

Appendix K - Documentation of Project  
Technical Feasibility

---

Documentation of Project Technical Feasibility

The following table summarizes the responses provided by project sponsors regarding the feasibility of their projects.

Project Name	Project Sponsor	Feasibility Study	Planning Documents
Planada Community Services District Wastewater Treatment Plant Improvement Project Pre-Construction Mitigation Measures	Planada Community Services District	Planada Community Services District Preliminary Engineering Report for Wastewater Treatment Plant Improvement Planada Community Services District Addendum No. 1 to Preliminary Engineering Report; April 2012 Planada Community Services District Addendum No. 2 to Preliminary Engineering Report; October 2012 Planada Community Services District Appendix A Planada Community Services District Appendix C	Planada WWTP Improvement Project FEIR Cover.pdf Planada WWTP Improvement Project FEIR Section 1 - Introduction.pdf Planada WWTP Improvement Project FEIR Section 2 - Draft EIR Resp.pdf Planada WWTP Improvement Project FEIR Section 3 - Draft EIR Revi.pdf Planada WWTP Improvement Project FEIR Section 4 - Report Prepar.pdf Planada WWTP Improvement Project FEIR Table of Contents.pdf
MID Le Grand / Planada Flood Control/ Conjunctive Use Expansion Study	Merced Irrigation District	N/A	Merced Irrigation District System Improvements
Main Canal Offstream Regulating Reservoir Study	Merced Irrigation District	None	
Main Canal at Head Seismic Rehab	Merced Irrigation District	None	
Livingston Canal Lining Project	Merced Irrigation District	MID has worked on similar projects from a health and safety vantage.	
McCoy Lateral Regulating Basin	Merced Irrigation District	The project was analyzed by MID staff using available historical records and physical characteristics of the existing system	Merced Irrigation District 5-year Business Plan.
Cressey Recharge Basin Expansion	Merced Irrigation District	MID had performed a pilot study as well as implemented the recharge basin (i.e., Cressey Recharge Basin) just adjacent to the proposed site.	
Le Grand Athlone Water Supply Enhancement	Merced Irrigation District	MID staff has researched and completed conceptual planning for this project while coordinating efforts with Le Grand Athlone Water District.	
Black Rascal Creek Flood Control Project	Merced Streams Group (County of Merced, City of Merced, Merced Irrigation District)	Black Rascal Flood Control Project Feasibility Study June 2008 Black Rascal Flood Control Project Feasibility Study - Addendum 1 - dated February 2009 (Project scope modified to provide protection during 200-year storm event)	USACE Merced Streams Group

Documentation of Project Technical Feasibility

Flood Risk Management Project, City of Livingston	City of Livingston	N/A	N/A
Merquin Groundwater Reduction Wells	Merquin County Water District	N/A	N/A
Merced IRWM Digital Library Project	University of California, Merced	N/A	
Highline Lateral Drainage Project	Merquin county Water District	N/A	
McCoy Lateral Rehabilitation	Merced Irrigation District	<p>The "Merced Irrigation District Seepage Test Results for the Arena Lateral "B" July 2008", attached in Exhibit A show the typical quantities of seepage derived from a test on a lateral in close proximity of the project area.</p> <p>Spill reports from recorders located on MID systems that store information periodically throughout the years were used to find the average spill rates for the laterals indicated. These numbers were then verified for accuracy by comparing to the operator's general knowledge of how the water distribution network operates in this area.</p> <p>Also, this project has been identified as a candidate in continuous efforts and studies to define feasible projects for a future five year capital project schedule. The projects that make this list are analyzed for current circumstances driving the need for the project, alternatives considered, cost, and applicability to the District's goals as a whole and as a contributor to a state wide water resource system.</p>	The project is identified in Merced Irrigation District 5-year Business Plan.
Windmill Ditch Drainage	Merquin County Water District	N/A	
4th Avenue & Lander (Hwy 165) Drainage Project	Merquin County Water District	N/A	

Documentation of Project Technical Feasibility

<p>Study for Potential Water System Intertie Facilities from Merced I.D. to LeGrand-Athlone W.D. and Chowchilla W.D.</p>	<p>Chowchilla Water District</p>	<p>A study was performed by Tolladay, Fremming &amp; Parson (TFP) for the Bureau of Reclamation (USBR) in 2001 in conjunction with the Friant Water Users Authority/NRDC litigation settlement efforts to determine the feasibility, at a reconnaissance level, of increasing the capacity of some of MID's distribution system and constructing a conveyance system from MID's system to CWD, based on the ability to deliver alternative volumes of 7,500 AF and 15,000 AF annually. The TFP study outlined six alternatives, as well as investigating a few combinations of alternatives.</p>	<p>Madera County IRWMP</p>
<p>McCullough Road Drainage Project</p>	<p>Merquin County Water District</p>	<p>N/A</p>	
<p>Highlands II - A conjunctive Use Project</p>	<p>Merced Irrigation District</p>	<p>Preliminary design and coordination has been conducted by MID personnel.</p>	
<p>Cash for Grass Pilot Program to Eliminate Wasteful Pollution Containing Water Run-off</p>	<p>City of Merced</p>	<p>Although a feasibility study is not applicable, the success potential is proven given the results in other communities that have implemented similar programs. Between 2003-2008 the Southern Nevada Water Authority stated that customers removed over 107 million square feet of water-sucking turf. Per Las Vegas Sun, Cash for grass program taking steps to entice more businesses. June 17, 2008. According to The Good News article dated October 12, 2009, in Roseville, California, the cash for grass pilot program was so wildly popular that the morning the program launched funding was completed expended by 8:00 a.m. so they went back to their city council to request more funding and it was granted. Since other communities have experienced such success in their programs it is our intention to mirror their programs and tailor the guidelines to fit with the native plants to our area.</p>	<p>Not applicable.</p>
<p>Planada Community Services District Wastewater Treatment Plant Improvement Design &amp; Permitting Phase</p>	<p>Planada Community Services District</p>	<p>Planada Community Services District Preliminary Engineering Report for Wastewater Treatment Plant Improvement                  Planada Community Services District Addendum No. 1 to Preliminary Engineering Report; April 2012                  Planada Community Services District Addendum No. 2 to Preliminary Engineering Report; October 2012                  Planada Community Services District Appendix A                  Planada Community Services District Appendix C</p>	<p>Planada WWTP Improvement Project FEIR Cover.pdf                  Planada WWTP Improvement Project FEIR Section 1 - Introduction.pdf                  Planada WWTP Improvement Project FEIR Section 2 - Draft EIR Resp.pdf                  Planada WWTP Improvement Project FEIR Section 3 - Draft EIR Revi.pdf                  Planada WWTP Improvement Project FEIR Section 4 - Report Prepar.pdf</p>

Documentation of Project Technical Feasibility

			Planada WWTP Improvement Project FEIR Table of Contents.pdf
Snelling Channel and Floodplain Restoration	United States Fish and Wildlife Service (Anadromous Fish Restoration Program) Merced Irrigation District	The Anadromous Fish Restoration Program (AFRP) has been working with the land lease to gain access to the property to conduct restoration activities. Initial scoping of project elements have been conducted under a Federal Grant developed by AFRP. Currently no agreement is in place to continue through the design, permitting and implementation phases of the Project.	The Anadromous Fish Restoration Plan "Final Restoration Plan" (1995) lists actions and evaluations for the Merced River needed to achieve the CVPIA doubling goal for Chinook salmon. Improving habitat conditions for all life stages (including egg incubation, spawning and rearing) are high priorities for the Merced River in this document.
Bear Creek Siphon and Diversion Structure (BCSDS) Expansion	Stevinson Water District and Community of Stevenson	N/A	This BCSDS has a long unrecorded history of being the partial cause of flooding in the Stevenson community. Property owners can attest to the need for the project. As this is a Planning application, an initial reconnaissance level study has been performed to frame the planning objectives of the project.  GEI Consultants, Inc. has prepared a 2012 Project Description and Supporting Scope of Work.
Water Meter Conversion Project	City of Merced	N/A	N/A
Water Efficiencies Rebate Program	City of Merced	n/a	n/a
Surface and Groundwater Centralized Treatment, City of Livingston	City of Livingston	Feasibility Study contracted in Feb 2012 and in progress now by Kennedy-Jenks; due for completion Jan 2013	2005 Urban Water Management Plan, Carollo Engineers, Mar 2007 2025 General Plan Update, Oct 2008
Water Distribution System Improvements, City of Livingston	City of Livingston	Water System Engineering Feasibility Study, Carollo Engineers, November 2003	Water Distribution System Master Plan, Carollo Engineers, May 2008 Prop 13 Infrastructure Rehab Program Construction Grant Application, December 2003 2025 General Plan Update, Adopted October 2008
Water Meter Project for Le Grand CSD	Le Grand Community Service District	The District Engineer has completed a set of construction documents for the installation of water meters in the community to all the customers. A cost analysis and potential water savings was determined for the project.	

Documentation of Project Technical Feasibility

Exchange Recycled Water for Surface Water in Parks	City of Merced	"N/A"	Urban Water Management Plan
Planada Community Services District Water Conservation Project	Planada Community Services District	Planada Community Services District Audited Financial Statements June 30, 2011 DRAFT Preliminary Engineering Report (PER) for the Water System Rehabilitation & Conservation Project, October 2012 DRAFT PER Appendix A (Water System) DRAFT PER Appendix B (Model Results) DRAFT PER Appendix C (Upgrade Map) DRAFT PER Appendix D (Cost Estimates)	DRAFT Preliminary Engineering Report (PER) for the Water System Rehabilitation & Conservation Project, October 2012 DRAFT PER Appendix A (Water System) DRAFT PER Appendix B (Model Results) DRAFT PER Appendix C (Upgrade Map) DRAFT PER Appendix D (Cost Estimates)
Lake Yosemite Recreational/Water Efficiency Project	Lake Yosemite Sailing Association	N/A	
Lower Merced River Recreational Boating Public Access Improvements	Merced Irrigation District	N/A	N/A
Well 1A Generator	Le Grand Community Service District	N/A	
Bear Reservoir Enlargement and Downstream Levee and Channel Improvements	Merced Streams Group (County of Merced, City of Merced, & Merced Irrigation District)	Old Feasibility Study was completed in 1970. An updated study may need to be completed.	None that I'm aware of.
Merced County Flood Control District	TBD (Submitted by Consultant Team)	n/a	
Water Meter Conversion Phase 2, City of Livingston	City of Livingston	N/A	2005 Urban Water Management Plan, Carollo Engineers, March 2007
Design and Construction of Fish Screens at Merced River Diversions	United States Fish and Wildlife Service and Merced Irrigation District	This project would be a continuation of Phase I screen installation projects previously completed by DFG. Phase I screen installations were funded \$300,000 in State Water Contractor funds by the Delta Fish Agreement (DFA), previously referred to as the 4 Pumps Agreement. Phase I activities produced fish screens at two diversions. Phase I monitoring and data collected from the Cook and Dale and Ferrel diversion installations were instrumental in identifying the problems and potential fish losses of open ditch diversions in the area. The original proposal was to	Merced River Riparian Water Diversions Fish Screen Project, FY 2009 (California Department of fish and game)  Merced River Riparian Water Diversions Fish Screen Project Final Report by the Anadromous Fisheries Restoration Project, San Joaquin Valley Southern Sierra Region, California Department of Fish and Game. Project funded by 4-Pumps And Department of Water Resources Agreement # 4600002376 Contract # R0240001 Stream Alteration Agreement No. R4-2002-0157. December 2006

Documentation of Project Technical Feasibility

		screen five diversions as mitigation for fish losses at the Harvey O. Banks Pumping Facility. Currently the Ruddle Diversion (RM 47.8) is being screened for ~\$150,000 through the National Fish Passage Program and AFRP.	
Black Rascal Creek Detention Basin	TBD (Submitted by Consultant Team)	Merced County retained URS to prepare a feasibility study for this project in 2008/2009.	
Divert Flood Flows to Agricultural Lands	TBD (Submitted by Consultant Team)	n/a	
Ecosystem Restoration Along Waterways	TBD (Submitted by Consultant Team)	n/a	
Bear Creek Diversion Channel Feasibility Study	TBD (Submitted by Consultant Team)	n/a	
Channel Dredging and/or Vegetation Removal	TBD (Submitted by Consultant Team)	n/a	
Construct Levees or Channel Widening Projects Along Creeks/Streams in the Region	TBD (Submitted by Consultant Team)	n/a	
Modify Land Use Designations	TBD (Submitted by Consultant Team)	n/a	
Weather Based Irrigation Controllers	City of Merced	n/a	
Develop Emergency Response Plans	TBD (Submitted by Consultant Team)	n/a	
Construct Ring Levees Around Flood Prone Areas	TBD (Submitted by Consultant Team)	n/a	
Increase Public Awareness of Flooding	TBD (Submitted by Consultant Team)	n/a	
El Nido Recharge Basin	TBD (Submitted by Consultant Team)	MAGPI Conjunctive Use Site Assessment Proposed AB303 Project	
Drought Tolerant Landscape Conversion	City of Merced	n/a	
Le Grand Sewer Pipeline Replacement Project	Le Grand Community Service District	N/A	The District has had the various location reviewed by a video inspection to determine the length of the damaged areas, location of the service laterals from the residents and the condition of the manholes. The report is in both written and on DVD.

Documentation of Project Technical Feasibility

Update Stormwater Design Standards for the City and Region	City of Merced	n/a	
Identification of Preferred Recharge Projects and Development of Preliminary Design	TBD (Submitted by Consultant Team)	n/a	
Merced Region Water Use Efficiency Program	TBD (Submitted by Consultant Team)	N/A	Merced 2010 Urban Water Management Plan, MID Management Plan, and other UWMPs within the region.
Monitor Creek Water Quality and Storm Drainage Discharges	City of Merced	n/a	
Burns Reservoir Enlargement and Downstream Levee and Channel Improvements	Merced Streams Group (County of Merced, City of Merced, Merced Irrigation District)	Old feasibility study was done in 1970's. An updated study may need to be completed.	None that we are aware of.
Merced IRWM Region Climate Change Modeling	TBD (Submitted by Consultant Team)	N/A - Note, however, that this is project is similar to a project conducted by EBMUD on the Mokelumne River as part of their Water Supply Management Program (WSMP) 2040. The WSMP 2040 work can provide a basis for the modeling strategy and approach.	N/Z
Merced IRWM Regional GHG Emissions Inventory	TBD (Submitted by Consultant Team)	N/A	N/A, but is similar to the GHG emissions inventory conducted for the City of Merced Climate Action Plan.
Filtration of Storm Water Discharge to Creeks for Priority Pollutants	City of Merced	n/a	
Merced Region Programmatic Environmental Impact Report - Stream Bed and Vegetation Control	Merced County	N/A	N/A
Lower Merced River Stewardship Project	East Merced Resource Conservation District	The Merced Restoration Plan Stillwater 2001	The Merced Restoration Plan Stillwater 2001
Merced Region Climate Change Outreach and Education	TBD (Submitted by Consultant Team)	N/A	
Promote LID Concepts and Professional Training	City of Merced	n/a	

Documentation of Project Technical Feasibility

Water Wellhead Treatment for Nitrates and Arsenic	City of Merced	n/a	
Power Generation from Biogas, Fats, Oils, and Grease	City of Merced	n/a	
Tablet PC's for GIS Data Collection for Water Staff	City of Merced	n/a	
Le Grand Replacement Well	Le Grand Community Service District	N/A	The Le Grand Community Service District has completed a Water Supply study and this document made the determination for the additional well.
Water Education and Public Information	City of Merced	n/a	
Owens Reservoir Enlargement and downstream level and channel improvements	Merced Streams Group (County of Merced, City of Merced, Merced Irrigation District)	1970 Feasibility Study. Will need to be updated to deal with current legislation.	
Mary Lane Drainage Project	City of Atwater	City completed a study for the area and the proposed project in 2006.	
Mariposa Reservoir Enlargement and Downstream Levee and Channel Improvements	Merced Streams Group (County of Merced, City of Merced, Merced Irrigation District)	Feasibility Study completed in 1970. Will probably need to be updated to deal with current legislation.	
Real time snow depth measurements in Merced Basin	UC Merced	These sensors have been operating for over three years. Data already collected can be found at <a href="https://eng.ucmerced.edu/snsjho">https://eng.ucmerced.edu/snsjho</a> .	
Valley Water House - A Design Competition for Water Efficiency	Fremming, Parson & Pecchenino Civil Engineers	N/A	
Big Sandy Creek Stream Gage	UC Merced	There has been considerable effort expended on determining the best approach to measure stream flow on Big Sandy. Engineering drawings have been made, permits have been obtained.	
Franklin County Water District (FCWD) Drainage Improvements	Franklin County Water District (FCWD)	Preliminary design for new streets with curbs/gutters and related drainage facilities was part of the original plan set (24 sheets) for the 1981 HUD Project	See plan sheet 2 of 24 (Index Sheet) in attachments for reference.

Documentation of Project Technical Feasibility

Replace Failing Sanitary Sewer Lines in the Planada Community Services District	Planada Community Services District	N/A	None
Merced River Education and Enhancement Project	Merced Irrigation District	River Boating Access Improvements Concept Design Report	Merced River Alliance Project Final Report Merced River Corridor Restoration Plan
Project Name	Project Sponsor	Feasibility Study	Planning Documents