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December 15, 2021

Stanislaus and Tuolumne Rivers Groundwater Basin Association
1231 11th Street
Modesto, CA 95354

RE: Modesto Subbasin Groundwater Sustainability Plan Draft - Comments

Dear Board Members :

Thank you for providing the opportunity to comment on the draft Modesto Subbasin Groundwater Sustainability Plan. We understand the preparation of a GSP is a large undertaking and commend the Board members, agencies, their consultants, and stakeholders in developing the plan. Below are our comments, organized by the GSP outline numbers.

1.2: Considering John Davids' departure from Modesto Irrigation District the Plan manager should be updated.

1.3.1 The GSP should provide estimates of the necessary implementation costs with a breakout by cost category that fully covers on-going GSA and GSP administration as well as the policies, programs, and projects the GSP proposes to achieve sustainable groundwater management. Otherwise, stakeholders do not have an indication of plan implementation costs and determining how the implementation will be funded is difficult.

1.3.2 The GSP should provide a preliminary financial plan showing how costs associated with on-going GSA operations and GSP implementation will be funded by the GSA. A preliminary allocation of costs versus time by Management Area or perhaps principles that will be adhered to concerning allocation of costs by Management Area should be included. Otherwise, stakeholders won't know what to expect for potential costs allocated to their lands and cannot plan for future management of their land under SGMA.

2.1 Given the substantial groundwater imbalance the GSP later reveals that is prevalent in the eastern Management Area and the risk of State intervention for the whole subbasin if not addressed, we recommend adding text discussing how groundwater in that Management Area is currently managed and what the organizational plan is to implement the GSP in that Management Area.

2.3.2 The many privately owned irrigation and drainage wells in the subbasin within each of the mentioned jurisdictions are not explicitly mentioned but should be included

with descriptions as to their purpose and use. For example, privately owned irrigation wells in the eastern Management Area currently provide the majority of the irrigation water supply and, in the western portion, privately owned drainage wells are essential for maintaining groundwater levels below crop root zones and providing salinity management. Likewise, irrigation wells provide supplemental water when surface water supplies (including riparian and appropriative water right from the rivers) are inadequate in many areas where surface water is the primary irrigation water source.

4.2.7, second paragraph, last sentence Add Stanislaus County as an entity that represents surface water users (in non-district areas).

4.4 Table 4-3 The list of public meetings is out of date, update the meetings to include all meetings in 2021.

4.5.1 Mention that comment letters on the GSP were also posted on the website.

4.6 We recommend there be a discussion of how Management Areas representation and governance will be conducted during GSP implementation. The last sentence should also include GSP funding and financing in the list of activities.

5.1.3.3 and Table 5-5 A description of how district and private drainage wells are (or are not) factored in the water balance is needed. The use of canal spill water, tailwater, and drainage water return systems should also be mentioned and how they are (or are not) factored in the water balances should be described.

Chapter 6 This chapter should include a discussion of how pumping and subsurface drainage systems which are required to keep high groundwater levels from rising into crop root zones and provide salinity control are considered in the Sustainability Goal, Sustainable Management Criteria, Considerations, Indicators, Minimum Thresholds etc.

6.2.3 The Modesto ID Management Area is large and may need to employ varied management practices based on local conditions. For instance, the western portion has a two-layer aquifer system and drainage wells while the eastern portion doesn't. The non-district areas may also be too large and diverse to effectively manage uniformly. Therefore, we recommend adding a discussion that recognizes differences in hydrogeology and other factors plus provides for possible future revision of the Management Areas.

6.3.1 This section and Chapter 7 note that a significant data gaps exists in the non-district east portion of the subbasin but gives no specific plan to fill that data gap. Chapter 7 should be edited to include that additional monitoring wells in this area would help further define the subbasin, improve the hydrogeologic model and provide information on current and future groundwater levels. This is especially important since this area has the majority of the overdraft conditions and is targeted for numerous projects and potential management actions. As funding becomes available, improvements to the monitoring network in this area should be a focus.

6.3.2 Figure 2-x is noted as being in progress. A final version of this is needed. Table 6-5: Using low groundwater elevation WY 1991-WY 2020 for three Sustainability Indicators and Fall 2015 groundwater elevation for the last gives no allowance for the western area to utilize the substantial groundwater in storage to help compensate for any loss of surface water associated with FERC, State Board, or other actions and climate change that are expected to reduce future surface water supplies. Therefore, we recommend setting Minimum Thresholds and Measurable Objectives at a greater depth in that part of the basin.

6.7.1.4 Revisions in progress related to information from existing GPS stations and InSAR data are highlighted in yellow in four places. Those revisions should be done and made public for inclusion in the final GSP.

6.8.1.2 and 6.8.2.1 Revisions in progress related to GDEs along most river reaches are highlighted in yellow. Those revisions should be done and made public for inclusion in the final GSP.

Chapters 8 and 9. A few projects involve using flood water to help recharge the subbasin in the non-district east area. These include the Tuolumne River project, the Stanislaus River project and the New Melones Reservoir project. The project descriptions for these projects are vague and note that there are 36,000 acres of developed cropland in the area and that 6,000 acres of this is not planted in permanent crops and could be available for flooding during winter months to facilitate recharge. The amount of water available during wet years (30,400 AF total) is mentioned, but the GSP doesn't review whether water rights, State, and Federal agencies would allow use for such recharge, nor does it review whether the 6,000 acres is available for such use nor what that would cost. Additionally, an analysis of the suitability of the areas proposed for direct and in-lieu recharge projects is not provided. The surface and subsurface layers' permeability and topography of the areas targeted for recharge is not discussed, but should be (as many areas in the subbasin are known to have low permeability surface soils and/or hardpan in the subsurface layers or have sloping land and/or saturated soils or impaired drainage during seasons when flood waters are most available. Thus, these conditions should be further investigated to determine if these projects are feasible. Furthermore, cost numbers are not provided for some projects and the funding plans for them have no analysis and very little discussion but should.

Respectfully,

Hilary Reinhard, PE
Senior Engineer