

Memorandum

DATE: 10/11/2018

TO: Ukiah Valley Basin Groundwater
Sustainability Agency Technical
Advisory Committee

COPY TO: Ms. Sarah Dukett

SUBJECT: **Technical Review of Phase 1 Reports**

Tom Grovhoug, PE

Laura Foglia, PhD
1480 Drew Avenue, Suite 100
Davis, CA 95618
Phone: (530) 753 6400
Fax: (530) 753 7030
tmg@lwa.com
lauraf@lwa.com

Amir Mani, PhD, PE
720 Wilshire Blvd., Suite 204
Santa Monica, CA 90401
Phone: (310) 394 1036
Fax: (310) 394 8959
amirm@lwa.com

This memorandum has been prepared to help streamline the review process of the technical reports produced by LACO Associates during Phase I of the Groundwater Sustainability Plan (GSP) development project (project) for the Ukiah Valley Basin Groundwater Sustainability Agency (UVBGSA). Per our scope of work for the project, the Larry Walker Associates (LWA) team is tasked to assist the technical review of the Phase I reports by the Technical Advisory Committee (TAC). Following the TAC review, it is anticipated that the UVBGSA Board will take action to either accept or accept with qualification the Phase I reports based on the comments and suggestions provided by the TAC. The Phase I reports which are subject to TAC review include the following (also shown in **Table 1**):

- Ukiah Valley Groundwater Basin Draft Groundwater Monitoring Protocol Manual
- Data Gap Analysis
- Initial Groundwater Sustainability Plan Hydrogeologic Conceptual Model (IHCM)
- Initial Groundwater Sustainability Plan Preliminary Water Budget Study
- Preliminary Water Demand Review
- Preliminary Sustainable Management Criteria

Review of Phase I Documents

The LWA Team has reviewed the Phase I reports and has highlighted the sections that we believe to be of primary importance. Our thoughts are captured in **Table 1**. Our review was focused on those

areas of available information that will be used as the foundation of our work in Phase II of the project. As the goal of the Phase I reports was to produce specific sections of an initial groundwater sustainability plan, it is important to note that some sections may be more beneficial to Phase II of the project, such as those describing detailed and specific data and information, summarizing a thorough literature review, or elaborating on a qualitative subject. For example, a significant effort in preparing a hydrogeologic conceptual model (HCM) is to review the literature and process the available information and data. Similarly, evaluation of data gaps includes processing the historical and available data and identifying gaps that may affect the preparation of the GSP. As such, these reports are entirely applicable and useful to our efforts in the Phase II of the project, if deemed adequate on their merits, in avoiding repeated efforts. On the other hand, subjects such as defining management actions, sustainable management criteria, and estimating the water budget are entirely dependent on additional work that will be performed during Phase II and the initial reports may not be as beneficial in their specifics and details as they are in their exposure of overall knowledge.

LWA followed the same rationale in highlighting specific sections of each report for the TAC review. Sections that provide important and guiding information that can be utilized in our future work and increase the efficiency of our Phase II efforts have been highlighted for review and comment by the TAC. In these areas, it is important that the TAC evaluate the adequacy or deficiencies of the Phase I information to ensure we are moving forward from a strong foundation of information. To assist the TAC, the LWA team has developed a number of key questions to be addressed by the TAC upon their review of these reports. These key questions are intended to provide some structure for the TAC review.

Key questions to be addressed by the TAC upon the review of Phase I Reports

Informed by what is explained in the previous section, LWA is proposing the following key questions to streamline the TAC review and commenting process for each Phase I report:

- What is the overall evaluation of the findings and conclusions in the reports? Are there any specific findings or conclusions that TAC members strongly agree or disagree with?
- Are there specific assumptions made that do not seem reasonable and/or need to be adjusted?
- Are there missing sources of data and information that need to be added? Or, are there sources of data and information used that are not truly representative and need to be corrected?
- Can the TAC come to a final recommendation to the UVBGS board regarding approval of the document?
- Are there any other comments and observations that could not be covered by the general and specific questions?

In addition to the questions above, specific questions for some reports are included in **Table 1** that would help the LWA in its future work in using information contained in the Phase I reports.

The next TAC meeting with the LWA following this memorandum is scheduled for November 8, 2018. It would be very helpful if the TAC's comments and responses to these questions were received a few days ahead of the meeting. This would help our team prepare for a more fruitful discussion with the TAC around the outcomes of their review.

Table 1. LWA’s proposed review process for the Phase I reports.

Document Title	Date Produced	Goal of the Document	Pages/Section to Review	Important Sections	Specific/Detailed Questions
Ukiah Valley Groundwater Basin Draft Groundwater Monitoring Protocol Manual	October, 2016	Define Monitoring Objectives	Section 1.2, and Section 2-6 (9 pages)	Sections 2-6	
Data Gap Analysis	December, 2016	Data Management System/Data Gap	Sections 1-6 along with related figures in App A (10 pages)	Sections 2, 3, 6; probably 4 and 5	
Initial Groundwater Sustainability Plan Hydrogeologic Conceptual Model (IHCM)	December 28, 2017	HCM	Sections 1-8 along with respective figures (20 pages)	Sections 2 through 8	<ul style="list-style-type: none"> ➤ Are surface water bodies and surface water/groundwater interactions accurately presented in the report? ➤ Is there a need to include imported water in this report? ➤ How complete does the TAC find the WCR database? ➤ What is the overall perception of the TAC with regards to the Transmissivity, Specific Capacity, and other hydrogeological properties estimated? Are the values of these parameters in agreement with the general knowledge of the basin that the TAC has? ➤ Can LWA rely on the estimated bottom of the basin provided or there is a need for further studying?
Initial Groundwater Sustainability Plan Preliminary Water Budget Study	December 29, 2017	Water Budget/Modeling	Sections 1-6 with respective figures (18 pages)	Sections 1.2, and 6.	<ul style="list-style-type: none"> ➤ What is the TAC's evaluation of the adequacy of the model based? ➤ Following the above question and considering the limitations outlined in Section 6, to what extent or in what specific categories of input data should the LWA rely on the developed model? ➤ Since the produced results of the water budget differs from the 2017 study, how accurate the overall trend of flow rates and groundwater budget looks to TAC members based on the local knowledge of the basin?
Preliminary Water Demand Review	December 29, 2017	Future Water Budget	Just the memorandum without the appendix (4 pages)	Section 4	This memorandum relies heavily on the "Water Supply Assessment for the Ukiah Valley Area Plan" report prepared by the Mendocino County Water Agency in October 2010. Are there any concerns among the TAC members regarding the 2010 report that LWA needs to be aware of or address?
Preliminary Sustainable Management Criteria	January 2, 2018	Sustainable Management Criteria	Sections 2 and 3 (5 pages)	Sections 2.7 and 3.1.6	<ul style="list-style-type: none"> ➤ How does the TAC find the Sustainability indicators outlined in Table 2, overall? ➤ How does the TAC find the Tier framework proposed on page 9 of the report?

October 11, 2018

Page 4