

I. General Information

Project Name: Dry Creek Watershed Flood Control and Environmental Enhancement Project

Project Location: The Dry Creek Watershed, specifically Miner's Ravine in the vicinity of Sierra College Boulevard (Placer County) and Dry Creek in the vicinity of Elkhorn Boulevard (Sacramento County)

Sponsoring Agency: Sacramento Area Flood Control Agency (SAFCA)

Project Manager: Tim Washburn

Grant Amount: \$2,416,355

II. Project Objectives:

A. Project Description

SAFCA, in partnership with the Sacramento County Department of Regional Parks, Recreation and Open Space (Parks Department), and the Sacramento County Department of Water Resources (Water Resources); and the Placer County Flood Control and Water Conservation District (Flood Control District), proposes to use Flood Protection Corridor Program (FPCP) funds to reduce flood damages and enhance the environmental quality of the Dry Creek Watershed. These funds would cover a portion of the cost of the following measures:

- Construction of the Miner's Ravine Off-Channel Flood Detention Basin in the vicinity of Sierra College Boulevard in Placer County;
- Removal of damageable residential structures, and preservation of flood corridor open space through easements and fee title acquisitions in the vicinity of Elkhorn Boulevard in Sacramento County, downstream of Elkhorn Boulevard;
- Restoration of the Dry Creek channel and floodplain in the vicinity of Elkhorn Boulevard in Sacramento County downstream of Elkhorn Boulevard through renovation of the existing Hayer Dam and removal of private non-engineered levees; and
- Eradication and restoration of approximately 100-acres of non-native red sesbania in the lower Dry Creek watershed.

The Dry Creek watershed covers approximately 101 square miles in Placer and Sacramento Counties. The stream channels throughout the watershed are generally well defined, but are not especially wide or deep. The upper reaches of the watershed, including Miner's Ravine in Placer County, are characterized by relatively steep slopes and moderate relief. The lower reaches, especially downstream of Roseville and the Sacramento County line, are characterized by very gentle slopes.

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Land use in the watershed is changing due to rapid urbanization and population growth. Between 1970 and 1985, this area sustained an annual growth rate of 3.4 percent. In 1989, the growth rate reached 5 percent, the highest in the State. This high rate has been sustained into the current Century. Rapid development has placed a significant strain on the environmental quality of the watershed and exacerbated the risk of flood damages, particularly in the Roseville area of Placer County and the Rio Linda area of Sacramento County. Damaging floods occurred in these areas in December 1955, April 1958, October 1962, December 1964, March 1983, February 1986, and January 1995. The floods of the 1980's and 90's have been the largest and most damaging of this series. In both the 1986 and 1995 events, portions of the Dry Creek Watershed in the vicinity of in Roseville were designated a Federal Disaster Area.

The 1992 Dry Creek Watershed Flood Control Plan (Plan) was adopted to provide a comprehensive and cooperative approach by Placer and Sacramento Counties to reducing flood damages. The Plan includes the following key elements:

- Local on-site detention facilities for all future development in the Dry Creek watershed designed to reduce post-development flows from the 2- through 100-year storms to pre-development levels.
- Regional detention basins upstream of Roseville and Rio Linda designed to reduce peak flows that must be passed through these areas.
- Channel and levee improvements in the vicinity of Roseville and Rio Linda.
- Bridge and culvert replacement to prevent localized flooding, preserve emergency access, and avoid damage to public facilities.
- Floodplain management to control development in flood-prone areas and preserve the beneficial values of natural stream channels.

Since the adoption of the Plan, substantial levee and channel improvements have been implemented by SAFCA in lower Dry Creek and by the City of Roseville along Cirby and Linda Creeks. Local on-site detention facilities have been constructed in connection with new developments in Placer and Sacramento Counties. A funding source for constructing regional detention basins has been created through the collection of drainage and development fees in both counties. Approximately three dozen damageable structures have been raised or removed from the floodplain in Roseville and Rio Linda and hundreds of acres of land in the lower Dry Creek floodplain have been acquired for assemblage into a publicly owned parkway. Significant environmental enhancement efforts have also been undertaken. A watershed council has been established and State grant funds have been secured to plan and implement a regional greenway masterplan, restoration of riparian habitat at the Miner's Ravine Nature Preserve, erosion control and fish passage improvements in Roseville, and extensive water quality monitoring and education throughout the watershed. FCP funds would be used to build on these accomplishments.

Miner's Ravine Off-Channel Detention Basin

With respect to flood control, procuring the necessary properties in the Plan assumed that on-stream storage could be created at a series of key locations along Miner's Ravine, Secret Ravine and other streams in the watershed. Local opposition to this approach and difficulties have produced a shift to off-stream storage concepts that present unique site-design challenges and cost significantly more per acre foot of storage than the on-stream facilities originally envisioned in the Plan. FPCP funds would

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assist local Placer County interests in designing and constructing what would be the first of a series of multi-purpose off-stream detention facilities designed to reduce peak flows, enhance aquatic and riparian habitat along the affected stream channel, and provide publicly accessible open space for passive recreational use.

The proposed detention basin would occupy an undeveloped 26-acre parcel located along Miner's Ravine downstream of Sierra College Boulevard. This site contains a series of sewage ponds bounded by earthen embankments constructed near the creek to retain wastewater for a facility that was abandoned 12 years ago. These embankments would be torn down and reconstructed in order to widen and enhance the stream channel, provide for natural meandering, and create a flood detention basin capable of receiving and storing up to 36 acre-feet of water. This storage would lower peak water surface elevations and reduce expected flood damages associated with 84 structures occupying the floodplain downstream of the site. The project would include the removal of non-native plant species which would be replaced with appropriate riparian vegetation. It would also include re-establishment of salmonid spawning habitat through the addition of fish-friendly spawning gravel, vegetative shading and concealment features.

Preservation of Flood Corridor Open Space

In addition, FPCP funds would be used to assist local Sacramento County interests in acquiring land, removing existing structures and obtaining open space easements within the sparsely developed corridor covering almost two thousand acres of floodplain land along the north and south forks of Dry Creek downstream of Elkhorn Boulevard. Approximately 75 acres of undeveloped land within this corridor would be purchased and incorporated into a publicly owned parkway. Open space easements would be acquired on privately owned lands within the floodplain adjacent to the parkway. These easements would buttress local zoning ordinances designed to preserve rural residential character of these lands and minimize the potential for flood damages affecting over 500 structures in the floodplain.

Hayer Dam Renovation and Removal of Private Levees

FPCP funds would also be used to defray a portion of the cost of renovating the existing Hayer Dam facility on Dry Creek near Elkhorn Boulevard. This facility was acquired by Sacramento County in 2001. It contains a crudely engineered bridge crossing and flashboard structure that serves to divert surface water to the nearby Bell Acqua water ski development. In its present condition, the Hayer Dam creates a potential flood and public safety hazard and a significant impediment to fish passage in Dry Creek, which supports a sustainable population of naturally spawning fall-run salmon. The proposed renovation would eliminate impediments to fish passage and restore portions of the stream channel. A privately constructed stream crossing at the dam site and privately constructed levee improvements along the stream bank downstream of the dam would be removed in order to reduce bank erosion and permit more frequent inundation of the undeveloped floodplain adjacent to the stream.

Red Sesbania Eradication

Finally, FPCP funds would be used to carry out the eradication of approximately 100-acres of Red Sesbania (*Sesbania punicea*), an aggressive non-native plant that has recently begun to colonize the Dry Creek watershed causing significant ecological damage. Source populations of Red Sesbania in

the watershed are recognized as some of the largest in the state. These populations have become a contributing factor to further downstream distribution of the species in the lower Sacramento River watershed and the Bay Delta area ultimately affecting State, Federal and local agency controlled lands and flood control structures.

B. Maps

C. Photographs

D. Drawings or sketches

III. Minimum Qualifications

- A. The project proposes to use any granted funds for protection, creation, and enhancement of flood protection corridors [Water Code Section 79037(b)].***

Granted funds would be used exclusively to enhance the storage and conveyance capacity and environmental quality of flood protection corridors within the Dry Creek watershed, consistent with the goals and objectives of the 1992 Dry Creek Watershed Flood Control Plan and with ongoing open space planning and restoration activities in the watershed.

- B. A local public agency, a non-profit organization, or a joint venture of local public agencies, non-profit organizations, or both proposes the project [Water Code Section 79037(a)].***

SAFCA and its partners, Sacramento County Parks Department, Sacramento County Water Resources and Placer County Flood Control District are all local public agencies.

- C. The project will use the California Conservation Corps or a community conservation corps whenever feasible [Water Code Section 79038(b)].***

CCC crews would likely be used for significant portions of the Red Sesbania eradication component of the project. In addition, to the maximum extent feasible, consistent with State public contracting laws and regulations, other environmental restoration and related activities funded in part with FPCP funds will be carried out by the California Conservation Corps or the Sacramento Local Conservation Corps.

- D. If it is proposed to acquire property in fee to protect or enhance flood protection corridors and floodplains while preserving or enhancing agricultural use, the proponent has considered and documented all practical alternatives to acquisition of fee interest [Water Code Section 79039(a)].***

Lands proposed for acquisition in fee title within Sacramento County would likely be incorporated into the boundaries of the emerging Dry Creek Parkway (Parkway). The Sacramento County Board of Supervisors is currently considering alternatives for establishing the boundaries of the Parkway and adopting a Parkway management plan. All of the alternatives under consideration envision that lands within the Parkway boundary will be publicly owned and managed. The adopted Parkway plan could

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provide for continued agricultural use, including livestock grazing, on some of the lands within the Parkway, including those proposed for acquisition with FPCP funds, under lease agreements with private parties. However, in order to maintain the flexibility to adjust the use of these lands as the Parkway matures, all management proposals under consideration recommend fee title acquisition.

Property proposed for acquisition within Placer County would be held by Placer County and managed as part of the Miner's Ravine detention basin by Placer's Flood Control District.

E. Holders of property interests proposed to be acquired are willing to sell them [Water Code Section 79040].

Lands proposed for acquisition with FPCP funds would only be acquired from willing sellers. These lands fall into three categories:

1. Lands to be acquired in fee and included in the Dry Creek Parkway described in II D above. The owners of these lands have indicated their willingness to sell and agents for Sacramento County are currently obtaining appraisals and negotiating purchase agreements.
2. Lands comprising the real property associated with the flood prone structures that are proposed for acquisition and removal from the floodplain. A portion of the cost of the structure purchase and removal would be provided through a Federal Emergency Management Agency (FEMA) flood hazard mitigation program that mandates willing sellers. It is uncertain how many of these properties may ultimately participate in the proposed purchase and removal effort. However, the owners of all of the identified properties have indicated an interest and FPCP funds would only be used to match FEMA contributions if willing seller agreements can be secured.
3. Lands proposed for easement acquisition within the lower Dry Creek floodplain that are not likely to be designated for inclusion within the boundaries of the Dry Creek Parkway. These lands provide important conveyance and storage capacity in large floods. Currently, this capacity is maintained through enforcement of floodplain management ordinances, grading ordinances, and policies to control development in the floodplain. Given the impermanence of zoning codes and/or development policies, it is proposed that FPCP funds be used to create an open space easement acquisition program to buttress existing land use regulations. This program would be administered by Sacramento County . It would be aimed at securing open space easements from willing sellers in the area .These easements would be designed to preserve the open space values of the affected properties, including their flood conveyance and storage capacity, while leaving them in private ownership.
4. Land to be acquired in fee title and comprising the off-stream detention facility on Miner's Ravine in Placer County . The landowner is currently negotiating to sell fee title to the County.

- F. If it is proposed to acquire property interests, the proposal describes how a plan will be developed that evaluates and minimizes the impact on adjacent landowners prior to such acquisition and evaluates the impact on the following [Water Code Section 79041]:***
- ▶ Floodwaters including water surface elevations and flow velocities***
 - ▶ The structural integrity of affected levees***
 - ▶ Diversion facilities***
 - ▶ Customary agricultural husbandry practices***
 - ▶ Timber extraction operations***

None of the property acquisitions proposed for FPCP funding would adversely affect adjacent landowners. Lands acquired in fee title for inclusion in the Dry Creek Parkway would become part of a publicly owned and managed open space/flood conveyance corridor. This would protect the structural integrity of recently constructed levees in lower Dry Creek by precluding development of the affected lands. Customary use of these lands for grazing could be maintained as part of the Parkway management plan under private grazing leases designed to avoid damage to natural habitat values.

Similarly, any lands acquired in fee as part of the structure purchase and removal program would likely be incorporated into the Parkway to function as part of the open space/flood conveyance corridor. Removal of the structures currently located on these lands would tend to eliminate localized scour and related flow problems in large flood events and avoid the potential for damage to wells, septic systems and other facilities on the affected properties.

Acquisition of open space easements as proposed in the floodplain area outside the Parkway would be designed to preserve the open space values of the affected properties, including their flood conveyance and storage capacity without constraining customary agricultural husbandry practices on these or any adjacent properties.

Construction and operation of an off-stream detention basin along Miner's Ravine on land acquired by Placer County would have no impact on lands upstream of the site and would reduce water surface elevations and flow velocities on lands within the floodplain downstream of the site. The site contains a series of earthen embankments along the north side of the channel that would be removed in order to widen the channel and create the detention basin. These embankments comprise part of a sewage treatment pond project that was abandoned in 1990.

- G. The project site is located at least partially in one of the following:***

The project site in Sacramento County in the vicinity of Elkhorn Boulevard is entirely located in a FEMA special Flood Hazard Area as shown in the County's adopted map of the area. The project site in Placer County is partially located in a locally designated Flood Hazard Area comprised of the Miner's Ravine Channel downstream of Sierra College Boulevard. This reach of the channel is presently confined by an earthen embankment that narrows the extent of the Flood Hazard Area. Under the proposed project this area would be expanded by removing the existing embankment and constructing a new embankment so as to widen the channel in low-flow and create a high-flow detention basin.

IV. (340 points) Flood Protection Benefits

A. Existing and potential urban development in the floodplain

The Dry Creek Watershed is experiencing rapid urbanization and population growth. Between 1970 and 1985, this area sustained an annual growth rate of 3.4 percent. Since 1989, the growth rate has been 5 percent, the highest in the State. This development has altered stormwater run-off patterns in the watershed and exacerbated the risk of flooding to residential and commercial structures located on low lying lands in the Roseville area of Placer County downstream of the proposed Miner's Ravine detention basin and in the Rio Linda area of Sacramento County adjacent to the emerging Dry Creek Parkway.

Damaging floods have occurred in the Dry Creek Watershed in December 1955, April 1958, October 1962, December 1964, March 1983, February 1986, and January 1995. The 1986 and 1995 floods were the most damaging in this series. The 1986 flood produced total damages of approximately \$7.5 million in Placer County as a whole, causing the County to be designated as a Federal Disaster Area. Although separate estimates for the Dry Creek Watershed are not available, it is believed that this area of the County absorbed the bulk of the damages. Based on applications for disaster assistance, it is estimated that at least 62 homes and dozens of businesses in the vicinity of Roseville were damaged or destroyed.

The 1995 flood produced \$8.3 million in damages in Placer County leading to a Federal Disaster Area designation and a visit to the hard hit Roseville area by President Clinton. Roseville alone sustained \$4.2 million in damages affecting 385 residential and commercial structures, two sewage treatment plants, a landfill, and a number of roads, bridges and utilities.

In Sacramento County, the 1986 and 1995 floods both produced extensive damage in the Dry Creek floodplain downstream of Elverta Boulevard. These floods were comparable in magnitude. In each case, over 100 structures sustained damages and although no accurate accounting has been compiled, it is believed that total losses for both events exceeded \$500,000.

In the Roseville area downstream of the proposed off-channel detention basin, about 87 residential structures and 11 commercial structures are located in the floodplain. Fourteen of the residences have been raised to minimize future flood damages. The remaining 84 structures would benefit from the flow and stage reductions that would be produced by the proposed off-channel detention basin. In the Rio Linda area, over 500 residential and commercial structures occupy approximately 2,000 acres within the floodplain. Twenty-two of these structures have been raised or removed from the floodplain as part of a federally funded flood hazard mitigation program. Creation of the publicly owned Dry Creek Parkway and preservation of the rural residential character of the floodplain surrounding the Parkway will limit the potential for flood damages in the future and preserve Sacramento County's flexibility in responding to changes in watershed hydrology.

B. Flood damage reduction benefits of the project

FPCP funds would be used to construct an off-channel detention basin on property being acquired by Placer County along Miner's Ravine near Sierra College Boulevard. This facility would provide up to

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36 acre-feet of transitory flood storage on a temporary basis (1 to 2 days). It would contribute to the Dry Creek Watershed Flood Control Plan's goal of reducing projected 100-year peak flow increases attributable to new development (post-1989) in the watershed. The Plan anticipates that in order to avoid any increase above the 1989 baseline, on-site detention storage must reduce the projected 100-year peak flow by 618 cfs and regional detention storage must reduce this flow by 506 cfs as measured at Vernon Street in Roseville. The proposed off-channel basin would produce a 310 cfs reduction in this flow, or about 60 percent of the amount allocated to regional detention storage and 27.5 percent of the total required reduction.

Construction of the basin would require removal of earthen embankments that were constructed near the creek to retain wastewater for a facility that served portions of the Granite Bay area until approximately 12 years ago. A new embankment would be constructed further back from the stream than the sewage pond embankment, thus widening the existing channel and allowing the stream to meander. The bottom of the existing channel would be approximately ten feet below the top of the new embankment that would tie into high ground north of the channel. The land enclosed by this structure would be excavated to a depth that would permit stored water to drain by gravity back into the stream. Inlets to and outlets from the storage basin would be designed to balance the benefits provided for a range of flood events. Consideration will be given to optimizing these benefits through inclusion of operable features that would allow for adjustments in the inlet elevation depending on the nature of the forecasted flood event. The project will include measures to create riparian habitat in the enlarged channel and enhance existing seasonal wetlands within the storage basin.

The proposed project includes two elements with structural flood damage reduction features: the off-stream detention facility described above and renovation of the Hayer Dam described in Section IV.C. below. Both elements are designed to reduce impacts to wetlands, riparian vegetation and native fish habitat of earlier, environmentally damaging projects. The Hayer Dam renovation would remove structural obstacles to anadromous fish migration, and the Miner's Ravine detention basin would incorporate riparian enhancements to the stream course and facilitate the stream's ability to meander through the project reach.

The proposed project also includes non-structural flood damage reduction measures including purchase and removal of damageable structures in the floodplain and acquisition of floodplain land to preserve open space values including flood storage and conveyance capacity. These measures are discussed in Sections IV D, E and F below.

The purchase and removal of damageable structures would be carried out as part of an ongoing FEMA flood hazard mitigation program that has thus far enabled Sacramento County Water Resources to purchase and remove 25 flood-prone structures from the Dry Creek floodplain in the vicinity of Elkhorn Boulevard. Under this program, FEMA provides 75 percent of the cost of acquiring and removing eligible structures. Non-federal interests must provide the balance of the cost. Each transaction must meet established Federal cost-benefit criteria and must involve a willing seller.

Non-structural flood damage reduction measures also includes acquiring lands and obtaining open space easements so as to preserve the flood conveyance and storage capacity of the lower Dry Creek floodplain. SAFCA and Sacramento County have already acquired fee title to almost 2,000 acres of

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land in this floodplain. This land is being assembled into a publicly owned Parkway that will be managed for flood control, protection of natural environmental values, and passive recreation. FPCP funds would be used to cover a portion of the cost of acquiring fee title to two additional parcels that would likely be included within the boundaries of the Parkway.

FPCP funds would also be used to establish an open space easement acquisition program aimed at the lands within the lower Dry Creek floodplain that are unlikely to be included in the publicly owned Parkway. These lands are sparsely populated rural estates that provide important flood conveyance and storage capacity in large floods. This capacity is currently maintained through floodplain management ordinances, grading ordinances, and policies to control development in the floodplain. The open space easement acquisition program would buttress this regulatory system. The program would be administered by Sacramento County. Open space easements would be obtained from willing sellers over time. These easements would be designed to permanently preserve the open space values of the affected properties, including their flood conveyance and storage capacity, while leaving these properties in private ownership. Half of the cost of the easements would be provided through the FPCP contribution. Half would be provided by local funds.

Finally, FPCP funds would be used to eradicate Red Sesbania through a rapid, comprehensive and aggressive watershed level program. Red Sesbania can significantly impede the flow of water during flood events. Their roughness coefficient, combined with their propensity to trap flood debris, creates a barrier to flood water conveyance, exacerbating erosion and creating additional water hazards. The removal of Sesbania will encourage the re-establishment of native plants and improve the conveyance of flood waters in portions of the lower Dry Creek watershed where improved conveyance is an objective of the adopted Flood Control Plan.

By temporarily storing peak flood flows, the Miner's Ravine detention basin would slightly reduce flood elevations in a low-lying portion of the City of Roseville downstream of the basin. The affected area contains 97 structures that are potentially subject to inundation in a 100-year flood. Fourteen of the structures have been raised to avoid flood-related damages, leaving 83 structures exposed, of which 28 are particularly flood-prone. The potential benefits associated with protecting these structures were estimated in a study entitled Economic Comparison of the Miner's Ravine Detention Basin vs. Elevation of Structures in the City of Roseville which was prepared for the Placer County Flood Control District in 1999. Although this study assumed construction of an on-stream detention basin, the data is useful in extrapolating the potential benefits of the proposed off-stream basin. As discussed in Section III.B.1., the proposed off-stream basin would reduce future (post-1989) peak 100-year flows in Dry Creek at Vernon Street by 310 cfs, an amount equal to about 27.5 percent of the total expected increase in such flows. Based on the data presented in the 1999 study, this reduction in flow would reduce expected annual damages by about \$10,000.

In Sacramento County, the proposed project would reduce the potential for increased flood damages in the future by preserving open space in the lower Dry Creek floodplain. It is not possible to quantify this reduction.

The off-channel detention basin along Miner's Ravine in Placer County will reduce peak flows in the watershed downstream of the basin. For example, at the Vernon Street gage, the peak flow produced by a flood with a 1/100 annual risk of occurrence is estimated to be approximately 14,500 cubic feet

per second (cfs) under current conditions. Over the next 20 years, urban development in Placer County is expected to increase this flow by 1,124 cfs. It is estimated that 55 percent of this increase (618 cfs) will be mitigated through local on-site detention projects constructed with new developments. The remaining 45 percent of the increase (506 cfs) is expected to be mitigated by regional detention efforts. The proposed off-channel basin would reduce this flow by about 310 cfs or 60 percent of the expected increase not mitigated at local development sites.

Flow reductions produced by the off-stream detention basin would lead to slight reductions in the downstream water surface elevations generated by large floods in the watershed. The land acquisition measures proposed for FPCP funding would prevent land uses that might cause increased water surface elevations.

The off-channel detention basin would provide for storage of flood waters, thus reducing flow velocities downstream of the basin. The land acquisition measures would preserve floodplain conveyance and storage capacity and thus prevent increases in flow velocity that might otherwise occur if the affected lands were developed.

C. Restoration of natural processes

Miner's Ravine Off-Channel Detention Basin

Construction of the off-channel detention basin would include measures to restore the creek channel at the project site. To create the detention basin, an existing earthen embankment that currently confines/channelizes the creek channel would be removed and a new embankment would be constructed further away from the channel, leaving room for the creek to meander along the southerly edge of the basin. The enlarged channel would be enhanced with riparian plantings and the existing riparian canopy of large trees along the southern bank would remain protected in-place. This increased roughness would not result in any increase in water surface elevations upstream or downstream of the project site because of the increased width and conveyance capacity of the channel and the storage capacity created by the detention basin.

The project would include the re-establishment of salmonid spawning habitat through the addition of fish-friendly spawning gravel, vegetative shading and the addition of channel complexity features. It is also expected to provide local storm-water run-off treatment benefits, a reduction in sediment load to the creek, and an overall improvement in water quality conditions within the channel.

Hayer Dam Renovation

In lower Dry Creek, natural channel processes would be restored and impediments to fish passage eliminated through renovation of the Hayer Dam and removal of the privately constructed low water crossing and levee improvements downstream of the dam. This facility was privately constructed to allow diversion of surface waters for agricultural use and later for use in maintaining the Bell Acqua ski lakes development. The dam site includes a crudely engineered bridge built from a railroad flatcar and low water crossings. Further downstream, the creek channel is confined by non-engineered privately constructed levees made of cement and asphalt rubble intended to prevent overflows from the channel onto the adjacent agricultural floodplain during relatively frequent flood events.

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SAFCA and Sacramento County have acquired the dam site and the properties containing the levees as part of an ongoing effort to secure the conveyance and storage capacity of the floodplain, protect the natural values of the stream corridor and create a publicly owned parkway for passive recreational pursuits. These entities are currently contemplating three options for renovating the dam and restoring the channel. All of these options include removal of the hazardous railroad flatcar bridge that currently crosses the dam site and installation of a new bridge to provide a safe bike/pedestrian trail crossing over the stream. In addition, under all of the options, the current dam foundation and flashboard structure would be substantially modified or removed so as to eliminate impediments to fish passage along this reach of Dry Creek.

Finally, under all of the options, the low water crossing and levee improvements downstream of the dam will be removed so as to restore the natural qualities of the creek, avoid unnecessary erosion and down-cutting of the channel, and re-establish a more regular connection between the creek its adjoining floodplain. Since this portion of the floodplain is protected by engineered and publicly-maintained levees setback at greater distance from the creek, and since all of the land between the publicly-maintained levees is in public ownership, more frequent inundation of the over-bank area will not adversely affect any private landowners.

A major design issue in the dam renovation project will be how to continue to provide water to the nearby Bell Acqua ski lakes . One option would be to abandon the historic surface water diversion and deliver water to the lakes through groundwater pumping. However, this would increase pressure on the heavily used groundwater basin north of the American River and would require the Bell Acqua landowners to give up their surface water diversion rights. Alternatively, the historic surface water diversion could be maintained through construction of a low weir and enlarged fish ladder structure adequate to induce gravity flow through a screened intake to a nearby sump pump for delivery to Bell Acqua. Lastly, the diversion could be accomplished through construction of a slide gate structure and expanded fish ladder that would preserve the existing seasonal pond at the site. Either of these diversion options would be adequate to preserve the water rights of the Bell Acqua landowners without impeding fish passage or perpetuating the flood and public safety hazards associated with the current structure.

Red Sesbania Eradication

Since its initial detection in Dry Creek, red sesbania is becoming an aggressive and dominant species, establishing along the banks and on in-stream islands, displacing native riparian vegetation, limiting shoreline access, and affecting flow patterns. In heavily-infested portions of the watershed, Red Sesbania often comprises more than 50% of the biomass of emergent vegetation along the shoreline and on in-stream islands, causing canopy closures that result in a virtual biological "desert" underneath. Complex food webs that are maintained by a diversity of native wetland plants and aquatic habitats become simplified or excluded. The seeds produced by the species are reportedly toxic to birds and other wildlife: animals that rely on the native vegetation for food can no longer forage in the heavily infested areas.

The eradication of Red Sesbania within the Dry Creek Watershed will aid the restoration of natural processes, and improve the conveyance of flood water downstream of the City of Roseville. The removal of Sesbania will contribute to the elimination of a large regional source population of the

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invasive and assist managers in controlling this plant statewide. Given that the species spreads by water flow, the upstream sources need to be eradicated in order to adequately contain and eliminate the populations. The goal of this effort is to eliminate the plant throughout the watershed.

The proposed off-channel detention basin in Placer County will reduce the magnitude and velocity of flows downstream of the basin for a range of flood events without inducing any increase in stage upstream. The extent of the downstream reductions will depend on the final design of the project. The detention basin may also reduce the amount of sediment transported downstream by reducing the velocity of the flows exiting the site and providing a potential sediment trap.

Removal of the privately constructed levees downstream of the Hayer Dam will reduce bank erosion and scour at and downstream of the affected reach of the channel. Flows in the channel will freely overtop the existing bank line and inundate the adjacent floodplain, thus reducing the velocity of the flows exiting the site. This will reduce the amount of downstream sediment transport. A further reduction could occur if the Hayer Dam is renovated by constructing a low weir and the weir serves as a sediment trap.

None of the improvements proposed for FPCP funding would involve riprap or dredging.

D. Project effects on the local community

The projects proposed for FPCP funding will reduce future off-site flooding by creating a detention basin for temporary flood storage in the upper reach of the Dry Creek watershed and by preserving the conveyance and storage capacity of the floodplain in the downstream portion of the watershed.

Potential demands for emergency services will be reduced through project-related reductions in the risk of flooding and through the removal of hazardous structures at the Hayer Dam site. Access for emergency services will be slightly improved by the reductions in flood flows and stages that will be produced by the projects proposed for FPCP funding.

The projects proposed for FPCP funding will fully comply with local floodplain management ordinances, including article 15.52 of the Placer County Code (Flood Damage Prevention Regulations), Title IX of the Sacramento County Zoning Code (also known as the Floodplain Management Ordinance) and the Sacramento County Water Agency Code. These codes implement the floodplain management criteria specified in FEMA's National Flood Insurance Program.

E. Value of improvements protected

The project would reduce the risk of flood-related damages to 84 structures occupying a portion of the Dry Creek floodplain in the City of Roseville. These structures have a total assessed value in excess of \$8 million. In the lower Dry Creek floodplain in Sacramento County, the project would secure open space and preserve the flexibility of flood managers to respond to future changes in watershed hydrology. This portion of the floodplain is occupied by over 500 structures with a total assessed value in excess of \$30 million. The risk of damage to improvements such as roads, bridges and related public structures would also be slightly reduced by the flood control features of the project.

The projects proposed for FPCP funding would slightly reduce the stress and wear and tear on the levees and related improvements constructed by SAFCA and the City of Roseville in the Dry Creek watershed. The replacement value of these facilities exceeds \$10 million..

V. Wildlife and Agricultural Land Conservation Benefits

A. Wildlife Benefits

A1. Importance of the site to regional ecology

The Dry Creek watershed remains a relatively intact 20-mile riparian corridor running through the fastest growing area in California. Covering approximately 101 square miles, preservation of the environmental quality of the watershed has been an increasing regional, state and federal priority because of the impact that rapid growth has had on the area's sensitive species.

The headwaters of Dry Creek are located in the upper portions of the Loomis Basin, above Newcastle, in unincorporated Placer County, in the area of Granite Bay near Folsom Lake, and in Orangevale in Sacramento County. Antelope Creek and Clover Valley Creek form the northwest boundary of the watershed, and Secret Ravine and Miner's Ravine comprise the northeast portion of the watershed. The numerous small tributaries of Dry Creek merge and form Dry Creek in Roseville. The main stem travels through cities and unincorporated areas north of Sacramento. The creek eventually links up with the Natomas East Main Drain, renamed Steelhead Creek, which flows into the Sacramento and/or American Rivers, depending on water stage.

The watershed corridor provides nearly unbroken riparian and grassland habitats linking Steelhead Creek, the American River Parkway, and Folsom State Recreation Area. The buffers contain many mature oak trees along with typical riparian trees such as cottonwoods and woody vegetation.

Himalayan blackberries cover large areas along the creeks. Although invasive, they presently play a role of stabilizing the banks and minimizing intrusion into the channel itself.

In the upper reaches of the watershed in Placer County, buffer zones and reserves have been established to protect lands adjacent to the creek. These buffers enhance riparian habitat and corridors as well as offer flood protection. The proposed work seeks to establish additional buffer zones in the lower portion of the creek by permanently protecting approximately 80 additional acres of land and about 25 acres along Miner's Ravine creek. The expansion of these buffers is critical to the preservation of the anadromous salmon and steelhead runs in the creek.

The lower reaches of the Dry Creek watershed are on the Sacramento Valley floor, and the headwaters are located in the Sierra Nevada foothills. Dry Creek's terminus at its confluence with Steelhead Creek has an elevation of about 30 feet. Elevations at the Watershed's upper foothill levels reach 1,200 feet.

The upper portions of the watershed are characterized by relatively steep slopes, with the lower reaches, especially downstream of Roseville, characterized by very gentle slopes. The stream channels are generally well defined and not especially wide or deep. The watershed is comprised of a

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variety of habitat types, including oak woodlands, riparian woodlands, waterways, grasslands and foothill chaparral.

The California Riparian Habitat Joint Venture (CRHJV) has identified the Dry Creek watershed as an area with significant potential for riparian habitat restoration. The CRHJV's goal is to double existing riparian vegetation and enhance 25% of degraded habitat in the state over the next 10-years. Restoration efforts in the Dry Creek watershed could contribute substantially to these goals.

The proposed off-channel detention basin in Miner's Ravine is within the area of the Dry Creek Greenway Masterplan. Over time, land will be acquired or preserved that will connect the existing Secret Ravine reserve with the project site on Miner's Ravine. Downstream, renovation of the Hayer Dam, removal of private levees, purchase and removal of private structures, and land acquisition would also occur within the proposed boundaries of the emerging Dry Creek Parkway. One of the primary objectives of the Parkway is to provide protection for wildlife and aquatic species by preserving and enhancing riparian habitat and channel conditions.

In addition, at the mouth of Dry Creek, where it flows into Steelhead Creek, SAFCA and the City of Sacramento are currently restoring habitat as part of the City's Ueda Parkway. This parkway is linked to the American River Parkway. When completed, a large riparian corridor, over 60 miles in length, will connect the upper and lower reaches of the watershed, linking the Ueda and Dry Creek Parkways, the Dry Creek Greenway, Folsom State Recreational Area, and the American River Parkway. This public open space resource will provide valuable areas for fish and wildlife passages, as well as recreation, water quality and flood control benefits for the citizens of the region.

Other habitat links include the Pacific Migratory Flyway; and nearby the Yolo Basin Wildlife Area, the Stone Lakes Wildlife Refuge, the Cosumnes River Preserve, and the Sacramento-Bay Delta.

Aquatic restoration would occur in connection with the renovation of the Hayer Dam and the removal of private levees downstream from the dam. The dam renovation will eliminate current impediments to fish passage in Dry Creek. At present, the flash boards in the Hayer Dam are added in May of each year and removed in the late September or October; timed to meet the needs of the recreational water skiing community which draws water from the pond formed by the dam. This timing interferes with the migration of anadromous fish. The dam delays upstream migration of salmon in the fall and inhibits downstream migration of juvenile fish in the spring. Renovation of the dam will eliminate this impediment.

Removal of private levees from the banks of the creek will help to improve the natural connection between the stream and its adjoining floodplain, thus promoting natural erosion and sediment transport, increasing habitat diversity, and potentially improving water quality. These improvements will promote natural erosion and sediment transport, and allow overbank flow and channel meandering, all of which serves to generate new and more functional riparian ecosystems, increase habitat diversity, improve water quality by allowing sediment deposition to occur on the flood plain, and improve flood control.

The channel modifications planned for the Miner's Ravine site also include restoration of aquatic and riparian habitat. By removing the existing levee and constructing a new levee higher up in the floodplain, the channel will have more opportunity to meander and develop structural complexity. Restoration plantings adjacent to the channel will also contribute to improvements in in-stream conditions by stabilizing banks, reducing erosion, providing cover and refuge and moderating water temperatures.

The natural resource value of streams in the Dry Creek Watershed is remarkably high despite the impact of land use in the area from the placer gold mining days of the 1850's to the rapid urbanization of the 1980's and 1990's. Perennial flows in Secret Ravine, Miners Ravine and Linda Creek support spawning runs of fall-run chinook salmon and Central Valley steelhead. Riparian and adjacent open space areas support abundant populations of songbirds, raptors and terrestrial wildlife. Canyons and stream corridors also provide important scenic and open space values to the region, especially considering the proximity of a dense, rapidly growing population.

The 100-year floodplain within the Dry Creek watershed supports a broad-range of species and habitat types that exist and depend upon floodplain landscapes. Native blue and interior live oaks, cottonwoods, willows, elderberry and a host of other riparian vegetative species are abundant. In addition, dry crop agriculture and other open space grasslands located along the lower reaches of the Watershed provide valuable habitat for birds and small mammals for nesting, foraging and cover.

A2. Diversity of species and habitat types

The Dry Creek watershed provides important riparian and in-stream habitat. The California Riparian Habitat Joint Venture, comprised of federal, state and regional agencies, has recognized the Dry Creek Watershed's riparian woodlands as among the richest habitats in the arid West for breeding and wintering bird species. In the spring and fall, these habitats provide crucial refueling stopovers for migratory birds. The following is a list of some of the potential benefits of the project to a variety of avian species:

- Nesting habitat for the Burrowing Owl (*Federal Species of Concern*)
- Nesting sites for the Swainson's Hawk (*State Threatened Species*);
- Nesting habitat for raptors (*Federal Migratory Bird Treaty Act*);
- Nesting habitat for Cliff Swallow (*Federal Migratory Bird Treaty Act*);
- Habitat for Tri-Colored Blackbird (*Federal Species of Concern*);
- Protection of state-designated heron rookery; and
- Crucial refueling habitat, feeding and breeding grounds for migratory birds;

Water is available in Dry Creek year-round. Dry Creek and its tributaries are probably best known for providing important habitat for both fall-run chinook salmon, a candidate species for listing, and Central Valley steelhead, a listed species. Historically, the watershed supported large numbers of both species. Disruption to the adjacent lands caused historically by mining and agriculture, and more recently, by rapid growth, along with natural processes, has significantly degraded this habitat. The proposed project would be one of a number of efforts aimed at improving habitat for salmonids. Although other species of fish are found in the watershed, the most important are the salmonids.

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Removal of private levees and renovation of the Hayer Dam will benefit aquatic species and allow a more natural meander of the stream, reduce erosion, decrease pressure on the channelized flow, and enable creation of healthier riparian ecosystems which will also benefit a broad-range of wildlife.

In addition to avian and fish species, the proposed project will provide benefits to the following species of concern:

- Habitat for the Western Pond Turtle (*Federal Species of Concern*);
- Habitat for Boggs-Lake Hedge Hyssop (*State Endangered Species*);
- Habitat for Valley Elderberry Longhorn Beetle (*Federal Threatened Species*);
- Habitat for Giant Garter Snake (*Federal and State Listed Species*); and
- Wetlands and mixed riparian forests, supporting elderberry, blue and interior live oak.

A3. Ecological importance of species and habitat types

The major benefit of this project is enhancement of habitat and passage for anadromous fish. Although there is year-round availability of water in Dry Creek and its tributaries that would support migration, in its present state, Hayer Dam delays spawning and places out-migrating fish in peril due to pumping and plunging over the top of the dam onto a rocky face. Renovation of the dam will eliminate these problems.

In addition, the project will improve habitat by connecting portions of the stream to adjoining overflow flood plain areas, thus improving the vegetative cover, increasing invertebrate food supply, and facilitating sediment transport - all processes that benefit salmonids and other aquatic life.

As previously noted, this watershed has been identified by the California Riparian Joint Venture as possessing rich habitat for breeding and wintering birds. The Dry Creek watershed is within the Pacific Migratory Flyway, contains a state-designated heron rookery, Swainson's hawk nesting sites, elderberry habitat to the endangered Elderberry Longhorn Beetle), provides access to salmon and steelhead spawning grounds and habitat for fry, and habitat and forage for a wide variety of other aquatic and terrestrial wildlife. In terms of overall biological productivity and richness, the riparian habitat within Dry Creek compares favorably with the riparian habitat found in the American River Parkway. It is estimated that approximately 10-acres of shaded riverine habitat and riparian habitat within the watershed will be restored as part of the Hayer Dam renovation and construction of the Miner's Ravine off-channel detention basin. Another 100-acres of shaded riverine and riparian habitat within the watershed will be restored as a result of the eradication of Red Sesbania and restoration of those areas with native vegetation.

A4. Public benefits accrued from expected habitat improvements

Since 1990, Sacramento and Placer Counties have experienced population growth and related development at a rate that exceeds growth in the state as a whole. This growth is occurring in the urban centers and the unincorporated rural communities as well. Businesses and individuals continue to locate in the area to enjoy a combination of benefits, such as affordable housing, quality schools, employment opportunities, and access to recreation and open space. The amenities provided by recreation and open space are very important components in determining the overall "quality of life"

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enjoyed by area residents. However, it is a commonly acknowledged irony that while these natural and recreational amenities attract new residents, their quality and existence can be significantly threatened by the demand for building sites and the land use practices associated with development. All of the component sites of this project are located within areas that have been designated as open space preserve areas through the Counties' General Plans and specific Dry Creek corridor plans.

The proposed project elements in Sacramento County are all located in or adjacent to the emerging Dry Creek Parkway. The Miner's Ravine Off-Channel Detention Basin is within the area proposed for the Dry Creek Greenway. Multi-agency collaboration in developing both the Parkway and Greenway have been underway for some time. Once complete, the Parkway and Greenway will add over 35-miles of trails and open space for wildlife viewing, passive recreation and non-motorized transportation. Trails in the Greenway and Parkway will provide access for birdwatching, fishing, walking, bicycling, horseback riding, and nature observation for both leisure and educational purposes. The trails will also connect with hundreds of miles of existing and proposed trails: the American River Parkway, the Ueda Parkway (Steelhead Creek), Sacramento Northern Bike Trail, High Sierra Rail Trail, Sutter/Sacramento County Connection, and the Sacramento River Greenway.

At the Miner's Ravine off-channel detention basin site, an approximately 1,700 foot long extension of an existing paved recreational pathway is planned along the corridor that would include a tie-in to planned future hike paths along Sierra College Boulevard. Ultimately, this new pathway would be incorporated into the Dry Creek Greenway trail system.

All aspects of this proposal are described in and would contribute to the successful implementation of the Dry Creek Watershed Flood Control Plan. The project is also consistent with the Sacramento County General Plan, the Placer County General Plan, the draft Dry Creek Parkway Recreation Master Plan, the Stoneridge/Northeast Roseville Specific Plan Area Open Space Management Plan, and the Dry Creek Regional Greenway Concept Report.

A5. Viability/sustainability of habitat improvements

As discussed in Section VI.E.b) below, the detention basin and non-native plant removal areas within Placer County will be monitored, operated and maintained by the Placer County Flood Control District. The District will oversee and supervise all activities related to the 3-year long plant establishment period following construction of the basin District staff, accompanied by biologists from the Placer County Division of Natural Resources, will conduct regular site monitoring of existing and newly established riparian and wetland improvement areas. Items identified for action will be performed by outside landscaping contractors hired and supervised by the District utilizing Dry Creek Trust Fund monies. These long-term activities are expected to enhance existing riparian habitat values. Fisheries habitat values are expected to be improved through the addition of gravel, woody debris or other appropriate channel features. Bioassessment of benthic macroinvertebrates will be performed before and after the project to assess the improvement of in-stream habitat.

Sacramento County's Parks Department has managed the lower reaches of the Dry Creek watershed and is in the process of developing the Dry Creek Parkway Master Plan. The Parkway currently has dedicated maintenance and ranger staff overseeing its operation. In addition, the Effie Yeaw Nature Center conducts numerous educational programs at Dry Creek throughout the year. The Department

has been engaged in efforts to improve and further establish wetland, oak woodland and native grass habitats within its portion of the watershed, increasing the available habitat and nesting sites for both threatened and non-threatened species.

B. Agricultural Land Conservation Benefits

While this project will significantly benefit wildlife resources, there will also be benefits to the conservation of agricultural land. Specifically, the proposed fee title and easement acquisitions will help preserve the agricultural heritage that has shaped the lower reaches of the Dry Creek watershed.

Both the Mojica and Long properties are within the 100-year floodplain, and are zoned R-R(F) indicating allowance for miscellaneous recreational uses as well as agricultural and residential uses with a minimum lot size of 20-acres. Once acquired, it is expected that the property will be leased for agricultural purposes (dry crop or grazing). Agricultural leasing of public open space, in a sustainable manner, has become an important management tool for controlling the spread of non-native plants and reducing fire risks.

It is anticipated that some revenue will be generated from agricultural leasing to help offset operational costs. However the primary benefits of the agricultural activity are to: 1) maintain or improve wildlife habitat values, and 2) help preserve the community's agricultural heritage.

Willing seller floodway/conservation easements will also be sought. These easements will help safeguard against potential changes in zoning or land use protections, help preserve the community's rural atmosphere, and ensure viable buffer-lands exist between the Dry Creek floodway and populated areas.

B1. Potential productivity of the site as farmland

Several sites included in this project have potential agricultural productivity. These are the Long and Mojica properties and sites associated with acquisition of open space easements within the floodplain adjacent to the Dry Creek Parkway. Agriculture in the Dry Creek Parkway area consists primarily of small farms. The Long property is currently used for hay production. Other uses in the region include irrigated pasture, irrigated crops or dryland crops. The commonly grown crops include irrigated wheat, alfalfa, and corn. Soil fertility in the California Central Valley is generally high, supporting a rich diversity of agricultural products. General soils in this area include Rossmoor-Vina along Dry Creek, well-drained soils that are either protected by levees or subject to flooding, and San Joaquin, moderately well drained soils that are moderately deep over a cemented hardpan¹. Soils specific to the Dry Creek Parkway include Liveoak sandy clay loam in the floodway between the stream channels, San Joaquin sandy loam, outside of the floodway but within the floodplain, San Joaquin-Urban land complex, Fiddymont fine sandy loam and various others. Liveoak sandy clay loam is considered prime farmland and is suitable for hay, pasture and irrigated crops. Main limitations include flooding during winter and early spring. San Joaquin sandy loam is suited for irrigated hay and pasture and dryland crops. Depth to claypan is the main limiting factor on production. If used for dryland crops, a surface drainage system is needed. Fiddymont fine sandy loam is suitable for livestock grazing or dryland crops. As with the San Joaquin soils, depth to claypan is an issue.

¹ Sacramento County USDA SCS General Soil Map, *Soil Survey of Sacramento County, California*, USDA, April 1993.

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The dry crop and grazing practices currently in place within the Parkway are consistent with water availability. It is anticipated that continued or future agricultural uses will be similar to those in place now with respect to water demand. While the productivity potential of portions of the is relatively high, it is not likely that any of the sites will be used for major commercial agricultural production due to the limited acreage and the absence of supporting infrastructure.

DISCUSSION OF IMPACTS

- a) No Impact – No conversion of Prime farmland, unique farmland, or farmland of statewide importance is planned in this project. While it is possible that at some point in the future SAFCA would decide to remove these lands from agricultural production, at this time agricultural activity will continue to be a management option for these parcels. It is unlikely that these parcels, due to their small size and seasonal inundation, would be classified as prime, unique or of statewide significance.
- b) No Impact – Since these lands will be preserved as agriculture or open space, no conflicts with existing zoning will occur.

No Impact – No other changes in the existing environment which impact farmland or agricultural uses are anticipated.

CONCLUSIONS

This project should have no impacts to existing agriculture or farmland. The intent of the project is to preserve the open space and rural character of the land. While it is possible that SAFCA may choose to retire the Long and Mojica properties from agricultural production at some point in the future, this should not have an impact to prime farmland, unique farmland or farmland of statewide significance, or to adjacent agricultural properties. If these properties were removed from agricultural use, the new use would conform to local zoning codes, and would most likely be undeveloped open space.

B2. Farming practices and commercial viability

The Rio Linda area that encompasses the Dry Creek Parkway and the sparsely populated floodplain adjacent to the Parkway possesses limited market infrastructure and agricultural support services. It is an area that historically relied on agriculture for a substantial part of its economy, but this land use is gradually being replaced with residential and commercial developments. Therefore the agricultural uses on the project sites will be restricted to those currently in place in the area, such as grazing and dry crop farming.

B3. Need and urgency for farmland preservation measures

No conversion of Prime farmland, unique farmland, or farmland of statewide importance is planned in this project. While it is possible that at some point in the future SAFCA would decide to remove these lands from agricultural production, at this time agricultural activity will continue to be a management option for these parcels. It is unlikely that these parcels, due to their small size and seasonal inundation, would be classified as prime, unique or of statewide significance. Areas within the Dry

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Creek Parkway are precluded from development by the County General Plan and zoning ordinance. However, properties adjacent to the Parkway are gradually converting from agricultural uses and small ranches to subdivision and commercial development.

B4. Compatibility of project with local government planning

Since these lands will be preserved as agriculture or open space, no conflicts with existing zoning will occur. The sites are not developable due to floodplain restrictions on development.

B5. Quality of agricultural conservation measures in the project

Acquisition of the Mojica and Long properties as well as acquisitions of easements on other agricultural properties within the Dry Creek Parkway will also help to preserve open foraging and nesting habitat that complements the cover provided by the riparian woodland in the Parkway. The Rio Linda Historical Society has already established one interpretive facility at the Dry Creek Ranch & Museum located on agricultural land within the Dry Creek Parkway. As other agricultural lands within the Parkway are acquired, interpretive opportunities may be expanded.

VI. Miscellaneous Benefits and Quality of Proposal

A. Size of request, other contributions, number of persons benefiting, cost of grant per benefited person

<i>Estimated Total Project Cost</i>	\$5,727,395
<i>Amount of FPCP Grant Funds Requested</i>	\$2,416,355
<i>Amount of Local Funds Contributed</i>	\$3,311,040
<i>Amount of In-kind Contributions</i>	\$0
<i>Additional Funding Sources</i>	\$0
<i>Number of persons expected to benefit</i>	300,000
<i>Flood Protection Corridor Funds per person benefited.*</i>	\$8.05

(Count as beneficiaries those receiving flood benefits, recreational users of habitat areas protected by the Project, and consumers of food products from agricultural areas conserved by the Project.)*

B. Quality of effects on water supply or water quality

The proposed off-channel detention basin along Miner's Ravine will store flood water on a transitory basis during the flood season. This storage could result in incidental groundwater recharge benefits, however the project is not designed to provide water supply benefits.

FPCP funds would be used to remove privately constructed levees and restore portions of the Dry Creek channel downstream from the Hayer Dam. Cattle grazing is a common use of the floodplain lands adjoining the channel in the vicinity of the affected levees. These lands are publicly owned. The current management plan for these lands calls for fencing of the creek channel to prevent uncontrolled livestock access. The plan permits controlled access for weed abatement and fire management. .

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None of the proposed improvements would require passage of water over newly developed marsh lands.

The off-channel detention basin could trap sediments borne by floodwaters diverted into the basin for transitory storage. Some of these sediments will be flushed out as the basin drains by gravity, however most will remain within the basin. The trapped sediments will likely build up over time, requiring periodic excavation and disposal to maintain the storage capacity of the basin.

C. Quality of impact on underrepresented populations or historic or cultural resources

The lower reaches of the Dry Creek watershed will provide important open space access to underrepresented populations. Community stakeholders increasingly recognize that providing access to outdoor recreational amenities and natural habitats greatly improves a neighborhood's *quality of life*, significantly affecting a stronger sense of ownership and pride for that community; all of which functions to create healthier more vibrant environments for all citizens. The lower reaches of the watershed serves numerous communities (Del Paso Heights, Rio Linda/Elverta, Robla, Valley View Acres, North Sacramento, and North Natomas) that will benefit from the increased flood protection and wildlife enhancement this project will provide.

Many of the communities referenced above are struggling more than most with a range of socio-economic challenges and include significant populations of minority residents and immigrant populations (Eastern European and Hmong). Recent 2000 Census data within 5 miles of the Dry Creek Parkway provides the following demographic information:

African-American	4,514
Asian	3,877
Hawaiian/Pacific Islander	517
Hispanic or Latino of any race	7,251
Native American	435
White	10,189
Two or more	1,855
Other	4,445
TOTAL	25,832

This project would benefit the Dry Creek Ranch Museum, located within the Dry Creek Parkway. The museum is managed by the Rio Linda/Elverta Historical Society under a lease with Sacramento County Parks. Located along the south channel of Dry Creek, the Ranch has become a focal point for the interpretation of the area's history. While the property is undergoing restoration, school groups utilize the site for docent-led activities depicting early 20th century farm life and nature study.

Wildlife and flood protection improvements to the area, including those within the scope of this project, will improve access to the site and increase the wildlife values.

D. Technical and fiscal capability of the project team

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Technical expertise would be required to design and construct the off-channel detention basin and the renovations to Hayer Dam. This work would be performed by competent civil engineers and construction contractors retained and managed by the District or by SAFCA.

Eradication of Red Sesbania would require expertise in the application of herbicides in potentially sensitive aquatic habitat areas. SAFCA has gained important management experience in this area through its ongoing invasive plant removal program in the American River Parkway.

FPCP funds would defray approximately **two-thirds** of the cost of the proposed measures. Both SAFCA and the Placer County Flood Control District have adequate funds to proceed with the proposed measures subject to reimbursement through the grant program. Therefore, the receipt of grant funds in phases over time should not complicate the initiation, progress, and completion of the proposed measures. SAFCA and the District are experienced project sponsors with established administrative systems for managing projects and monitoring project expenditures.

E. Coordination and cooperation with other projects, partner agencies, and affected organizations and individuals

As shown in **Table ___**, FPCP fund would defray approximately **50 percent** of the cost of the structural and non-structural measures proposed for the Dry Creek Watershed. The balance of the cost would be provided by SAFCA, the Sacramento County Department of Parks, Recreation and Open Space, the Sacramento County Department of Water Resources and the Placer County Flood Control and Water Conservation District.

As discussed below, the project would advance the goals and objectives of the 1992 Dry Creek Watershed Flood Control Plan. It would also complement ongoing open space planning and environmental restoration efforts in the watershed that have been underway since January 1995 when the Dry Creek Parkway Citizens Advisory Committee (later incorporated as the Dry Creek Conservancy [DCC]) published the Dry Creek Parkway Concept Plan. Since then, state funds (through Caltrans) have been secured to develop the Dry Creek Greenway Masterplan. State and federal funds have been granted to the DCC and its partners to support the development of the Miner's Ravine Nature Preserve, implement water quality monitoring and education programs throughout the watershed, and carry out a series of restoration projects along Miner's Ravine, Secret Ravine and other smaller streams. The funding agencies include CALFED, the National Fish and Wildlife Fund, the State Department of Water Resources' Urban Streams Restoration Program, and the Central Valley Project Improvement Act's Anadromous Fish Restoration Program.

The measures proposed for FPCP funding would advance the goals and objectives of the 1992 Dry Creek Watershed Flood Control Plan adopted by Placer and Sacramento Counties. The Flood Control Plan is aimed at reducing the impact of future development in the watershed on buildings and infrastructure located in the floodplain by implementing the following measures:

- Local on-site detention facilities for all future development in the Dry Creek watershed designed to reduce post-development flows from the 2- through 100-year storms to pre-development levels.

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- Regional detention basins upstream of Roseville and Rio Linda designed to reduce peak flows that must be passed through these areas.
- Channel and levee improvements in the vicinity of Roseville and Rio Linda.
- Bridge and culvert replacement to prevent localized flooding, preserve emergency access, and avoid damage to public facilities.
- Floodplain management to control development in flood-prone areas and preserve the beneficial values of natural stream channels.

Local on-site detention is being implemented in connection with most new developments in the watershed. Extensive channel and levee improvements have been constructed in the vicinity of Roseville and Rio Linda. Fourteen residential structures have been elevated in the floodplain near Roseville and more than two-dozen residences have been removed from the floodplain near Rio Linda. Bridges and culverts through out the watershed are being redesigned and replaced on an ongoing basis. The measures proposed for FPCP funding would build on these accomplishments by:

- Helping to initiate construction of the first off-stream detention basin in the watershed.
- Promoting the establishment of a publicly owned Parkway in the vicinity of Rio Linda that would serve to restrict development in the floodplain and preserve the beneficial values of the north and south branches of lower Dry Creek.
- Renovating the hazardous bridge crossing at the Hayer Dam site.
- Creating a fund for acquiring open space easements aimed at preserving the rural residential character of the land in floodplain adjacent to the Parkway.
- Eliminating a large regional source population of Red Sesbania and assisting managers in controlling this plant statewide.

The proposal represents a coordinated effort by SAFCA, Sacramento County (through its Parks and Water Resources Departments) and Placer County (through its Flood Control District) to advance the objectives of the 1992 Dry Creek Watershed Flood Control Plan and strengthen ongoing environmental restoration efforts in the watershed. The proposal has been presented to and received the support of the North Area Round Table and the Dry Creek Watershed Council, the collaborative bodies representing the major governmental and non-governmental stakeholders in the watershed.

The Red Sesbania eradication project will be coordinated through a project oversight committee established by SAFCA including representatives from the Dry Creek Watershed Council, federal, state and local regulatory agencies (Placer & Sacramento County Agricultural Commissioners Office) and technical specialists. This project will also be conducted in partnership with California Exotic Pest Plant Council's (CalEPPC) Red Sesbania Working Group in order to ensure broad-based statewide coordination and collaboration.

In addition, the Red Sesbania eradication effort will utilize crews from the California Conservation Corp for initial removal, and will seek the services of volunteers through the California Native Plant Society's Weed Warriors program for long-term maintenance of the restoration areas.

VII. Additional Information As Specified In Section 497.7 of Title 23, California Code of Regulations, Division 2

A. Initial Study Checklists – See Attachments

B. Permits – See Attachments

C. Financial Summary and Work Plan

Table detailing: Tasks, timeline and estimated costs (cite potential CCC role)

- 2. Financial spreadsheet: Task, cost, amount of grant request, applicant funding and partner funding*
- 3. Statement relative to the use of a trust fund for maintenance or proposed alternative, as specified in Water Code Section 79044*

It is proposed that a trust fund be established for the land acquisitions that would be carried out with FPCP and matching local funds. The trust fund would be managed by the Sacramento County Treasurer under a trust agreement between the Treasurer and SAFCA.

The trust fund would be divided into two sub-accounts: one for fee acquisitions and maintenance of lands acquired in fee title and one for open space easement acquisitions. The first agreement would spell out the terms and conditions for trust fund expenditures.

SAFCA has entered into two similar agreements with the Treasurer in connections with funding for endangered species mitigation for the North Area Local Project.

C. Acquisition description

See attached

All of the lands adjacent to proposed project sites in the lower portion of the Dry Creek Parkway near Elkhorn Boulevard are owned either by Sacramento County or by SAFCA. The property adjacent to the Miner's Ravine Off-Channel Detention Basin are owned by Placer County.

E. Maintenance Plan

- a) Properties acquired as easements or in fee title with FPCP funds in Sacramento County will be incorporated into the publicly owned Dry Creek Parkway and managed as part of the Parkway by the Sacramento County Department of Regional Parks, Recreation, and Open Space (County Parks). Properties acquired in fee title in Placer County will be owned and managed by Placer County.
- b) Maintenance of the off-channel detention basin along Miner's Ravine in Placer County will be the responsibility of the Placer County Flood Control District. The detention basin will be designed for passive, gravity drainage requiring minimal maintenance responsibilities. District staff will be responsible for remote water surface elevation monitoring as well as monitoring overall basin performance. Staff will install and operate a series of automated stage level

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guages and perform physical inspections during storm events. During the three-year plant establishment period immediately following construction activities, District staff will oversee the activities of a privately hired landscape maintenance contractor. Annual maintenance of vegetative growth within the floodplain and basin areas that is deemed to be an obstruction to flow, will be removed through the use of California Conservation Corp and California Department of Forestry (CDF) crews supervised by District staff. The District currently contracts with the CDF for similar stream channel maintenance activities within the Dry Creek watershed. Regular physical inspections of constructed site improvements including earthen embankments, culverts, access roadways, bike paths, signage, etc., will be performed by District staff. Sediment accumulation within the basin bottom will also be physically monitored by District staff. Corrective actions necessary to mitigate maintenance issues will be performed by an outside contractor, hired and supervised by District staff.

Funding for these activities is anticipated through grant monies or from developer fees collected by local member agencies and deposited within the Dry Creek Trust Fund.

- c) The renovated Hayer Dam will be designed for minimal maintenance. County Parks will be responsible for maintaining the new bridge crossing. SAFCA will be responsible for maintaining the water diversion facilities, including fish screens and pumps. If a pooling weir is included in the design, SAFCA will be responsible for removing sediment build-up behind the weir. Funding for these activities will be provided by SAFCA's annual operations and maintenance assessment.

F. Written statement by an attorney certifying that the applicant is authorized to enter into a grant agreement with the State of California.