

Project Name: Merquin County Water District (MCWD)  
Sustainable Yield Management Plan and Plan  
Implementation

Project Entity: Merquin County Water District



**Merced Subbasin  
Groundwater Sustainability Plan  
Project Information Sheet**

*Version 3 – updated 12/21/2021*

***Instructions: For each project, please complete the fields below to the best of your ability. The purpose of collecting this information is to identify projects in the Merced Subbasin to be considered for inclusion in the GSP and ongoing funding application efforts. Please send via email to Liz DaBramo at [LDaBramo@woodardcurran.com](mailto:LDaBramo@woodardcurran.com) by end of day January 10, 2022.***

**NEW Project Questions**

**1) Project Type**

- Planning
- Implementation

**2) Quantifiable Benefits**

*If your project is an implementation project, please provide a description of quantifiable benefits. What benefits are expected to be realized? How will the benefits be evaluated and quantified? Can you provide justification for 3 or more quantifiable benefits?*

Quantifiable benefits include the following:

- 1) Support of local groundwater elevations – can be quantified by comparing historic groundwater elevations with post-project elevations.
- 2) Increased groundwater storage – can be quantified by comparing historic groundwater elevations with post-project elevations and estimating the change in storage associated with the changed elevations.
- 3) Improved water quality – can be quantified by comparing historic concentrations of constituents such as TDS with post-project concentrations.
- 4) Reduce the need for replacement of existing wells – can be quantified through increasing pumping rates of existing groundwater extraction wells.

**3) Coordination**

*If your project is a planning project, does your project encompass the entire Subbasin? Describe how the multiple GSAs surrounding and within the basins are working together.*

Surrounding subbasins are working together through an Inter-Basin Coordination Committee. This committee is primarily focused on groundwater subsidence which is not an issue for the Merquin County Water District. The Inter-Basin Coordination Committee has done a good job of defining the primary subsidence area of concern which covers multiple GSAs. This project only encompasses a small portion of the entire subbasin. It is anticipated that the beneficiaries of this work would all be within the Merced Subbasin GSA.

#### **4) Outreach and Engagement**

*Please describe your plan for outreach to and engagement with interested parties (e.g., residents, local leaders, non-profit representing Underrepresented Communities, etc.) located within Underrepresented Communities, including phases of involvement and decision-making processes.*

MCWD will work during the first 2 months of the project to conduct a public workshop in the Stevinson area. This workshop will likely take place at the school cafeteria of the Merquin Elementary School. Community members will be invited through direct mailings to property owners within the Water District, postings at both the Stevinson Post Office and the Stevinson Corner Market and Deli, as well as an invitation in billing statements to MCWD customers. In addition to the invitations to community members the following organizations that represent disadvantaged communities will be invited: Community Water Center, Clean Water Action, Leadership Council for Justice and Accountability, and Self-Help Enterprises. The workshop will provide for in person participation as well as virtual participation. The presentation will be available in both English and Spanish. After a presentation of the proposed work, expected benefits, and monitoring methodology, there will be an opportunity for those attending to ask questions, provide input regarding community needs regarding water supply, and other concerns that they may have regarding groundwater in their community. Contact information will be collected for those interested in follow-up information regarding progress of this project. If sufficient interest is expressed in the project an additional meeting will be scheduled.

Note: If Recharge Projects 37 and/or 38 submitted by SWD are also funded, efforts will be made to include these projects in the community outreach effort as well.

#### **5) Partial Funding**

*To supplement the original "Financing" question, could the project be carried forward with partial SGM grant funding?*

Yes

No

## 6) Water Rights

*To supplement the original “How Project Will be Accomplished” question, please describe the type of water right(s) to be used in the project.*

- Existing water rights
- Contracted water rights – agreements in place
- Contracted water rights – agreements under development
- Water right currently under SWRCB review
- Temporary water rights
- New water rights
- Other (please describe) [Click here to enter text.](#)
- N/A

## 7) Did you modify details of your original project submission below?

- Yes
- No

## 8) Basic Information

**Project Title:** Merquin County Water District (MCWD) Sustainable Yield Management Plan and Plan Implementation.

**Submitting Entity / Project Owner:** Merquin County Water District

**Other Participating Agencies (if applicable):** [Click here to enter text.](#)

## 9) Project Description

*Please provide a description of your project, including the project goal, project size (**please provide estimated volume of annual water supplies or reduction in demands if available**), area and/or entities that will be affected by or will benefit from the project, and any potential obstacles to implementation. Attach extra pages if necessary. If feasible, please attach copies of all relevant project literature.*

The *Sustainable Yield Management Plan* will provide an average of up to 666 AF per year of groundwater recharge outside the normal irrigation season (April through September). The management plan would also include:

- Study of groundwater gradients and determination of optimal locations for recharge facilities.
- Irrigation season water routing of surface water and groundwater to minimize salinity of delivered water.
- Evaluation of optimal location for installation of replacement groundwater pumping wells to operate during seasons with little or no surface water.
- Evaluation of need for pipeline interconnects between laterals to optimize water operations when minimal surface water is available.
- Estimation of long-term groundwater recharge needed for MCWD to be sustainable.

In addition to the management plan would be an implementation plan that would:

- Identify up to 300 acres of land where recharge activities could be conducted.
- Execute agreements with landowners to allow recharge activities.
- Install flowmeters, piezometers, and survey reference elevations to measure water applied for recharge and its impact on groundwater elevations.
- Measurement of surface water and groundwater quality.

Groundwater and surface water salinity trends were studied during the 2021 water season. Some limited data regarding well water salinity in the area is also available starting in 2006. In 2005 there was a comprehensive study of both MCWD and adjacent Stevinson Water District (SWD) which provides significant useful information (*Integrated Water Resources Plan (IWRP)*),

*Merquin County Water District, Stevinson Water District, March 31, 2005).* Both the IWRP and a 2021 Supplement to this plan are attached for reference. Based upon planned activities within the Merced Subbasin GSA in 2022, parcel level data on crop evapotranspiration and accurate cropped acreage should be available for the 2021 growing season which should also be useful information to aid in long term sustainability planning.

One landowner, Mike Brasil, has already identified 160 acres of farm ground that he would make available for off season groundwater recharge. This parcel is located (see Figure 1) in the northeast corner of MCWD. The location is generally upgradient of other properties within MCWD. Another attractive feature of this property is that it's surface water supplies from both the Merced Irrigation District (out of District water) and the MCWD via the Eastside Canal. It will be desirable to find additional properties (approximately 140 acres) south of the Eastside Canal to Provide additional recharge within the MCWD. If project 37, East Pike Recharge Area, and project 38, Purdy Recharge Area, are also implemented then a total of 328 additional acres of recharge area would be utilized in MCWD.

## **10) Project Location**

*Please describe the project location, and feel free to attach maps if available.*

The project will be located within the MCWD. See attached Figure 2 for District Boundary. Figure 1 provides location of one recharge field.

## **11) Readiness to Proceed**

*Please indicate your project's readiness. **In the text box, please provide more information on timing, such as when design may be complete, when permits/environmental documentation may be acquired, or when construction may begin.***

- Planning/Initial Study
- Conceptual Design
- In Design
- Design Complete
- In Environmental Review
- Environmental Review Complete

Some portions of this study require additional Planning/Study activity while work related to the Brasil property is in conceptual design. Water delivery facilities for the Brasil property are already in place although additional water metering is likely desirable and can be accomplished through this project.

## 12) How Project Will be Accomplished

*Please describe how the project will be accomplished (e.g. phasing or project components expected beyond what was described in the Project Description). If the project relies on water from outside the jurisdiction of the Agency, provide an explanation of the source and reliability of that water, as well as water rights considerations.*

The most likely source of water for recharging groundwater within MCWD is under existing SWRCB-issued water right licenses held by the SWD and East Side Canal and Irrigation Company (ESCC). Under the January 9, 2007 water supply agreement between SWD and MCWD, SWD has agreed to deliver irrigation water to MCWD from April through September. The agreement also provides MCWD the option to purchase water in March (up to 750 AF) and in October (up to 850 AF) of each year when available. Recognizing that water may only be available in normal to wetter water years, it is anticipated that this option water could provide on average a significant portion, if not all, of the targeted recharge water amount of 666 AFY. Discussions are ongoing with SWD regarding pricing and availability of surface water for recharge.

## 13) Planning Horizon

*Please indicate expected project completion date.*

- Initial Study activity is anticipated to start within 2 months of Grant award.
- Study portion of this project is anticipated to be completed within 6 months.
- The Implementation portion of the project is anticipated to be completed during the non-irrigation season following completion of the study.

In summary, if the Grant funding for this project was provided by the end of March 2022, all project activities would likely be completed by the end of 2022.

## 14) Project Costs

*Please provide estimated project costs (capital, operations and maintenance, and replacement) and estimated project life.*

Capital Cost: \$ Study Cost: \$42,000, equipment installation and surveying cost: \$24,000

Annual O&M Costs: \$ \$750

Replacement Costs, Description of Equipment to be Replaced, & Frequency of Replacement (e.g., every 10 years): \$10,000 cost for flow meter replacement at 10 years.

Estimated Project Life (Years): 30 years

Cost Basis (if not 2021 dollars): [Click here to enter text.](#)

*What is the basis for your project costs? At what stage in the project were they developed? If a cost estimate has been prepared, please provide.*

Flow meter costs based upon work completed in 2021 by MCWD.

### **15) Financing**

*How will your project be financed? What are the funding sources for your project?*

MCWD is anticipating 100% grant funding of the \$66,000 cost listed above. Significant use of existing staff to provide field measurements, historical data, and construction management will supplement the work of contract resources. Estimated equivalent value of MCWD staff resources \$10,900.

### **16) Measurable Objective Benefit**

*Which measurable objectives will this project address?*

- Chronic lowering of groundwater levels
- Reduction of groundwater storage
- Degraded water quality
- Land subsidence
- Depletions of interconnected surface waters

[Click here to enter text.](#)

### **17) Other Community Benefits**

*Will this project benefit an underrepresented community or Severely Disadvantaged Community? If so, which?*

*This project will benefit the local community near Stevison California which is a disadvantaged community. It will provide a long-term sustainable water supply to allow small to medium sized farms continue to be economically viable and provide a livelihood for family scale farms.*

*Will this project positively impact issues associated with small water system or private shallow domestic wells? Will the project positively impact the Human Right to Water?*

*The Stevison area residents almost exclusively obtain drinking water from small private wells. Some wells have been known to need modification (lowering of pumps) or replacement in order to continue to supply water due to agricultural pumping in the area. This proposed project will work to stabilize the groundwater level and allow existing pumps to continue to operate.*



*Recharge water will also be of higher quality (salinity) than existing groundwater and groundwater quality should also improve.*

Click here to enter text.

## **18) Public Noticing**

*Please describe any public noticing requirements that apply to this project.*

No public noticing will be required to execute this project. Public noticing will be made to encourage participation in the public meeting described in *Outreach and Engagement* earlier in this application.

## **19) Permitting and Regulatory Processes**

*Please provide a summary of the expected permitting and regulatory process required for the project (e.g. could be a list of agencies that may need to be consulted)*

It is not anticipated that any new permits will be required to execute this project. Land to be used for recharge is already being farmed and connections to Water District Facilities already exist.

## **20) Legal Authority**

*Please provide a description of the legal authority required for the project (e.g. in many cases, SGMA provides the authority for GSAs to implement many different types of projects).*

MCWD has the authority to execute the work anticipated without additional legal authority.

## **21) Management of Groundwater Extractions and Recharge**

*Please provide a description of the management of groundwater extractions and recharge to ensure that chronic lowering of groundwater levels or depletion of supply during periods of drought is offset by increases in groundwater levels or storage during other periods.*

The proposed study will validate whether the anticipated 666 AF/year average groundwater recharge rate is adequate to stabilize local groundwater levels. This recharge may also be supplemented by recharge from SWD's projects 37 and 38. Monitored groundwater elevations within MCWD only appear to be experiencing a very slow level of decline in some locations and it is not anticipated that very large amounts of recharge will be required to reach sustainability in the area. The better quality groundwater in the area occurs within 200-250 feet of ground surface (above the Corcoran Clay Layer). Through this project recharge locations will be strategically selected in order to minimize impacts from significant pumping of groundwater required in dry or critically dry years.

Figure 1

160 Acre Brasil Property

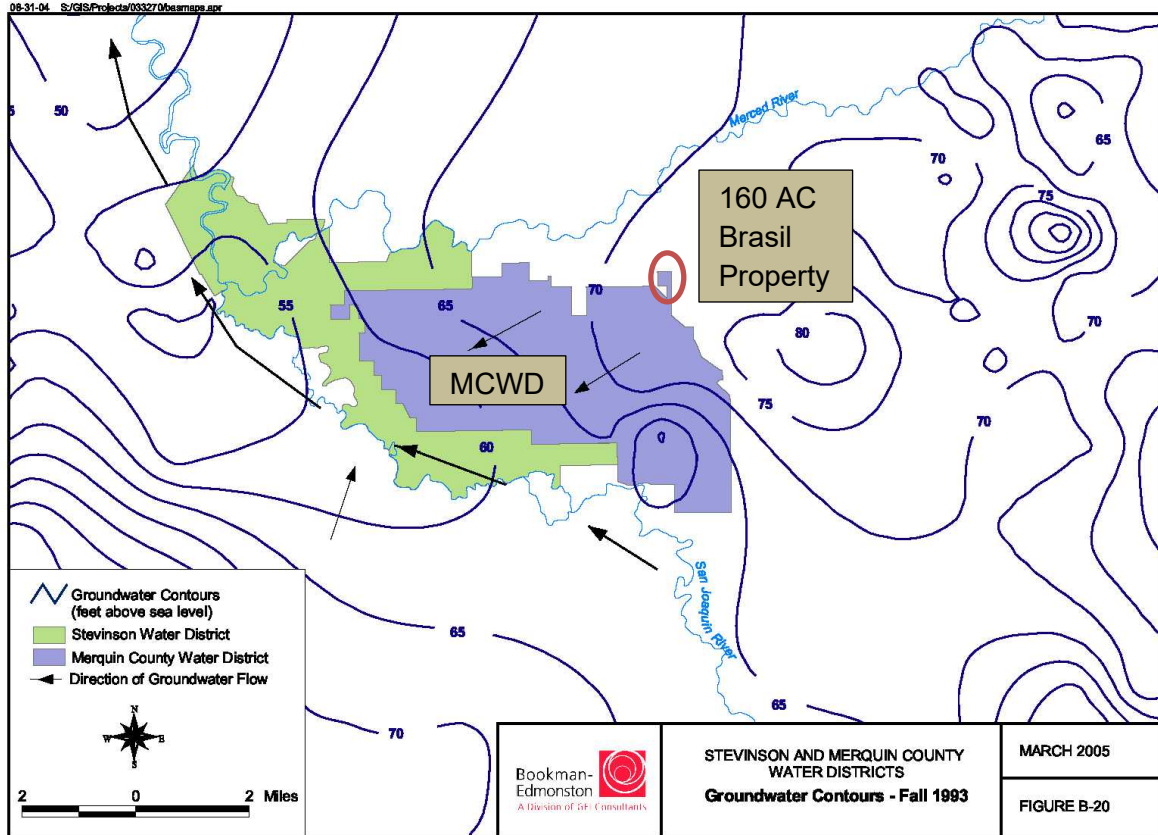


Figure 2

Merquin County Water District

