

CGA/GGA Joint Technical Advisory Committee Meeting

MEETING AGENDA

June 21, 2019 | 9:00 – 11:00 a.m.

Sites Project Authority Office, 122 Old Highway 99 West, Maxwell, CA 95955

* Indicates an Action Item

1. Call to Order and Introductions

2. * Approval of Minutes from the April 12, 2019 meeting

3. Period of Public Comment

At this time, members of the public may address the Joint Technical Advisory Committee Members regarding items that are not on the agenda but are of relevance. The Board may not act on items not on the agenda.

4. Staff Updates

- a. Hydrogeologic Conceptual Model and Water Budget for the Colusa Subbasin
- b. Technical Support Services - Monitoring Well Installation

5. Colusa Subbasin Groundwater Sustainability Plan (GSP) Request For Proposals (RFP)

- a. Staff update on GGA and CGA Board Actions regarding the RFP process
- b. * Review and Discuss Draft Request for Proposals, and possible action to authorize designated Staff to release the RFP with any suggested edits

6. Discussion: Colusa Subbasin Western Boundary

7. Member Reports and Comments

8. Next Meeting: To be determined

9. Adjourn

A complete agenda packet, including back-up information, is available for inspection during normal business hours at 100 Sunrise Blvd., Suite A, Colusa, CA 95932 or 720 N. Colusa St., Willows, CA 95988. The full agenda packet can also be found on the CGA and GGA websites:

<https://colusagroundwater.org/meetings/agendas/>

<https://www.countyofglenn.net/dept/agriculture/water-resources/glenn-groundwater-authority/gga-meetings>

In compliance with the Americans with Disability Act, if you require special accommodation to participate in CGA Board or Subcommittee meetings, please contact the Colusa County Water Resources Division at 530-458-0719 prior to any meeting and arrangements will be made to accommodate you.

CGA/GGA Joint Technical Advisory Committee Meeting

MEETING MINUTES

April 12, 2019 | 1:00 p.m. – 3:00 p.m.

Colusa County Farm Bureau, 520 Market Street, Colusa, CA 95932

1. Call to Order and Introductions

In Attendance:

Committee Members: Mark Lohse, Darrin Williams, Emil Cavagnolo, Oscar Serrano, Bill Vanderwaal, Zac Dickens, David Kehn, Brandon Davison

Others in Attendance: Lisa Hunter (GGA Staff), Mary Fahey (CGA Staff), Don Bills, George Pendell, Sajit Singh (CGA), Jilda Spyres, Byron Clark (Davids Engineering, Inc.), Kelsey McNeil, Alfred Sellers Jr. (CGA), Leslie Nerli (GGA), Shelly Murphy (CGA)

2. * Approval of Agenda

Motion to approve the agenda by Oscar Serrano, seconded by Darrin Williams, approved unanimously

3. Period of Public Comment

There was no public comment

4. Update: Hydrogeologic Conceptual Model and Water Budget for the Colusa Subbasin

Byron Clark, Davids Engineering, Inc., provided a powerpoint presentation and discussion about the progress on the hydrogeologic conceptual model (HCM) and water budget for the Colusa Subbasin.

The PowerPoint presentation can be found on the CGA website:

<https://colusagroundwater.org/meetings/agendas-2019/>

And on the GGA Website:

<https://www.countyofglenn.net/resources/agendas-minutes-water/glenn-groundwater-authority-technical-advisory-committee-meeting>

Mr. Clark described the GSP Basin Setting Components that are required under SGMA. These requirements include a hydrogeologic conceptual model, groundwater conditions description and water budgets.

Mr. Clark described some prior work that was completed in the Colusa Basin under funding from Proposition 1 Counties with Stressed Basins grants in Glenn and Colusa Counties. This work is a good foundation for the HCM and water budget. The next step is to update that work in conjunction with the Integrated Hydrologic Model (IHM). The difference between the HCM and IHM is that an HCM is a document that describes the system and will basically sit on a shelf, while an IHM is a more dynamic model that is used to simulate changes in conditions over time. Other steps will be to incorporate subsidence data, SkyTem data and other recent data.

Mr. Clark went on to describe the groundwater conditions and water budget GSP requirements under SGMA. He also discussed work that was completed in Glenn County to evaluate the different existing, and forthcoming integrated hydrologic models.

Mr. Clark explained that the HCM work has been progressing slowly because it needs to be reviewed along with the IHM. DWR's update of the C2VSimFG model is due to be released this month. We are quickly approaching a point where we will need to move forward if the model does not become available.

Question: What if the model does not meet expectations?

Answer: We would have to move forward. The Consultant team could build the model from scratch. Another option is to use the May 2018 version of C2VSim.

Ms. Murphy stated that we need to be sure we are inputting correct data, including actual water allocations.

Question: What model are the Critically Overdrafted basins using?

Answer: Many basins already have models from pre-SGMA. A lot are using the previous version of C2VSim.

Question: What would be better in the new version vs. the 2018 version?

Answer: Better characterization of land use, and splitting out the Tehama Colusa Canal and settlement contractors.

Mr. Vanderwaal suggested that we move forward if the updated version of C2VSimFG is not available by April 30, 2019.

Ms. Hunter asked if there was agreement on the model to use, and also on a drop dead deadline for the C2VSimFG if that is the preferred model.

Question: Is the data that you already have for the 2018 version going to be easily transferred to the C2VSim if we move forward before release of the newer version?

Answer: Yes. With SVSim it is a little more complicated. The CVHM model would be very difficult and we would basically have to rebuild it.

Ms. Fahey asked if the benefit to waiting is that they have already provided local data to DWR. Mr. Clark said yes.

Question: What are the changes to the model?

Answer: Just the inputs – land use, soil parameters, diversions, etc.

***It was the consensus of the group that we use the C2VSimFG and if not available in a timely manner, move forward with the 2018 version. Ms. Hunter and Ms. Fahey were directed to work with Mr. Clark on a schedule to set a reasonable drop dead deadline for moving forward if the C2VSimFG is not released.**

5. Colusa Subbasin Groundwater Sustainability Plan (GSP)

- a. Discuss timeline for development and completion of the Colusa Subbasin GSP

- b. Discuss process to select Consultant Team for the Colusa Subbasin GSP, and determine a recommended path forward for consideration by CGA and GGA Boards

Ms. Fahey explained that Davids Engineering has been contracted to complete the HCM and Water Budget portions of the GSP but the GSAs have not chosen a consultant to complete the other components of the GSP. Also, the GSAs have not discussed the consultant selection process, if it would be a sole source, or RFP or RFQ process. It is a single plan for the Colusa Subbasin, so both GSA Boards have to approve the process. This is the first discussion to try to define this process.

The group reviewed the draft timeline for GSP completion and discussed various options for consultant selection.

Mr. Vanderwaal said there are hard dates in the schedule that are easy to plug in. It is going to be working through the contentious issues that are going to take time. What are those issues going to be?

Ms. Fahey said Management Areas and defining the Sustainability Criteria are the most contentious.

Mr. Vanderwaal asked what information will we need for these items? Likely the model and water budgets will be needed. He asked Mr. Clark when he thinks the model and water budgets will be completed if the model is available by end of May.

Mr. Clark said that the historical water budgets would go fairly quickly, especially the land surface budget. Calibration of the groundwater system would come next and probably take about 6 months. Once the model is calibrated, they could run scenarios. He advised that we could start working on defining Management Areas now. This can happen in tandem with the IHM and water budgets. This is how the Yuba Water Agency has approached their planning. They developed a Stakeholder group, and quickly worked on defining the Sustainability Goal. They are also working through defining the Sustainability Criteria.

Mr. Kehn asked about a Stakeholder Advisory Committee and the time that will be needed to educate and engage Stakeholders. Ms. Hunter and Ms. Fahey said that we currently do not have a Stakeholder Advisory Committee in place and that is something we need to take to the GSA Boards. A facilitated Stakeholder Advisory Committee was suggested.

Ms. Hunter said that she and Ms. Fahey are working with facilitators on an Outreach and Engagement Plan. Each GSA also has a Public Outreach Committee that can work together on this.

More discussion was held about the consultant selection process.

***The recommendation from the Joint TAC to the CGA and GGA Boards is to release a Request for Proposals for a single consultant or consultant team to complete the GSP for the Colusa Subbasin.**

***It was further decided by consensus that a subcommittee consisting of Bill Vanderwaal and David Kehn will work with Ms. Hunter and Ms. Fahey on a draft RFP that can be brought to the CGA and GGA Boards for review/approval at their May meetings.**

6. Review and Discuss Information related to Data Management Programs for SGMA implementation in the Colusa Subbasin

There was discussion regarding potential Data Management Programs for SGMA compliance and implementation. Although it is important to begin thinking about data management basin-wide as well as individual GSAs, the consensus of the group was that it is too early to make any decisions on a Data Management System.

7. Member Reports and Comments

None

8. Next Meeting:

The next meeting was not scheduled

9. Adjourn

The meeting was adjourned at 3:02 p.m.

ACTION ITEMS:

It was the consensus of the group that we use the C2VSimFG and if not available in a timely manner, move forward with the 2018 version. Ms. Hunter and Ms. Fahey were directed to work with Mr. Clark on a schedule to set a reasonable drop dead deadline for moving forward if the C2VSimFG is not released.

A subcommittee consisting of Bill Vanderwaal and David Kehn will work with Ms. Hunter and Ms. Fahey on a draft RFP for GSP development that will be brought to the CGA and GGA Boards for review/approval at their May meetings.

- GGA May Board meeting: May 13, 2019 (following meeting is June 10, 2019)
- CGA May Board meeting: May 28, 2019

AGENDA ITEM 4

4. Staff Updates

- a. Hydrogeologic Conceptual Model and Water Budget for the Colusa Subbasin

The Beta 2.0 version of the Fine Grid California Central Valley Groundwater-Surface Water Simulation Model (C2VSimFG BETA2) was released in late May, to assist GSAs during the development and implementation of GSPs.

Here is a brief update from Davids Engineering, Inc. on status for the basin setting effort (June 6, 2019):

1. We have extracted C2VSimFGBeta2 results for subareas of the Colusa Subbasin aligned with supplier boundaries, county boundaries, etc. and are beginning to compare to local land and water use information.
2. We have received detailed land use data in GIS format from GCID for 2013-2018, including rice areas with and without winter water for decomp/habitat. We are processing these for consistency with C2VSim to allow for comparison and refinement, as needed.
3. I have been in touch with the EDF OpenET folks, and anticipate receiving some satellite ET data for 2016-2017 for review next week.
4. I have an internal coordination meeting with Woodard & Curran tomorrow to map out the proposed plan for refinement of C2VSim in greater detail for broader review/discussion.

Best,

Byron

Byron Clark, P.E.

Davids Engineering, Inc.

530.757.6107 x106

byron@davidsengineering.com

AGENDA ITEM 5

Request for Proposals to Provide Services for the Development of the Colusa Subbasin Groundwater Sustainability Plan

1. Introduction

The Colusa Groundwater Authority (CGA) and Glenn Groundwater Authority (GGA) are seeking a firm(s) to complete technical work and provide facilitation services to support the development and completion of the Colusa Subbasin Groundwater Sustainability Plan (GSP). The CGA was awarded a Proposition 1 Planning Grant for GSP development in the Colusa Subbasin. The technical work will build off of previous efforts including local Agricultural Water Management Plans, past studies by member agencies, and work supported by Proposition 1 Counties with Stressed Basins grants in Glenn and Colusa Counties. Some of these work products can be found on agency websites or be requested through normal request procedures. The Hydrogeologic Conceptual Model and Water Budget components of the GSP are currently being updated under a separate contract. It is expected the phase of work to be completed under this Request for Proposals (RFP) will incorporate these previous efforts.

The CGA and/or GGA intend to award one or more contracts to a firm(s) that meet our qualification criteria and has successfully performed services on similar projects in the past. Firms are encouraged to develop partnerships if desired to submit complete proposals. The successful firm(s) will be required to enter into a contract with the CGA or GGA for services requested in this RFP. A sample contract is included as Attachment A. OR; Please provide a copy of your firm's standard contract.

Submittals must be received by **July 17, 2019 at 4:00 PM** to be considered for this opportunity.

All Proposed Respondents Should Note that it is their responsibility to:

- Read carefully all of the contents of this entire RFP.
- Ask for clarification in writing before submission due dates.
- Address all requirements and follow all procedures of this RFP.
- Immediately inform the RFP Contact Person of any problems with this RFP solicitation.
- Submit all responses by the required dates and times.

2. Background

The CGA and GGA are exclusive Groundwater Sustainability Agencies in the Colusa Subbasin. The Agencies cover the entirety of the subbasin, with the CGA covering the Colusa County portion of the basin and the GGA covering the Glenn County portion of the basin. Both agencies are Joint Powers Authorities with multi-agency Boards. The CGA was awarded a Proposition 1 Planning grant for GSP development on behalf of the agencies in the Colusa Subbasin with the intent to work together to develop and submit a single GSP for the Colusa Subbasin.

3. Project Description

The scope of this RFP is to build on previous efforts and conduct all tasks necessary to complete and submit a compliant GSP. Respondents are expected to be familiar with the Sustainable Groundwater

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Management Act Laws and Regulations and the Department of Water Resources guidance documents. Efforts will focus on the Tasks of the Proposition 1 Planning Grant proposal not related to Hydrogeologic Conceptual Model and Water Budget updates being conducted under a separate contract. It will be necessary to complete the Basin Setting chapter of the GSP utilizing the HCM and Water Budget update components.

The Proposition 1 Planning Grant application workplan is included as **Attachment B**.

4. Scope of Services

Respondents are expected to be familiar with GSP Regulations. The Draft Work Plan is expected to include all work necessary to meet all the requirements set forth in the Regulations which can be found on DWR's website at:

<https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Groundwater-Sustainability-Plans>

More details for the tasks listed above can be found in **Attachment B**.

Interim deliverables for tasks will be required. The final deliverable will be a complete GSP for the Colusa Subbasin.

Task 1: Project Management

This task includes general administrative tasks including interaction with GSA staff, brief work summaries for inclusion in grant reports, and invoicing.

Task 2: Stakeholder Outreach and Coordination

This task includes facilitation of intra-basin, inter-basin, and stakeholder meetings. Technical and facilitation staff will be prepared to present technical components and provide general order to meetings. It is expected that the firm will work directly with the **CGA and GGA** Technical Advisory Committees, or other subgroups as directed, and GSA Boards as needed. For technical components, monthly meetings may be required at times, but generally quarterly meetings may be sufficient. It is expected that facilitated public workshops will take place throughout the planning process and required public hearing processes for Plan adoption. Facilitation support will also include any updates to the Stakeholder Communication and Engagement Plan. Due to the large size of the Colusa Subbasin, other stakeholder engagement activities may be required in order to ensure that all beneficial users have an opportunity to participate in Plan development.

Task 3: GSP Development

Prepare a GSP that meets SGMA requirements and the DWR regulations and is based on work and findings as described in the subtasks below.

Task 3.1 Data Collection and Analysis

Compile, evaluate, and analyze data necessary for GSP development. Identify data gaps and develop a planning **process** for obtaining that data.

Comment [mmf1]: I go back and forth wondering if we should add more detail in this section, or just leave it to the proposers to demonstrate their knowledge of GSP requirements in their proposals.

Task 3.2 Integrated Hydrologic Modeling

An Integrated Hydrologic Model is being developed under a separate contract. It may be required to use the model being developed to run specific model scenarios to support sustainable management criteria and project and management action development.

OR

An Integrated Hydrologic Model is being developed under a separate contract. It may be required to coordinate with the team developing the model (Davids Engineering, Woodard & Curran, West Yost Associates) to run specific model scenarios to support sustainable management criteria and project and management action development.

Comment [mmf2]: I like this second paragraph better.

Task 3.3 Monitoring Protocols

Identify and compile existing monitoring protocols, evaluate monitoring protocols for consistency with GSP regulations, and document final monitoring protocols for GSP data.

Task 3.4 Data and Reporting Standards

Complete all necessary tasks relating to the Data and Reporting Standards for inclusion in the GSP. Develop data and reporting standard procedures for GSP-related data sets, inventory compiled data, refine and expand data gap action plan.

Task 3.5 Data Management System

Evaluate and recommend a Data Management System (DMS) and implement a DMS for GSP-related data sets. Build upon [work completed for the Counties with Stressed Basins grants in Colusa and Glenn Counties, including development of a Microsoft Access database and an the initial evaluation of the DMS options and](#). Consider a range of available options, including proprietary systems, open-source systems developed by DWR or others, and custom applications.

Task 3.6 GSP Administrative Information

This task will include developing complete GSP sections to comply with submittal requirements for the GSP Administrative Information including General Information, Agency Information, Description of Plan Area, Notice and Communication.

Task 3.7 Basin Setting

The Basin Setting work will build upon current efforts to update the HCM and Water Budget. Work under this task will include defining Management Areas. [It is expected there will be significant facilitated public outreach during development of Management Areas.](#)

Task 3.8 Sustainable Management Criteria

This task will include work conducted for the development of Sustainability Goals, Undesirable Results, Minimum Thresholds, and Measureable Objectives. It is expected there will be significant facilitated public outreach during this task.

Task 3.9 Monitoring Network

Work under this task will build on efforts to evaluate the monitoring network under Colusa County's Stressed Basins grant, and other work, and will include defining the Monitoring Network, Representative Monitoring, Assessment and Improvement of the Monitoring Network, and Reporting Monitoring Data to ~~the Department~~DWR.

Task 3.10 Projects and Management Actions

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

Task 3.11 GSP Document Preparation and Adoption

This task should include all necessary tasks to compile, prepare for adoption of the plan, and finalization of the Plan.

5. Desired Qualifications

The successful firm/team must demonstrate experience in the following:

- Knowledge and understanding of SGMA legislation and GSP regulations
- Groundwater management planning
- Public outreach and coordination and meeting facilitation
- Technical components of SGMA planning including hydrogeologic modeling and analysis
- Data management

6. Format for Proposals

Responses to the RFP must be made according to the requirements set forth in this section, both for content and for sequence. Failure to adhere to these instructions, or inclusions of conditions, limitations, or misrepresentations in a response may be cause for rejection of the submittal. Proposals must be submitted on 8-1/2" X 11" sheets (fold outs are acceptable for charts, etc.). Type size must be large enough to be easily legible, but shall not be smaller than 10 point. Submissions must be received no later than **July 17, 2019, 4:00 PM**.

Mandatory Content and Sequence of Submittal:

- a) Cover Letter shall be a maximum two (2) page Cover Letter and introduction, and shall include the name and address of the respondent submitting the proposal, together with the name, address and telephone number of the contact person who will be authorized to make representations for the respondent, the respondent's federal tax ID number and a list of subcontractors, if any. The cover letter shall include a statement that the proposal is valid for 60 days after receipt.
- b) Table of Contents shall be a detailed Table of Contents and shall include an outline of submittal, identified by sequential page number and by section reference number and section title as described therein.

Comment [mmf3]: Next page says 90 days

c) Summary of Firm Capabilities and Experience shall be a maximum of eleven (11) pages in length and shall describe the respondent's experience in development of GSP components and a description of the Respondent's resources for successfully developing and completing this project.

- i. Background and Experience. In this section, describe your firm's background, its organizational structure, identify decision-making roles, and why this is advantageous to the project. Describe the roles and background of the ~~design~~ team leader and key team members. Please provide a narrative history of the firm and its experience in providing support to GSAs in developing components of GSPs and other SGMA related activities.

Experience and focus in the public sector is of vital importance. Describe related past projects (please limit to 3 projects) completed along with a discussion comparing similarities with this proposed project.

This section shall also contain a list of references for each sample project wherein similar services were performed. At a minimum, the following information must be included for each client reference:

- Client name, address, direct project manager name, telephone number, fax number and email address.
- Detailed description of services provided similar to the services outlined in the Draft Scope of Work.

- ii. Key Personnel. Provide resumes describing the background and statement of qualifications for key personnel your firm would use on this project, including any subcontractors that are considered as key personnel on this project.
- iii. Statement of Qualifications for any subcontractors. If subcontractors/subconsultants are to be used, the prospective contractor must include in the proposal a description of the work to be done by each subcontractor/subconsultant. All subcontracts must be approved by the GSAs and no work shall be subcontracted without prior written approval. It is expected that the discussion of subconsultants will also include experience and references to similar types of work.
- iv. Scheduling. Delineate the project scheduling process your firm uses. Use some or all of the projects in the Experience Summary section, as well as other projects (if necessary), as specific examples, which demonstrate your ability to deliver your work on time.

d) Cost shall detail the cost portion of the proposal. Respondent shall provide pricing based on a firm price that identifies a breakout of the pricing for each Task, Subtask, and Deliverable of the proposed project. Prices quoted shall be valid for at least ninety (90) days following the proposal submission deadline and if a contract is entered into as a result of this RFP, shall become fixed for the term of the contract.

Comment [mmf4]: Earlier it said 60 days.

If an hourly rate is quoted, the anticipated total number of hours should be included along with a not-to-exceed price for the project. A fee schedule listing each member, along with their classification and their normal billing rates should be included with hourly rate quotes.

e) Draft Scope of Work and Schedule in which the proposing respondents are requested to describe the work they will perform and their approach to completing this project. Should there be any tasks that are expected to be performed by the GSAs, these should also be clearly described as GSA tasks in the Draft Scope of Work. If the proposing respondent included a not-to-exceed price in the proposal, proposed billing rate for all reimbursable expenses should be included in the Draft Scope of Work. The proposal shall also include a schedule with the timeline for completing all required tasks.

e)f) Copy of the Firm's Standard Contract

7. Submittal Instructions

Proposals shall be submitted in the following manner:

- Submission shall contain one (1) signed, unbound original and **six (6)** hard copies on 8-1/2" X 11" paper (fold outs are acceptable for charts, etc.).
- One (1) electronic copy shall be provided in CD or thumb drive format.
- Submittals shall be delivered in a sealed box or envelope clearly marked with the Respondent's name and the description "Colusa Subbasin Groundwater Sustainability Plan"
- Submittals shall be delivered to:
 - **DETERMINE WHO DELIVERED TO**
 - **Or hand delivered to**
- Late or incomplete submittals will not be considered.

8. Selection Process

A selection committee, including representatives from the GSAs, will review the proposals based on the criteria presented below:

- a) Completeness
The proposal is organized in the manner indicated in the RFP, provides information completely and concisely.
- b) Experience and References
Resumes, and an explanation of experience and familiarity with the Colusa Subbasin and its stakeholders must be provided by all staff who will be working on the project, and/or reviewing project deliverables. This section also includes evaluation of the Respondent's reputation for being reliable in performing tasks to the satisfaction of its clients and delivering on schedule.
- c) Capabilities
Description of the Respondent's resources for successfully developing and completing this project.
- d) Work Plan (Scope of Services)
Description of how the respondent proposes to complete the project including deliverables necessary to develop a compliant GSP for the Colusa Subbasin. This includes having a ~~firm~~

complete understanding of SGMA requirements, GSP regulations, and familiarity with current and ongoing work within the subbasin and in the region.

e) Cost

The overall project cost in tabular form by task/subtask and **by GSA proportion of work effort required (break out costs per GSA portions of the subbasin)**

f) Schedule

The overall schedule to complete the proposed work by task/subtask.

Comment [LH5]: This was in the HCM/Water Budget RFP. Is it needed or desired to have the budget be broken down by GSA area?

Comment [mmf6]: Not sure this is necessary for the grant funded portion. The GGA may want it broken out for the portion that is being funded by the GSAs?

Criteria	Weight
Completeness	5%
Experience and References	25%
Capabilities	25%
Work Plan (Scope of Services)	25%
Cost	10%
Schedule	10%
Total:	100%

Selection may consist of two levels of review. Level I will consist of evaluating the proposals for the purpose of establishing the most qualified respondents. Level II will be used to select the finalist. This level may include a request for a presentation/demonstration from the finalist(s), proposal fact finding, and negotiation of contract terms and conditions at no cost to the GSAs.

The GSAs may discuss proposals and negotiate modifications to the proposal, draft scope of work, terms and conditions, and pricing with the prospective firm as part of the selection process. The GSAs reserve the right to select more than one (1) contractor.

9. Timing and Schedule

The following timing and schedule are estimated and subject to change.

Event	Anticipated Date/Time (Subject to Change)
Solicitation Publication	June 12-July 17, 2019
Final Date to Submit Questions and Request Clarification	June 26, 2019
Questions Answered via Addendum(s)	July 3, 2019
RFP Submittals Due	July 17, 2019, 4:00 PM
Preliminary Evaluation Completed	July 18-July 26, 2019
Presentation/Demonstration (if desired)	July 31-August 2, 2019
Evaluation Complete/Recommendations to GSA Boards	August 6, 2019
Award of Contract	August 2019

10. General Information

Any and all communication regarding this solicitation shall be in writing and directed to:

DECIDE WHO WILL MANAGE THE RFP,

Name

Title

Address

EMAIL

This person will serve as the GSA contact for this solicitation and will develop an addendum to the solicitation to provide clarifications if necessary. **DO NOT** contact other GSA staff, Technical Advisory Committee members, Board members, or Selection Committee members regarding this project or selection procedures. Failure to adhere to these instructions may result in disqualification.

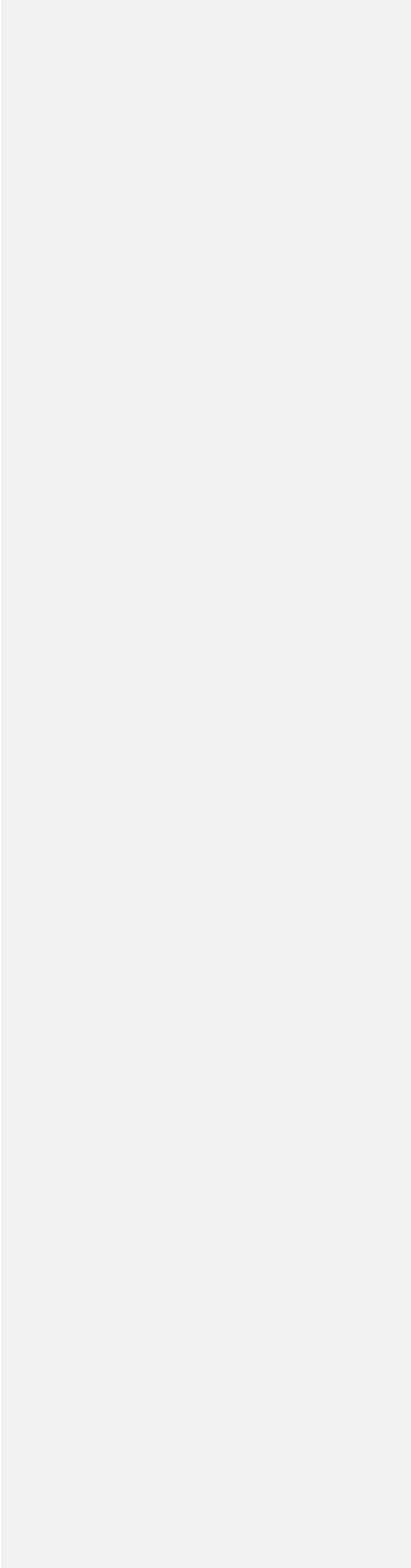
Questions and requests for clarification may only be submitted by e-mail or U.S. Mail. Verbal and phone inquiries will not be answered. All questions and requests for clarification shall be submitted no later than **June 26, 2019 at 4:00 PM**. The GSAs reserve the right to decline a response to any question on a case-by-case basis. The GSAs will provide answers and clarifications by posting an addendum(s) on their websites by **July 3, 2019 by 4:00 PM** so all potential Respondents receive consistent information. It is the responsibility of all interested firms to access the website for this information. **Questions received after June 26, 2019 at 4:00 PM will not be answered.**

11. Disclosure of Information

All information and materials submitted to the GSAs in response to this RFP may be reproduced by the GSAs for the purpose of providing copies to authorized GSA staff and selection committee members involved in the evaluation of the proposals, but shall be exempt from public inspection under the California Public Records Act until such time as a Contract is executed. Bid awards are a matter of public record. Once a Contract is executed, proposals submitted in response to this RFP are subject to public disclosure as required by law. Your submission of a proposal is considered your consent to the GSAs' disclosure of the proposal. The GSAs shall not be liable for disclosure of any information or records related to this procurement.

Attachment A.

Sample Contract



Attachment B.

Proposition 1 Planning Grant Application Workplan

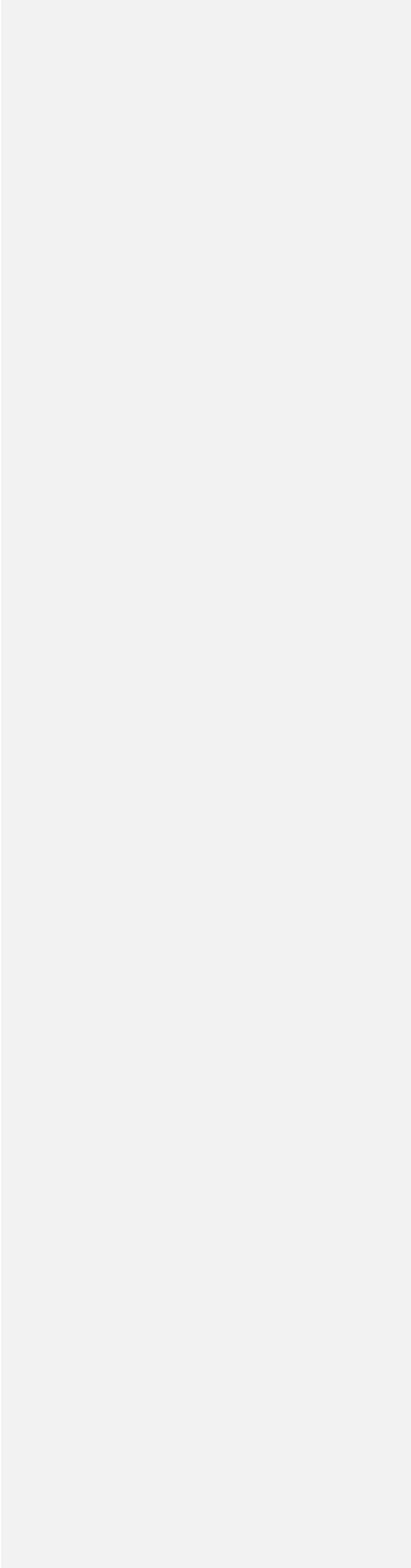


EXHIBIT A WORK PLAN

Project Title: Colusa Subbasin Groundwater Sustainability Plan Development

Project Description: Prepare a Groundwater Sustainability Plan for the Colusa Subbasin (Basin).

Category (a): Grant Administration

Prepare reports detailing work completed during reporting period as outlined in Exhibit F of this Agreement. Progress Reports will include sufficient information for DWR Project Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Progress Reports and should be submitted to the DWR Project Manager for review to receive reimbursement of Eligible Project Costs. Collect and organize backup documentation by task and prepare a summary Excel document detailing contents of the backup documentation organized by task.

Prepare Draft Grant Completion Report and submit to DWR Project Manager for comment and review no later than 90 days after work completion. Prepare Final Report addressing the DWR Project Manager's comments. The report shall be prepared and presented in accordance with the provisions of Exhibit F.

Deliverables:

- Executed Grant Agreement and Amendment(s) (if necessary)
- Quarterly Progress Reports and invoices with all required backup documentation
- Environmental Information Form
- Draft Grant Completion Report
- Final Grant Completion Report

Category (b): Stakeholder Outreach and Coordination

Provide professional facilitation services and support as necessary for GSP development and adoption meetings. Communicate, outreach, and engage with interested parties and beneficial users of groundwater within the basin. Conduct coordination meetings between basin GSAs and representatives of neighboring basins as necessary during the plan development and adoption process.

Deliverables:

- Public Outreach Plan
- Meeting summaries included as attachments in the quarterly Progress Report

Category (c): GSP Development

The Counties of Colusa and Glenn, in the Colusa Subbasin, each received Proposition 1 Sustainable Groundwater Management Planning grant funding for Counties with Stressed Basins (Stressed Basins). Some of the tasks in Category (c) will utilize data from the Stressed Basins grants. Quarterly progress reports will note when tasks use and build upon work that was previously completed during implementation of both the Colusa and Glenn Counties Stressed Basins grant projects. There will be no duplication of previous work under this Project.

Prepare a GSP that meets SGMA requirements and the DWR regulations and is based upon work and findings as described below.

1. Data Collection and Analysis

Compile, evaluate, and analyze data necessary for development of the GSP. Identify data gaps and develop a plan for obtaining that data.

2. Integrated Hydrologic Modeling
Evaluate the available options and develop an integrated hydrologic model for the Basin. Compile, evaluate, and compare simulated and local water budget information. Select and refine integrated hydrologic model for water budget development and other GSP model scenario analysis. Develop model scenarios, complete model runs, evaluate model results. Develop model scenarios to support evaluation of potential projects and management actions or other analysis.
3. Monitoring Protocols
Identify and compile existing monitoring protocols, evaluate monitoring protocols for consistency with GSP regulations, and document final monitoring protocols for GSP data.
4. Data and Reporting Standards
Develop data and reporting standard procedures for GSP-related data sets, inventory compiled data, refine and expand data gap action plan.
5. Data Management System
Evaluate and select Data Management System (DMS) and implement a DMS for GSP-related data sets. Build upon the initial evaluation of the DMS and consider a range of available options, including proprietary systems, open-source systems developed by DWR or others, and custom applications.
6. GSP Administrative Information
Compile and organize information necessary for completing GSP Administrative Information section.
7. Basin Setting
Develop a GSP Basin Setting section for the Basin including, but not limited to, management areas as applicable, hydrogeologic conceptual model, current and historical groundwater conditions, and water budget.
8. Sustainable Management Criteria
Develop GSP Sustainable Management Criteria for the Basin, including analysis and determination of Sustainability Goals, Undesirable Results, Minimum Thresholds, Measurable Objectives, as appropriate.
9. Monitoring Network
Develop monitoring network capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends in groundwater and related surface conditions, and yield representative information about groundwater conditions as necessary to evaluate GSP implementation. Evaluate and designate representative monitoring sites that represent general groundwater conditions and are adequate to act as proxy for other sustainability indicators, if appropriate. Assess monitoring networks for adequacy, determine data gaps, and develop a plan to address inadequacies and gaps. Develop reports and forms to be used with the DMS for reporting required data to DWR in a format consistent with the GSP regulations.
10. 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:

- Draft GSP
- Proof of Final GSP submittal to DWR

Attachment 4. Work Plan

for

Colusa Subbasin Groundwater Sustainability Plan Development

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Overview

Tasks 1-9 represent foundational, underlying tasks to support GSP development, adoption, and implementation but are not tied directly to the GSP contents, as described in Article 5 of the GSP Regulations. All remaining tasks (Tasks 10-14) are tied directly to the GSP contents and organized by subarticle of Article 5 (Plan Contents) of the GSP Regulations, with subtasks based on individual sections of each subarticle.

It is anticipated that cost share for each task will include staff time as an in-kind contribution, along with local funding of a portion of consultant and direct costs, only to the extent that actual costs exceed available grant funding. Estimated local cost share amounts by task are detailed in Attachment 5 of this grant proposal.

Task 1. Project Management and Administration

This task will consist of the following activities:

1. Day-to-day project management during the project.
2. Regular tracking and control of task progress and costs, including the development and maintenance of project and task-level schedules and budgets.
3. Periodic project status meetings with DWR, consulting teams, and other agencies as necessary.
4. Preparation of quarterly and final progress reports.
5. Preparation and submittal of invoices.

Discussion/Assumptions:

This task will be led primarily by GSA staff with GSA Board and Board committee oversight and with consultant support and completed to provide program supervision and coordination of the project team for the duration of the work to ensure the GSP preparation project is completed within cost, schedule and quality constraints and produces a work product that leads to successful attainment of the sustainability goal.

Deliverables:

1. Quarterly and final progress reports.
2. Reimbursement requests.

Task 2. Facilitation Support

This task will include the following activities:

1. Identification and engagement of interested parties.
2. Meeting facilitation (public, intra-basin, inter-basin).
3. Interest-based negotiation/consensus building.
4. Public outreach facilitation and education.

Discussion/Assumptions:

Facilitation support under the grant will be led by a professional facilitator with staff support and build upon Phase I and Phase II Facilitation Support Services provided by DWR to cover full GSP development

and adoption by January 2022. Facilitation supports multiple tasks throughout GSP development and will ensure that:

1. Work is completed in an open, inclusive, and collaborative manner toward the development of a GSP.
2. The GSP is developed in an inclusive process that seeks, promotes, encourages, and welcomes the involvement of all interested parties.
3. Interested parties meet regularly and work diligently toward a clear and defined goal.
4. Meeting spaces are suitably located and sized.

Deliverables:

1. A Public Outreach Plan which documents specifically who stakeholders are, how they will be engaged, and when they will be engaged. This could also incorporate high level Task 3 information.
2. Meeting announcements, agendas, presentations, and minutes or meeting summaries when applicable.

Task 3. Coordination within Colusa Subbasin and with Neighboring Basins

This task will include the following activities:

1. Regular communication between Colusa Groundwater Authority (CGA) and Glenn Groundwater Authority (GGA) and with representatives of neighboring basins.
2. Periodic meetings and workshops to facilitate coordination regarding technical efforts and policy considerations, including evaluation of groundwater conditions and flows, definition of sustainable management criteria, and other relevant topics.
3. Assessment of opportunities to partner on regional studies, share data, and cooperate within and across basins on programs and projects.

Discussion/Assumptions:

For the Colusa Subbasin, the CGA and GGA will work in coordination to develop the GSP, and a coordination agreement will be developed under this task. Additionally, this task will support coordination with neighboring basins. Neighboring basins include the Corning, West Butte, Sutter, and Yolo Subbasins. Coordination will be led by staff with limited direct technical consultant support; however, it is likely that some discussions or workshops will be led by a professional facilitator as described in Task 2. Coordination will likely occur through a variety of venues, such as the Northern Sacramento Valley Integrated Regional Water Management Plan (NSVIRWMP) group's Board of Directors, Technical Advisory Committee (TAC), other standing and ad hoc groups, and other informal means.

Deliverables:

1. Meeting materials, including agendas, minutes, presentations, etc., when applicable.
2. Voluntary and formal coordination agreements, as applicable.

Task 4. Integrated Hydrologic Modeling

This task will include the following activities:

1. Evaluation of model codes and existing applications.
2. Compilation, evaluation, and comparison of simulated and local information, considering:
 - a. Comparison of water budgets
 - b. Input data (e.g. diversions, land use, surface water inflows and outflows, precipitation)
 - c. Model structure (relationship to HCM, spatial and temporal discretization, layering, and representation of hydrologic features, including streams, springs and groundwater dependent ecosystems, and delineation of subregions)
 - d. Calibration: Calibration water budget, and calibration statistics for groundwater levels and streamflows
3. Selection and refinement of integrated hydrologic model for water budget development and other GSP model scenario analysis, considering:
 - a. Refinement or other modifications to spatial and temporal discretization and delineation of subregions
 - b. Refinements or other modifications to surface layer inputs, including static and time series data and parameters used to simulate streams and root zone processes, and the representation and spatial distribution of groundwater pumping and recharge.
 - c. Refinements to subsurface inputs, including hydrogeology and subsurface representation, boundary conditions, vertical distribution of pumping, and aquifer hydraulic parameters.
4. Development of model scenarios, completion of model runs, and evaluation of model results, including:
 - a. Historical, current, and projected water budgets for the subbasin and potentially for subareas within the subbasin
 - b. Scenarios for future conditions, considering climate change, land use, population, surface water availability, and other relevant factors
5. Development of model scenarios to support evaluation of potential projects and management actions or other analysis, including:
 - a. Model revisions, as needed.
 - b. Scenario development and completion of model runs.
 - c. Analysis and comparison of potential projects and management actions.

Discussion/Assumptions:

This task will be led by a consultant with staff direction and support and will build upon existing information, including the Groundwater Model Assessment being conducted as part of the Glenn County Prop 1 Stressed Basin grant and the Interbasin Flow Study conducted by the Butte County Department of Water and Resource Conservation through the NSVIRWM group and funded by the California Water Foundation. The results and recommendations of these studies will be used to guide selection of an integrated hydrologic model code and application based on what the latest available codes and applications are at that time. For purposes of the proposal, it is assumed that an open-source model application such as SVSim, C2VSim, or CVHM will be selected as a starting point to develop a model application to support GSP development in the Colusa Subbasin. It is anticipated this application will be refined based on local water budget information, including the preliminary water budget being

developed as part of the Glenn County Prop 1 Stressed Basin Grant as well as water budget analysis for the Colusa Subbasin in Colusa County completed as part of local cost share for the Colusa County Prop 1 Stressed Basin grant. Other sources of local data will include applicable agricultural water management plans (AWMPs), urban water management plans (UWMPs), municipal service reviews (MWRs), the 2008 Colusa County Groundwater Management Plan (GMP), the Glenn County GMP, and the NSVIRWMP.

Deliverables:

1. Model application evaluation and selection documentation.
2. Technical documentation of comparisons of selected application to local information.
3. Technical documentation of refinements to selected application.
4. Technical documentation of model scenarios and results.
5. Electronic model files for refined model and scenarios developed.

Task 5. Data Collection and Analysis to Support GSP Development

This task will include the following activities:

1. Identification of data collection and analysis needs.
2. Planning and implementation of data collection activities.
3. Data analysis and documentation of methodologies and results.

Discussion/Assumptions:

This task will be led by a consultant with staff direction and support and will develop data and information to inform refinement of the hydrogeologic conceptual model (HCM), understanding of groundwater conditions, numerical modeling and calibration, and development of measurable objectives and sustainability thresholds. This task will build upon collection of existing data and analysis of data gaps conducted as part of the Glenn County and Colusa County Prop 1 Stressed Basin grants. This may include a variety of different efforts, including verification of monitoring well locations and conditions, construction of additional stream gages or monitoring wells to provide critical data for better numerical model calibration, and monitoring of groundwater conditions, land subsidence and stream-groundwater interaction within the subbasin.

Deliverables:

1. Datasets developed.
2. Documentation of data collection, analysis, and results.

Task 6. Monitoring Protocols (§352.2)

This task will include the following activities:

1. Identify and compile existing monitoring protocols currently in use in the subbasin.
2. Review and update monitoring protocols as needed for consistency with best management practices (BMPs) and GSP regulations.

Discussion/Assumptions:

This task is related to Article 3 of the GSP Regulations: Technical and Reporting Standards and will be led by a consultant with staff direction and support. The task will build upon existing protocols developed during the Counties' prior groundwater management efforts, including those developed for the:

- Colusa County Groundwater Management Plan (GMP) and the Glenn County Groundwater Management Plan and Basin Management Objective (BMO) process.
- California Statewide Elevation Monitoring (CASGEM) Program, including the CASGEM Monitoring Plans for Colusa County and Glenn County.
- Colusa County and Glenn County Prop 1 Stressed Basin grants.

Existing protocols will be evaluated relative to the SGMA BMP for Monitoring Protocols, Standards, and Sites and GSP Regulations and updated as needed to ensure compliance with SGMA.

Deliverables:

1. Documented monitoring protocols for inclusion in the GSP.

Task 7. Data and Reporting Standards (§352.4)

This task will include the following activities:

1. Prepare a summary and discussion of Data and Reporting Standards for inclusion in the GSP.
2. Verify and document in the GSP that the monitoring protocols and reporting plans and schedules are compliant with the Data and Reporting Standards.
3. Review compiled existing data to be used in the GSP preparation and stored in the GSP data management system (DMS) for compliance with the Data and Reporting Standards and correct, reformat and qualify, as necessary, to document data quality and uncertainty.
4. Assess gaps in existing data resulting from noncompliance or partial compliance with Data and Reporting Standards and developing data gap action plan.
5. Fill high priority data gaps to support GSP development.

Discussion/Assumptions:

This task is related to Article 3 of the GSP Regulations: Technical and Reporting Standards and will be led by a consultant with staff direction and support. The task will focus on existing, publicly available data and will build on work conducted to compile, manage and assess existing data conducted as part of the Glenn County and Colusa County Prop 1 Stressed Basin grants. Much of the effort required to satisfy this task was completed under the prior grants, and this effort will focus on implementation of the data gap action plans developed previously. Other work will include incorporating additional, high priority data gaps as new, relevant information becomes available from DWR and others. Priority will be placed on data required for the development of the hydrogeologic conceptual model (HCM), assessment of groundwater conditions, the water budget, and the monitoring network. Data gaps will be further evaluated under Task 13, Subtask 3.

Deliverables:

1. Summary and discussion of Data and Reporting Standards for inclusion in the GSP

2. Inventory of compiled data and organized, formatted datasets qualified to document the degree of compliance with the Data and Reporting Standards for use in GSP development.
3. Refined and expanded data gap action plan to support GSP development.
4. Documentation of actions taken to fill high priority data gaps.

Task 8. Data Management System (§352.6)

This task will include the following activities:

1. Final Data Management System
 - a. Evaluate range of DMS options for long-term implementation, including proprietary, open source, and custom applications.
 - b. Select and implement DMS.

Discussion/Assumptions:

This task is related to Article 3 of the GSP Regulations: Technical and Reporting Standards and will be led by a consultant with staff direction and support. Preliminary DMS development is being completed as part of the Prop 1 Stressed Basin grants awarded to Colusa and Glenn counties in 2016. The preliminary DMS developed under prior grants includes the following activities:

- Development of specifications for initial design of DMS.
- Development, testing, and implementation of high priority quality control procedures.
- Compilation and import of high priority data to preliminary, non-proprietary DMS capable of future porting to other platforms.

Final DMS development will be completed during GSP preparation and will be informed by DWR reporting requirements, once established, as well as guidance that DWR may provide in the form of a BMP or other documents/materials that may be available. Final evaluation of DMS options will build upon the initial evaluation and will consider a range of available options, including proprietary systems, open-source systems developed by DWR or others, and custom applications.

Deliverables:

1. Final DMS evaluation and selection technical memorandum.
2. DMS user guide.
3. DMS software, including data used in the development and implementation of the GSP and required to support annual reporting.

Task 9. GSP Document Preparation and Adoption

This task will include the following activities:

1. Assemble draft GSP based on content developed under Tasks 10 through 14.
2. Distribute GSP for public review, gather, consider, document, and when appropriate incorporate public comments, and facilitate GSP adoption by GSAs.

Discussion/Assumptions:

This task will be led by a consultant with staff direction and support. The draft PSP will be assembled for public review by compiling various sections of the GSP developed under Tasks 10 through 14, including review of each section to ensure that all GSP content required by the GSP Regulations is included. Copies of the GSP will be reproduced as needed to facilitate public review by stakeholders within each GSA. The availability of the GSP for review and comment will be advertised within the subbasin, comments will be gathered and considered, and responses will be developed and when appropriate incorporated into the GSP. Additionally, this task will include facilitation of adoption of the GSP at one or more public hearings.

Deliverables:

1. Draft and final GSP documents, including documentation of comments received and responses provided.

Task 10. GSP Administrative Information (Subarticle 1)

This task consists of all activities required to prepare GSP Administrative Information as described in Article 5, Subarticle 1 of the GSP Regulations. Associated subtasks are described below.

Subtask 1. General Information (§354.4)

This subtask will include the following activities:

1. Prepare executive summary.
2. Compile and prepare list of references and technical studies relied upon.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 1: Administrative Information and will be led by a consultant with staff direction and support. The executive summary will be prepared late in the development of the GSP, building upon individual sections of the Plan once complete or nearly complete. References will be compiled and cataloged throughout GSP development.

This task will incorporate references and technical studies from prior work, which will include a variety of sources such as the 2008 Colusa County GMP, 2000 and 2012 Glenn County GMP and BMO Process and Draft BMO revision process, technical documentation of the Colusa County and Glenn County Prop 1 Stressed Basins grants, and other sources identified during GSP development.

Deliverables:

1. General information section of GSP document, including executive summary and list of references and technical studies.

Subtask 2. Agency Information (§354.6)

This subtask will include the following activities:

1. Prepare summary of Agency information.
2. Prepare estimate of implementation costs.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 1: Administrative Information and will be led by a consultant with staff direction and support. Agency information as required by the GSP regulations will be prepared primarily by staff at the start of GSP development. The estimate of GSP implementation costs will be prepared late in GSP development once activities to be conducted in implementing the GSP are better understood (monitoring, reporting, projects and management actions, etc.) and will likely be led by a consultant.

Deliverables:

1. Summary of Agency information and GSP implementation costs for inclusion in the GSP.

Subtask 3. Description of Plan Area (§354.8)

This subtask will include the following activities:

1. Prepare map(s) of plan area, including GSAs; adjacent basins; adjudicated and alternative GSP areas; other jurisdictional boundaries; land uses, water use sectors, and water source types; well densities for ag, industrial, and domestic wells.
2. Prepare written description of plan area, including summary of map(s).
3. Describe existing water resource monitoring and management programs, including integration into monitoring network.
4. Describe how existing programs may limit operational flexibility.
5. Describe conjunctive use programs.
6. Describe land use elements including summary of general plans and specified considerations related to GSP development and implementation.
7. Describe additional GSP elements determined to be appropriate.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 1: Administrative Information and will be led by a consultant with staff direction and support. This task will build upon available information such as the 2008 Colusa County GMP, documentation developed from the Colusa County and Glenn County Prop 1 Stressed Basin grants, AWMPs, UWMPs, MSRs, the NSVIRWMP, available general plans, data made available by DWR, and other information as appropriate.

Deliverables:

1. Maps and narrative description of the plan area for inclusion in the GSP.

Subtask 4. Notice and Communication (§354.10)

This subtask will include the following activities:

1. Describe beneficial uses and users.
2. Develop database of stakeholders for purposes of outreach and notification.
3. Compile list of public meetings related to GSP development.
4. Compile public comments received and responses by GSAs.
5. Prepare communication section describing GSA decision-making process, public engagement process, encouragement of active involvement, notification method(s) and process.
6. Conduct outreach activities, including regular stakeholder meetings.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 1: Administrative Information and will be led by staff with consultant support. Facilitation support will be utilized during this process, however these services will be completed and reported under Task 2, as described previously. Additionally, coordination with neighboring basins may also be a component of this task; however, that coordination will be completed and reported under Task 3, as described previously. Documentation of comments and responses will apply to comments prior to the formal GSP adoption process, which will be documented under Task 9.

The task will begin with a focus on identification of stakeholders (beneficial uses and users) and development of the communications plan. The remainder of the task, including regular stakeholder meetings, preparation and issuance of notices and communications, and documentation of public comments and responses will be conducted throughout GSP development.

Deliverables:

1. Notice and communication section of GSP, including all content required under work activities 1 through 6, above.

Task 11. Basin Setting (Subarticle 2)

This task consists of all activities required to prepare GSP Basin Setting Information as described in Article 5, Subarticle 2 of the GSP Regulations. Associated subtasks are described below.

Subtask 1. Hydrogeologic Conceptual Model (\$354.14)

This subtask will include the following activities:

1. Prepare written description of the basin including:
 - a. Regional geologic and structural setting.
 - b. Lateral basin boundaries and major geologic features potentially affecting groundwater flow.
 - c. Definable bottom of basin and base of freshwater.
 - d. Principal aquifers and aquitards, including formation names, physical properties (aquifer parameters), structural properties, general water quality, primary groundwater uses and users.
 - e. Primary data gaps and uncertainty.
2. Prepare graphical depiction of the HCM illustrating major features of the hydrologic system relevant to the water budget and flow
3. Compile and/or prepare at least two scaled cross-sections depicting major stratigraphic and structural features in the subbasin.
4. Prepare map(s) depicting the following:
 - a. Topography.
 - b. Surficial geology.
 - c. Surface soil characteristics.
 - d. Existing and potential recharge areas and discharge areas.
 - e. Significant surface water bodies.
 - f. Sources and points of delivery for imported supplies.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 2: Basin Setting and will be led by a consultant with staff direction and support. This task will refine the preliminary hydrogeologic conceptual model (HCM) developed for the Colusa Subbasin as part of the Glenn County Prop 1 Stressed Basin grant and the hydrogeologic characterization developed as part of monitoring network evaluation conducted as part of the Colusa County Prop 1 Stressed Basin grant. Additionally, it is anticipated that the HCM and associated documentation developed for SVSim will be reviewed and utilized as appropriate to refine the preliminary HCM previously developed. Refinements may include expansion and refinement of existing geologic cross-sections or development of new cross-sections to adequately describe major stratigraphic and structural features. It is anticipated that this subtask will include consultation with DWR modeling and regional office technical staff as well.

Deliverables:

1. Written description of the subbasin, graphical depiction of the HCM, geologic map and cross sections, and other maps as required by the GSP Regulations for inclusion in the GSP.

Subtask 2. Current and Historical Groundwater Conditions (§354.16)

This subtask will include the following activities:

1. Develop groundwater elevation maps and hydrographs demonstrating flow directions, lateral and vertical gradients, and regional pumping patterns, and changes in groundwater elevations over time for the principal aquifers in the subbasin.
2. Develop graphs estimating annual and cumulative change in groundwater storage, including annual use and water year type.
3. Describe and map groundwater quality issues, including known contamination sites and plumes.
4. Describe and map land subsidence.
5. Identify interconnected surface water and estimate quantity and timing of depletions.
6. Identify groundwater dependent ecosystems (GDEs).

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 2: Basin Setting and will be led by a consultant with staff direction and support. This task will build on work conducted under the Glenn County and Colusa County Prop 1 Stressed Basin grants to evaluate historical groundwater conditions (Glenn County) and assess existing monitoring well networks (Colusa County). For initial GSP development, existing, available information will be relied upon primarily, with additional data collected as needed and identified under Task 13, Subtask 3 described below. Examples of existing information that will be considered are the DWR Water Data Library, monitoring results reported under the CASGEM and local monitoring programs, USGS data, available DWR models and tools, existing groundwater quality monitoring and management programs (GAMA, ILRP, etc.), existing subsidence monitoring (DWR, NASA), and the GDE identification framework and potential GDE dataset from The Nature Conservancy.

Deliverables:

1. Maps, hydrographs, and other data required by the Regulations for inclusion in the GSP.

Subtask 3. Water Budget Information (§354.18)

This subtask will include the following activities:

1. Quantify historical and current water budget components:
 - a. Surface water entering and leaving basin by water source type.
 - b. Inflow to groundwater system by water source type.
 - c. Outflows from groundwater system by water use sector.
 - d. Change in annual groundwater storage.
 - e. Average overdraft, if applicable.
 - f. Estimated supplies, demands, and storage change by water year type.
 - g. Estimated sustainable yield.
2. Evaluate historical water budget:
 - a. Availability and reliability of surface water supplies.
 - b. Assessment of historical budget suitability to project future water budget information.
 - c. Impacts of historical conditions on ability to operate basin within sustainable yield.
3. Develop projected water budgets:
 - a. Compile 50 years of historical precipitation, evapotranspiration, and streamflow for baseline condition.
 - b. Compile water demand based on most recent land use, evapotranspiration, and crop coefficient information for baseline condition.
 - c. Compile recent surface water supplies.
 - d. Develop projected water budget.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 2: Basin Setting and will be led by a consultant with staff direction and support. This task will consist primarily of organizing, summarizing, and reporting water budget information developed using the integrated hydrologic model under Task 4, described previously and will build on the preliminary water budget being developed as part of the Glenn County Prop 1 Stressed Basin Grant and the water budget analysis for the Colusa Subbasin in Colusa County completed as part of local cost share for the Colusa County Prop 1 Stressed Basin grant. Primary analysis conducted as part of this subtask will include the evaluation of sustainable yield, as informed by sustainable management criteria developed under Task 12, as well as evaluation of the availability and reliability of surface water supplies, suitability of the historical water budget to project future water budget information, and impacts of historical conditions on the ability to operate sustainably.

Deliverables:

1. Water budget section including required content for inclusion in the GSP.

Subtask 4. Management Areas (§354.20)

This subtask will include the following activities:

1. Consider and define management areas as necessary.
2. Describe the following for each management area:
 - a. Reason for creation.

- b. Minimum Thresholds (MTs) and Measurable Objectives (MOs) based on undesirable results defined with basin-wide consistency, as developed under Task 12, Subtasks 2 through 4.
 - c. Level of appropriate monitoring and analysis.
 - d. Explanation of operations without undesirable results in adjacent areas.
3. Prepare maps and descriptions to describe conditions in each management area.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 2: Basin Setting and will be led by a consultant with staff direction and support. The primary focus of this task will be to consider, evaluate, and define management areas as necessary, which will be driven by a combination of technical analysis and discussions with stakeholders within the subbasin. Facilitation support, as described in Task 2, will be a critical component to the stakeholder discussions. Facilitation support will be reported under Task 2. Definition of management areas will consider groundwater conditions, geology and aquifer characteristics, land use, water sources, water uses, jurisdictional boundaries, existing subbasin boundaries, etc. through a collaborative, public process.

Deliverables:

1. Descriptions and maps of management areas as required by the GSP Regulations for inclusion in the GSP.

Task 12. Sustainable Management Criteria (Subarticle 3)

This task consists of all activities required to prepare GSP Sustainable Management Criteria as described in Article 5, Subarticle 3 of the GSP Regulations. Associated subtasks are described below.

Subtask 1. Sustainability Goal (§354.24)

This subtask will include the following activities:

1. Prepare general description of sustainability goal.
2. Describe information from basin setting to establish goal.
3. Describe measures to ensure operation within sustainable yield.
4. Describe how sustainability goal is likely to be achieved within 20-year planning horizon.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 3: Sustainable Management Criteria and will be led by a consultant with staff direction and support. Completion of the subtask will begin with development of a general description of the sustainability goal, which will be defined in greater detail over the course of GSP development. Development and description of the sustainability goal will consider the basin setting developed under Task 11; evaluation of sustainability indicators, significant and unreasonable conditions, minimum thresholds, undesirable results, interim milestones, and measurable objectives under Subtasks 2 through 4 of Task 12; and development of projects and management actions to maintain or achieve sustainability under Task 14.

Deliverables:

1. Description of sustainability goal and supporting information required by the GSP Regulations for inclusion in the GSP.

Subtask 2. Undesirable Results (§354.26)

This subtask will include the following activities:

1. Describe processes and criteria to define undesirable results (URs)
2. Describe existing or potential URs, including:
 - a. Existing/potential causes of URs.
 - b. Quantitative criteria based on a combination of minimum threshold (MTs) exceedances to define when and where URs occur.
 - c. Potential effects of URs on the beneficial uses and users of groundwater, land uses property interests and other potential effects.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 3: Sustainable Management Criteria and will be led by a consultant with staff direction and support. Facilitation support, as described in Task 2, will be a critical component to the stakeholder discussions. Facilitation support will be reported under Task 2. Qualitative descriptions of significant and unreasonable conditions will be developed through a collaborative, public process informed by technical data and analysis based on the basin setting, monitoring network, and other information. This task will build upon preliminary SGMA Risk Assessments completed by both Colusa and Glenn counties previously to provide a preliminary evaluation of groundwater conditions and potential undesirable results in the Colusa Subbasin. It is also assumed that seawater intrusion will be eliminated from consideration; however, documentation of the lack of seawater intrusion or significant risk of seawater intrusion will be developed for inclusion in the GSP.

Deliverables:

1. Description of Undesirable Results as required by the GSP Regulations for inclusion in the GSP.

Subtask 3. Minimum Thresholds (§354.28)

This subtask will include the following activities:

1. Establish MTs at representative monitoring sites.
2. Describe MTs, including:
 - a. Information and criteria to establish and justify MT.
 - b. Relationship between MTs for each sustainability indicator.
 - c. How MTs have been selected to avoid URs in adjacent basins.
 - d. How MTs may impact other beneficial uses and users of groundwater or land uses and property interests.
 - e. How other (State, Federal, etc.) standards relate to MTs.
 - f. How each MT will be quantified.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 3: Sustainable Management Criteria and will be led by a consultant with staff direction and support. Facilitation support, as described in Task 2, will be a critical component to the stakeholder discussions. Facilitation support will be reported under Task 2. MTs will be established through a collaborative, public process informed by technical data and analysis based on the basin setting, monitoring results, and other information as applicable. It is anticipated that for most management areas, the goal of this process will be to establish MTs for groundwater levels as the representative measurement for multiple sustainability indicators and, where possible, to demonstrate that undesirable results for some sustainability indicators are not present, are not likely to occur, and that MTs are not required; however, this assumption will be assessed during site and area specific evaluations.

Deliverables:

1. Description of MTs as required by the GSP Regulations for inclusion in the GSP.

Subtask 4. Measurable Objectives (§354.30)

This subtask will include the following activities:

1. Establish Measurable Objectives (MOs) and 5-year Interim Milestones (IMs) for each sustainability indicator.
2. Describe establishment of reasonable margin of operational flexibility.
3. Describe reasonable path to sustainability for 20-year planning horizon.

Discussion/Assumptions:

This task is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 3: Sustainable Management Criteria and will be led by a consultant with staff direction and support. MOs and IMs will be established through a collaborative, public process informed by technical data and analysis based on the basin setting, monitoring results, and other information.

Deliverables:

1. Description of MOs and IMs as required by the Regulations for inclusion in the GSP.

Task 13. Monitoring Networks (Subarticle 4)

This task consists of all activities required to prepare GSP Monitoring Network information as described in Article 5, Subarticle 4 of the GSP Regulations. Associated subtasks are described below.

Subtask 1. Monitoring Network (§354.34)

This subtask will include the following activities:

1. Develop monitoring network capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends in groundwater and related surface conditions, and yield representative information about groundwater conditions as necessary to evaluate GSP implementation.
2. Describe monitoring network objective, including how network will be developed and implemented to:
 - a. Demonstrate progress toward achieving MOs.

- b. Monitor impacts to beneficial uses and users of groundwater.
 - c. Monitor changes in groundwater conditions relative to MTs, MOs, IMs.
 - d. Quantify changes in annual water budget components.
2. Describe adequacy of monitoring network to evaluate sustainability indicators, including site density and monitoring frequency.
3. Describe the following:
 - a. Scientific rationale for site selection.
 - b. Consistency with data and reporting standards.
 - c. MTs, MOs, and IMs corresponding to each site and sustainability indicator.
4. Prepare map(s) and table(s) describing the location, type, monitoring frequency, and purpose of each site.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 4: Monitoring Networks and will be led by a consultant with staff direction and support. This task will build on work conducted under the Glenn County and Colusa County Prop 1 Stressed Basin grants to evaluate historical groundwater conditions (Glenn County) and assess existing monitoring well networks (Colusa County). The prior grant efforts concentrated on evaluation of existing monitoring networks, with a focus on identifying additional monitoring sites needed to fill high priority data gaps. The monitoring networks evaluated in these prior efforts will be revised and refined based on the Counties' collaborative processes to define management areas, MTs, MOs, and IMs under Tasks 11 and 12 of this proposal, and additional technical data collected as part of the proposal (Tasks 5 and 7). It is anticipated that these efforts may lead to the identification of additional monitoring needed to support evaluation of undesirable results during GSP implementation.

Deliverables:

1. Description of the monitoring network capable of yielding representative information about groundwater and related surface conditions in the subbasin, including monitoring objectives, rationale for the selection of monitoring locations, parameters and frequencies for each sustainability indicator.
2. Maps and tabular summary of the existing and proposed monitoring network.
3. Implementation plan for proposed monitoring network.

Subtask 2. Representative Monitoring (§354.36)

This subtask will include the following activities:

1. Designate representative monitoring sites.
2. Evaluate adequacy of groundwater levels as proxy for other sustainability indicators.
3. Describe adequacy of sites to represent general conditions in area.

Discussion/Assumptions:

This subtask is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 4: Monitoring Networks and will be led by a consultant with staff direction and support. This task will build on work conducted under the Glenn County and Colusa County Prop 1 Stressed Basin grants to evaluate historical groundwater conditions (Glenn County) and assess existing monitoring well networks (Colusa

County). The monitoring sites assessed in these prior efforts and new monitoring sites identified as part of this proposed effort will be considered for classification as representative monitoring sites using the GSAs' collaborative processes to define management areas, MTs, MOs, and IMs under Tasks 11 and 12 of this proposal, and additional technical data collected as part of the proposal (Tasks 5 and 7).

Representative monitoring sites will be selected from the monitoring network defined under Task 13, Subtask 1 of this proposal.

Deliverables:

1. Description of the Representative Monitoring sites, including supporting information justifying why each site reflects general conditions in the area, as required by the GSP Regulations for inclusion in the GSP.

Subtask 3. Assessment and Improvement of Monitoring Network (§354.38)

This subtask will include the following activities:

1. Update initial data gap action plan.
2. Evaluate uncertainties and potential effect on GSP success.
3. Modify frequency and density of monitoring sites, as needed.

Discussion/Assumptions:

This task is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 4: Monitoring Networks and will be led by a consultant with staff direction and support. This task will build on work conducted under the Glenn County and Colusa County Prop 1 Stressed Basin grants to evaluate historical groundwater conditions (Glenn County) and assess existing monitoring well networks (Colusa County). In conjunction with the work conducted under Task 7, this task will provide an evaluation of the data gaps in the proposed monitoring network and the uncertainty in the network. The assessment will address the number and locations of monitoring sites, monitoring frequencies and the quality of the data collected. Recommendations will be made to fill the data gaps. A description of the process to be used for five-year review of the monitoring network will be developed.

Deliverables:

1. Assessment of the number and locations of monitoring sites, monitoring frequencies and the quality of the data collected, as required by the GSP Regulations for inclusion in the GSP.
2. Recommendations for improvements to the monitoring network.
3. Description of the process for evaluating the monitoring network during five-year reviews.

Subtask 4. Reporting Monitoring Data to the Department (§354.40)

This task will include the following activities:

1. Review DWR forms for reporting of monitoring data.
2. Format monitoring data and/or develop reports aligned with DWR requirements.

Discussion/Assumptions:

This task is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 4: Monitoring Networks and will be led by a consultant with staff direction and support. This task will build on

preliminary DMS development being performed as part of the Prop 1 Stressed Basin grants awarded to Colusa and Glenn counties in 2016. Efforts under this proposed task will consist of updating the preliminary DMS to produce monitoring data reports for the Annual Report and electronic data submittals required by DWR.

Deliverables:

1. DMS updates to produce monitoring data to be included in Annual Reports and electronic submittals on DWR forms.
2. Description of the DMS functionality for Annual reporting for inclusion in the GSP.

Task 14. Projects and Management Actions (§354.44)

This task will include the following activities:

1. Develop projects and management actions (PMAs) to achieve sustainability goal as needed.
2. Describe PMAs, including:
 - a. List of PMAs and associated MOs, including circumstances for implementation/termination and processes for determining associated conditions that have occurred and for notifying the public and other agencies.
 - b. Quantification of demand reduction or other methods to reduce overdraft.
 - c. Required permitting and regulatory processes.
 - d. Status of each PMA, including timeline for implementation and accrual of benefits.
 - e. Explanation of PMA benefits and process for evaluation.
 - f. Explanation of how PMA will be accomplished, including source and reliability of additional supplies.
 - g. Description of required legal authority.
 - h. Description of estimated cost and financing.
 - i. Description of management of extractions and recharge to ensure lowering of groundwater levels during drought is offset by increases during other periods.

Discussion/Assumptions:

This task is related to Article 5 of the GSP Regulations: Plan Contents, Subarticle 5: Projects and Management Actions and will be led by a consultant with staff direction and support. Facilitation support, as described in Task 2, will be a critical component to the stakeholder discussions. Facilitation support will be reported under Task 2. Identification and discussion of PMAs in potential areas of concern will be initiated early in GSP development through a collaborative, public process. Based on this process and initial screening, selected PMAs will be further defined and evaluated. Selected PMAs will be evaluated using the Integrated Hydrologic Model under Task 4 to evaluate project impacts on groundwater conditions and related sustainability indicators to support quantification of project benefits.

Deliverables:

1. Description of Projects and Management Actions as required by the GSP Regulations for inclusion in the GSP.