

American River Basin: Upper Unionhouse Creek Flood Protection Project

Attachment 10: Costs and Benefits Summary

The Upper Unionhouse Creek Flood Protection Project has both quantifiable and non-quantifiable benefits. Attachments 7, 8, and 9 detail the flood damage reduction, water supply, and water quality and other benefits, respectively. This attachment provides a summary of the costs and benefits relating to this project.

The total capital cost for the Upper Unionhouse Creek Flood Protection Project is \$1,953,546. The total present value cost of the project is \$1,934,031, and together, this project has a cumulative quantitative benefit of \$2,587,000. This is equivalent to an overall benefit-cost ratio of 1.34.

It is important to note that the quantitative analyses do not reflect all the benefits provided by this project. As documented in Attachments 7, 8, and 9, this project possesses numerous benefits for which monetary values cannot easily be assigned. These qualitative benefits are reviewed in the following section. The overall quantifiable benefits of this proposal are summarized in Table 20, Proposal Project Costs and Benefits Summary, at the end of this attachment.

Qualitative Water Supply Benefits

- The project described herein is a stormwater flood management project, and as such, does not provide significant water supply benefits. However, the Upper Unionhouse Creek Flood Protection Project will provide incidental groundwater recharge benefits to the underlying Central Basin groundwater aquifer through the percolation of stormwater in unlined sections of the channel and through cracks in paving that may occur in the channel bottom.

Qualitative Water Quality

- While the proposed Upper Unionhouse Creek Flood Protection Project is designed to reduce flood damage impacts, the widening of Upper Unionhouse Creek, constructed as part of the project, will result in slower flow velocities in that reach. The slower velocities may allow for the settling of entrained sediments and other pollutants and thus may improve the water quality in the Unionhouse Creek and downstream reaches of Morrison Creek.

Other Expected Benefits

- Current flooding frequencies and uncertainty resulting from delays in implementation of the federally-authorized South Sacramento Streams Group (SSSG) Project have prevented the implementation of two critical public transportation projects in the publically-owned corridor adjacent to Unionhouse Creek between Franklin Boulevard and Bruceville Road. At present, the city of Sacramento has plans to expand the roadway into a four-lane expressway that connects Highway 99 and Interstate 5 near the town of Freeport, and the Sacramento Regional Transit Authority has received Federal approval to extend light rail service through this corridor along the northern edge of the expanded roadway. Neither project can proceed until the flood control issues associated with Unionhouse Creek are resolved.

The Upper Unionhouse Creek Flood Protection Project will address the existing flood risk along Unionhouse Creek by expanding the width and adjusting the depth of the existing channel between Franklin Boulevard and Bruceville Road. This project would significantly reduce the likelihood of overbank flooding in this portion of the creek and would provide at least a 100-year level of flood protection to the lands adjacent to the creek in this area, thus facilitating the construction of the planned road addition and approved light-rail service extension. Facilitation of the regional transit projects will reduce current traffic impacts, and implementation of the light rail project will improve the accessibility to public transportation for all (including local minority and low-income populations), reduce criteria pollutants and precursor emissions, as well as greenhouse gas emissions, and reduce direct energy consumption by 37,009 BTUs per year..

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Table 20 - Proposal Project Costs and Benefits Summary							
Proposal: American River Region IRWM Proposition 1E Grant Proposal							
Upper Unionhouse Creek Flood Protection Project							
Agency: Sacramento Area Flood Control Agency							
Project	Agency	Total Present Value Project Costs	Total Present Value Project Benefits				B/C Ratio
			Water Supply	Flood Damage Reduction	Water Quality and Other	Total	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
						(d) + (e) + (f)	(g) / (c)
Upper Unionhouse Creek Flood Protection Project	Sacramento Area Flood Control Agency	\$1,934,031	\$0	\$2,587,000	\$0	\$2,587,000	1.34