalities are often hard-pressed to set aside funding for land acquisition, design, construction, operations, and maintenance of recreation projects. Opportunities for cost sharing and federal grant programs should be sought to gain approvals for, implement, and operate the trail.

The cost for research, application, and management of funding sources would range from approximately \$10,000 to \$35,000.

Engineering and Construction Documents

The detailed design and master plan will need to be further developed into construction documents (plans and specifications) to be implementable by a construction contractor.

The cost to prepare construction documents and manage the bidding process would range from \$50,000 to \$100,000.

Construction

Upon completion of the previous steps and approval by the City Council, the project will be ready for construction. The anticipated timeline for accomplishment of these tasks is about one year, so the earliest season for construction to begin would be summer of 2002, although later years would be more likely. A preliminary cost estimate and assumptions for construction are provided below. These costs are cursory only and are accurate within an order-of-magnitude, based on assumptions from similar projects.

Preliminary Construction Cost Estimate

Line Item	Unit of Measure	Cost per Unit	Total Units	Total Cost
Earthwork ^a	cubic yard	\$ 10	2,000	\$ 20,000
Asphalt Paving ^b	square foot	6.00	142,680	856,080
Emergency Call Boxes ^c	each	0	4	0
Pavement Striping ^d	lump sum	10,000	--	10,000
Access Gate Modification ^e	lump sum	10,000	--	10,000
Directional Signs ^f	each	200	12	<u>2,400</u>
Total				\$898,480

Assumptions and Notes:

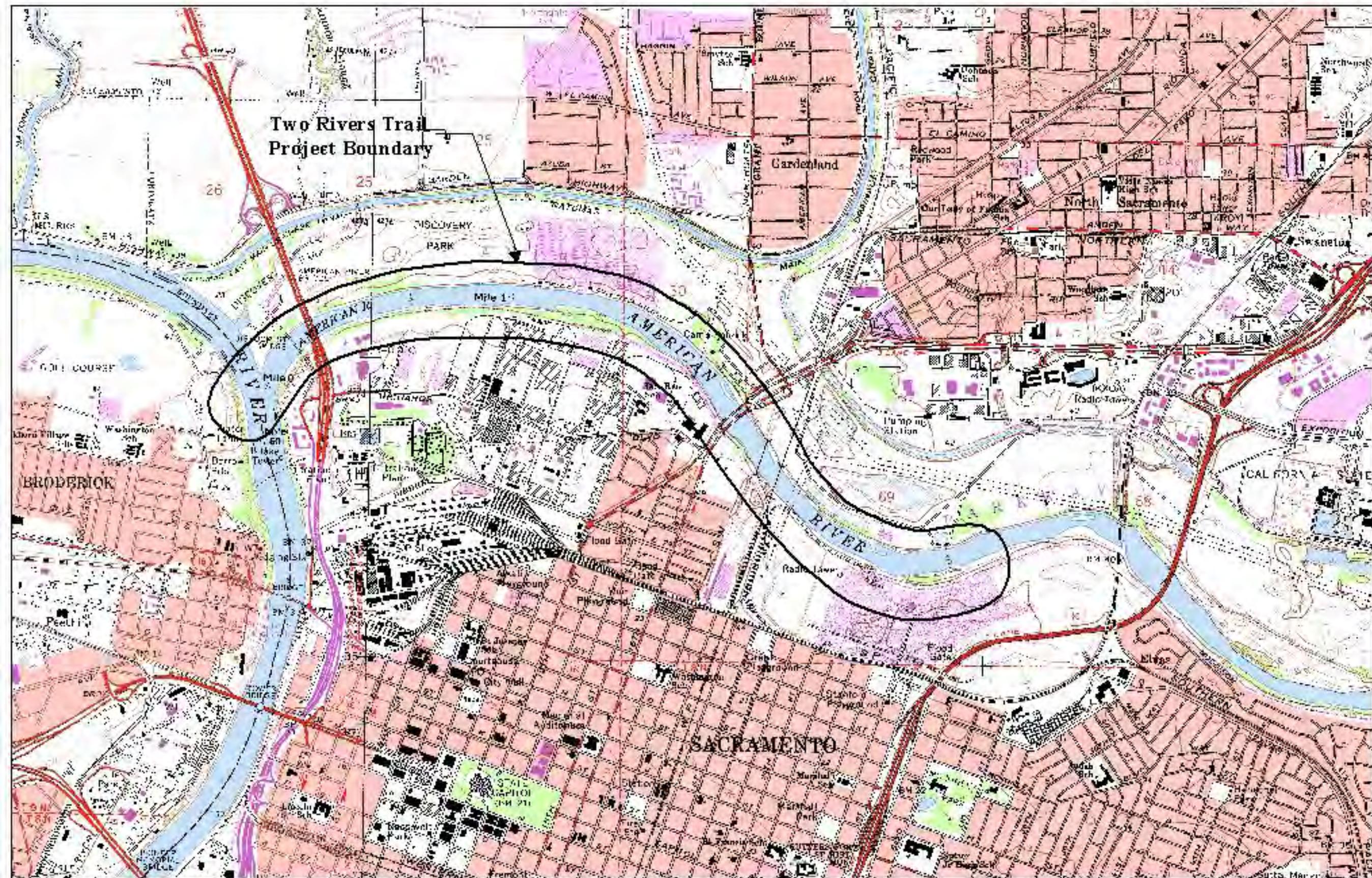
- ^a This assumes minor grading incidental to railway scarification and leveling for main trail alignment and access points.
- ^b Paving estimate assumes 11,890 linear feet of trail by 12 feet wide by 4 inches deep each of asphalt and aggregate base, similar to approved construction specification for Ueda Parkway.
- ^c Call boxes may be provided free through SACOG, but the actual cost may also be applied toward local match for federal cost-sharing.
- ^d Striping assumes inclusion of centerline stripe, pavement mile markers, and intersection pavement markings.
- ^e Existing flood control gates and fencing will require modification to allow to allow 4-foot clear for accessibility.
- ^f Signs will be provided at each trail entry location.

Section 4

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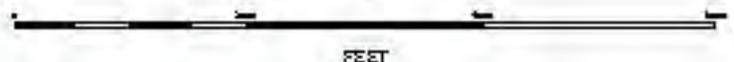


Two Rivers Trail
Project Boundary

Two Rivers Trail

"Returning the river to the people by returning the people to the river."

Sacramento, California



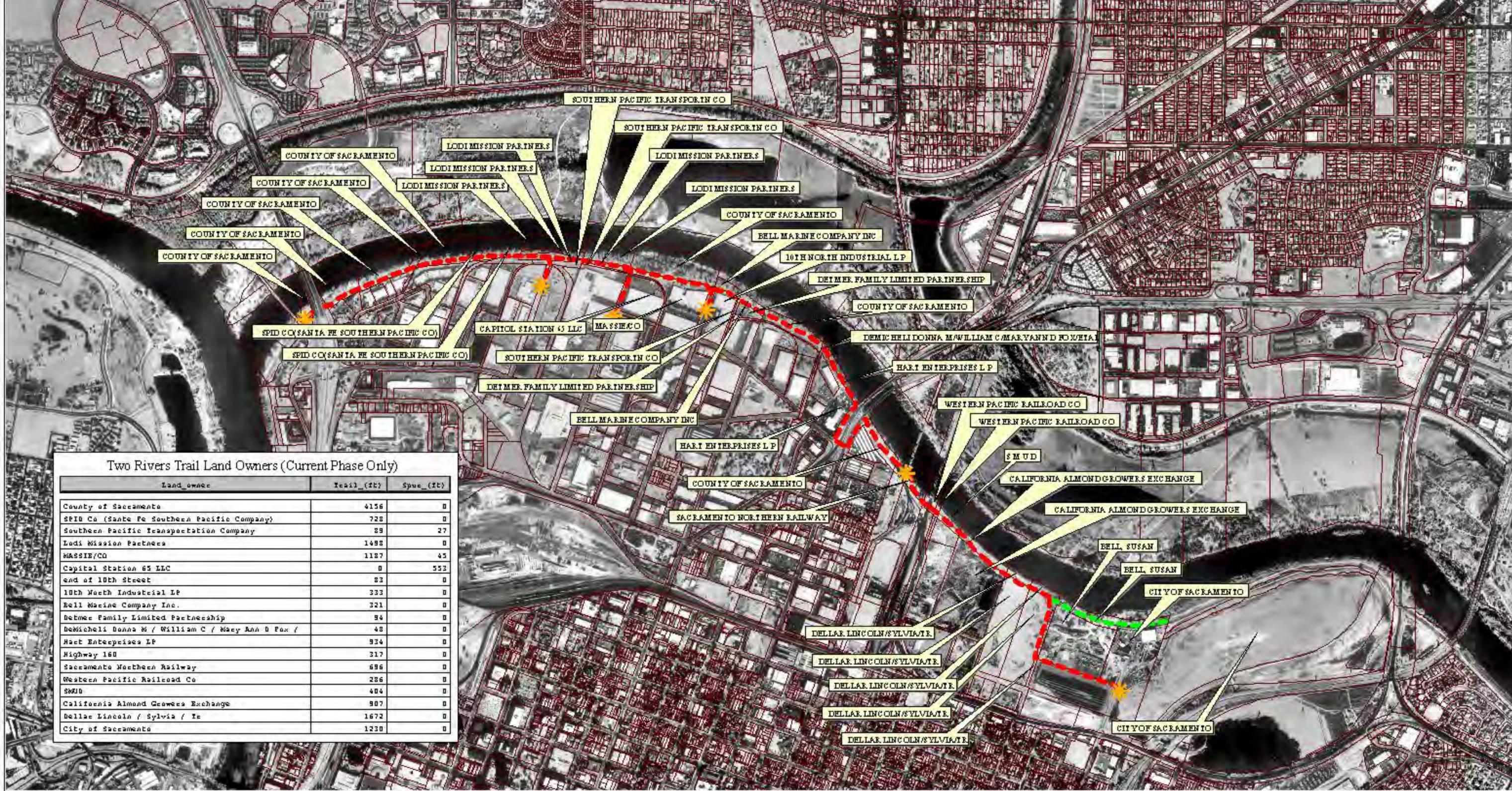
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Figure 1
Vicinity and Context Map

Prepared for:
 City of Sacramento
 Downtown Development Group

Prepared by:
 Jones & Stokes
 Sacramento, CA

Base map source: USGS 7.5' quadrangles Sacramento East (1980) and Sacramento West (1980).



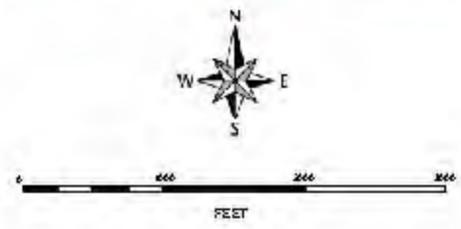
Two Rivers Trail Land Owners (Current Phase Only)

Land owner	Trail (ft)	Spec (ft)
County of Sacramento	4156	0
SPID Co (Santa Fe Southern Pacific Company)	728	0
Southern Pacific Transportation Company	29	27
Lodi Mission Partners	1492	0
MASSIE/CO	1127	45
Capital Station 65 LLC	0	553
end of 10th Street	83	0
10th North Industrial LP	333	0
Bell Marine Company Inc.	321	0
Deimer Family Limited Partnership	94	0
Demicheli Donna M / William C / Mary Ann D Fox /	48	0
Hart Enterprises LP	934	0
Highway 160	317	0
Sacramento Northern Railway	696	0
Western Pacific Railroad Co	286	0
SMUD	404	0
California Almond Growers Exchange	907	0
Dellac Lincoln / Sylvia / Tr	1672	0
City of Sacramento	1230	0

Two Rivers Trail

"Returning the river to the people by returning the people to the river."

Sacramento, California



- Property Boundary
- Paved Bike/Pedestrian Trail (Current Phase)
- Paved Bike/Pedestrian Trail (Optional Alignment)
- Trail Access Point

Figure 3
Land Ownership and Acquisition Needs

Prepared for:
 City of Sacramento
 Downtown Development Group

Prepared by:
 Jones & Stokes
 Sacramento, CA

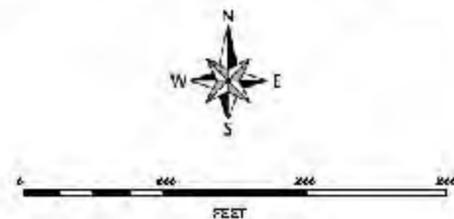
Base map source: East Bay Municipal Utility District (owner) and Hammon, Jensen, Wallen, and Associates (provider); photo scale of 1:24,000; February 20, 1997.



Two Rivers Trail

"Returning the river to the people by returning the people to the river."

Sacramento, California



- - - Paved Bike/Pedestrian Trail (Current Phase)
- - - Paved Bike/Pedestrian Trail (Optional Alignment)
- Trail Access Point

Prepared for:
 City of Sacramento
 Downtown Development Group

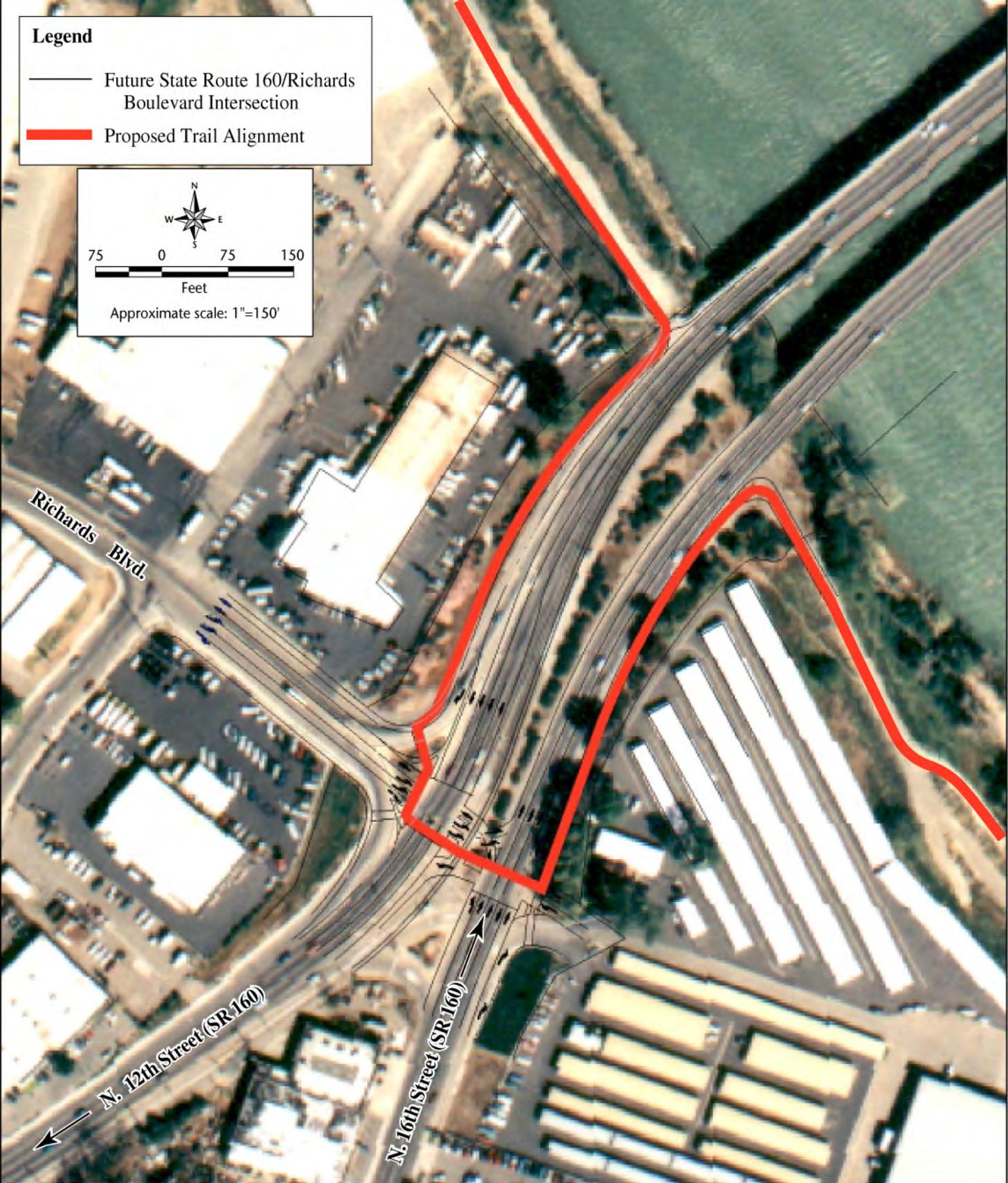
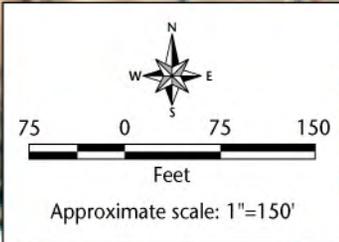
Figure 4
Concept Plan

Prepared by:
 Jones & Stokes
 Sacramento, CA

Base map source: East Bay Municipal Utility District (owner) and Hammon, Jensen, Wallen, and Associates (provider); photo scale of 1:24,000; February 20, 1997.

Legend

- Future State Route 160/Richards Boulevard Intersection
- Proposed Trail Alignment



Two Rivers Trail

"Returning the river to the people by returning the people to the river."

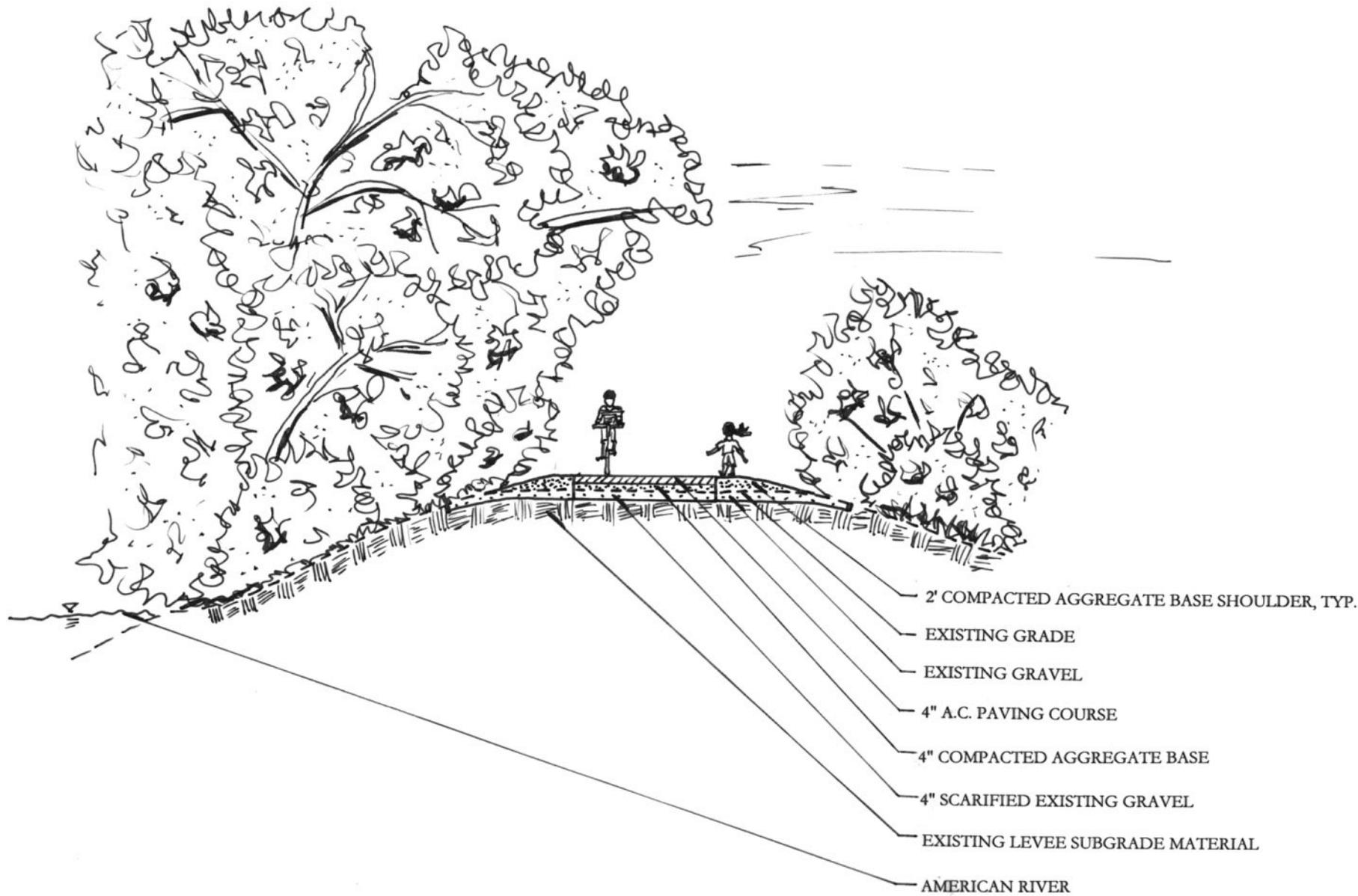
Sacramento, California

Figure 5
Proposed Trail Crossing of State Route 160 (at grade)

 Jones & Stokes
Sacramento, CA

October 2001

Source: City of Sacramento (2001).

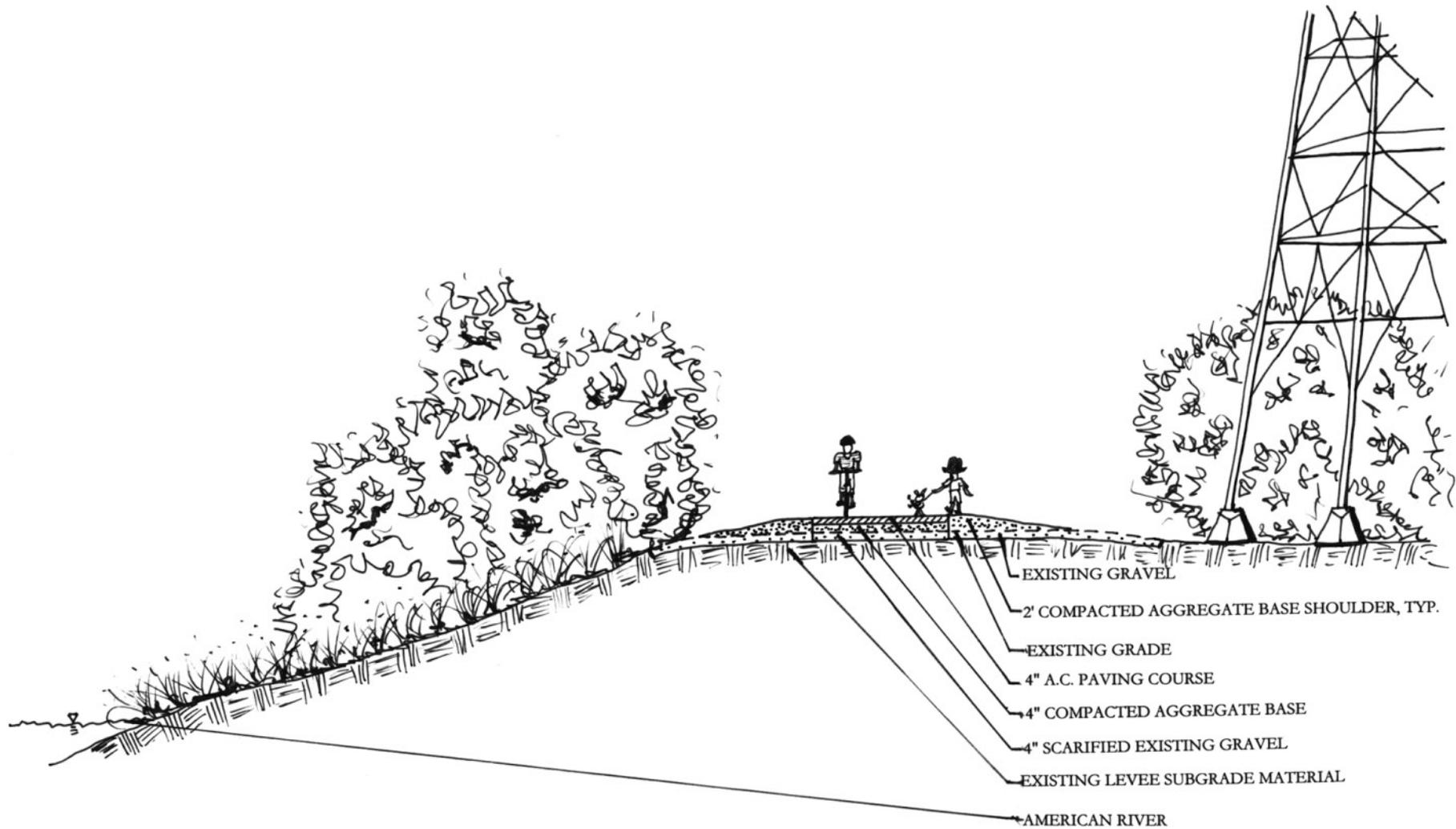


Two Rivers Trail

"Returning the river to the people by returning the people to the river."

Sacramento, California

Figure 6
Conceptual Trail Cross Section (west of State Route 160)



Two Rivers Trail

"Returning the river to the people by returning the people to the river."

Sacramento, California

Figure 7
Conceptual Trail Cross Section (east of State Route 160)





















42000



ON-SITE REVEGETATION
IN PROGRESS

WDCI
San Joaquin Area
Flood Control Agency
Department of Water Resources









