



FEMA

**S U P P L E M E N T A L
E N V I R O N M E N T A L A S S E S S M E N T**

Ventura County General Services
Agency, Parks Department
Ventura County, California

Foster Park Bank Repair Project

FEMA-1203-DR-CA, DSR # 52056

February 2004

Prepared by



Nationwide Infrastructure Support Technical Assistance Consultants
A Joint Venture of URS Group, Inc., and Dewberry & Davis LLC

500 12th Street, Suite 200
Oakland, California 94607

Contract No. EMW-97-CO-0173
Task Order 61

US Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, California 94607

15293557.00100

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
FEMA-1203-DR-CA, DSR 52056
Federal Emergency Management Agency, Region IX

Project Name: Foster Park Bank Repair

Subgrantee: Ventura County General Services Agency, Parks Department

DSR or HMGP Number(s): DSR #52056

Date: February 2004

Project Location: East bank of lower Ventura River within Foster Park, about 5 miles north of the City of Ventura, along State Route 33.

1. INTRODUCTION

Ventura County General Services Agency, Parks Department (County), through the California Office of Emergency Services (OES), has applied to the Federal Emergency Management Agency (FEMA) Public Assistance (PA) Program for funding to repair approximately 1,500 linear feet of bank along the Ventura River in a community park – Foster Park – that was damaged by the 1998 floods (FEMA-1203-DR-CA). For this project, the County would not only restore the banks, but also improve them by providing bank protection that would prevent future bank erosion from similar flooding events.

Foster Park is located on the east side of the lower Ventura River, along Route 33 about five miles north of the City of Ventura (Figure 1, Appendix A). The park contains many large sycamore and oak trees. The southern end of the park contains a group picnic area, scattered small picnic tables, and a baseball field. The northern end of the park contains a restroom with a parking lot (Figure 2, Appendix A). The Ventura River bike trail traverses the park. The 4 to 15-foot high banks of the park are unprotected, consisting of steep highly eroded banks with only scattered vegetation. The conditions of the banks are shown on Photographs 1-18 (Appendix B).

The river banks in the park were eroded during the storms of February 1998, then again in March 2001. The bank adjacent to the parking lot at the north end of the park was severely eroded, causing the loss of a sidewalk and a row of parking. Asphalt and concrete fell into the river. Approximately 120 feet of upland area containing pavement and landscaping has eroded since 1998. The erosion along this portion of the park was caused when a new channel (“eastern channel” on Figure 1) was formed upstream. The new channel continued passed Foster Park, conveying substantial flows that eroded the eastern banks. The banks along the southern portion of the park were also eroded in 1998. About 30 feet of the baseball field was eroded, requiring the County to close the field and convert it to open space.

Portions of the riverbed adjacent to the eroded banks contain willow and giant reed saplings that colonized the disturbed areas after the 1998 floods. In particular, a 700-foot long row of young willow trees (3-4 years old) is present at the toe of the eroded banks at the southern end of the

project site. A large pond was formed next to the eroded bank at the parking lot in 1998; however, this pond was destroyed by the March 2001 floods, leaving a barren riverbed behind.

The Ventura River at the project site contains a very wide channel dominated by large cobbles. Significant channel bed movement occurs in this reach during floods, altering the number and location of the braided channels. The main flow channel is located in the center of the riverbed and contains water year-round (Figure 2). The floods of 1998 and 2001 established and enlarged an eastern channel that now is located adjacent to the park (Figure 1). This channel would likely remain at this location indefinitely.

1.1 Scope of Document

This Supplemental Environmental Assessment (SEA) is tiered from the *Final Programmatic Environmental Assessment for Typical Recurring Actions Resulting from Flood Disasters in California as Proposed by FEMA (PEA)* (FEMA 1998) and hereby incorporates the PEA by reference, in accordance with 40 CFR Part 1508.28.

1.2 Purpose of and Need for Action

The purpose of, and need for, the action is described at a programmatic level in Section 1.4 of the PEA. The purpose of the proposed action is to restore the eroded banks, and provide increased flood protection. The County considers the project necessary to protect public health and safety, as the eroded and steep slopes represent a public safety hazard to park users.

2. ALTERNATIVES

2.1 Alternatives Analyzed

The proposed bank repair represents the following “project type,” as defined in the PEA: “Drainage Channel” (PEA Section 2.2.2). Three alternatives are addressed in the SEA: No Action Alternative, Original Proposed Project, and Tree Avoidance Alternative. The latter two alternatives represent variations of the “Improvement Alternative” described in the PEA (Section 2.3.3).

2.1.1 No Action Alternative

The No Action Alternative is described at a programmatic level in Section 2.5.2 of the PEA. Under the No Action Alternative, the bank repairs at Foster Park would not occur. Public access, parking, and recreation along the banks would remain hazardous. Bank erosion would continue due to future flood events, which would result in further land loss and require additional public access restrictions in the park.

2.1.2 Original Proposed Project

The Proposed Action is described at a programmatic level in Section 2.5.2 of the PEA.

Since 1999, the County has presented several different bank repair designs to the state and federal resources agencies for their review and comment. These agencies included US Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), U.S. Army Corps of Engineers (Corps), and the California Department of Fish and Game (CDFG). After a series of meetings with these agencies, the County developed a design in 2001 that addressed their primary concerns and utilized ungrouted rip-rap slope protection. As described in Section 2.1.3, these same agencies determined in 2003 that another alternative was preferable, the “Tree Avoidance Alternative,” after reconsidering the tree loss associated with the Original Proposed Project.

The Original Proposed Project is described below. It no longer represents the subgrantee’s and permitting agencies’ preferred project. However, it is presented in the SEA for the sake of comparison with the new alternative.

2.1.2.1 Overall Design

The objective of the proposed project is to restore damaged banks to a uniform and stable configuration, and to protect them from future erosion from flood flows that impinge along the banks. The project does not include all banks that were damaged in 1998. The County has selected only those portions of the park where bank erosion has significantly affected current and future park uses and infrastructure. In general, the eroded banks would be restored along their current alignments. The project does not include recapturing the park land that was eroded in 1998 and 2001.

For this alternative, the County selected a bank protection design that balances effectiveness and reliability, ease of construction, capital costs, and environmental considerations. The eroded banks would be restored with ungrouted rock rip-rap that would be covered with a layer of native soil, and then planted with scattered willows. Most of the willows would be planted at the toe of the slope and in the riverbed adjacent to the toe of the slope in the area temporarily disturbed during construction. This design provides an opportunity to restore riparian vegetation on the banks, while hiding the rip-rap from view in order to minimize visual impacts to the natural setting in the park. The new top of bank would generally be 10 to 15 feet inland from the existing top of bank. The new banks would have a slope of 2H:1V, much less steep than the current banks, which are from 1:1 to near vertical.

The project is not designed to increase the flood protection in the park, only to prevent future erosion. Hence, the top of the proposed bank protection (e.g., rip rap with soil layer) would match the existing top of bank. The elevations of the existing banks are at the predicted water surface elevation for a 10-year flood event on the Ventura River (30,000 cfs. Source: Mori Seyedan, pers. comm.). The floodplain boundaries along the river would not be altered because the banks along the park would not be raised and the river channel would not be filled.

A description of the design, materials, construction, and maintenance of the Original Proposed Project is provided below, and shown on Figures 3 through 7 (Appendix A).

2.1.2.2 Southern Reach

The southern reach extends 967 feet from near the park entrance to the baseball field (Figure 3). The existing banks would be graded to a smooth and uniform slope (2H:1V), then covered with a 12-inch thick filter fabric, three feet of ½ ton rock, and two feet of native soil (Figure 5). The filter fabric would be placed to provide a stable surface for the rip-rap. The filter fabric would allow passage of water and roots of plants.

The toe of the rip-rap would be placed 10 feet below the existing channel bed (Figure 5) to prevent erosion if the channel is lowered by flood flows. Native soils placed on the rip-rap would be derived from onsite excavations associated with the project. The soils would be washed into the voids in the rip-rap to ensure a suitable rooting medium. Willow stems would be cut from willow trees in the river channel and placed in the soil layer along the bank face to provide additional bank protection, and to create riparian habitat. Willows would be placed at an average spacing of 6 to 8 feet (Figure 6). The soil on the rip-rap would also be seeded after construction with native grasses.

The bank protection along the southern reach also includes a small side drain to the river (Figure 3). Cutoff walls would be installed at each end of the bank protection, consisting of rip-rap buried three feet deeper than the rest of the bank.

2.1.2.3 Northern Reach

The northern reach occurs at and near the upper parking lot and is 513 feet long (Figure 4). The existing eroded banks would be graded to a smooth and uniform slope (2H:1V), then covered with a 12-inch thick filter fabric, three feet of ½ ton rock, and two feet of native soil (Figure 5). The toe of the rip-rap would be placed 7 feet below the existing channel bed (Figure 5), along with a 5-foot thick layer of 1-ton rock to provide additional protection from scouring. Native soils, willow cuttings, and native grass seeds would be placed in the same manner as for the southern reach.

The bank protection along the northern reach also includes a 25-foot long, 15-foot wide ungrouted rock groin at the southern end of the bank protection (Figure 4) which is designed to deflect flood flows and reduce downstream bank erosion. A buried rock cutoff wall would be installed at the northern end of the bank protection.

The existing concrete and asphalt debris in the river channel from the damaged parking lot would be removed during construction. Once the bank protection is completed, the County would install a curb and asphalt pavement in the affected area to restore the parking lot. Insufficient land is available to restore the parking stalls that were present before the bank erosion. Hence, the paved areas adjacent to the newly protected banks would be a travel lane. The curb for the restored parking lot would be 8 feet from the top of the new bank. Drainage from the parking lot would be directed to the south. A wood rail fence and path would be installed along the top of the new bank protection adjacent to the parking lot for public safety.

2.1.2.4 Construction

The project would be constructed in spring and summer of 2004. Construction activities affecting the river channel would occur during the period May 1 to October 1, 2004. Work would only be conducted in the river channel when there are no flows in the work area that are continuous with the main channel of the Ventura River.

Construction is expected to require 70 work days, or about 14 weeks. The park would remain open during construction; however, work areas would be temporarily fenced to exclude the public.

Installation of the bank protection would require the use of heavy equipment. The excavation and rock placement would be accomplished using a large excavator working mostly from the tops of the banks. A 30 to 45-foot wide temporary work area would be established above the banks to allow equipment access and temporary stockpiles. The baseball field would be used for a temporary construction staging and equipment storage area (Figure 3).

Installation of the bank protection, including burial of the toe of the rip-rap, would require a 30-foot wide temporary disturbance zone at the base of the banks, as shown on Figure 7. Workers and occasional equipment would access a 10-foot wide zone in the riverbed for certain construction tasks. This temporary work zone would be returned to pre-construction grade using on-site materials, and graded to match the existing channel elevations. The top of the bank protection would match the existing grade of the park, and would be covered with dirt.

The park areas disturbed by construction would be ripped and smoothed, then planted with turf grass, except for the northern reach where the parking lot would be restored at the top of the bank.

Approximately 21,500 cubic yards of material would be excavated and most of it would be used onsite. Approximately 8,500 cubic yards of soil would be used for backfilling the toe trenches and placing the layer of soils on the rip-rap slopes. Approximately 200 cubic yards of excess materials would be hauled from the site. No material would be disposed onsite. Imported materials are listed below:

- 6,800 cubic yards of ½ ton rock
- 1,200 cubic yards of 1 ton rock
- 210 cubic yards of grouted rock for cut off walls
- 2,200 cubic yards of filter fabric

It is anticipated that water may be present in the toe trenches due to seepage. Hence, a dewatering operation would be implemented in which water would be collected by sump pumps, and then discharged to a temporary settling pond created in the river channel to allow percolation. If pools are present in the work area at the beginning of construction, the County would determine if these pools can be dewatered based on the results of the pre-construction biological surveys, and consultations with CDFG, NMFS, COE, and USFWS as described in Section 3.6. Standard Best Management Practices (BMPs) would be employed during construction to prevent erosion from the work area and accidental spills into the river channel.

2.1.2.5 Post-Construction Habitat Restoration

Tree Replacement

Installation of the bank protection would require removal of six large native trees and three non-native trees that are located on the banks. A summary of the trees to be removed from the top of the banks is provided below in Table 1. This table does not include the willow trees that would be removed from the 30-foot wide temporary construction disturbance zone in the river channel.

**TABLE 1
SUMMARY OF PARK TREES TO BE REMOVED**

	Trees to be Removed (see Figures 3 and 4). Trunk Diameters are Listed			
	Sycamore	Cottonwood	Eucalyptus	Total Live <i>Native</i> Trees
Southern Reach	32"	25" 38" 12" (dead) 12" (dead) 12" (dead)	26"	3
Northern Reach	26" 41" 21"	0	23" 42"	3
Total	4 live (3 dead)	2	3	6

The live native trees removed for the project would be replaced at a 10:1 ratio per Term 14 of the CDFG Streambed Alteration Agreement (No. 5-289-99; expiration date 12/1/04) issued to the County in 2000 for the southern reach only. A total of 60 trees would be planted, consisting of the 40 sycamore trees and 20 Fremont cottonwood trees. One gallon trees would be used.

Approximately half of the trees would be planted in scattered clumps along the tops of the new banks. The rest of the trees would be planted at various locations in the park where there are gaps in current tree canopy, or where it is desirable to provide additional trees for aesthetic, recreational, or habitat purposes. Trees would be planted in December 2004 or January 2005 to coincide with the first winter rains. They would be protected from park users by posts, and if necessary, wire enclosures. The County would maintain the trees as part of the routine landscaping maintenance in the park. They would receive water from an existing irrigation system at the park during the initial plant establishment period.

The County would install and maintain the trees in accordance with Terms 37 through 52 of the CDFG Streambed Alteration Agreement. These terms include the following key requirements:

- A revegetation plan must be submitted to CDFG for approval

- Growth performance standards must be met at 3 and 5 years (e.g., height of trees)
- Survival standards must be met (80 percent after year one, and 100 percent thereafter)
- Cover performance standards must be met (75 percent cover after 3 years, 90 percent after five years)
- An annual report on the status of the restoration must be submitted to CDFG for five years
- Plants must survive and grow for three years without supplemental watering

Willow Plantings

Willow cuttings would be installed in the 30-foot wide temporary construction zone (see above). In addition, willows would also be planted at a much lower density on the new rip-rap slopes covered with soil, which would be 30 to 35 feet wide. Willow cuttings would be inserted into the new soil layer overlying the rip-rap and in the backfilled areas of the river channel in December 2004 or January 2005. Dormant willow stems 5 to 6 feet long would be cut from nearby trees and buried 2 to 3 feet deep. Willows would be placed at an average spacing of 6 to 8 feet (Figure 6). Native grass, herb, and shrub seeds would be broadcast over the slopes, but not on the river channel at the same time. Potential species that may be used include giant wild rye, California melic, coast range melic, deer grass, purple bunchgrass, buckwheat, coast sunflower, California rose, and blackberry. The planting and seeding would occur prior to, or concurrent with, the first winter rains and cool temperatures in order to facilitate natural plant restoration and seed germination.

The willow plantings would be maintained in accordance with Terms 37 through 52 of the CDFG Streambed Alteration Agreement. The willow revegetation would be subject to the growth, survival, and cover performance standards of the Agreement. Term 49 requires the use of supplemental watering (e.g., irrigation) for at least two years. Once irrigation has ceased, the Agreement requires that the plants must survive and grow for three years without supplemental watering.

At this time, the County does not plan to install an irrigation system on the new banks to provide supplemental watering to the willow cuttings or seeded banks, relying instead on natural rainfall to initiate revegetation. The County would monitor the growth and survival of the willow trees at the toe of the slopes, and the various plants on the new banks, and provide supplemental water as necessary from a watering truck.

Restoration of Temporarily Disturbed Areas

Term 39 of the CDFG Streambed Alteration Agreement requires that the County restore temporarily disturbed areas at a 3:1 area ratio. Construction activities would temporarily disturb a 30-foot wide zone at the base in the river channel along both reaches, which totals 1,480 linear feet. The total area of temporary disturbance is one acre. Hence, the restoration requirement under the Agreement is three acres.

As noted above, the 30-foot construction zone would be graded to match the pre-construction river channel elevation, and then planted with willow cuttings. Hence, one acre of the restoration requirement would be met by restoring the area directly disturbed by the project.

To meet the additional restoration requirement of the Agreement, giant reed plants (*Arundo donax*), an exotic invasive weed, would be removed from two acres of river channel along Foster Park. The plants would be cut with machetes, and then the cut stems would be treated with AquaMaster using a brush. The cut stems would be re-examined 2 and 6 months later for resprouting, and treated again if necessary. All dead stems would be removed from the river channel by hand and loaded onto trucks for disposal at an off-site location in accordance with local ordinances. The weeded area would be left alone for natural recolonization by native plants. This method has been successfully used by the City of Ventura to remove about one acre of giant reed plants from the river channel immediately upstream of Foster Park in 2001. Giant reed removal would occur concurrently with construction in the spring and summer of 2004.

2.1.3 Tree Avoidance Alternative (Agency Preferred Alternative)

The proposed project would result in the removal of six large (live) native trees (sycamore and cottonwood) and three large (live) eucalyptus trees that are located on the existing eroded bank (see Table 1). An alternative to the proposed project is to shift the bank protection towards the river the minimum distance required to retain the six live native trees that would be removed under the proposed project. These trees are very old and large. They provide valuable shade for aquatic habitats in the river, when flows impinge on the banks or small seasonal pools develop at the toes of the existing banks. In addition, these trees provide shade and an aesthetic feature for park users. They can be feasibly avoided by moving the proposed new bank protection (i.e., the upper limit of rock rip-rap) about 10 – 20 feet towards the river on the lower reach, and about 15 - 20 feet towards the river on the upper reach.

This alternative was developed in response to concerns by CDFG and NMFS about the loss of large native trees on the banks. Both agencies requested that the County develop a new alternative that avoids trees, even if it involves minor encroachment into the river channel. These agencies, as well as the Corps of Engineers, have expressed their support for this alternative.

The new 2:1 rip-rap slope would extend into the river channel from the new top of bank. As a consequence, installing the bank protection under this alternative would require filling portions of the existing river channel. In contrast, the Original Proposed Project is designed to minimize fill in the existing channel by following the existing bank and extending the top of slope into the park rather than into the river channel.

This alternative would require approval by the Ventura County Flood Control District because portions of the bank protection would encroach into the river channel. The District may or may not allow soil to be placed on the rip-rap banks, depending on the level of concern about encroachment into the river channel.

The bank protection alignments along the southern and northern reaches under this alternative are shown on Figures 8 and 9, respectively. Cross sections of the new bank protection are shown on Figures 10 and 11.

Under this alternative, willows would be planted at the toe of the slope, the same as for the proposed project. However, no willows would be planted on the slopes. Instead, the slopes would be planted with the native grasses, herbs, and shrubs described for the proposed project. The purpose of excluding willows on the slopes is to ensure the successful establishment of a native plant understory on the banks that provides floristic diversity and food sources for wildlife. Willows at the toe of the slopes would eventually overtop the new banks; however, by that time, the smaller plants on the banks would be fully established without having to compete with willows on the slopes.

Construction materials, schedule, and work area requirements for this alternative would be essentially the same as for the proposed project. The temporary disturbance zone in the river bed at the toe of the new slope would be 30 feet – the same as for the proposed project. This alternative would require the import of up to 10,000 cubic yards of clean fill to build up the new banks.

The restoration of disturbed riverbed areas at the base of the new banks would occur under this alternative as described for the Original Proposed Project, as well as the removal of giant reed from two acres of the Ventura River.

Under this alternative, no live native tree would be removed. Hence, there is no need for the tree replacement mitigation included in the Original Proposed Project.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Geology, Geohazards, and Soils

The affected environment is described at a programmatic level in Section 3.1 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.1 of the PEA.

The No Action Alternative would maintain and expand an existing geologic hazard (i.e., steep eroding banks) along the banks of the Ventura River in a public park. The Original Proposed Project and the Tree Avoidance Alternative would remove this geologic hazard by providing rock slope protection on more gentle slopes, with a wood rail fence and trail at the top of the slope. The banks would be further stabilized from future bank erosion by planting willows at the toe of the slopes and other native plants on the face of the banks. The proposed bank protection would not exacerbate any existing geological hazards, nor create any new hazards, at the project site. Both improvement alternatives would provide equal mitigation for the existing erosion hazard.

3.2 Air Quality

The affected environment is described at a programmatic level in Section 3.2 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.2 of the PEA.

The Ventura County Air Pollution Control District (APCD) has responsibility for management of air quality in the County. The APCD monitors air quality conditions in the County, issues permits for new and ongoing stationary emission sources, and prepares the Air Quality Management Plan (AQMP). The AQMP sets forth rules, regulations, and programs to ensure the County meets applicable state and federal air quality standards. Ventura County has been designated as a severe non-attainment area for ozone by both the state and federal government due to periodic exceedances of the ozone standards. The APCD must take actions to ensure compliance with the ozone standards by 2005. The primary emission sources in and near the project site consist of automobiles. Lesser emissions are generated by commercial and residential heating and cooking, industrial processes, and construction equipment.

No air quality impacts would occur under the No Action Alternative. Under the other two action alternatives, installation of the bank protection would cause short-term increase in emission of pollutants. Reactive organic compounds (ROC) and nitrogen oxides (NO_x) would be emitted from gasoline and diesel-powered heavy-duty mobile construction equipment, as well as delivery vehicles, employee vehicles, and vehicles transporting fill and/or excavated materials to and from the construction site. Construction activities would also result in fugitive dust emissions from grading and excavation. Air quality impacts would be minor because they would be short-term in nature and comprise a very small fraction of the total County-wide emissions from all point, mobile, and area sources. In addition, fugitive emissions from construction activities would be reduced using standard APCD required emission controls. The magnitude of the air quality impacts would be similar for the Original Proposed Project and the Tree Avoidance Alternative.

3.3 Hydrology and Water Quality

The affected environment is described at a programmatic level in Section 3.3 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.3 of the PEA.

Hydrology

The No Action Alternative would not adversely affect the hydrology of the Ventura River because it would not modify the river channel or floodplain.

Neither the Original Proposed Project nor the Tree Avoidance Alternative would substantially change the floodplain of the Ventura River. For both action alternatives, the top of the proposed bank protection would match the existing top of bank, and the volume of fill and rock to be placed would be less than was present prior to the 1998 disaster. Additionally, the groin and cutoff wall would have a negligible effect on channel conveyance capacity during floods. Finally, the proposed banks would have a similar roughness factor as natural banks which contain abundant rock. Consequently, the capacity of the river to convey flood flows would not be substantially affected - flood elevations, floodplain boundaries, and flow velocities would not be affected. Therefore, neither action alternative would have an adverse effect on the Ventura River floodplain.

Water Quality

The No Action Alternative would not adversely affect water quality in the Ventura River because it would not involve any physical disturbances to the river banks or channel. Bank erosion and sedimentation of the river would continue to occur.

The Original Proposed Project and the Tree Avoidance Alternative would involve earthwork in the river channel at the base of the existing slope. The project would be constructed during the period of May 1 to October 1, when flows are absent from the eastern banks. The nearest wetted channel is over 300 feet from the bank and protected by sandbars and a row of dense willow and giant reed plants. No stream diversion would be required and no direct contact with the river flows which occur. Hence, no downstream sedimentation is anticipated. Work would only occur if there is no continuous river flow along the east bank. Work would proceed if there were isolated pools along the east bank, provided no endangered steelhead are present.

Under both alternatives, there is a potential need to dewater toe trenches at the base of the bank protection. Temporary settling ponds would be constructed in barren portions of the river channel within the work zone, and then restored to pre-project conditions once construction is completed. Most of the water pumped to the ponds is expected to percolate. Any water discharged from these ponds would be free of sediments and pollutants.

Upon completion of the bank protection, the County would clean the river bed areas of all loose materials, including debris, silt, and concrete dust. Hence, no contaminants would be introduced into downstream waters during the first runoff event following construction.

The use of fuels or lubricants associated with construction equipment could affect water quality in the river if there were an accidental spill that reached the downstream areas and was not cleaned up before the winter rains. The County would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) for either alternative. The SWPPP must include measures to prevent accidental spills of fuels during construction. It must also include measures to manage stormwater flows in the event of a rain event during the summer, prevent post-construction erosion and sedimentation in the subsequent winter, and control non-stormwater discharges at the work site. The County must file a Notice of Intent with the Regional Water Quality Control Board stating that a SWPPP has been prepared that is consistent with the requirements of the then-current General Construction Stormwater Permit.

3.4 Floodplain Management

The affected environment is described at a programmatic level in Section 3.4 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.4 of the PEA.

The No Action Alternative would not adversely affect the Ventura River floodplain because it would not involve any physical disturbances or improvements.

In compliance with FEMA policy implementing EO 11988, Floodplain Management, it has been determined that the Original Proposed Project and the Tree Avoidance Alternative would not result in long-term effects to floodplains and would not affect future floodplain development. In compliance with EO 11988 and 44 CFR Part 9, FEMA would publicly circulate a notice explaining the project and reasons for the project being sited in the floodplain.

The County must acquire an encroachment permit from the Ventura County Watershed Protection District (District) for either action alternative because the project involves work in a watercourse where flood improvements are regulated by the District.

3.5 Biological Resources – Wetlands and Riparian Habitats

The affected environment is described at a programmatic level in Section 3.5 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.5 of the PEA.

The No Action Alternative would not adversely affect the wetlands and riparian habitats in the Ventura River floodplain because it would not involve any physical disturbances or improvements.

Most of the affected banks are very steep and near vertical. They are barren, or contain scattered annual non-native weeds. The base of the eroded banks contains a mixture of the following habitat types:

- Barren, cobbly riverbed – this habitat type is scattered along both the southern and northern reaches, but is most abundant near the old baseball field. It accounts for about 30 percent of the total length of the project reach.
- Dense willow scrub – a dense monoculture of arroyo willow occurs in a narrow strip along the base of the southern reach, extending about 700 linear feet. Hence, it accounts for about 50 percent of the total project reach (1,480 feet).
- Weedy riparian herbaceous – this habitat type consists of a mixture of native and non-native opportunistic plants that have invaded the base of the eroded banks. The most common species include giant reed, black mustard, horseweed, castor bean, mugwort, and mulefat. This type dominates the northern reach.

The County met with the Corps of Engineers in 2002 and received an informal determination of jurisdiction under Section 404 of the Clean Water Act. The Corps indicated that the 30-foot disturbance zone at the base of the banks along the southern reach was likely to be outside Corps jurisdiction because it was located above the ordinary high water mark, and that the willow scrub along the banks did not appear to exhibit all of the requisite wetland characteristics. The base of the banks along the northern reach appears to be located within the ordinary high water mark, and as such, would occur within the Corps' 404 jurisdiction. Wetlands may also be present along the northern reach, depending upon the plant species and the extent of vegetative cover that is present in this highly dynamic zone. The County is currently completing field investigations with the Corps

oversight to provide final jurisdictional boundaries. The County must acquire a Corps 404 permit before construction can proceed.

Installation of the bank protection under both the Original Proposed Project and the Tree Avoidance Alternative would result in one acre of temporary disturbance to common riparian habitats at the base of the banks: barren riverbed, willow scrub, and riparian herbaceous. This area would be restored with willow scrub after construction, and two acres of giant reed would be eradicated in the nearby riverbed as mitigation for this temporary impact.

The total permanent loss of riparian habitats under the Original Proposed Project and the Tree Avoidance Alternative would be 0.11 acre and 0.62 acre, respectively. In addition, the Original Proposed Project would result in the loss of six large (live) sycamore and cottonwood trees. Both alternatives would involve the restoration of one acre of willow scrub at the base of the new banks, and 1.2 acres of riparian grasses, herbs, and shrubs on the face of the new banks. For the Original Proposed Project, the tree loss would be offset by a requirement to plant new native trees in the park. It should be noted that the permanent loss of riparian and wetland habitats under either alternative would not represent a net loss of such habitats compared to the pre-disaster conditions because the new banks and work areas were uplands prior to the 1998 floods. Based on these considerations, no long-term impact to riparian habitats and jurisdictional wetlands would occur under either action alternative.

In compliance with FEMA policy implementing EO 11988, Floodplain Management, it has been determined that the Original Proposed Project and the Tree Avoidance Alternative would result in long-term effects to wetlands. These impacts would be mitigated through the Section 404 permitting process. In compliance with EO 11990 and 44 CFR Part 9, FEMA would publicly circulate a notice explaining the project and reasons for the project's wetland impacts.

As noted in Section 2.1.2.5, the County has acquired a CDFG Streambed Alteration Agreement for the southern reach of the Original Proposed Alternative. Under both action alternatives, the County would need to modify the agreement to include the northern reach and the number of trees affected or avoided.

3.6 Threatened and Endangered Species

The affected environment is described at a programmatic level in Section 3.6 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.6 of the PEA.

The No Action Alternative would not adversely affect any threatened or endangered species because it would not involve any physical disturbances or improvements.

3.6.1 Southern Steelhead

Aquatic Habitat Description

The eastern banks along Foster Park are steep and mostly unvegetated due to the flood damage. Portion of the river bed adjacent to the eroded banks contain willow and giant reed saplings that colonized the disturbed areas after the 1998 floods. In particular, a 200-foot long row of willow saplings is present at the toe of the eroded banks at the southern end of the project site, near the Casitas Vista Road bridge. A large pond was formed next to the eroded bank at the parking lot in 1998; however, this pond was destroyed by the March 2001 floods, leaving a barren riverbed behind.

The Ventura River at the project site contains a very wide channel dominated by large cobbles. Significant channel bed movement occurs in this reach during floods, altering the number and location of the braided channels. The main flow channel is located in the center of the riverbed and contains water year-round. The floods of 1998 and 2001 established and enlarged an eastern channel that now is located adjacent to the park. This channel would likely remain indefinitely. The river channel contains many large sandbars that range in height up to 8 feet. Most of these sandbars are typically vegetated with willow and giant reed plants over time, then stripped of vegetation during flood events. There is a substantial infestation of giant reed plants in the river at Foster Park. Aquatic habitats at the project site consist of a significant run in the main channel with summer flows of about 3 to 7 cubic feet per second (cfs) and depths up to 20 inches. No significant on-stream or off-stream pools occur at the project site at this time. The main flow channel has cobbly substrate and banks; overhanging banks with vegetation are absent, except along the western banks. The main flow channel is lined with small and moderate sized willows and giant reed plants that provide shade for fish.

Occurrence of Steelhead

The Southern Evolutionarily Significant Unit (ESU) of anadromous steelhead is designated as endangered. The Southern ESU includes steelhead in the Ventura River watershed, which historically supported a substantial population. A small steelhead run is present in the watershed that primarily occurs below Robles Diversion Dam (mainly in the live reach between Oak View and Foster Park and below the Ojai Valley Sanitary District treatment plant) and portions of San Antonio Creek and Lion Creek.

Spawning and rearing habitats are not present along the river at Foster Park. For example, suitable spawning gravels and rearing pools are absent, and there is a general lack of riparian cover to moderate temperatures along the reach adjacent to Foster Park. There are no records of steelhead spawning and rearing along this portion of the river. The nearest spawning occurs about one mile upstream in the "live reach" near Casitas Springs and Oak View.

The proposed project is not expected to adversely affect the southern steelhead, nor its designated critical habitat along the river, for the following reasons:

- The project would be constructed during the period of May 1 to October 1, when flows are generally absent from the eastern banks. The nearest wetted channel expected to be present at that time would be over 300 feet from the bank and protected by sandbars and a row of dense willow and giant reed plants. Hence, there would be no direct disturbance to the river flows where fish could be present, such as out-migrating smolts. Work would only occur if there is no continuous river flow along the east bank. Work would proceed if there were isolated pools along the east bank, provided no endangered steelhead are present, as determined by a qualified biologist retained by the County.
- Grading activities at the base of the banks would be minimized to the extent feasible to reduce impacts to the channel bed. Equipment would primarily operate from the bank. The limits of construction would be flagged and monitored. Finally, the substrate would be restored to its pre-construction condition, including placement of suitable cobbles. Fill placed on the face of the bank protection would be stabilized with vegetation to prevent erosion and to facilitate the establishment of cover. Hence, post construction bank conditions would be improved compared to current conditions, and potentially increase the suitability of the eastern channel for fish migration in the future.
- As indicated in Section 3.3, neither action alternative is expected to affect the hydraulics of the Ventura River during flood flows when there are bankful conditions. Under low-flow conditions, flows would typically not impinge upon the banks due to the substantial width of the river channel at Foster Park. However, no adverse hydraulic impact is anticipated in the event that low flows are directed to the reconstructed banks because the roughness factor along the new banks under either action alternative would be similar to the natural earthen banks of the Ventura River which are dominated by cobbles. Based on these considerations, neither alternative is expected to affect the hydraulic conditions for fish migration.
- The County would employ standard BMPs to prevent erosion and offsite sedimentation, per requirements of the CDFG and the Regional Water Quality Control Board. This would prevent degradation of downstream water quality in the winter following construction.

The Tree Avoidance Alternative would protect several large native trees on the bank that provide shade for aquatic habitat along the east bank in the winter. The Original Proposed Project would reduce the amount of shade over the riverbed.

Consultation with NMFS

In a letter dated May 3, 2001, FEMA initiated a Section 7 endangered species consultation with NMFS regarding the potential effects of a project similar to the Original Proposed Project on the southern steelhead and its critical habitat (Appendix D). FEMA concluded that a project similar to the Original Proposed Project is “not likely to adversely affect” the southern steelhead or its critical habitat. NMFS provided a concurrence with this determination in a letter to FEMA dated September 3, 2003 (Appendix D). The NMFS concurrence addressed the Tree Avoidance Alternative, which was developed in response to concerns by CDFG and NMFS about loss of large

shade trees along the east bank. If the County were to select the Original Proposed Project, FEMA would need to re-initiate consultation with NMFS prior to construction.

3.6.2 Listed Birds and Amphibians

Occurrence

The following threatened or endangered species occur in the Ventura River watershed, and could occur at or near the project site:

Least Bell's Vireo	<i>Vireo bellii pusilus</i>	E
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E
California red-legged frog	<i>Rana auroa draytonii</i>	T
Key: E-Endangered T-Threatened		

The least Bell's vireo is only known to occur at the mouth of the Ventura River; it has not been recorded in the middle watershed. Breeding pairs are periodically present between Emma Wood State Beach Park and 2 miles north of Main Street. Vireos are suspected of using Matilija Creek drainage as a migration corridor to and from the Mono Basin on the upper Santa Ynez River where there is a large and stable population.

Vireos do not occur at or near the Foster Park due to the absence of suitable habitat. For example, willow woodland is not present along the eastern banks, nor in the center of the channel. Potential suitable habitat is present on the western banks, about 2,000 feet upstream of the park. Suitable willow woodland for the vireo is absent from the river immediately downstream of the park. Below the Casitas Vista Road bridge, willow woodland occurs as a very narrow bank on both sides of the river. The nearest suitable downstream habitat is about one mile south, downstream of the Ojai Valley Sanitary District plant.

Although vireos are not expected to use habitats at the project site for breeding, they could potentially travel through the site during migration from the Santa Barbara County population and southern California. Areas where they may stop would be located on the western banks where more dense and continuous willow woodland is present. Such visits would likely be rare and short term. No vireos were detected at Foster Park during focused surveys for this species at the project site conducted by URS Corporation in 2000, 2002, and 2003 as part of the Ventura River Habitat Conservation Plan (HCP) study.

There are no historic records of the willow flycatcher in the Ventura River watershed. The nearest population is in northern Santa Barbara County. In general, the Ventura River and its tributaries do not provide suitable habitat due to the presence of narrow channels with highly scoured bottoms. No flycatchers were observed by URS Corporation in the entire watershed, including Foster Park, during the 2000, 2002, and 2003 field surveys for the Ventura River HCP. Suitable habitat for breeding is not present at or near the park.

There have been a number of individuals historic sightings of the red-legged frog in the Ventura River watershed, including along the Ventura River at the Ojai Valley Sanitary District treatment plant in November 1990; at Foster Park in 1940s; and San Antonio Creek in the 1940s and 1970s. In 2000, several frogs were observed in the Matilija Creek upstream of the dam. These were the first confirmed sightings in the watershed in over 20 years. URS Corporation discovered a small population on San Antonio Creek in 2002, about 5 miles upstream of the project site. Suitable pool habitat is present along the river at Foster Park in backwater portions of the main flow channel near the western banks. However, there is an abundance of bullfrogs and crayfish, predators of the red-legged frog. The County conducted surveys for the red-legged frog at the park in 1999. The pool adjacent to the parking lot formed by the floods of 1998 appeared to be suitable habitat, but was also inhabited by predators. No frogs were observed. URS Corporation conducted surveys in Foster Park for the frog in 2003, with negative results. Suitable habitat is absent from the eastern bank because it generally lacks year-round water, deep pools, and bankside cover.

Based on the above information, the installation of the proposed bank protection for both the Original Proposed Project and the Tree Avoidance Alternative would not affect listed bird and amphibian species because they are absent from the project site.

Consultation with USFWS

In a letter dated May 3, 2001, FEMA initiated a Section 7 endangered species consultation with USFWS regarding the potential effects of a project similar to the Original Proposed Project on the least Bell's vireo, southern willow flycatcher, and California red-legged frog, and their designated critical habitats (Appendix E). FEMA concluded that a project similar to the Original Proposed Project is "not likely to adversely affect" these species or their critical habitats. USFWS provided concurrence with this determination in a letter to FEMA dated July 30, 2001 (Appendix E). The USFWS concurrence addressed a project similar to the Original Proposed Project. However, this concurrence would apply to the Original Proposed Project and the Tree Avoidance Alternative.

3.7 Cultural Resources

The affected environment is described at a programmatic level in Section 3.7 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.7 of the PEA.

The No Action Alternative would not adversely affect cultural resources because it would not involve any physical disturbances or improvements.

FEMA has reviewed the action alternatives as required under Section 106 of the National Historic Preservation Act (NHPA), as amended. FEMA conducted a literature review and archaeological field survey for the Area of Potential Effect (APE). FEMA did not identify any prehistoric archaeological resources or built environment features within the project site. FEMA determined that no effect to historic properties would be expected from either action alternative. The information and resulting conclusions were sent to the State Historic Preservation Office (SHPO) in a letter dated May 30, 2001 based on a project similar to the Original Proposed Project (Appendix

F). SHPO provided concurrence with this determination in a letter to FEMA dated June 12, 2001 (Appendix F). This concurrence would apply to the Original Proposed Project and the Tree Avoidance Alternative.

Pursuant to the revised implementing regulations of the NHPA found at 36 CFR 800.4(a)(4), the California Native American Heritage Commission (NAHC) was contacted by FEMA to request a review of its Sacred Lands Files and a list of individuals or groups it believes should be contacted for information or concerns related to the project area. The NAHC responded on February 28, 2001, with a negative search of its Sacred Lands Files. An informational letter was sent by FEMA on April 4, 2001, to 21 groups or individuals listed by the NAHC. Two responses were received. Both individuals expressed concern that a prehistoric Native American site could be disturbed during repairs. One individual who requested a response was contacted on April 24, 2001, by FEMA's archaeological consultant who explained that as a condition of funding it would be required that an archeological monitor be retained by the County during excavation activities and in the event that prehistoric deposits or materials are uncovered a Native American would be hired to monitor for the remainder of the excavation activities as described in Appendix F.

In the event of an unanticipated discovery of cultural resources, the County would stop work and notify FEMA immediately. FEMA would then consult with the SHPO in accordance with Section VII of the Programmatic Agreement for Disaster FEMA-1203-DR-CA. Should human remains be encountered, work in the vicinity would halt and the County would also notify the County Coroner immediately. If the remains are determined to be Native American, the coroner would contact the NAHC.

3.8 Socioeconomics and Public Safety

The affected environment is described at a programmatic level in Section 3.8 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.8 of the PEA.

The No Action Alternative would maintain the current level of risk to public safety. Continued bank erosion would reduce public access and use of the park – an adverse socioeconomic impact to the County.

The Original Proposed Project and the Tree Avoidance Alternative would increase public safety and maintain the park for future public uses.

In compliance with Executive Order 12898 (Environmental Justice), FEMA determined that implementation of either action alternative would not impact a disproportionate number of minority or low-income persons.

3.9 Land Use and Zoning

The affected environment is described at a programmatic level in Section 3.9 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.9 of the PEA.

None of the alternatives would alter existing land uses and/or zoning in Foster Park.

3.10 Public Services

The affected environment is described at a programmatic level in Section 3.10 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.10 of the PEA.

None of the alternatives would affect public services such as fire, police, emergency access, or schools.

3.11 Transportation

The affected environment is described at a programmatic level in Section 3.11 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.11 of the PEA.

The No Action Alternative would not adversely affect traffic conditions because it would not involve any construction work and vehicles..

There would be a temporary increase in traffic to and from the project site during construction. The average and maximum daily vehicular trips (round trips) associated with construction are estimated to be 10 and 50 trips, respectively. The additional traffic on Casitas Vista Road and Route 33 and at nearby intersections would be minor compared to existing daily trips on these roads which exceed several thousand trips. Hence, construction related traffic associated with the Original Proposed Project and the Tree Avoidance Alternative would not cause a substantial effect. The latter alternative would have slightly greater traffic volumes than the former due to a need for more imported fill material.

During construction, there may be a temporary reduction in the available parking areas at Foster Park. This temporary impact would be negligible as there is a low parking demand during weekdays.

3.12 Noise

The affected environment is described at a programmatic level in Section 3.12 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.12 of the PEA.

Foster Park is located in a rural, undeveloped area. However, ambient noise levels are relatively high due to the noise from nearby Route 33 (located 150 feet from the park). Typical ambient noise levels at the project site are expected to be 50-55 A-weighted decibels (dBA).

Both action alternatives would require the use of heavy equipment such as loaders, excavators, and haul trucks. Noise sensitive receptors, consisting of park users, would be present near the work areas, and as such, would be exposed to high levels of construction related noise. The magnitude of construction noise levels would vary over time because construction activity would be intermittent and power demands on construction equipment would be cyclical. Construction noise impacts are considered negligible because they would be short-term in nature, restricted to day time hours, and intermittent. There would be no substantive difference in noise impacts between the Original Proposed Project and the Tree Avoidance Alternative.

3.13 Hazardous Materials and Wastes

The affected environment is described at a programmatic level in Section 3.13 of the PEA. Impacts of the No Action Alternative and the two action alternatives are described at a programmatic level in Section 4.2.13 of the PEA.

Hazardous materials and wastes are not expected to be present at the project site because the land to be graded is undeveloped. As described in Section 3.3, preparation and implementation of the SWPPP would minimize the likelihood of construction activities releasing hazardous materials or waste to the environment.

3.14 Cumulative Impacts

No construction projects are planned for Foster Park and the vicinity in 2004 by the County or any public agency. The Ventura County Watershed Protection District (District) has proposed to repair the existing rock rip-rap levee on the east bank of the Ventura River at Casitas Springs in 2005 or 2006. The levee is located about one mile north of Foster Park. The height, location, and composition of the levee would not change compared to current conditions. However, eroded portions of the levee would be repaired with new rock rip-rap.

The City of Ventura (City) has proposed several modifications to their water production facilities near Foster Park. The City operates one well in the river bed and several wells near the east bank north of Foster Park. The City proposes to install up to three new wells on the east side of the river, including two north of Foster Park and one within the park. The wells would be installed in upland areas at least 50 feet from the top of the bank. The well to be constructed in Foster Park would not be located behind the proposed bank protection. The new wells would be constructed with flood protection incorporated into the well pads. The City plans to install the new wells in 2005.

The construction of the proposed projects by the District and City would not overlap in time with the construction of the bank protection at Foster Park. Hence, there would be no cumulative, construction impacts such as truck traffic, noise, or air emissions. The proposed District and City projects would not cause any impacts to the Ventura River floodplain or the hydraulic conditions in

the river channel. Hence, no longer term cumulative impact on the floodplain is anticipated. Finally, the District and City projects would have only minor, mostly temporary impacts on riparian habitat. Any cumulative biological impact amongst the three projects would be negligible.

4. REFERENCES

Federal Emergency Management Agency (FEMA). 1998. Final Programmatic Environmental Assessment (PEA) for Typical Recurring Actions Resulting from Flood Disasters in California as Proposed by the Federal Emergency Management Agency. April 16, 1998. FEMA 1203-DR-CA.

5. LIST OF PERSONS AND AGENCIES CONSULTED

John Markham
U.S. Army Corps of Engineers
Los Angeles District, Ventura Field Office

Theresa Lubin
Ventura County General Service Agency
Parks Department

Rick Rogers
National Marine Fisheries Service
Long Beach

Stan Glowacki
National Marine Fisheries Service
Long Beach

Louise Lampara
U.S. Fish and Wildlife Service
Ventura Field Office

Martin Potter
California Department of Fish and Game
Ojai

Dr. Knox Mellon
State Historic Preservation Officer
Sacramento

Appendix A - Figures 1-11
Appendix B - Site Photographs
Appendix C - Project Plans for the Tree Avoidance Alternative
Appendix D - NMFS Consultation Correspondence
Appendix E - USFWS Consultation Correspondence
Appendix F - SHPO Consultation Correspondence