



December 29, 2023

File No. 24-1-007

Scott De Leon, PE  
Water Resources Director  
County of Lake  
255 N. Forbes Street  
Lakeport, CA 95453

**SUBJECT:      Proposal for Professional Services of Support for the 2023 GSP Annual Report for Big Valley Subbasin**

Dear Mr. De Leon:

As requested, Luhdorff & Scalmanini, Consulting Engineers (LSCE) is pleased to provide this proposed scope, schedule, and budget to provide services to assist the Big Valley Groundwater Sustainability Agency (BVGSA) in successfully submitting the 2023 GSP Annual Report.

We produced the 2021 annual report, supported your staff with the development of the 2022 annual report, and, as a result, are uniquely qualified to produce the 2023 annual report. We understand that funds may be limited; therefore, after talking to your staff, we propose assisting your staff as we did for the 2022 annual report so they can submit the Annual Report. We will interpret and present the necessary data, run the numerical groundwater model, and provide all the figures and tables needed for three (3) sections of the annual report. Your staff should be able to make small modifications to the 2022 annual report text in those sections and update the text in the other sections on their own.

## **SCOPE OF SERVICES**

The scope of work outlined herein represents what is required to help your staff complete and submit the 2023 Annual Report to DWR By April 1, 2024. We believe that our approach will lead to a high probability of success and that our budget is competitive. The tasks outlined below are based on both our experience producing the first annual report as well as annual reports for other GSAs. It is also informed by our interpretation of the California Department of Water Resources (DWR) guidelines.

Since we produced the GSP, the first annual report, supported the development of the 2022 annual report, and have a calibrated numerical groundwater flow model for the Big Valley Basin (BVIHM), we are confident that working together, we will successfully submit the 2023 annual report even with the challenging schedule.

The scope consists of updates to three annual report sections: Groundwater Elevations, Water Supply, and Use and Groundwater Storage. It consists of four tasks: project management and one for each of the sections to be updated. The Big Valley GSA staff have the 2022 Annual Report Word document, which they can update for the new report. We will provide the content needed to populate the 2023 Annual Report templates so Big Valley GSA staff can upload them to [DWR's Monitoring Network Module](#).

## Task 1 – Project Management

Task 1 includes invoicing and progress reports (bi-weekly), staff coordination meetings, and client meetings/communication.

### Task 1 Deliverables:

- Progress reports
- Client meeting notes

## Task 2 – Prepare Water Elevation Section Tables, Contour Maps, and Hydrographs

Task 2 includes generating the necessary, updated elements to complete the Water Elevation section. We will provide two (2) tables, two (2) contour maps, and six (6) hydrographs.

LSCE will acquire the necessary data from your records and public sources. We will create water level tables, maps, and hydrographs in the same style as the 2022 Annual Report.

### Task 2 Deliverables:

Two groundwater level tables, 1) summarizing water levels and sustainability indicators for the representative monitoring sites, and 2) the complete set of representative monitoring site groundwater level measurements for the last year.

## Task 3 – Prepare Water Supply and Use Tables and Maps

Task 3 includes generating the necessary elements to complete the Water Supply and Use section. We will provide three (3) water supply and use tables for water years 2021, 2022, and 2023, and a water production map for the 2023 water year; one (1) map. All of these will be in the same style as the 2022 Annual Report.

### Task 3 Deliverables:

- Three tables: groundwater use by sector, surface water use by sector, and total water use by sector for water years 2021, 2022, and 2023.
- One color heat map depicting estimated water use for water year 2023.

## Task 4 – Groundwater Storage Tables and Maps

Task 4 will include:

1. Generating the water budget for water year 2023 using BVIHM,
2. Water budget and annual groundwater storage change table,
3. Water budget figure,
4. Groundwater storage figure, and
5. One groundwater storage change map for the 2023 water year.

All of the above will be in the same style as the 2022 Annual Report. If Table 4-2, Estimated Uncertainty of Major Water Budget Components, changes, then we will provide the new values.

#### Task 4 Deliverables:

- One table, water budget, and groundwater storage.
- Three figures: 1. water budget, 2. groundwater storage, and 3. groundwater storage map for the water year 2023.

## PROPOSED SCHEDULE

LSCE's proposed schedule for completing tasks 2-4 is presented in Table 1. LSCE and the BVGSA will work collaboratively and efficiently on the agreed-upon schedule to meet the deadline. Our shared experience and working relationships are beneficial toward a timely and professional submittal. The schedule below is based on a Notice to Proceed (NTP) date of January 6, 2024. LSCE will need to receive any data required for the annual report within one week after the NTP to meet this schedule.

Table 1. Proposed Schedule	
Item	Timeframe
Tentative Notice to Proceed	January 6, 2024
Task 2: Groundwater Elevations	February 20, 2024
Task 3: Water Supply and Use	March 6, 2024
Task 4: Groundwater Storage	March 20, 2024

## PROJECT BUDGET

LSCE's proposed budget for preparing the required elements to update the three sections is **\$26,400** based on the anticipated effort to obtain data, run the groundwater model, and generate tables and figures. The budget estimate for this work is summarized in Table 2, and a detailed cost estimate is included in Attachment 1. The budget assumes that the BVGSA provides essential information to the LSCE team in a timely manner so that the project can be delivered on schedule and within budget.

Table 2. Estimated Project Budget	
Tasks	Estimated Budget
Task 1. Project Management	\$7,580
Task 2. Groundwater Elevations Tables and Figures	\$6,314
Task 3. Water Supply and Use Tables and Figures	\$8,656
Task 4. Groundwater Storage Tables and Figures	\$3,850
<b>Total Project Budget</b>	<b>\$26,400</b>

LSCE will bill monthly for labor and materials only as incurred, in accordance with LSCE's current Schedule of Fees for Engineering and Field Services. In the event LSCE is required to be involved in activities that deviate from the scope, LSCE will provide notification of any potential changes in the estimated budget for the proposed grant funding services, including changes to funding application requirements.

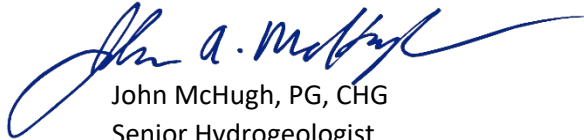
We appreciate the opportunity to continue providing professional support services to the BVGSA as it focuses on GSP implementation and long-term funding strategy. Should you have any questions, please do not hesitate to contact me.

Sincerely,

LUHDORFF AND SCALMANINI  
CONSULTING ENGINEERS



Eddy Teasdale, PG, CHG  
Principal Hydrogeologist



John McHugh, PG, CHG  
Senior Hydrogeologist

CC: Mitchell Breedlove, County of Lake Water Resource Program Coordinator

Attachment(s):

Attachment 1: Detailed Cost Estimate

## Attachment 1, Estimated Cost for Support Services for the 2023 GSP Annual Report for the Big Valley Subbasin

Billing Rates	\$248	\$238	\$210	\$178	\$165	\$104	\$105		
TASK	LSCE Labor Hours							TOTAL Hours	Budget
	Principal	Supervising	Senior	Project	Staff	Admin	Clerical		
<b>Task 1 - Project Management</b>	<b>16</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>0</b>	<b>38</b>	<b>\$7,580.00</b>
1.1 Progress Reporting, Invoicing	10		2	2		6		20	\$3,880.00
1.2 Project Management Coordination Meetings	6		4	4	4			18	\$3,700.00
<b>Task 2 - Groundwater Elevations</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>8</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>\$6,314.00</b>
2.1 Generate Tables (2)			2	2	8			12	\$2,096.00
2.2 Generate Contour Maps (2)			2	4	8			14	\$2,452.00
2.3 Generate Hydrographs (6)			2	2	6			10	\$1,766.00
<b>Task 3 - Water Supply and Use</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>22</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>48</b>	<b>\$8,656.00</b>
3.1 Acquire and Enter Data into Model Files			2	6	8			16	\$2,808.00
3.2 Run Model, Generate Summary Tables (3), and Production Maps (2)			8	16	8			32	\$5,848.00
<b>Task 4 - Groundwater Storage</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>10</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>\$3,850.00</b>
4.1 Run model, Generate Summary Table (1) and Figures (4)			2	10	10			22	\$3,850.00
<b>TOTAL</b>	<b>16</b>	<b>0</b>	<b>24</b>	<b>46</b>	<b>52</b>	<b>6</b>	<b>0</b>	<b>144</b>	<b>\$26,400.00</b>