

STAKEHOLDER COMMENTS AND RESPONSES

Comment #	Comment By	Comment Date	Subtask, TM Section	Comment	Responses	Action Taken/Date Completed
1	Jo Farmer, Grolutions Horticultural Landscaping	4/30/20	Subtask 4.1 TM, Section 3.2.6	We should also analyze strategic opportunities to develop further groundwater-based ecosystems, i.e. stream daylighting. There is mention of analyzing gaining/losing "stretches," yet both gaining and losing stretches of a watercourse should have healthy groundwater all around them. Any such area with relative dryness to what is naturally expected —and, therefore, likely attainable— is a likely indicator of areas whose ecological restoration would have <i>maximum benefit for our water resources</i> .	SGMA requires identifying and considering how groundwater management affects groundwater dependent ecosystems (GDEs), which the consultant team will complete by analyzing GDEs in the GSP area using available sources and field investigations. However, restoration of GDEs is not part of the GSP development scope.	Comment addressed in response.
2	Jo Farmer, Grolutions Horticultural Landscaping	4/30/20	Subtask 4.3 TM, Section 4.10	I believe that the 'water budget approach' for monitoring seawater intrusion should be expanded to at least include analysis of <i>where the likely points of salinity / seawater intrusion are</i> . Knowing those locations would inform strategic decisions on where to focus GW recharge projects in order to push back salinity.	Seawater intrusion will be addressed in greater detail in Subtask 4.2 and other upcoming tasks.	Comment will be further addressed in future GSP subtasks.
3	Jo Farmer, Grolutions Horticultural Landscaping	4/30/20	Subtask 4.1 TM, Section 3.2.5; Subtask 4.3 TM, Section 4.11	The discussion of subsidence seems to be good and fairly comprehensive. I think that one beneficial addition to the scope of data analysis would be to ascertain <i>if subsidence has already occurred</i> , and, if so, to what degree and with what effects; this data could be vital to properly direct GW recharge efforts to where it may be needed most to protect East Bay lands.	Additional discussion of subsidence and groundwater levels will be provided in the Subtask 4.2 TM.	Comment will be further addressed in future GSP subtasks.
4	Jo Farmer, Grolutions Horticultural Landscaping	4/30/20	Subtask 4.1 and 4.3 TMs	I had heard that there had been, at least in the recent past, contemplation of selling water to nearby basins. I believe <i>it is justifiable to acquire data about options to extract for sale/transfer</i> , under current conditions and/or future scenarios where groundwater volumes have expanded well beyond threshold levels of sustainability.	We are not aware of projects proposing to sell groundwater from the East Bay Plain Subbasin to other nearby basins.	Comment will be further addressed in future GSP subtasks.

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5	Jo Farmer, Grolutions Horticultural Landscaping	4/30/20	Subtask 4.1 and 4.3 TMs	Urban homesteading, along with the desirability to dig wells and be resilient in all ways, has sharply increased among the general populace. Therefore, I believe it is only prudent, for this reason alone, to acquire data & analysis on options for extraction. Data and analysis would be beneficial for: (i) how significantly increased runoff from "residential-agricultural" irrigation could be projected to flow and (ii) where well extraction is sustainable & at what maximum quantities / in what conditions/scenarios.	The potential for increased groundwater extraction and the potential influence on the overall sustainable yield will be evaluated under future GSP subtasks.	Comment will be further addressed in future GSP subtasks.
6	Karineh Samkian, City of San Pablo	5/2/20	Subtask 4.3 TM, Section 1, page 2	Under Model Objective what is meant by bullet 4? What is an undesirable result?	An undesirable result occurs when conditions related to one or more of the sustainability indicators becomes significant and unreasonable, and is based on minimum threshold exceedances. The GSP is required to define when an undesirable result is triggered. Undesirable results will be defined as part of Task 5.2, currently scheduled to be completed by June 30, 2021.	Comment addressed in response.
7	Karineh Samkian, City of San Pablo	5/2/20	Subtask 4.1 TM, Section 3.1.1	It states that areas with data gaps were supplemented with additional WCR. Does that mean new data was collected? If so, how many and is that amount enough for accurate modeling?	New data were not collected. The database containing 22,000 WCRs was further analyzed to identify those that could be used to fill data gaps identified for wells shallower than the original 200 feet criterion. This overall effort resulted in 642 WCRs being included in the database for more detailed analysis. The groundwater modeling being conducted for the GSP is an initial effort that can be based only on existing data. The model will be improved over time as additional data are collected to fill data gaps and incorporated into future updates of the model.	Comment addressed in response.
8	Karineh Samkian, City of San Pablo	5/2/20	Subtask 4.1 TM, Section 5.1	It states that there is less data in the North as there was more emphasis on groundwater supply development in the South. Is this a result of politics, other factors, or is it just because the south has deeper wells?	The aquifers in the southern part of the East Bay Plain Subbasin are thicker, deeper, and more permeable than in the north, and capable of sustaining much greater pumping rates, making the southern portion of the basin a better source of groundwater. Consequently, the southern portion of the EBP Subbasin has been studied in much more detail.	Comment addressed in response.
9	Karineh Samkian, City of San Pablo	5/2/20	4.1 TM, Section 6.2	It states that water condition data gaps are more extensive. Does that mean more data will be collected in Subtask 4.2 as is suggested for pumping under 6.3?	More detailed information on groundwater conditions will be presented in the Subtask 4.2 TM. However, the general statement of greater data gaps for groundwater conditions' data compared to geologic conditions' data is correct. The data gaps will be addressed with future monitoring networks and data collection efforts after the GSP is completed. The additional networks and data collection efforts will then be used in future GSP updates.	Comment will be further addressed in future GSP subtasks.
10	Preston Jordan, LBNL	5/4/20	Subtask 4.1 TM, Section 3.1.1	Because bedrock is shallower than 100 feet or even 50 feet in the central portion of the basin, would it be useful for the well selection depth filter to vary across the basin?	A depth filter shallower than 100 feet would generally not provide useful information relative to the main goals of the GSP. The WCRs retained for the project database include data from the ground surface to the total depth drilled for each WCR. The approach has been to vary the depth filter in targeted areas where data gaps are prevalent in the database for wells 200 feet and deeper. A depth filter of 100 feet was applied in these data	Compile well logs less than 100 feet deep in areas of subbasin less

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					gap areas to incorporate additional well logs. The vast majority of the EBP Subbasin has depths of unconsolidated alluvium greater than 100 feet. The primary area that has been identified as potentially less than 100 feet is within the portion of the Subbasin north of Berkeley and south of Richmond. This area is being investigated further with regard to well logs less than 100 feet deep to allow for potential incorporation of wells less than 100 feet deep.	than 100 feet deep/In Progress
11	Preston Jordan, LBNL	5/4/20	Subtask 4.1 TM, Section 3.1.1	A less-than-50-foot category is shown on one of the slides. Is it true that shallow wells to 50 feet depth were filtered out/not advanced to further consideration? This question may only regard WCRs selected for construction of the hydrostratigraphy. Specifically, Figures 3-2 through 3-4 do not show WCRs for wells less than 100 feet deep. Please clarify.	Yes, wells with less than 50 feet of depth were filtered out and not considered further for construction of the hydrostratigraphy (i.e., the structure of the subsurface) because there was sufficient coverage using wells that were deeper than 200 feet that also had hydrostratigraphic data up to ground level (i.e., the same area that would have been covered by wells less than 50-feet deep). Hence, Figures 3-2 through 3-4 do not show WCRs for wells less than 100 feet deep. However, water level data for shallow wells with less than 50 feet depth were compiled and, if appropriate, will be used for GDE analysis.	Comment addressed in response.
12	Preston Jordan, LBNL	5/4/20	Subtask 4.1 TM, Section 3.2.6	Was consideration given to the potential for existing Groundwater Dependent Ecosystems (GDEs) to occur along all perennial streams? Will perennial and seasonal creeks be included in GDE analysis?	The GDE analysis is a starting point, and will be ongoing. The starting point was the comprehensive GDE mapping conducted by TNC supplemented by other sources. The overall ongoing GDE analysis will be conducted in general accordance with guidelines published by TNC and continue beyond completion of the GSP, but it will ultimately involve refinement based on available local data and hydrogeologic conditions defined during development of the GSP.	Comment will be further addressed in future GSP subtasks.
13	Peter Nico, LBNL	5/4/20	Subtask 4.1 TM, Section 3.2.6	Related to GDEs and riparian corridors, could you please provide more detailed maps if The Nature Conservancy's mapping is used?	The GDE analysis is ongoing and additional information related to GDE mapping will be provided as part of the Task 4.2 TM.	Comment will be further addressed in future GSP subtasks.
14	Preston Jordan, LBNL	5/4/20	Subtask 4.1 TM, Section 3.2.6	Will GSAs work with local organizations that monitor and measure GDE's?	The TAC and the broader stakeholder meetings are the opportunities for GSAs to interact with basin stakeholders, and in return, they can help identify resources or suggest areas of interest that they want GSAs to look into. As we move forward with the TAC and GSP development, there will be more opportunities to engage with various groups on the GDE topic. Also as a reminder, SGMA has very specific guidance and criteria along with a limited schedule and statutory deadlines. The GSP needs to incorporate plans for GDE monitoring, as applicable to the EBP Subbasin. Within those limitations, we will look into all applicable information and resources. The GSP is a living document that will have to be periodically reviewed and updated.	Comment will be further addressed in future GSP subtasks.

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15	Peter Nico, LBNL	5/4/20	Subtask 4.3 TM	Although the shallower vadose zone lessens the impact, unsaturated flow could be important for any aquifer recharge activities. Will it be analyzed? Will further justification be provided for not accounting for unsaturated flow as these are important to both the quantity and quality of unsaturated/saturated flow?	Although the unsaturated (or vadose) zone is important relative to groundwater recharge, it is not nearly as important in this basin as in other basins due to a very shallow depth to groundwater. This minimizes travel time through the vadose zone. There could be examples where it is more important (such as creation of a thicker vadose zone where groundwater is over pumped). In addition, it should be recognized that the GSP groundwater model is a starting point, and the model will be subject to further updates and refinements even after the GSP is completed. If existing and future work on the GSP determine that unsaturated zone modeling is critical despite the minimal vadose zone, additional field data collection efforts will need to occur to provide parameter input data for such modeling. There is a proprietary version of MODFLOW “add-on” that has the capability to model unsaturated flow, along with other software that could be utilized in conjunction with MODFLOW.	Comment addressed in response.
16	Michelle Newcomer, or Erica, LBNL	5/4/20	Subtask 4.3 TM	MODFLOW’s analytical capabilities relating to groundwater chemistry are low. Will it be hard to use MODFLOW to address GW quality issues?	There are additional packages that can be added in MODFLOW to significantly enhance its ability to address various groundwater quality issues. These packages may be considered in future model refinements subsequent to completion of the GSP if it is determined that there are key groundwater quality issues that warrant solute transport modeling.	Comment addressed in response.
17	Preston Jordan, LBNL	5/4/20	Subtask 4.1 TM	From a field perspective, bioretention basins are being added daily. These are designed in part to enhance recharge. The impact of these basins on concentrations of different constituents in groundwater is unclear. Will the GSP address these issues?	The focus of groundwater model development for the GSP is to provide representation of regional subbasin-wide groundwater conditions. If necessary, future updates and refinements, subsequent to completion of the GSP, could be done to address specific groundwater quality constituents and/or more localized issues in the subbasin. The EBP Subbasin GSP groundwater model may also be useful in providing boundary conditions for more localized modeling efforts conducted by others. In addition, measurement of inflows and monitoring of groundwater levels and quality around such bioretention basins by cities and local agencies would be helpful in providing key information for potential future modeling efforts.	Comment addressed in response.
18	Preston Jordan, LBNL	5/4/20	Subtask 4.1 TM	In response to the RWQCB requirements, will the effects of green infrastructure scaled over time be considered in the GSP?	Assessing the benefits and vulnerabilities from green infrastructure is not the purpose of developing a GSP. However, the groundwater model created to support development of the GSP could be a tool to help develop monitoring programs to address green infrastructure more specifically. The GSAs will be continuing to coordinate with the local planning agencies and cities to assess land use planning activities, including green infrastructure in their areas. The GSP will touch on current and future effects of these land use activities.	Comment addressed in response.
19	Margo Schuler, Berkeley Public works commission,	5/4/20	Subtask 4.1 TM	I understand GSAs will be coordinating with the land use planning agencies but how about sea level rise? Even in the Berkeley area, it could be up to 8 feet? What would be the impact to the groundwater basin?	The GSP will account for climate change, including sea level rise. However, assessing the effects of climate change is complex and widely varied. We will be using DWR’s Guidance for Climate Change Data Use for GSP development as the primary source of technical input to account for	Comment will be further addressed in future GSP subtasks.

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	and Sierra Club				climate change, including sea level rise, in groundwater modeling and water budget calculations.	
20	Jo Farmer, Law Student	5/4/20	Subtask 4.3 TM, Section 4.10	How are we looking at saltwater intrusion? In the tech memo that was sent out, the discussion included that there was certain metrics that were going to be considered over other zones to monitor saltwater intrusion. How are we going to analyze and model seawater intrusion? Also, my suggestion is that it would be helpful to analyze the modeling software to try to locate the points of seawater intrusion to potentially earmark those areas for bioremediation or treatment process, knowing what those areas are.	Seawater intrusion is a potential threat to local groundwater, and it is one of the six key sustainability indicators required to be addressed under SGMA. The first step for the GSP is to identify the degree of vulnerability this basin has to seawater intrusion. While there are some historical data to provide an indication of basin vulnerability under much higher pumping stresses, we have very limited data along the shoreline. We are evaluating seawater intrusion in a phased approach and additional information will be presented in the Subtask 4.2 TM. We will be able to answer this question in more detail as we collect and process more data/information during the development of the GSP.	Comment will be further addressed in future GSP subtasks.
21	Jo Farmer, Law Student	5/4/20	Subtask 4.3 TM, Section 4.10	Is the water budgeting model going to be the only metric by which we measure? Or are there going to be other methods used as well?	SGMA and BMP guidelines provide options for how metrics for the various sustainability indicators may be addressed. This work has not started yet and will be addressed under Task 5.	Comment will be further addressed in future GSP subtasks.
22	Preston Jordan, LBNL	5/4/20	Subtask 4.3 TM	What initial condition will be used to drive the simulations? How will a dynamic equilibrium be obtained for the beginning of the transient simulations, and what mechanism will be used to quantify model convergence?	The basis for initial conditions and model convergence criteria are still under development, and these will be presented/discussed at a future TAC meeting once Task 4.4 is completed.	Comment will be further addressed in future GSP subtasks.
23	Karineh Samkian, City of San Pablo	5/4/20	Subtask 4.1 and 4.3 TMs	Before we wrap up, what are the next steps in Subtask 4.2.?	The GSAs are currently reviewing an admin draft of the Subtask 4.2 Hydrogeologic Conceptual Model technical memorandum (TM), and anticipate making a draft available for TAC review soon. Subtask 4.1 and Subtask 4.3 TMs will be finalized and posted to the website for review by stakeholders, and to share with neighboring basins. The GSP consultant team has begun building the groundwater model.	Comment addressed in response.