

ATTACHMENT 3: Work Plan

Work Plan Template

Attachment 3 consists of the following:

Work Plan Template. The work plan for the tasks comprising the four components contained in this Delta-Mendota Subbasin Supplemental GSP Development Proposal are included herein. The tasks described in the Work Plan Template, below, are reflected in Attachment 4 – Budget and Attachment 5 – Schedule.

Grant Proposal Title: **Delta-Mendota Subbasin Supplemental GSP Development**

Applicant: **West Stanislaus Irrigation District Groundwater Sustainability Agency**

PROJECT JUSTIFICATION

A. Project Description

A.1 Detailed Project Description

Project Overview

West Stanislaus Irrigation District (WSID) Groundwater Sustainability Agency (GSA) is requesting funding on behalf of the Delta-Mendota Subbasin for grant administration (Component 1), a well census and inventory throughout the entire Delta-Mendota Subbasin (Subbasin) (Component 2), a subsidence characterization and project feasibility determination study (Component 3), and supplemental funds associated with Groundwater Sustainability Plan (GSP) development for the six GSPs within the Subbasin (Component 4). The primary purpose of these components is to address currently known data gaps within the Subbasin recently identified during the development of the six Subbasin GSPs and to reduce the financial burden on local agencies and GSAs (some of which are identified Disadvantaged Areas [DAs]). Six GSPs, due to the California Department of Water Resources (DWR) by January 31, 2020, have been developed for the Delta-Mendota Subbasin that collectively meet SGMA requirements. The GSP groups developing these plans (composed of one or more Subbasin GSAs) include: Aliso Water District, Farmers Water District, Fresno County, Grassland Water District, Northern & Central Delta-Mendota Region, and San Joaquin River Exchange Contractors GSPs. As of November 2019, drafts of the six Subbasin GSPs have been completed, some of which are available on the Delta-Mendota Subbasin website at www.deltamendota.org. In compliance with SGMA regulations and the GSP Emergency Regulations, representatives from the six Delta-Mendota Subbasin GSP groups coordinated through the established Delta-Mendota Subbasin Coordination Committee (Coordination Committee) and Delta-Mendota Subbasin Technical Working Group to develop their individual GSPs and the Common Chapter that collectively work together to achieve sustainable groundwater conditions throughout the Subbasin by 2040. During the GSP development process, data gaps were identified through meetings of the Coordination Committee and Technical Working Group that include a regional understanding of groundwater pumping and groundwater characteristics in each principal aquifer as it relates both to areas prone to inelastic land subsidence and interconnected surface waters.

Information and data gathered as part of this Proposal will improve groundwater subbasin management to meet the sustainability goals identified in the six Delta-Mendota Subbasin GSPs and Common Chapter. The proposed Project benefit area for all components contained in this Proposal, as well as the underlying GSAs, are shown in **Figure 1**, while the proposed Project benefit area for all components relative to Severely Disadvantaged Communities, Disadvantaged Communities, and Economically Distressed Areas (collectively known as Disadvantaged Areas or DAs) are shown in **Figure 2** and **Figure 3**, respectively.

Component 1 covers ongoing administration of the Subbasin's existing grant agreement with the State for funding received under the Proposition (Prop) 1 Sustainable Groundwater Planning (SGWP) Grant program, as amended to include the scope of work outlined in this attachment and associated budget and schedule included in **Attachments 4** and **5**, respectively, of this Proposal. Amending the Delta-Mendota Subbasin's existing grant agreement with the State to include the Proposal components outlined herein will result in an increase in funded tasks and an extended agreement schedule that will include additional progress reports and invoicing packages. The additional funds requested in Component 1 will cover the extended agreement administration costs and will allow WSID GSA, the proposal applicant, and its designees to continue coordinating with DWR to meet requirements of both the existing SGWP Grant agreement as well as the amended grant agreement. An amendment to the existing grant agreement to account for work described in this Proposal will assist the Delta-Mendota Subbasin GSAs in meeting the sustainability goal of the Subbasin through activities supported by the SGWP Grant and Sustainable Groundwater Management (SGM) Grant funds.

The proposed Well Census and Inventory, described in Component 2, will improve Subbasin understanding and support GSP development by identifying the location and construction details of thousands of wells in the Subbasin. A detailed well

census will be performed by analyzing available online data portals and geophysical logs to identify the location of wells not previously identified during GSP development. Well construction and features will be inventoried through a review of well logs and a determination of the wells' screened interval(s) relative to the principal aquifers will be made. If necessary, video surveying will be performed on up to 20 wells at monitoring, abandoned, or otherwise accessible well sites to identify and/or confirm screened intervals. A template for access agreements will be developed and used as needed to obtain access to wells for conducting the well census, as well as for future monitoring and data collection efforts. The goal of this component is to improve the overall understanding of regional groundwater pumping and groundwater characteristics in each principal aquifer as it relates both to areas prone to inelastic land subsidence and interconnected surface waters, which are two key data gaps identified in the Delta-Mendota Subbasin. A summary report will be developed that shows the locations of existing wells in the Subbasin, basic well construction information, and a high-level analysis of identified wells to define active and inactive wells for use in other analysis (such as estimating groundwater extractions by principal aquifer). Information related to the well inventory will be uploaded to the Delta-Mendota Subbasin Data Management System. This component will be implemented collectively and collaboratively by the 23 GSAs in the Subbasin.

The proposed Subsidence Characterization and Project Feasibility Determination, described in Component 3, utilizes the results of the Well Census and Inventory summary report, along with other data contained within the six Subbasin GSPs, to improve understanding of regional subsidence causes and risks as well as identify opportunities to address this challenge through projects and/or management actions. Wells in areas prone to inelastic land subsidence will be identified and information within the inventory described in Component 2 will be used to improve overall understanding of regional groundwater pumping and groundwater characteristics in each principal aquifer by area of interest. Potential projects and management actions will subsequently be identified to support the Subbasin GSPs in determining next steps to address regional subsidence both from within and adjacent to the Subbasin. Examination and improved understanding of the causes and factors influencing inelastic land subsidence is paramount for sustainable groundwater management in the Delta-Mendota Subbasin, where critical infrastructure may be at risk of potential direct impacts to surface water supply availability and overall achievement of sustainable conditions. The analysis of the well inventory developed in Component 2 will consist of pump tests, an estimation of extractions or groundwater use for each well, and estimation of localized sustainable yield and other pertinent subsidence-related factors and variables in the two key Subbasin areas identified as being prone to inelastic land subsidence. Additionally, utilizing data collected in Component 2, estimated pumping by principal aquifer from aquifer-specific and composite wells will be evaluated considering the location and extent of the Corcoran Clay and aquifer properties of the principal aquifers. Such activities will refine estimates of aquifer-specific pumping at key well locations, especially in areas with observed subsidence. This component will result in a report that characterizes areas impacted by inelastic land subsidence, potential causes of land subsidence, analysis of wells identified in the well census and in the composite well investigation as it relates specifically to inelastic land subsidence, potential sources that could be causing inelastic land subsidence and associated assumptions, and identification of feasible projects and/or management actions that can minimize subsidence risk. This component will be implemented collectively and collaboratively by the Subbasin GSAs, as shown in **Figure 1**.

Supplemental GSP funding, as described in Component 4, includes funds to aid in the completion of the six GSPs in the Subbasin. A summary report will be prepared documenting the work completed between June 5, 2018 and January 31, 2020 by each GSP group with sufficient justification and rationale for reimbursable costs incurred to date. Such funding will allow for robust GSPs within the Delta-Mendota Subbasin while reducing financial burden on GSAs and those within the GSA, many of which are comprised of DAs, due to unanticipated costs associated with complying with SGMA regulations as well as GSP Emergency Regulations. Each of the six GSP groups in the Subbasin have identified reimbursable GSP development activities, where details regarding these activities and justification for additional funds are provided in **D.a Scope of Work**. As a result of this component, the six Delta-Mendota Subbasin Final GSPs in full compliance with SGMA regulations, including GSP Emergency Regulations, will be submitted to DWR prior to January 31, 2020 with a reduced financial burden on the DAs.

Component 2 (Well Census and Inventory) and Component 3 (Subsidence Characterization and Project Feasibility Determination) were developed and agreed upon by the six Delta-Mendota GSP groups to fill data gaps identified during GSP development relating to better understanding of where and how groundwater extractions are occurring in the Subbasin, and to improve understanding of the relationship between groundwater extractions and elevations (by principal aquifer), inelastic land subsidence, and interconnected surface waters. By filling these identified data gaps and improving technical

understanding of the relationship between groundwater extractions and sustainability indicators, more robust GSPs can be developed and improved basin management actions identified.

Collectively, the components described in this work plan aim to improve understanding of groundwater characteristics and groundwater use throughout the Subbasin, directly supporting sustainable subbasin management and refined GSPs, where the developed summary reports will be used to inform and develop projects and management actions and other GSP components that will ultimately improve sustainable groundwater management throughout the Subbasin.

Project Need

The Delta-Mendota Subbasin is a critically-overdrafted groundwater subbasin, and as such, is required to comply with SGMA regulations, including conformity with the GSP Emergency Regulations. To comply with technical aspects of the GSP Emergency Regulations, a better understanding of regional groundwater pumping and groundwater characteristics is essential to support sustainable groundwater management, particularly in understanding the relationship between groundwater elevations and extractions and inelastic land subsidence and the extent of interconnected surface waters. Such information is relevant and critical to support the development and implementation of sound, achievable sustainability goals and sustainability criteria (including minimum thresholds and measurable objectives) and to identify projects and management actions for obtaining and maintaining sustainable groundwater conditions throughout the Subbasin. The fundamental goal of this Proposal is to collect information and data to inform projects and/or management actions that ensure the long-term sustainability of the Subbasin.

An understanding of groundwater pumping and groundwater characteristics in each principal aquifer within the Subbasin through the proposed Well Census and Inventory (Component 2) is critical to filling key data gaps associated with understanding the connection between groundwater elevations, pumping volumes and timing, inelastic land subsidence, and interconnected surface waters. By filling these data gaps, benefits are observed in achieving long-term water use planning for all sustainability indicators. With cities and communities throughout the Delta-Mendota Subbasin (as well as domestic well users), many of whom are DAs, heavily dependent and sometimes solely reliant on groundwater for potable and non-potable supplies, understanding groundwater use and aquifer dynamics throughout the Subbasin will aid in ensuring the long-term sustainability of groundwater supplies for all beneficial users.

The Delta-Mendota Subbasin is characterized as a subbasin in critically overdraft conditions due to inelastic land subsidence. The California Aqueduct, which conveys State Water Project deliveries, and the Delta-Mendota Canal, which conveys Central Valley Project deliveries, run the entire length of the Subbasin and are of state-wide importance in term of supplying water for both municipal and agricultural use to South of the Delta beneficial users. Within the Subbasin, groundwater and surface water are conjunctively used. Critical infrastructure owned and operated by the State, federal government, local agencies, or private landowners is at risk of direct impacts related to inelastic land subsidence, thus impacting availability of surface water supplies and overall water supply reliability in the Subbasin. A greater understanding of regional subsidence causes and risks will aid in identifying opportunities for projects and/or management actions and determining steps to address regional subsidence within and adjacent to the Delta-Mendota Subbasin.

In complying with SGMA and the GSP Emergency Regulations, GSAs in the Delta-Mendota Subbasin decided to prepare multiple GSPs, each to reflect the unique groundwater management conditions and geo-political structures of their areas. These GSPs have been prepared to meet the regulation requirements and the resulting costs have been borne by the GSAs and their composing local entities. As public entities, these costs are ultimately passed down to the larger population living within the Subbasin, many of whom are DAs. Additional funding to support development of the Subbasin GSPs reduces the costs that ultimately are passed down to the DAs.

The Well Census and Inventory and Supplemental GSP Development Funding components included in this Proposal cover the entirety of the Subbasin, whereas the proposed Subsidence Characterization and Project Feasibility Determination area consists of the portion of the Subbasin that lies within Stanislaus County as well as portions of Fresno County (areas known or suspected to be at risk of inelastic land subsidence). Nearly the entirety of the Subbasin area (93 percent) and population (87 percent) consists of DAs, which include Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), and Economically Distressed Areas (EDAs) (see **Attachment 6** for more information about DAs). Funding provided through the SGM Planning Grant – Round 3 (Round 3) would help to reduce the financial burden on local DAs while still developing and implementing robust GSPs that are compliant with SGMA regulations and will serve to sustainably manage groundwater resources, which many DAs rely either heavily or solely upon for water supply.

Goals and Objectives

The goals and objectives for each component included in this Proposal are described individually under **A.1 Detailed Project Description**. The overall goal of this Proposal is to improve understanding of groundwater use and aquifer characteristics relative to inelastic land subsidence and interconnected surface waters and the sustainability indicators detailed in the six Delta-Mendota Subbasin GSPs. The objective is to develop and compile information in the form of data and summary reports to inform projects and management actions as well as overall groundwater management throughout the Subbasin, promoting achievement of sustainable conditions for all sustainability indicators for all GSPs in the Subbasin.

Filling data gaps through the components identified in this Proposal and providing additional data necessary will support the development of robust GSPs for the Delta-Mendota Subbasin. This will allow the Subbasin GSP groups to sustainably manage the Delta-Mendota Subbasin in a coordinated and collaborative fashion through GSP implementation and to maintain and enhance groundwater extraction capacity while ensuring long-term sustainability and achievement of the sustainability goal for the Subbasin by 2040.

A.2 Coordination and Funding Need

Coordination Efforts for Subbasin and GSP Preparation

The six GSP groups within the Delta-Mendota Subbasin and their respective combined 23 GSAs have coordinated extensively throughout the GSP development process to agree upon the required coordinated aspects of GSPs, as detailed in the GSP Emergency Regulations for subbasins developing more than one GSP. Such aspects of coordination include agreed-upon methodologies and assumptions for water budgets, change in storage, and sustainable yield. The common data and methodologies required in Water Code Section 10727.6 and Title 23, California Code of Regulations, Section 357.4 to prepare coordinated GSPs and utilized in preparation of the Subbasin GSPs are set forth in eight Technical Memoranda appended to the Subbasin Coordination Agreement, along with the *Common Chapter for the Delta-Mendota Subbasin Groundwater Sustainability Plan*, which addresses key GSP components at the Subbasin level. Coordination activities have taken place through regularly-scheduled Subbasin Coordination Committee meetings and Technical Working Group meetings throughout the GSP development process, which are subject to the Brown Act. The Coordination Committee and Technical Working Group meetings have allowed representatives from the six Subbasin GSP groups and Subbasin stakeholders to work collaboratively and effectively to develop robust GSPs and the Common Chapter that are in full compliance with SGMA regulations and GSP Emergency Regulations prior to the January 31, 2020 deadline for critically-overdrafted basins.

Coordination with Surrounding Basins

San Joaquin Valley Groundwater Basin subbasins adjacent to the Delta-Mendota Subbasin include Tracy, Eastern San Joaquin, Modesto, Turlock, Merced, Chowchilla, Madera, Kings, and Westside. The GSPs for the Tracy, Modesto, and Turlock Subbasins are not due to DWR until January 31, 2022. Due to the differing timelines of GSP development, coordination with the Tracy, Modesto, and Turlock Subbasins has been limited during GSP development for the Delta-Mendota Subbasin. For the remaining adjacent subbasins that are also critically overdrafted basins, time limitations have not allowed for in-depth discussions necessary to effectively coordinate GSP development. As GSP development and implementation continues, representatives from the Delta-Mendota Subbasin will continue to coordinate with adjacent subbasins, to the extent required by SGMA and beneficial to all parties involved, to ensure undesirable results are not observed by the action or inaction of neighboring subbasins and the respective sustainability goals can be met in the designated timeframe for each subbasin. Documentation of coordination occurring between adjacent subbasins will be reflected in subsequent GSP updates.

Component Number	Component Name	Implementing Agency(ies)	Goal	Description	Relation to other Components
Component 1	Grant Agreement Administration	WSID GSA	Assist the Subbasin GSAs in meeting the sustainability goal of the Subbasin through activities supported by the SGWP Grant and SGM Grant funds	Increase in funded tasks and an extended agreement schedule that will include additional progress reports and invoicing packages	Amendment to existing SGWP grant agreement to reflect addition of this Work Plan (Components 2 through 4)
Component 2	Well Census and Inventory	All Delta-Mendota Subbasin GSAs	Improve Subbasin understanding and support GSP development by identifying the location and well construction details of thousands of wells in the Subbasin to confirm and expand understanding of where groundwater extractions are occurring and from which principal aquifer	Includes a comprehensive analysis of publicly available online databases hosted by DWR, review of well logs to determine well construction features, determination of the principal aquifer wells are constructed in by analyzing geology and well construction information, and video surveying of up to 20 wells to identify/confirm well construction; Resulting in summary report showing location of existing wells, basic well construction, and high-level analysis of active and inactive wells for groundwater extraction estimation to be uploaded to the Subbasin DMS	Improved understanding of groundwater characteristics and groundwater use throughout the Subbasin, where summary report will be used to inform sustainable groundwater management
Component 3	Subsidence Characterization and Project Feasibility Determination	All underlying Delta-Mendota Subbasin GSAs	Improve understanding of regional subsidence causes and risks and identify opportunities to address this challenge	Utilize results of Component 2 to identify areas of the Subbasin prone to inelastic land subsidence and improve overall understanding of regional groundwater pumping and groundwater characteristics in each principal aquifer; Summary report will be developed summarizing findings, identifying potential	Builds upon work conducted under Component 2 and contributes to improved understanding of groundwater characteristics and groundwater use throughout the Subbasin, where summary report will be used to inform

Component Number	Component Name	Implementing Agency(ies)	Goal	Description	Relation to other Components
				projects and management actions, and identifying possible connections between groundwater use and causes of inelastic land subsidence at identified locations	sustainable groundwater management
Component 4	Supplemental GSP Development Funding	Aliso Water District GSA, Farmers Water District GSA, Fresno County Management Areas A & B GSAs, Grassland Water District GSA, WSID GSA, San Joaquin River Exchange Contractors GSA	Completion of six robust Subbasin GSPs submitted to DWR prior to January 31, 2020	Supplemental funds to aid in the completion of the six Subbasin GSPs with a summary report documenting work completed between June 5, 2018 and January 31, 2020 with sufficient justification and rational for reimbursable costs incurred to date	Improve understanding of groundwater characteristics and groundwater use throughout the Subbasin, directly supporting sustainable subbasin management, where the developed summary reports will be used to inform and develop projects and management actions that improve sustainable groundwater management throughout the Subbasin

Round 2 vs. Round 3 Funding

Delta-Mendota Subbasin GSAs received \$1.5 million in grant funding under the Prop 1 SGWP grant program during Round 2 for GSP development and an additional \$1,178,500 of Category 1 funding, which funds projects that benefit SDACs. However, the funding received to date is not sufficient to directly address the data gaps and information needs identified during GSP development. As of November 2019, all GSP development-related funds sourced under the current Prop 1 SGWP grant program, Round 2 for all six Subbasin GSPs have been expended (along with additional agency funds) in the completion of draft GSPs to meet the GSP Emergency Regulations. In the event that Round 3 funds are not awarded, activities included in the current grant agreement will be funded via local contributions by the 23 GSAs in the Subbasin to complete and submit six Delta-Mendota Subbasin GSPs in compliance with SGMA to DWR by January 31, 2020.

The Northern & Central Delta-Mendota Region GSP is requesting additional funds for costs related to flow modeling (*Task 2: Flow Modeling*) needed for preparation of the water budgets as required under SGMA regulations and GSP Emergency Regulations. Prior to GSP development activities, the Northern & Central Delta-Mendota Region GSP Group initially planned to use the Central Valley Hydrogeologic Model 2 (CVHM2) to develop water budgets. As of November 2019, CVHM2 remains under development by the United States Geological Survey (USGS). An assessment of beta versions provided by the USGS in April and July 2018 determined local calibration was insufficient for water budget development. Additional data were provided to USGS, but per communications with the USGS, the model is currently not sufficiently calibrated to allow reasonable use of it for water budget development. An alternative hybrid approach for water budget development was ultimately selected utilizing local data and CVHM2 parameters with standard numerical calculations derived from peer-reviewed literature or professional judgement used in an analytical model. Significant effort was involved in assessing the use of CVHM2 for modeling, and for reviewing existing alternative groundwater flow models, developing a flow model for the Northern and Central Delta-Mendota Regions, data collection from GSAs and publicly available sources, and coordination with neighboring Subbasin GSP groups, as required under the Delta-Mendota Subbasin Coordination Agreement. These costs were not anticipated and were directly the result of the incomplete status of CVHM2, which was out of the control of the GSAs.

The Grassland Water District GSP group is requesting additional funds related to consulting services retained for subbasin-wide coordination through attendance at Coordination Committee and Technical Working Group meetings, as well as internal review and coordination between Grassland Water District and Merced County to develop more robust sustainability criteria and monitoring protocols to contribute to a strengthened GSP. Any GSP development costs not covered by grants will be passed on to private wetland landowners and the California Department of Fish and Wildlife which will increase the cost to maintain these important habitat lands within the Subbasin. For this reason, the Grassland GSA operates on a very limited budget and state investment in GSP development is justified.

The Fresno County Management Area A & B GSP and Farmers Water District GSP groups are requesting additional funds for costs related to the GSPs' data management systems (DMSs) (*Task 3: Data Management System*), GSP coordination (*Task 4: Coordination Agreement and GSP Coordination*), and GSP development (*Task 5: GSP Development*). In addition to the Fresno County GSP DMS and Farmers Water District GSP DMS, significant effort was expended in assisting with the subbasin-wide DMS through multiple meetings and conference calls, as well as development of and input on DMS data table structures and modifying the Fresno County GSP DMS and Farmers Water District GSP DMS to be consistent with the subbasin-wide DMS structure. Intra- and inter-basin coordination beyond the level of effort originally anticipated in the current grant agreement was required in terms of development of subbasin-wide GSP content and coordination with neighboring GSAs and subbasins in review, and comments on GSPs in neighboring subbasins as well as communication and correspondence regarding GSP implementation. In developing the Fresno County GSP, additional effort is required to address data gaps in state-owned lands and areas of Fresno County and efforts to address data gaps for data collection for use in GSP development as well as GSP monitoring network development.

The Aliso Water District GSP group is requesting additional funds related to development of the *Common Chapter for the Delta-Mendota Subbasin Groundwater Sustainability Plan* (Common Chapter) (*Task 2: Coordination*) and the Aliso Water District GSP (*Task 3: GSP Development*). Aliso Water District GSA actively participated in Coordination Committee and Technical Working Group meetings and produced associated work products for Common Chapter development, which was not included in the scope of work under the current Prop 1 SGWP grant agreement. As the Aliso Water District GSP was developed in a coordinated fashion with the five other Delta-Mendota Subbasin GSPs, additional coordination and

associated revisions were required prior to the development of the draft Aliso Water District GSP, where such activities were also not included in the scope of work under the current Prop 1 SGWP grant agreement.

The San Joaquin River Exchange Contractors (SJREC) GSP group is requesting additional funds related to intra- and inter-basin coordination (Task 2: GSP Coordination) and associated internal GSP revisions (*Task 3: GSP Development*) as a result of additional coordination required to develop the SJREC GSP. With six Subbasin GSPs being developed by different subsets of the 23 Subbasin GSAs, the level of effort for intra-basin coordination went above and beyond the level of effort originally anticipated under the scope of work of the current Prop 1 SGWP grant agreement. This required additional time and effort of Central California Irrigation District staff to review the other Subbasin GSPs and coordinate through Coordination Committee and Technical Working Group meetings and conference calls to ensure all six Subbasin GSPs worked together to sustainably manage groundwater in the Delta-Mendota Subbasin and in development of the Subbasin's Common Chapter. Additionally, in order for sufficient review by GSAs partnering with the SJREC GSA to prepare a GSP, hard copies were printed and provided to the 10 partnering GSAs at the expense of the SJREC GSA. Inter-basin coordination activities beyond the level of effort anticipated under the scope of work of the current Prop 1 SGWP grant agreement included review of GSPs and workshops in neighboring subbasins. The results of these additional intra- and inter-basin coordination activities resulted in unanticipated internal revisions to the SJREC GSP in order to ensure consistency and compatibility of the six Delta-Mendota Subbasin GSPs.

Each of the 23 GSAs and their associated GSP group collected readily available data in existing databases or monitoring programs, or publicly available data, due to time constraints. Component 2 and Component 3 projects will allow for a focused effort and analysis for subsequent groundwater management planning. Additional tasks described in Component 2 (Well Census and Inventory) and Component 3 (Subsidence Characterization and Project Feasibility Determination) include data and information collection efforts identified during GSP development to better characterize groundwater use, aquifer characteristics, and fill critical data gaps relating to inelastic land subsidence, interconnected surface water, and boundary flows in order to develop and implement GSPs as robust tools to sustainably manage groundwater within the Subbasin.

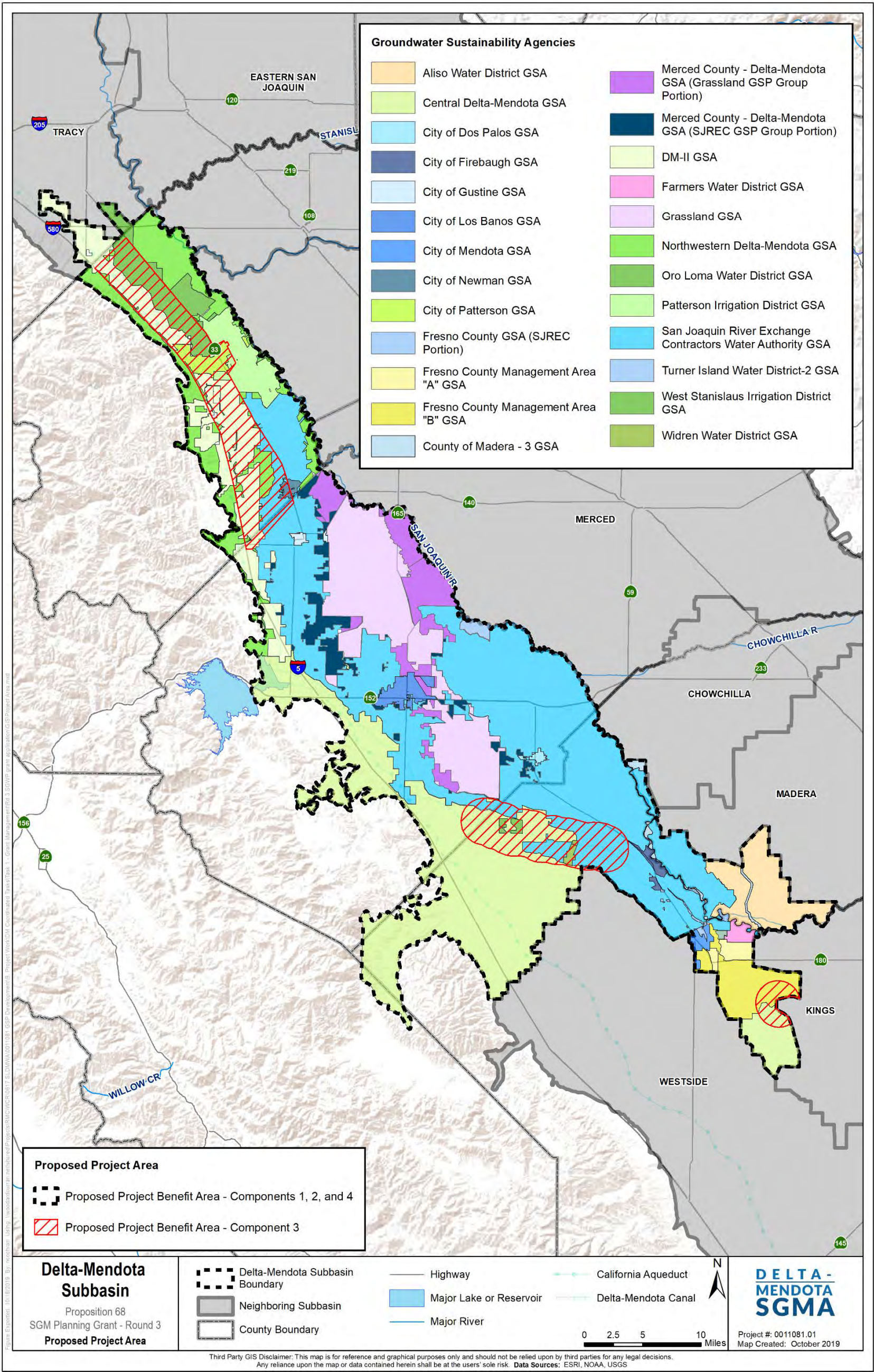


Figure 1. Proposed Project Area

B. Project Benefits

Benefits to DAs

Funding of this Proposal will support GSP development and implementation resulting in the long-term sustainability of groundwater resources, particularly for DACs, SDACs, and EDAs, collectively referred to as DAs, that depend on groundwater for potable and non-potable water supplies (**Figure 2** and **Figure 3**). Effective groundwater management through informed decision-making supported by the proposed Well Census and Inventory (Component 2) and Subsidence Characterization and Project Feasibility Determination (Component 3), as well as development of robust GSPs under Component 4, is crucial to all DAs in the Delta-Mendota Subbasin in order to ensure long-term availability of adequate water supplies. Data and process understanding gained from these studies and the six Delta-Mendota Subbasin Final GSPs will improve Subbasin groundwater-based decisions.

Residents of the Subbasin rely on groundwater as their major potable water supply source. Many municipal water purveyors and individual well owners throughout the Subbasin currently do not have the ability to purchase or import water from any other water supply source or entity. In fact, the Cities of Newman, Los Banos, Gustine, Firebaugh, and Mendota (all of which are DAs) rely solely on groundwater as their water supply source. Similarly, communities not connected to a municipal water distribution system are entirely dependent on community and private wells for their potable and non-potable water supply. DAs, including DACs, SDACs, and EDAs located in both urban and rural areas of the Subbasin, are similarly reliant on groundwater as their sole potable water source.

Benefits to SDACs

SDACs in the Delta-Mendota Subbasin, as described in **Attachment 6**, include the communities of Crows Landing, Dos Palos Y, Grayson, Santa Nella, Tranquillity, and Westley as well as the cities of Dos Palos, Firebaugh, Gustine, and Mendota. These communities and cities, as well as DAs in rural areas, will benefit from data and information collected during the proposed Well Census and Inventory (Component 2), Subsidence Characterization and Project Feasibility Determination (Component 3), and Supplemental GSP Development Funding (Component 4) and the use of information and conclusions found in the summary reports and Final GSPs to achieve long-term sustainable groundwater supply through greater understanding of aquifer characteristics and groundwater use, as well as filling known data gaps. The results of Components 2 and 3 will be used to inform projects and management actions as well as refine sustainable management criteria and monitoring networks in order to achieve the sustainability goal for the Subbasin. Financial assistance through Round 3 funding to carry out the activities described in this Proposal would be performed while reducing the financial burden on DAC, SDAC, and EDA ratepayers within the Subbasin.

List of Benefits

Completion of the proposed Well Census and Inventory (Component 2), Subsidence Characterization and Project Feasibility Determination (Component 3), and Supplemental GSP Development Funding (Component 4) as well as funds for grant agreement administration (Component 1), would:

- Provide data and information necessary to ensure the availability of sustainable groundwater supplies for DAs while limiting the financial burden on DAs in efforts to develop tools to sustainably manage groundwater.
- Reduced expenses totaling \$500,000 that would otherwise be incurred by DA ratepayers as part of GSP development.
- Increased data gathering and filling of data gaps identified in the six Subbasin GSPs to aid in achieving the sustainability goal for the Delta-Mendota Subbasin to ensure long-term use of valuable groundwater resources by DAs.

Letters of Support

Letters of support from identified DAs within the Delta-Mendota Subbasin are included as an appendix to **Attachment 6** and were provided by the following:

- Crows Landing Community Services District
- City of Firebaugh
- City of Los Banos
- City of Newman
- County of Fresno
- County of Madera
- Grayson Community Services District
- Santa Nella County Water District
- Tranquillity Irrigation District
- Westley Community Services District

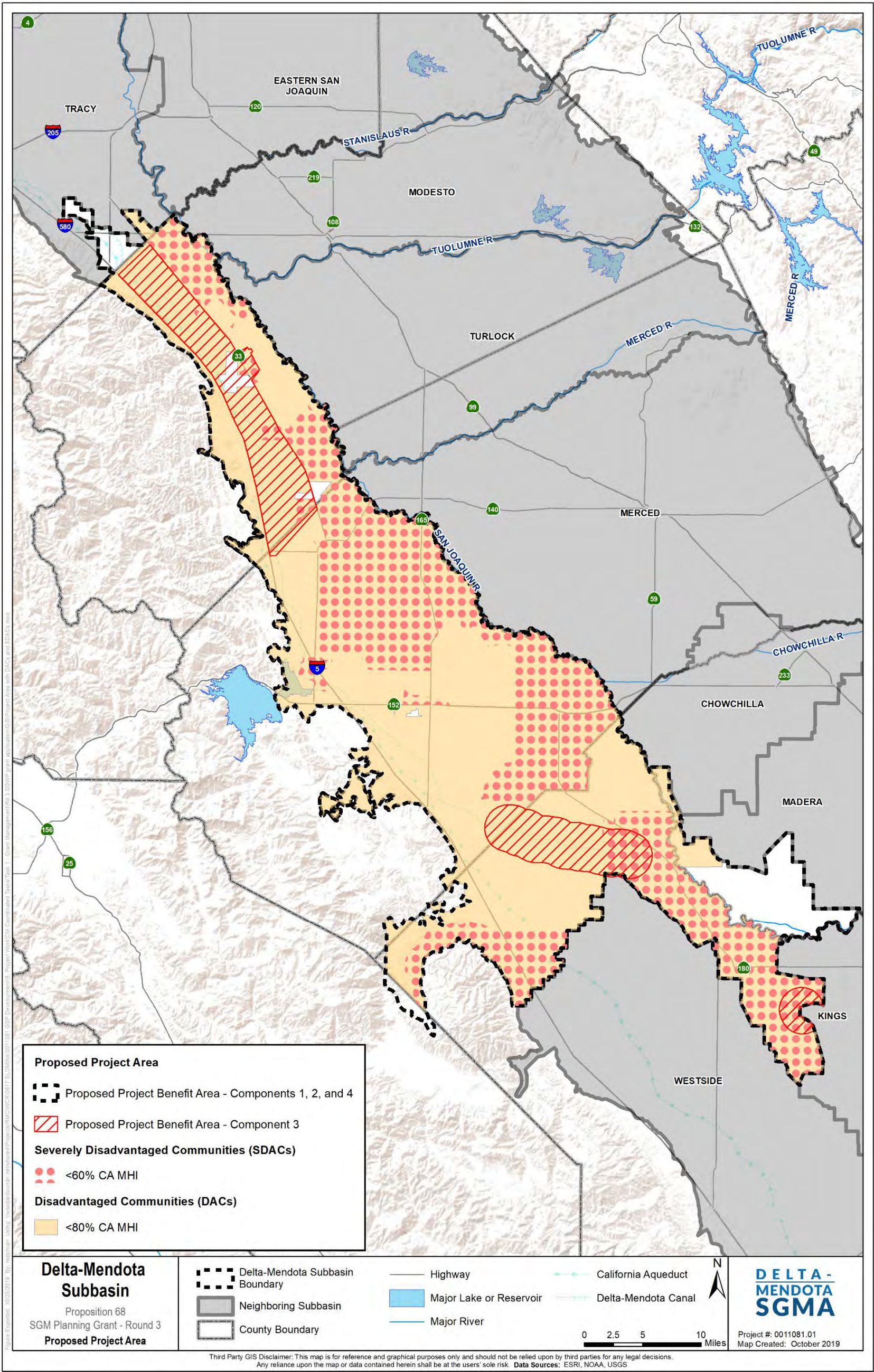


Figure 2. Proposed Project Area, SDACs, and DACs

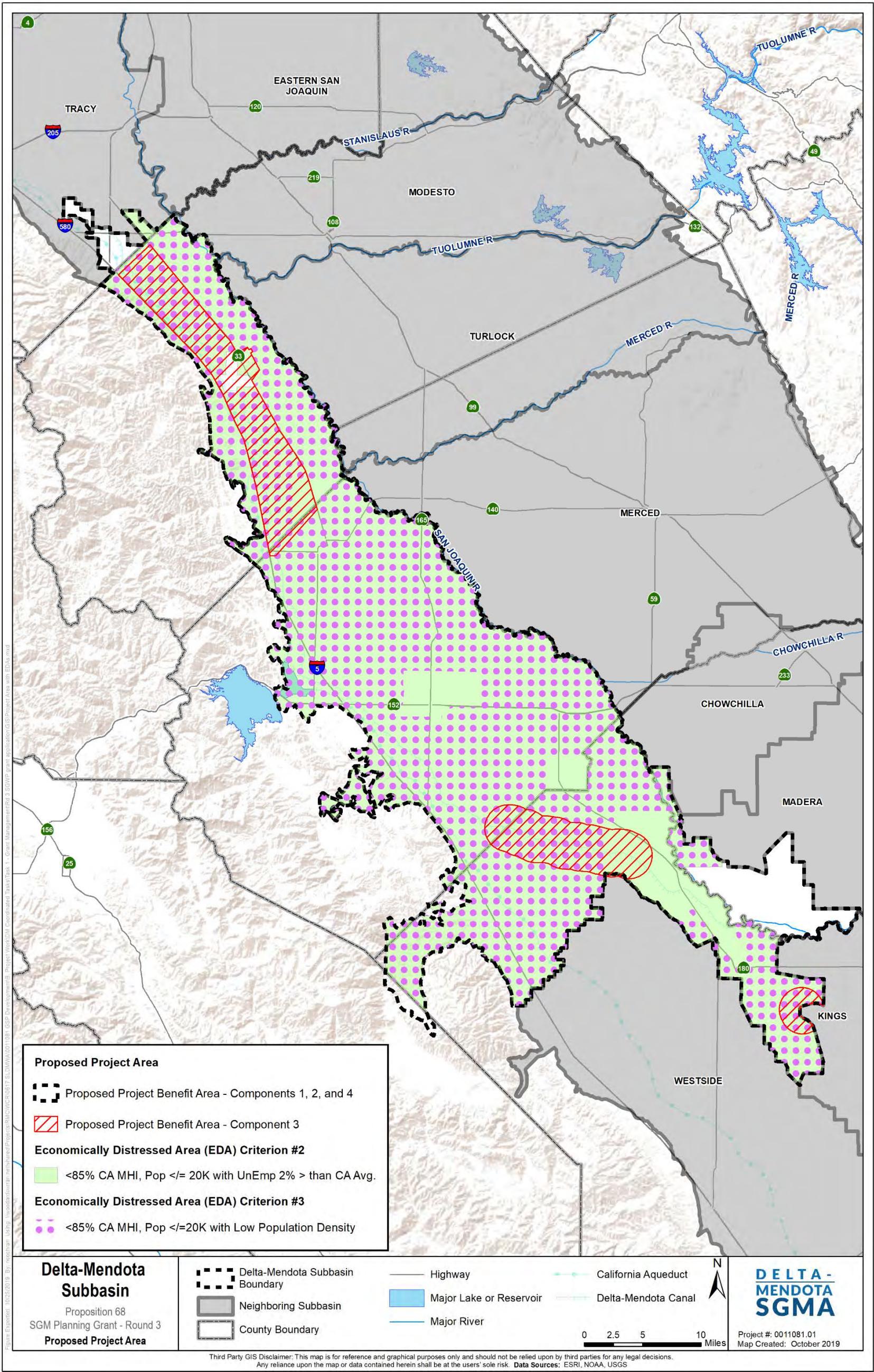


Figure 3. Proposed Project Area and EDAs

C. Technical Expertise

Technical Need

The technical need for each proposed component can be found in **A.1 Detailed Project Description**.

C.4 Demonstration of Technical Experience and Knowledge

GSA Roles and Responsibilities

All 23 GSAs in the Delta-Mendota Subbasin will work together along with the San Luis & Delta-Mendota Water Authority (SLDMWA) as plan administrator to carry out all components and their associated tasks identified in this Proposal. All GSAs underlying the respective component areas, as shown in **Figure 1**, will work under the direction of SLDMWA to provide the necessary information and carry out assigned tasks or activities in order to complete each component within the allotted budget and schedule, as applicable. SLDMWA currently serves in a technical advisory and coordinating role to ensure SGMA-required coordination between the six Delta-Mendota Subbasin GSP groups is taking place cooperatively and effectively and will continue to serve in the same capacity to carry out GSP development and implementation activities and additional tasks identified in this work plan.

Successfully Completed Water Bond Grants

WSID and SLDMWA are experienced in obtaining funding under and completing funding agreements associated with water bond grants. Most recently, WSID, in coordination with SLDMWA, has been administering the Prop 1 SGMP grant funding received for the Delta-Mendota Subbasin. SLDMWA has also been the recipient of grant funding from the Integrated Regional Water Management (IRWM) grant program, including receiving and administering two Prop 84 implementation grant agreements totaling approximately \$10 million. All water bond grants administered jointly by WSID and SLDMWA were closed on time, on budget, and with no issues preventing WSID and SLDMWA from carrying out the grant agreements in full and no termination of any grants. Deliverables, invoices, and progress reports were completed on a quarterly basis and in a consistent manner acceptable to DWR. Additionally, many of the members of the 23 Subbasin GSAs have received federal grants for program administered at the local level.

Successfully Completed Large-Scale Planning Documents / Experienced Professional Engineer

The six Subbasin GSPs are currently under development by the following staff/consultants for each GSP group: Aliso Water District and Grassland GSPs prepared by consultant teams at Provost & Pritchard; Farmers Water District and Fresno County GSPs prepared by consultant teams at Luhdorff & Scalmanini Consulting Engineers; Northern & Central Delta-Mendota Region GSP prepared by consultant teams at Woodard & Curran and Provost & Pritchard; and San Joaquin River Exchange Contractors prepared by Central California Irrigation District staff. All of the six Subbasin GSPs have been prepared under the oversight of a California-licensed Professional Engineer (PE) or Professional Geologist (PG) and will be stamped by the professional providing the oversight, with the Northern & Central Delta-Mendota Region GSP to be signed by Leslie Dumas, PE; the Fresno County Management Area A & B GSP and Farmers Water District GSP to be signed by Will Halligan, PG; the Aliso Water District GSP to be signed by Joe Hopkins, PE; the Grassland Water District GSP to be signed by Rick Iger, PE; and the San Joaquin River Exchange Contractors GSP to be signed by Jarrett Martin, PE. The Common Chapter of the Delta-Mendota GSP will be stamped by Professional Engineer Leslie Dumas of Woodard & Curran.

Consulting, SLDMWA, and GSA staff working to develop the six Subbasin GSPs have extensive experience in completing large-scale planning documents successfully, such as Integrated Regional Water Management (IRWM) Plans (e.g., Westside-San Joaquin IRWM Plan, 2019 Update), Stormwater Resources Plans (e.g., Stanislaus Multi-Agency Regional Storm Water Resources Plan), Urban Water Management Plans (e.g., Cities of Patterson, Los Banos, and Newman) and Agricultural Water Management Plans (e.g., Columbia Canal Company, Firebaugh Canal Water District, Central California Irrigation District, San Luis Canal Company, Patterson Irrigation District, and West Stanislaus Irrigation District), and have successfully worked together in the past to respond to State resource management programs, such as under the Westside Coalition for the Irrigated Lands Regulatory Program (ILRP).

WSID and the other 22 GSAs in the Subbasin will work together to identify and select consultants and contractors to complete the tasks as described in the work plan to implement this Proposal. SLDMWA will manage the Proposal components based on their past experiences in successfully implementing similar projects to meet other regulatory

requirements (such as the development of Agricultural Water Management Plans), as demonstrated by successfully completed water bond grants and ongoing Subbasin compliance with state programs such as the ILRP. The components contained in this Proposal will help address data and information gaps identified during GSP development and will result in the long-term sustainability of groundwater resources, providing a reliable water supply for DAs dependent heavily or solely upon groundwater for their water supply.

C.5 Demonstration of SGMA Knowledge

WSID GSA is an exclusive GSA and is an active participant in the development of the Northern & Central Delta-Mendota Region GSP, one of the six Delta-Mendota Subbasin GSPs. As WSID is a member of SLDMWA, SLDMWA, in its role as plan administrator for the Subbasin, will be the contracting agency for work to be conducted under the components of this Proposal. In that role, SLDMWA will ensure that work conducted meets SGMA regulations and DWR requirements and that resultant data and information from the tasks carried out under the components of this Proposal are incorporated into the six Subbasin GSPs (as applicable). SLDMWA has been involved since the beginning of the GSP development process, serving in an advisory role and coordinating the development of all six Subbasin GSPs.

The scope of work for the Well Census and Inventory (Component 2) and Subsidence Characterization and Project Feasibility Determination (Component 3) will be conducted following submittal of the six Subbasin GSPs. Supplemental GSP Development Funding (Component 4) includes activities already carried out by the six Subbasin GSP groups that will be incorporated into the GSPs submitted to DWR by January 31, 2020. As of November 2019, public drafts of the six Subbasin GSPs have been completed and Notices of Intent (NOI) to Adopt each of the six Subbasin GSPs have been released indicating adoption of the GSPs and submittal to DWR prior to the January 31, 2020 deadline (see **Appendix 3.1** for the NOI to Adopt for each of the six Subbasin GSPs). WSID GSA, as the grant applicant/grantee for the Subbasin's Prop 1 SGWP grant, will continue to act as the grantee and oversee the completion of invoicing, progress reporting, and other activities required under that agreement. As completion of Well Census and Inventory and Subsidence Characterization and Project Feasibility Determination components will be conducted following the GSP submittal deadline and data and findings as a result of these components will be incorporated into subsequent GSP updates, these components will not affect the January 31, 2020 completion schedule for the six Subbasin GSPs. As shown in **Attachment 5 – Schedule**, the expected date of completion for all additional tasks to the current grant agreement is March 28, 2022. This allows for sufficient time to perform data collection and analysis as well as develop summary reports for the Well Census and Inventory and Subsidence Characterization and Project Feasibility Determination components. The proposed schedule also allows for sufficient time for all data, information, and conclusions gathered to be incorporated into the six Subbasin GSPs, and for completion of invoicing and preparation of a final Proposal report before the April 30, 2022 grant deadline.

Letters of support from a subset of the other 22 GSAs in the Subbasin are included in **Appendix 3.2 – Letters of Support** to this attachment. Letters of support were requested from GSAs in surrounding subbasins, where received letters are also included in **Appendix 3.2 – Letters of Support**. Although requested by the Plan Administrator for the Delta-Mendota Subbasin, not all surrounding subbasins provided letters of support nor did any subbasin express concern about the contents of this proposal.

The proposed work described in the Project will benefit not only the Delta-Mendota Subbasin but adjacent subbasins by providing additional information and data that can be used on a regional basis for sustainable groundwater management. For example, inelastic land subsidence is a concern for many subbasins throughout the San Joaquin Valley Groundwater Basin. Information related to the risks and causes of inelastic land subsidence as well as identification of projects and management actions that may help to mitigate related risks can be utilized by adjacent subbasins observing similar undesirable results.

PROJECT DETAILS

D. Scope of Work and Deliverables

The proposed work plan is composed of four components, each required to support a specific section of the Proposal and grant agreement requirements. The scope of work and project deliverables for each task, as well as the percent of completion for each task, are summarized below.

D.a Scope of Work

Component 1: Grant Administration

Component 1 is an amendment to the Delta-Mendota Subbasin's existing grant agreement between WSID and the State for management of its SGWP grant agreement. This component will allow for continued grant administration once the existing funding agreement has been amended to reflect the addition of this work plan, and the associated budget and schedule, to account for the schedule extension and additional progress reports and invoicing packages required for inclusion of the work outlined in Components 2 through 4, below.

(a) Grant Administration

Task 1: Project Management and Communications (0% complete)

The intent of Task 1 is to manage and administer the grant funding to be received under the SGM grant and will be conducted by a retained consultant with review by WSID. As required under the Subbasin's current funding agreement, this task will involve the preparation of reimbursement request packages containing invoices from those implementing the components and quarterly progress reports. Under this task, invoices will be checked and incorporated into monthly invoices that clearly show team members, hours, costs, and progress on component tasks. Quarterly progress reports will be prepared showing progress made during the month, next steps for the following billing cycle, and status of both schedule and budget. Activities under this task will also include review of component-related documents to ensure adherence to the requirements of the DWR Grant Agreement.

This task also involves bi-weekly to monthly progress conference calls with the technical team to ensure coordination among tasks and sharing of information and data. Additionally, this task includes preparation of a final report to DWR, in addition to submittal of quarterly progress reports and invoices, as required by the grant agreement.

Finally, as part of this task, stakeholders, including groundwater users, the general public, and other interested parties, will be kept informed about the components' progress through continued GSP-related outreach (as described in E. Project Support of this attachment), relevant reports and data and the incorporation of such into GSP development, and on work and products completed.

Component 2: Well Census and Inventory

This component will improve Subbasin understanding and support GSP development by identifying the location and well construction of thousands of wells in the Subbasin. Specifically, a detailed well census will be conducted under this component to confirm and expand understanding of where groundwater extractions are occurring in the Delta-Mendota Subbasin and by identifying where these wells are screened relative to the principal aquifers. This information will allow for improved estimates of groundwater extraction for use in refinements to the GSP water budgets.

The Delta-Mendota Subbasin is characterized as a subbasin in critical overdraft conditions (COD) due to inelastic land subsidence. The 23 GSAs and six GSP groups within the Delta-Mendota Subbasin are working collaboratively to address this challenge, both within the GSP development and implementation phases of SGMA. A detailed well census in the Subbasin will improve overall understanding of regional groundwater pumping and groundwater characteristics in each principal aquifer as it relates both to areas prone to inelastic land subsidence and interconnected surface waters, the two key data gaps identified in the Subbasin. The developed well census and inventory will also benefit long-term water use planning for all sustainability indicators by providing a more-accurate understanding of groundwater use within the Subbasin.

(a) Component Administration

Task 1: Project Management and Communications (0% complete)

The intent of Task 1 is to allow for WSID, with the help of retained consultants, to manage and administer the grant funding to be received for this component. This task will involve the preparation of invoices for compilation in reimbursement request

packages and preparation of quarterly progress reports showing progress made during the month, next steps for the following billing cycle, and status of both schedule and budget. Activities under this task will also include contracting and contract management, and bi-weekly to monthly progress conference calls with the technical team to ensure coordination among tasks and sharing of information and data. Meeting agendas will be prepared for in-person meetings along with minutes documenting the meeting results.

(b) Stakeholder Engagement / Outreach

Task 1: Stakeholder Outreach and Communications (0% complete)

Under this task, stakeholders, including groundwater users, the general public, and other interested parties, will be kept informed about the progress of Component 2, the results of the tasks implemented, and how the resulting well census will be utilized in the context of GSP development. Outreach materials will be created and outreach activities to stakeholders and landowners (e.g., attending growers' workshops with district representatives) conducted to disseminate information gathered as part of this component. These outreach efforts will be coordinated with ongoing stakeholder outreach and communications regarding the six Subbasin GSPs.

(c) GSP Development

GSP development tasks are comprised of those required for conducting the well census and inventory.

Task 1: Access Agreement Template(s) (0% complete)

Under this task, access agreement template(s) will be prepared for use in obtaining access to wells for conducting the subsequent tasks of this component and for future monitoring and data collection efforts.

Task 2: Well Census and Inventory (0% complete)

A well census will be conducted and a well inventory will be developed for the Delta-Mendota Subbasin. Work supporting this census and inventory will involve:

- Comprehensive analysis of DWR's online well database and geophysical logs to identify wells in the Delta-Mendota Subbasin not previously identified as part of GSP development.
- Determination of well construction features, including well screen intervals and depth, through a review of well logs.
- Determination of the principal aquifer wells are constructed in through analysis of geology and well construction information.
- If necessary, video surveying of up to 20 wells at monitoring, abandoned or otherwise accessible well sites to identify and/or confirm screened intervals

The results of this task will be summarized in a summary report that shows the locations of existing wells in the Subbasin, basic well construction information (depth and screened intervals) and a high-level analysis of identified wells to define active and inactive wells for use in other analyses (such as estimating groundwater extractions by principal aquifer). The well inventory developed will also be uploaded to the Delta-Mendota Subbasin Data Management System.

(d) Monitoring / Assessment

This component does not include monitoring or assessment activities.

Component 3: Subsidence Characterization and Project Feasibility Determination

As previously noted, the Delta-Mendota Subbasin is characterized as a subbasin in critical overdraft conditions due to inelastic land subsidence. This Component will utilize the results of Component 2, along with other data contained within the six Subbasin GSPs, to improve understanding of regional subsidence causes and risks, as well as to identify opportunities to address this challenge.

Using the detailed well census completed in Component 2, wells in areas of the Subbasin prone to inelastic land subsidence will be identified and information within the inventory used to improve overall understanding of regional groundwater pumping and groundwater characteristics in each principal aquifer. Identification of potential projects and management actions will also support the Subbasin GSP groups in determining next steps to address regional subsidence both from within and adjacent to the Delta-Mendota Subbasin. Examination and improved understanding of the causes and factors influencing subsidence is paramount with critical infrastructure in the Subbasin, including the California Aqueduct and the Delta-Mendota Canal, at risk with the potential to directly impact the availability of surface water supplies in the Subbasin.

(a) Component Administration

Task 1: Project Management and Communications (0% complete)

The intent of Task 1 is to allow for WSID, with the help of retained consultants, to manage and administer the grant funding to be received for this component. This task will involve the preparation of invoices for compilation in reimbursement request packages and preparation of quarterly progress reports showing progress made during the month, next steps for the following billing cycle, and status of both schedule and budget. Activities under this task will also include contracting and contract management, and bi-weekly to monthly progress conference calls with the technical team to ensure coordination among tasks and sharing of information and data. Meeting agenda will be prepared for in-person meetings along with minutes documenting the meeting results.

(b) Stakeholder Engagement / Outreach

Task 1: Stakeholder Outreach and Communications (0% complete)

Under this task, stakeholders, including groundwater users, the general public, and other interested parties, will be kept informed about the progress of Component 3, the results of the tasks implemented, and how the resulting analysis of inelastic land subsidence and associated identification of potential mitigating projects and/or management actions will be utilized in the context of GSP development. Outreach materials will be created and outreach activities to stakeholders and landowners (i.e. attending growers' workshops with district representatives) conducted to disseminate information gathered as part of this component. These outreach efforts will be coordinated with ongoing stakeholder outreach and communications regarding the six Subbasin GSPs.

(c) GSP Development

Tasks to be completed under this component will refine estimates of groundwater extractions in subsidence-prone areas of the Subbasin, analyze the well results for linkages between groundwater extractions by principal aquifer and land subsidence, and identify potential projects and/or management actions that could be implemented by the GSP groups to mitigate for this issue.

Task 1: Well Inventory Analysis (0% complete)

The analysis of the well inventory, developed in Component 2 of this proposal, within the study area shown in **Figure 1** (Subbasin areas prone to inelastic land subsidence) will consist of the following:

- Pump tests on up to 20 wells in the Subbasin
- Estimation of extractions or groundwater use for each well for use (if extraction data are unavailable) to evaluate the spatial variation in groundwater pumping and relationship to subsidence occurrence and other pertinent subsidence-related factors and variables in identified areas. Estimations will be based upon cropping, if any surface water was made available, and crop evapotranspiration
- Estimation of localized sustainable yield and other pertinent subsidence-related factors and variables in identified areas

Task 2: Composite Well Investigation (0% complete)

This task will utilize the data collected in Component 2 and analyzed in Task 1 under (c) GSP Development of Component 3 to estimate pumping by principal aquifer from aquifer-specific and composite wells by considering the location and extent of the Corcoran Clay and aquifer properties of the principal aquifers using existing aquifer test and geologic data and data collected under Task 1 of Component 3 under (c) GSP Development. This task will refine estimates of aquifer-specific pumping at key well locations, especially in those areas with a history of subsidence. The number of wells to be analyzed in this task will depend on the results of the prior tasks but assumes that no more than 20 wells will be assessed at key locations.

The methodologies employed to estimate pumping from composite wells will utilize a weighted average approach using screen interval lengths in each principal aquifer along with aquifer properties at each well location. The task will create an EXCEL-based tool to help evaluate how much sub-Corcoran water is being extracted by a specific composite well.

Task 3: Identification and Analysis of Projects and Management Actions (0% complete)

Utilizing the information developed from Component 2 and Tasks 1 and 2 under (c) GSP Development of Component 3, potential projects and management actions will be identified for potential inclusion in the Subbasin GSPs that includes utilizing stakeholder input for both project/management action identification and evaluation. The projects and management actions that are identified will focus on reducing the likelihood of future subsidence occurring that could impact critical infrastructure operations to a significant degree. The projects and management actions will focus on those geographic areas that have experienced significant levels of subsidence in the past or are projected to experience subsidence in the future based on pumping data and geologic analyses.

Task 4: Characterization of Findings (0% complete)

A summary report will be prepared using results from Tasks 1 through 3 under (c) GSP Development to summarize findings, potential projects and management actions, and look for and document connections between well locations and use, the principal aquifers and related characteristics, and inelastic land subsidence along with describing possible connections between groundwater use and causes of subsidence at identified locations.

Task 5: Feasibility Determination of Projects and Recommended Remediation Alternatives (0% complete)

Using the data obtained in Component 2 and Tasks 1 through 3 under (c) GSP Development of Component 3, along with subsidence information from GSPs or other available studies, this task will seek to determine the implementation feasibility of the projects and management actions identified in Task 3, and recommend projects and/or management actions and refine analyses in the Subbasin GSPs relative to inelastic land subsidence which policy makers can use for implementation of individual GSPs and/or informed decisions regarding reducing reliance on lower aquifer pumping. Implementation feasibility will consider both the technical likelihood of recommended project/management action to achieve the desired goals, but also the economic, regulatory, and political feasibility of those projects/management actions.

(d) Monitoring / Assessment

This component does not include monitoring or assessment activities.

Component 4: Supplemental GSP Development Funding

This component includes the provision of supplemental GSP funding for completion of the Delta-Mendota Subbasin GSPs. Included herein as deliverables is the preparation of a summary report documenting the work completed between June 5, 2018 and January 31, 2020 on the Delta-Mendota Subbasin GSPs and Common Chapter by GSP group (as defined by tasks under GSP Development, below), in addition to submittal of the six Subbasin GSPs.

(a) Component Administration

Task 1: Funding Coordination (0% complete)

This task is included herein specifically for coordinating preparation and compilation of the materials necessary to meet grant agreement amendment requirements for deliverables for this component, where such activities will be conducted by WSID with the help of retained consultants. Deliverables will include invoices, progress reports and a summary report will be prepared documenting work completed and costs incurred since June 5, 2018 for which funding is being sought.

(b) Stakeholder Engagement / Outreach

Stakeholder outreach and engagement has been ongoing during development of the Delta-Mendota Subbasin GSPs. As this component seeks to obtain funding to reimburse costs incurred to date, no additional stakeholder outreach and/or communications is anticipated for this Component beyond stakeholder outreach and engagement efforts currently conducted and planned within the Subbasin.

(c) GSP Development

Task 1: Northern & Central Delta-Mendota Region GSP Development (90% complete)

The Northern and Central Delta-Mendota Regions are requesting supplemental funding for tasks included in the current Prop 1 SGWP grant agreement. As all funds awarded to Northern & Central Delta-Mendota Region GSP development under the current Prop 1 SGWP grant agreement have been exhausted, justification is provided below for additional funding for GSP development.

Under *Task 2: Flow Modeling* of the current Prop 1 SGWP grant agreement, the Northern and Central Delta-Mendota Regions are working to refine and enhance an existing local groundwater flow model within the Subbasin and develop and refine the hydrogeologic conceptual model. Existing models, Central Valley Hydrologic Model, developed by the United States Geological Survey (USGS), and California Central Valley Groundwater-Surface Water Simulation model (commonly known as C2VSim), developed by DWR, will be refined using local-scale data, field well-log data, and other data provided by stakeholders. Appropriate model(s) will be selected and calibrated.

The Northern & Central Delta-Mendota Region GSP Group initially planned to use the Central Valley Hydrogeologic Model 2 (CVHM2) to develop water budgets, as required under SGMA regulations and GSP Emergency Regulations. In recent years, local agencies within the Delta-Mendota Subbasin invested in a cooperative agreement with the USGS to refine CVHM2 and increase the amount of local data from the Subbasin incorporated in the model update. As of November 2019, CVHM2 remains under development by the USGS and therefore was not available for use in development of the required water budgets for the Northern and Central Delta-Mendota Regions. Review of C2VSim by the Northern and Central Delta-Mendota Regions resulted in the conclusion that local calibration was not sufficient to utilize C2VSim for water budget development.

The selected alternative approach for water budget development for the Northern and Central Delta-Mendota Regions is a hybrid approach that combines the use of local data and CVHM2 parameters, where beta versions of CVHM2 were provided by the USGS in April and July 2018, with standard numerical calculations derived from peer-reviewed literature or professional judgement. Local data was provided by the GSAs in the Northern and Central Delta-Mendota Regions through several data requests and data available through publicly available sources were also utilized in water budget development. Significant effort was also involved in coordinating with neighboring Subbasin GSP groups, as required under the Delta-Mendota Subbasin Coordination Agreement.

Task 2: Grassland Water District GSP Development (90% complete)

The Grassland Water District GSP is requesting supplemental funds related to *Task 2: Coordination* and *Task 3: GSP Development* of the current Prop 1 SGWP grant agreement. Under *Task 2: Coordination*, Grassland GSA retained additional consultant services from Provost & Pritchard Consulting Group to attend Coordination Committee and Technical Working Group meetings in order to better refine subbasin-wide water budgets, sustainable yield definitions, sustainable management criteria, and monitoring networks for the Common Chapter. Under *Task 3: GSP Development*, consultants worked through several rounds of internal GSP revisions from staff at Grassland Water District and Merced County, which has strengthened the Grassland Water District GSP and helped establish more robust sustainability criteria and monitoring protocols. Without additional funds under *Task 2: Coordination* and *Task 3: GSP Development*, costs will be passed on to private wetland landowners and the California Department of Fish and Wildlife, which will increase the cost of maintaining these important habitat lands within the Subbasin.

Task 3: Farmers Water District GSP Development (90% complete)

Under *Task 3: Data Management System* of the current Prop 1 SGWP grant agreement, Farmers Water District is working to revise its current DMS to incorporate GSP-related monitoring data and formats. However, original scope for this task did not include assisting with the subbasin-wide DMS. Efforts to develop the subbasin-wide DMS have involved multiple

meetings and conference calls as well as development of and input on DMS data table structures and modifying the Farmers Water District GSP DMS to be consistent with the subbasin-wide DMS structure.

Under *Task 4: Coordination Agreement and GSP Coordination*, Farmers Water District has entered into a coordination agreement with the other five Subbasin GSPs to review technical elements of the draft coordination agreement and provide comments as well as attend technical committee meetings of the Subbasin GSAs. GSP coordination tasks include both intra- and inter-basin coordination. With six Subbasin GSPs being developed by different subsets of the 23 Subbasin GSAs, the level of effort for intra-basin coordination went above and beyond the level of effort originally anticipated. Additional effort for Farmers Water District to participate in intra-basin coordination includes assisting in the development of subbasin-wide GSP content that included basin setting, sustainable yield analysis and development, and peer review and editing of the technical memoranda required by the Delta-Mendota Subbasin Coordination Agreement. Inter-basin coordination activities were not originally included in the current Prop 1 SGWP grant agreement. Farmers Water District has expended budget on coordination efforts with adjacent subbasins and GSAs including McMullin GSA in the Kings Subbasin and the Madera and Chowchilla Subbasins. Such inter-basin coordination activities have included the review and comments on drafts of the Kings, Madera, and Chowchilla Subbasins' GSPs, as well as communication and correspondence regarding how adjacent subbasins' GSP implementation may impact Farmers Water District.

Under *Task 5: GSP Development*, Farmers Water District has worked to prepare a GSP that will meet SGMA regulations and DWR requirements and builds off the information obtained from the activities outlined in the current Prop 1 SGWP grant agreement and upon previously completed studies and reports. In development of the Farmers Water District GSP, efforts to address data gaps both for use in GSP development, the GSP monitoring network development, Technical Support Services (TSS) grant funds, and planning efforts are required.

Task 4: Aliso Water District GSP Development (90% complete)

The Aliso Water District GSP is requesting supplemental funds related to *Task 2: Coordination* and *Task 3: GSP Development* of the current Prop 1 SGWP grant agreement. Under *Task 2: Coordination*, the Aliso Water District (AWD) GSA actively participated in the Delta-Mendota Subbasin Coordination Committee and Technical Working Group to facilitate development of the Delta-Mendota Subbasin's Common Chapter, which was not included in the scope of work under the current Prop 1 SGWP grant agreement. Participation in meetings of the Coordination Committee and Technical Working Group and associated tasks provided a paralleled understanding of groundwater conditions and sustainable management criteria within the AWD GSA, the greater Delta-Mendota Subbasin, and neighboring Subbasins.

Under *Task 3: GSP Development*, AWD GSA recognizes the successful and thorough efforts to (1) inventory and assess historical data, (2) form and communicate an understanding of local groundwater conditions, (3) identify projects, management actions, and representative monitoring sites and monitoring frequencies, (4) define sustainable management criteria for the defined representative monitoring, (5) organize management of the associated data, and (6) perform stakeholder, inter-basin, and intra-basin outreach coordination in order to develop the Aliso Water District GSP. Such activities, as required under SGMA regulations and GSP Emergency Regulations, were implemented in a coordinated fashion with the other five Delta-Mendota Subbasin GSPs and required additional internal revisions beyond the activities included in the current Prop 1 SGWP grant agreement prior to the development of the draft Aliso Water District GSP.

Task 5: Fresno County Management Area A & B GSP Development (90% complete)

Under *Task 3: Data Management System* of the current Prop 1 SGWP grant agreement, Fresno County is working to revise its current DMS to incorporate GSP-related monitoring data and formats. However, original scope for this task did not include assisting with the subbasin-wide DMS. Efforts to develop the subbasin-wide DMS have involved multiple meetings and conference calls as well as development of and input on DMS data table structures and modifying the Fresno County GSP DMS to be consistent with the subbasin-wide DMS structure.

Under *Task 4: Coordination Agreement and GSP Coordination*, Fresno County has entered into a coordination agreement with the other five Subbasin GSPs to review technical elements of the draft coordination agreement and provide comments as well as attend technical committee meetings of the Subbasin GSAs. GSP coordination tasks include both intra- and inter-basin coordination. With six Subbasin GSPs being developed by different subsets of the 23 Subbasin GSAs, the level of effort for intra-basin coordination went above and beyond the level of effort originally anticipated. Additional effort for Fresno County to participate in intra-basin coordination includes assisting in the development of subbasin-wide GSP content that

included basin setting, sustainable yield analysis and development, and peer review and editing of the technical memoranda required by the Delta-Mendota Subbasin Coordination Agreement. Inter-basin coordination activities were not originally included in the current Prop 1 SGWP grant agreement. Fresno County has expended budget on coordination efforts with adjacent subbasins and GSAs including McMullin GSA in the Kings Subbasin and the Madera and Chowchilla subbasins. Such inter-basin coordination activities have included the review and comments on drafts of the Kings, Madera, and Chowchilla subbasins GSPs as well as communication and correspondence regarding how adjacent subbasins' GSP implementation may impact the Fresno County Management Areas A and B GSAs.

Under *Task 5: GSP Development*, Fresno County has worked to prepare a GSP that will meet SGMA regulations and DWR requirements and builds off the information obtained from the activities outlined in the current Prop 1 SGWP grant agreement and upon previously completed studies and reports. In development of the Fresno County GSP, efforts to address data gaps in the state-owned lands area of Fresno County and efforts to address data gaps for both data collection for use in GSP development as well as for use in GSP monitoring network development are required.

Task 6: San Joaquin River Exchange Contractors GSP Development (90% complete)

The San Joaquin River Exchange Contractors (SJREC) GSP group is requesting supplemental funds related to *Task 2: GSP Coordination* and *Task 3: GSP Development* of the current Prop 1 SGWP grant agreement. Under *Task 2: GSP Coordination*, the SJREC GSP group entered into a coordination agreement with the other five Delta-Mendota Subbasin GSPs to ensure that each GSP utilizes the same data and methodologies, and that elements of the GSPs necessary to achieve the sustainability goal for the Delta-Mendota Subbasin are based upon consistent interpretations of the Subbasin setting. Engaging with neighboring subbasins on assumptions for boundary conditions and coordinated GSP development are also included in the current Prop 1 SGWP grant agreement. With six Subbasin GSPs being developed by different subsets of the 23 Subbasin GSAs, the level of effort for intra-basin coordination went above and beyond the level of effort originally anticipated. Additional time and effort by Central California Irrigation District staff was required to review the other five Delta-Mendota Subbasin GSPs and work with GSA and consultant staff working on the other Subbasin GSPs to coordinate GSP development (through Coordination Committee and Technical Working Group meeting and conference call attendance, in addition to Common Chapter development), as required by SGMA, and to ensure all six Subbasin GSPs will work together to sustainably manage groundwater in the Delta-Mendota Subbasin. Additionally, in order for sufficient review by GSAs partnering with the SJREC GSA to prepare a GSP, hard copies were printed and provided to the 10 partnering GSAs at the expense of the SJREC GSA. Inter-basin coordination, which is also required by SGMA, included activities such as GSP review and workshops with neighboring Subbasins to identify and plan for resolving significant differences with adjoining GSPs, was also beyond the level of effort originally anticipated by the SJREC GSP group.

As a result of the additional effort involved in *Task 2: GSP Coordination* under the current Prop 1 SGWP grant agreement, unanticipated internal revisions to the SJREC GSP were required in order to ensure consistency and compatibility of the six Delta-Mendota Subbasin GSPs beyond the original scope of work under *Task 3: GSP Development* of the current Prop 1 SGWP grant agreement.

(d) Monitoring / Assessment

This component does not include monitoring or assessment activities.

D.b Project Deliverables

List of Deliverables

The following table summarizes the current status of each task, including the percent complete and deliverables for Components 1 through 4.

Component / Task	% Complete	Deliverables
Component 1: Grant Administration		
(a) Grant Administration		
Task 1: Project Management and Communications	0%	- Amendment to the Subbasin's existing SGWP grant agreement - Quarterly reimbursement request packages - Quarterly progress reports - Final proposal report
Component 2: Well Census and Inventory		
(a) Component Administration		
Task 1: Project Management and Communications	0%	- Quarterly invoices and progress reports - Bi-weekly to monthly conference calls with agendas and meeting minutes
(b) Stakeholder Engagement / Outreach		
Task 1: Stakeholder Outreach and Communications	0%	Component-specific outreach materials
(c) GSP Development		
Task 1: Access Agreement Template(s)	0%	Access agreement template(s)
Task 2: Well Census and Inventory	0%	Well Census and Inventory Report
(d) Monitoring / Assessment		
N/A	N/A	N/A
Component 3: Subsidence Characterization and Project Feasibility Determination		
(a) Component Administration		
Task 1: Project Management and Communications	0%	- Quarterly invoices and progress reports - Bi-weekly to monthly conference calls with agendas and meeting minutes
(b) Stakeholder Engagement / Outreach		
Task 1: Stakeholder Outreach and Communications	0%	Component-specific outreach materials

Component / Task	% Complete	Deliverables
(c) GSP Development		
Task 1: Well Inventory Analysis	0%	- EXCEL-based tool evaluating composite well-specific pumping sub-Corcoran Clay water - Subsidence Characterization and Project Report
Task 2: Composite Well Investigation	0%	
Task 3: Identification and Analysis of Projects and Management Actions	0%	
Task 4: Characterization of Findings	0%	
Task 5: Feasibility Determination of Projects and Recommended Remediation Alternatives	0%	
(d) Monitoring / Assessment		
N/A	N/A	N/A
Component 4: Supplemental GSP Development Funding		
(a) Component Administration		
Task 1: Funding Coordination	0%	- Summary report of work completed between June 5, 2018 and January 31, 2020 - Invoices and progress report documenting work completed between June 5, 2018 and January 31, 2020
(b) Stakeholder Engagement / Outreach		
N/A	N/A	N/A
(c) GSP Development		
Task 1: Northern & Central Delta-Mendota Region GSP Development	90%	- Public and Final Drafts of Delta-Mendota Subbasin GSPs - Public and Final Drafts of the Delta-Mendota Subbasin Common Chapter
Task 2: Grassland Water District GSP Development	90%	
Task 3: Farmers Water District GSP Development	90%	
Task 4: Aliso Water District GSP Development	90%	
Task 5: Fresno County Management Area A & B GSP Development	90%	
Task 6: San Joaquin River Exchange Contractors GSP Development	90%	
(d) Monitoring / Assessment		
N/A	N/A	N/A

Environmental Compliance and Permitting

None of the components or tasks included in this Proposal require environmental compliance or permitting as they are all related to the development of the six Delta-Mendota Subbasin GSPs, which are exempt from the California Environmental Quality Act, and data and information collection studies that do not require ground or environmental disturbance of any kind. Access agreements for privately-owned wells will be obtained as necessary and appropriate to carry out the tasks of each component, but they do not involve regulatory agency approval and permits will not be required.

MISCELLANEOUS

E. Project Support

The Delta-Mendota Subbasin GSAs have been working in a coordinated fashion to develop the six Subbasin GSPs and to perform outreach and stakeholder education activities throughout the development process to the beneficial users of the groundwater basin. The GSAs have developed and used several coordinated tools, in addition to their own resources, to inform members of the public about GSP development and implementation activities and promote opportunities for public engagement. These tools are described below and such tools will continue to be used to notify stakeholders and the public of activities related to the Proposal. Documentation of communication with beneficial users of groundwater in the Delta-Mendota Subbasin that may potentially be affected by the implementation of the components of this Proposal is included in **Appendix 3.3 – Stakeholder Outreach and Communication.**

- **Website:** The Subbasin website – www.deltamendota.org – is the primary location for information related to SGMA implementation in the Subbasin. Information provided on the website includes: an overview of SGMA, a description of each of the GSP groups, contact information for each of the GSAs, and upcoming workshops and public meetings. The website also serves as a repository for outreach collateral, workshop materials, and meeting packets and minutes for the Delta-Mendota Subbasin Coordination Committee, Technical Working Group, and Communications Working Group (described below), and provides links to the individual GSP websites maintained by each GSP Group.
- **Delta-Mendota Subbasin Newsletter:** The Delta-Mendota Subbasin Newsletter is distributed to a Subbasin-wide list of interested stakeholders on a monthly basis and serves as an informational tool to keep interested parties, beneficial users, and members of the general public informed about the development and status of the GSPs. Newsletter topics include Subbasin-wide activities, general announcements, upcoming meetings and workshops, and past and upcoming GSP development activities. Copies of the newsletters are archived on the Subbasin website.
- **Informational Materials:** GSAs in the Subbasin developed a suite of materials in English and Spanish to educate and inform members of the public about SGMA and topics covered in the GSP. These materials include bilingual presentations, fact sheets, handouts, frequently asked questions, and videos. Copies of the materials are available on the Subbasin website. GSA representatives distributed these materials before and during meetings, workshops, and other outreach activities.
- **Committee and Working Group Meetings:** The Delta-Mendota Subbasin Coordination Committee meets on the second Monday of each month at 9:30 am at the SLDMWA Administration Offices located at 842 6th Street, Los Banos, California. These meetings are noticed as required under the Brown Act and are open to the public. The Delta-Mendota Technical Working Group meets on the third Tuesday of each month at 10:00 am at the SLDMWA Administration Offices located at 842 6th Street, Los Banos, California. These meetings are noticed as required under the Brown Act and are open to the public. The Delta-Mendota Communications Working Group meets on the fourth Tuesday of each month at 1:00 pm. These meetings are also available via conference call. Meeting information for working groups is available on the Delta-Mendota Subbasin website.
- **Coordinated Public Workshops:** Coordinated public workshops were held throughout the Subbasin in May 2018, October 2018, February 2019, and May 2019 at three (3) locations for every workshop date. Additional workshops or outreach meetings will be conducted as necessary and appropriate for the Project and will be noticed according to the Brown Act. All workshop or outreach meeting materials will continue to be provided in both English and Spanish.

Additionally, the *Delta-Mendota Subbasin Sustainable Groundwater Management Act Communications Plan* (Communications Plan) was developed in 2017 to identify near- and long-term outreach and engagement strategies, tactics, and tools for stakeholder engagement in GSP development and implementation. The Subbasin GSAs have used the Communications Plan as a framework for conducting the stakeholder outreach and engagement activities related to GSP development and implementation.

The Subbasin GSAs also conducted targeted outreach and engagement to hard-to-reach communities, interested parties, and stakeholders that were previously underrepresented in other engagement activities. This included outreach to the following stakeholder types:

- **Agricultural Interests:** Agricultural stakeholders in the Subbasin include agricultural well operators, growers, ranchers, farmworkers, and agricultural landowners. Strong agricultural representation exists within the leadership of

the GSAs. To augment direct outreach being conducted by individuals GSAs, Subbasin representatives also coordinated closely with local county farm bureaus to disseminate information related to GSP development and public workshops.

- **School Districts:** Schools districts are considered for both beneficial users of groundwater (for drinking water), as well communication channels to disseminate information about SGMA and GSP development. GSA representatives directly contacted local school districts to notify them of the public workshops. Some schools also help distributed informational materials and workshop flyers to their students and parents.
- **Industrial Interests:** There are many industrial interests in the Subbasin, including packaging and processing plants, mining industries, and other similar facilities that use groundwater in some fashion. The GSP groups have identified these interests within their respective Plan areas and have disseminated information related to GSP development during individual outreach efforts.
- **Environmental/Conservation Interests:** Environmental and conservation interests in the Subbasin have been contacted and communicated with during GSP development. Specific related interest groups contacted during GSP development include The Nature Conservancy, the California Department of Fish and Wildlife, Audubon, and various sportsman clubs and wetland managers.
- **Disadvantaged Communities:** The GSAs followed best practices identified in Collaborating for Success: Stakeholder Engagement for Sustainable Groundwater Management Act Implementation (Community Water Center, 2015) and other guidance documents to engage DACs and SDACs. This included holding meetings in these communities; holding meetings in the evening at known local venues, such as schools, civic centers, and community centers; translating fact sheets, meeting materials, and presentations into other languages; and providing interpreting services at all public workshops.
- **Other Interests:** Other potential groundwater users in the Subbasin (or those with groundwater-related interests) contacted during GSP development included the various counties in which the Delta-Mendota Subbasin lie and/or are adjoining (including San Joaquin County and San Benito County), Caltrans, the DWR State Water Project Division of Operations and Maintenance, the U.S. Bureau of Reclamation, the U.S. Geological Survey, and the San Joaquin River Restoration Program.

Detailed information regarding outreach efforts conducted by each of the GSP groups can be found in their draft GSPs. Letters of support were received from the following SDACs for the Project:

- Crows Landing Community Services District
- City of Firebaugh
- Grayson Community Services District
- Santa Nella County Water District
- Tranquillity Irrigation District
- Westley Community Services District

Letters of support from the above SDACs are included as an appendix to **Attachment 6**.