



Groundwater Sustainability Plan

MEMORANDUM

TO: Sierra Valley Groundwater Management District (SVGMD) Board of Directors
FROM: Tracey Ferguson, Groundwater Sustainability Plan (GSP) Planning Committee
MEETING DATE: November 16, 2020
SUBJECT: **DWR SUSTAINABLE GROUNDWATER MANAGEMENT (SGM) GRANT AGREEMENT – SIERRA VALLEY BASIN – WORK PLAN APPROACH TO IMPLEMENT CATEGORY (d) MONITORING / ASSESSMENT**

INFORMATIONAL DISCUSSION ITEM:

Receive status update and provide comment on GSP Planning Committee's progress to develop a Work Plan approach to implement DWR SGM Grant Agreement Category (d) Monitoring / Assessment (Attachment 1). No formal action requested at this time.

BACKGROUND:

The SGM Grant Agreement by and between SVGMD and DWR to plan and prepare a GSP for the Sierra Valley Basin includes a Work Plan with the following activity categories:

- a) Grant Agreement Administration
- b) Stakeholder Engagement / Outreach
- c) GSP Development
- d) Monitoring / Assessment

On August 17, 2020, the SVGMD approved a Professional Services Agreement with Larry Walker Associates (LWA) to complete the Work Plan for Categories (a), (b), and (c). The Professional Services Agreement also tasked LWA with the preparation of a Category (d) Work Plan approach for each of the four Category (d) tasks (listed below), and in addition, the Agreement stated LWA could support a Category (d) Request for Proposal (RFP) process.

- Task 1 – Monitoring Networks and Data Management
- Task 2 – Agricultural Pump Flow Metering Program
- Task 3 – Monitoring Networks
- Task 4 – Groundwater Pumping Reduction Assessment

STATUS UPDATE:

On October 22, 2020, and based on the DWR Grant Agreement, LWA provided a draft Category (d) Work Plan approach to the GSP Planning Committee Category (d) working group for review.

The Planning Committee working group met independently to discuss the approach and provided comments back to the LWA team. On November 9, 2020, members of the LWA team and the Planning Committee working group met and discussed questions to the draft Category (d) Work Plan approach including scope and budget.



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M E M O R A N D U M

Based on skillsets, SGMA experience, and overall Sierra Valley GSP interrelated task efficiencies; LWA's approach proposes to conduct much of the Category (d) Work Plan tasks/subtasks with LWA staff and their team of subconsultants.

The remaining tasks/subtasks, which are primarily tied to Task 2 or the Agricultural Pump Flow Metering Program such as flow meter installation, repair, and calibration and Task 4 Groundwater Pumping Reduction Assessment such as undertaking work to purchase and install irrigation efficiency equipment, measures, and/or methods, or other identified assessment opportunities to reduce and/or optimize groundwater pumping; are proposed to be completed through additional professional service agreements with contractors based on an RFP process by the SVGMD and LWA contractor oversight.

The GSP Planning Committee is paying close attention to the DWR Grant Agreement Category (d) budget to ensure sufficient funding is allocated for Task 2 and Task 4 contractor work.

The next steps currently underway are as follows:

1. LWA to review and refine Work Plan approach with proposed budgets by tasks/subtasks
2. Planning Committee working group to specifically develop Agricultural Pump Flow Metering Program (Task 2) and Groundwater Pumping Reduction Assessment (Task 4) proposed budgets for contractor work
3. LWA and Planning Committee working group to discuss schedule for all Category (d) tasks/subtasks

Additional next steps supported by the GSP Planning Committee are as follows:

1. Work with SVGMD Legal Counsel to develop an amendment to LWA's Professional Services Agreement to include applicable Category (d) Work Plan tasks/subtasks
2. Work with LWA to develop RFPs to solicit contractors specific to Task 2 Agricultural Pump Flow Metering Program and Task 4 Groundwater Pumping Reduction Assessment

At upcoming meetings of the SVGMD Board of Directors, the GSP Planning Committee anticipates bringing the Category (d) Work Plan approach forward as follows:

- Proposed Amendment No. 1 to the August 17, 2020 approved LWA Professional Services Agreement to include Category (d) Work Plan (scope, schedule, and budget)
- Draft RFP(s) to solicit Category (d) Work Plan Task 2 Agricultural Pump Flow Metering Program contractors
- Draft RFP(s) to solicit Category (d) Work Plan Task 4 Groundwater Pumping Reduction Assessment contractors

ATTACHMENT:

1. DWR SGM Grant Agreement Category (d) Monitoring / Assessment Work Plan (pages 12-14)

7. Projects and Management Actions

Develop Projects and Management Actions to achieve Sustainability Goals for the Basin, describe the implementation feasibility, and the method by which each will be evaluated for effectiveness.

Deliverables:

- Adopted GSP
- Proof of Adopted GSP submittal to DWR

Category (d): Monitoring / Assessment

Prepare the Monitoring Network Section of the GSP. Prepare an Engineering Packet that contains: agricultural pump flow metering program workplan; the groundwater pumping reduction assessment workplan; and the monitoring networks development workplan.

Task 1: Monitoring Networks and Data Management

1. Monitoring Protocols

Identify and compile existing monitoring protocols, evaluate monitoring protocols for consistency with GSP regulations, update protocols as necessary to meet GSP requirements, and document final monitoring protocols for GSP data.

2. Data and Reporting Standards

Identify and compile data and reporting standards in compliance with the GSP regulations. Check past and future data procedures to verify they comply with the standards. Review existing compiled data for use in the GSP preparation; correct, reformat, and qualify data; determine data gaps; and provide data gap information for use in the development of the Monitoring Network(s).

3. Data Management System (DMS)

Develop a DMS that is consistent with the GSP regulations. Define DMS System specifications and requirements; evaluate DMS options based on project needs, cost, and ease of use; develop and test a beta DMS system; and finalize the DMS system.

4. Monitoring Networks

Define a monitoring network capable of demonstrating trends in groundwater and related conditions over different time frames, as necessary, to evaluate GSP implementation, and as related to each Sustainability Indicator. The monitoring network should include, but not be limited to, those described below. Use the findings to identify monitoring locations to address the identified data gaps. Update the Monitoring Network section of the GSP to refine procedures and protocols, as needed, based upon the findings from the monitoring well installation activities.

a. Subsidence Network

Select and install new monitoring points and ground-truth existing ground level monitoring points to monitor subsidence and to ascertain significance and unreasonable effects. Establish, map, and describe level monitoring points or areas. Obtain landowner access agreements where necessary for the network. Develop sample datasets to ensure data monitoring, management and analyses will be consistent with DMS data management and processing tools. Identify additional tools for inclusion in the GSP. Finalize reporting structure and standard operating procedures (SOPs).

b. Groundwater Well Network Expansion Utilizing CASGEM

Identify CASGEM wells (and available private wells) to address spatial or temporal data gaps defined in the GSP or in collaboration with the GSP effort. Verify potential groundwater level wells for suitability (e.g., access, instrumentation suitability, internal video log of considered wells, location). Develop all

monitoring point data required for GSP, including surveying well elevations and establishing appropriate location data for all district monitoring wells.

c. Agricultural Pump Flow Metering Program

Identify the temporal and spatial data requirements for the agricultural pump flow metering program. Identify and prioritize metering locations for inclusion in the agricultural pump metering program. Develop SOPs for agricultural pump flow metering, including upgrades to current systems and for new installations. Specify instrumentation and equipment.

d. Groundwater Dependent Ecosystems (GDE)

Focus on approaches for GDE monitoring and develop and assess monitoring alternatives. Identify potential funding and implementation partners based on monitoring goals and value, including outside of SGMA and for broader ecosystem/environmental assessment. Perform CEQA review and permitting if implementation requires, as well as permits for installations of shallow piezometers.

5. Financial and Economic Resources Assessment and Estimate of GSP Implementation Costs

Quantify the sustainable financial resources. Develop cost structures for potential monitoring network alternatives using best available data, estimate required funding levels for each, and discuss data products and their use and value. Consider the Different sustainability indicators currently or at risk of becoming significant and unreasonable. Recommend cost savings opportunities and consider alternative funding sources.

Deliverables:

- Technical memorandum on development of DMS
- Financial and Economic Resources Assessment Technical Memorandum
- Engineering Packet

Task 2: Agricultural Pump Flow Metering Program

Ensure that flow meters are installed in compliance with manufacturers specifications, working properly, and properly calibrated. Develop SOPs for agricultural pump flow metering program, including specifications for new installations and upgrades to current systems. Specify instrumentation and equipment.

Subtask 3.1: Planning/Design/Environmental

Perform site visits for proposed new meter installations and existing meter installations. Evaluate current installations and meters for compliance with SOPs. Determine if meter requires calibration or repair. Develop site-specific plans to make each meter consistent with developed SOPs.

Deliverables:

- Site Visit Summary Documentation

Subtask 3.2: Flow Meter Installation, Repair, and Calibration

Install flow meters as described in the Engineering Packet and SOPs. Upgrade existing meter installations that are not compliant with developed SOPs. Have all meters repaired that are identified as needing repair. Have all meters identified requiring calibration properly calibrated.

Deliverables:

- Site Visit Summary Documentation

Task 3: Monitoring Networks

Based on the data gap analysis, identify and select additional GSP-related monitoring points and bring all monitoring network points (new and existing) up to monitoring program standards.

Anticipated activities include establishing appropriate location data and descriptions for points, mapping monitoring networks, surveying monitoring point elevations, and developing network instructions.

Deliverables:

- Monitoring Networks Technical Memorandum

Task 4: Groundwater Pumping Reduction Assessment

Investigate opportunities or methods to reduce and optimize groundwater pumping practices. Engage agricultural groundwater users to identify opportunities/methods to reduce and/or optimize groundwater pumping practices. Prioritize and investigate opportunities and methods identifies including working with surface water delivery agencies to determine extent of surface water delivery flexibility and determine optimized delivery schedule. Develop a groundwater pumping optimization work plan. Obtain landowner access agreements where necessary. Under take work identified in the work plan including the purchase and installation of irrigation efficiency measures, evaluation of recording metered pumping, and calculating reduction in groundwater extraction from measures undertaken.

Develop technical results and recommendations document(s) that describe the results of the various evaluations and investigations and provides recommendations for optimizing groundwater and surface water use in the basin. This document will be used to inform planning efforts and future project evaluations.

Deliverables:

- Technical results and recommendations document(s)