Public Comments and Responses
Modesto Subbasin Groundwater Sustainability Plan

Author	CIN	Comment	Comment Response	*GSP Edits*
Vance C. Kennedy	VK-1-001	First, I would like to address periods of unusually heavy rainfall. There are now loose soils several feet deep on many thousands of acres in the foothills as a result of ripping 5-6 feet deep to allow planting of almond trees. That has made the top soils more permeable to normal rainfall but also much more erodible during very heavy rains, possible in the future. I'm told that saturated soils can become mobile and possibly fill stream channels, thereby causing extreme flooding. It is very unlikely now, but is something to be aware of as extremes in weather increase in the future. Whether such warnings are suitable for mentioning in this report could be given some consideration as well as reference to a separate suggestion to adopt fracking techniques to accessing buried aquifers. The latter technique deserves very brief reference in any final report, since it may have potential value, in my biased view.	Soil loss/movement is not part of the GSP analysis. As indicated in the comment, this process seems very unlikely. Recharge potential along various stream channels in the Subbasin may be tested as GSP projects develop (e.g., the County's analysis along Dry Creek, see Section 8.2.3.2).	
Vance C. Kennedy	VK-2-001	The general report concerning water planning seems quite short term to me. I see no plans worldwide to anticipate the truly bad conditions quite probable, given the failure of society to realize the worst is inevitable.	The GSP has analyzed the most likely climate change scenario according to DWR (2070 central tendency), including all components of the water budget, to incorporate into long-term planning. However, the GSP also needs to minimize the uncertainties of such analyses when defining and sizing projects and management actions that are scheduled to begin implementation this year (2022). The GSP recognizes the need for adaptive management and has identified additional projects to be developed if future conditions warrant.	
Vance C. Kennedy	VK-2-002	When, not if, the reservoirs run dry, there is, as of now, one place to get water for cities in the Bay area and that is from the valley stores underground. Pipes can be run rapidly from the Valley and votes in the Bay area can assure that state laws will allow depletion of valley water to save Bay residents.	The GSP does not speculate on catastrophic conditions. Conveyance of groundwater out of the Central Valley has not been proposed.	
Vance C. Kennedy	VK-2-003	As described elsewhere, fracking techniques to rapidly access groundwater and conversion of depleted aquifers in the foothills to rechargeable aquifers can help both valley citizens and the Bay area, but the desalinization of sea water should be started immediately since the urgency of response to certain global warming cannot be exaggerated.	Comment noted. The GSP does not cover lands outside of the Subbasin and desalinization of seawater for others cannot be controlled by the Modesto Subbasin GSAs. Recharge projects target the permeable aquifers in the Subbasin that need to be replenished. Fracking techniques are not needed nor warranted.	
National Marine Fisheries Service	NMFS-001	The GSA should qualitatively describe what conditions within the subbasin would constitute an undesirable result with regard to streamflow depletion, ensuring that the description accounts for impacts to instream habitat that support ESA-listed salmon and steelhead. If data that would inform potential streamflow depletion impacts is lacking, NMFS recommends the final GSP follow guidance from California Department of Fish and Wildlife (2019) and develop conservative streamflow depletion thresholds as a cautionary principle until the surface flow/groundwater dynamic in the Modesto subbasin is better studied and understood.	The GSAs are not required to correct any conditions that occurred prior to January 1, 2015. Rather, the Modesto Subbasin GSAs have defined sustainable management criteria to prevent significant groundwater level declines along the rivers to protect against future projected streamflow depletions.	
National Marine Fisheries Service	NMFS-002	If sustainable management criteria are proposed using groundwater elevations as thresholds, the GSA should provide an explanation, with supporting evidence, for why using groundwater level as a minimum threshold is a reasonable proxy for interconnected surface water depletion, as well as why those levels are sufficient to avoid streamflow depletion that significantly impacts surface water beneficial uses.	The integrated surface water-groundwater modeling indicates that the predicted future streamflow depletions are directly correlated to declines in groundwater levels (see the sustainable yield analysis in Section 5.3).	
National Marine Fisheries Service	NMFS-003	We recommend the GSA design and implement studies that better inform appropriate minimum thresholds and measurable objectives for streamflow depletion during the first year of GSP implementation. The sustainable management criteria that result must avoid significant and unreasonable impacts to identified beneficial uses of surface water, which for the Stanislaus and Tuolumne rivers include cold freshwater habitat; migration of aquatic organisms; and spawning, reproduction, and/or early development. In the interim before adequate data is acquired, we again suggest the GSA follow guidance by the California Department of Fish and Wildlife (2019) that recommends conservative sustainability management criteria be established to ensure groundwater dependent ecosystem protection.	The setting of minimum thresholds at 2015 levels is conservative in that it protects against future predicted streamflow depletions by arresting water level declines. Modeling predicts those levels are sufficient to maintain the hydraulic connection between the surface water and groundwater systems to protect potential GDEs along the rivers (see Section 5.3 and 8.5 for modeling results).	
National Marine Fisheries Service	NMFS-004	NMFS encourages the GSA to consider implementing recharge projects that facilitate floodplain inundation while offering multiple benefits, including downstream flood attenuation, groundwater recharge, and ecosystem restoration. Managed floodplain inundation can recharge floodplain aquifers, which in turn slowly release stored water back to the stream during summer months. These projects also reconnect the stream channel with floodplain habitat, which can benefit juvenile salmon and steelhead by creating off-channel habitat characterized by slow water velocities, ample cover in the form of submerged vegetation, and high food availability. As an added bonus, these types of multi-benefit projects likely have more diverse grant funding streams that can lower their cost as compared to traditional off-channel recharge projects.	This GSP prioritizes projects that provide multiple benefits (including environmental water users) and support the utilization of natural infrastructure, including the basin itself for storage and the natural waterways and floodplains as recharge areas (Section 8.1). One example of a GSP project with benefits to fish and other in-stream habitat is the City of Modesto Storm Drain Cross Connection Removal Project (See Section 8.2.1.3). This project provides environmental benefits by prevention of potential sewer overflows into natural stream channels. The project provides improvements to water quality for both Dry Creek and the Lower Tuolumne River (both of which are 303d water bodies). The GSAs will continue to consider environmental benefits for project development in the future.	
Provost & Pritchard	PP-1-001	The funding for the Association should be transparent.	As described in Section 9.2, the GSAs will develop a GSP financing plan that will consider a variety of funding options. This information will be discussed in future public meetings of the STRGBA GSA. Additional estimates of costs and funding mechanisms that may be considered are discussed in Section 9.2.	
Provost & Pritchard	PP-1-002	A reasonable plan should be developed for funding the long-term oversight and administration of the Association and for projects that will be implemented. Sharing the general oversight and administrative costs equally among all regulated lands on a per acre basis is what we have seen elsewhere and think that is fair given that each member agency is required by the State to participate in the Association. On the other hand, where specific projects or actions are required in portions of the Subbasin, the associated costs should be separated and allocated to the relevant areas.	As described in Section 9.2.1, current operation of the GSA is fully funded through contributions from GSA member agencies. This cost sharing structure will be maintained in the short term but ultimately GSP administration may be funded through customer fees or other public funds. Projects are anticipated to be funded by the project beneficiaries as indicated in Section 9.2.2. Table 9-2 clearly defines the responsible entity for GSP projects along with potential financing options.	
Provost & Pritchard	PP-1-003	As the agency responsible for SGMA compliance in the Modesto Subbasin, the funding for those actions that are not covered by grants will need to be paid for by STRGBA. How the funding requirement will be distributed among the various areas within STRGBA will need to be discussed. We suggest that at least some general guidelines regarding the methodology for distributing the costs of these actions be discussed early in GSP development, including distribution of costs in proportion to an area's relative impact to undesirable results and accounting for direct contributions made to solve them.	Comments noted; see comment response above. Section 9.2 provides more information on implementation costs and budgeting.	
Provost & Pritchard	PP-1-004	Furthermore, the development of something akin to management areas without the State's burdensome regulatory requirements, that do not necessarily follow agency boundaries, and which are based on the findings of the Basin Setting and the modeling and water balance results, should be discussed with the stakeholders.	The GSP establishes Management Areas that are based on current water sources and current district boundaries. These designations allow for the optimization of project locations that best address overdraft conditions. The boundaries provide consistency with previous and ongoing groundwater management activities and allow for continued coordination among member agencies for water resources in the Subbasin.	

Author	CIN	Comment	Comment Response	*GSP Edits*
Provost & Pritchard	PP-1-005	The future scenarios that will be examined and modeled by the consultant team should be discussed and reviewed by stakeholders prior to performing the analysis.	Project development and modeling scenarios were presented in a series of public meetings as the analysis was developed and conducted. A list of conceptual projects was presented at the TAC public meeting in May 2021 and discussed in subsequent meetings. A sustainable conditions scenario was presented and discussed at a Special TAC public meeting on June 23, 2021; that scenario provided technical information and data on locations and sizing for GSP projects. The modeling analysis of Scenario 1 (Urban GSP Projects), along with the approach and assumptions, was presented at a TAC public meeting on September 8, 2021. Scenario 2 included the modeling of both the urban projects of Scenario 1 and the remaining Group 2 projects. Results from that modeling scenario, including approach and assumptions, were presented at a TAC public meeting on October 13, 2021. Final project analyses and development of management actions were presented at the TAC public meeting on November 10, 2021. Additional project details were developed in December 2021 and shared at several member agency meetings.	
Somach, Simmons, and Dunn	SSD-001	I want to repeat the question that I raised with regard to the decision to combine all of the "Non-District Agriculture" (NDA) on both the east and west sides of the basin into one zone. Given the riparian and licensed water users located on the west side, who pump out of both the Tuolumne and Stanislaus Rivers, compared with the east side's almost complete dependence on groundwater, lumping these two areas into one zone seems ill advised. This may have the effect of not only masking the magnitude of deficit from NDA on the east side, but doing so to the detriment of those that played no role in the creation of that deficit. The groundwater conditions in these two areas vary drastically. The groundwater table in the west side is so high, groundwater is pumped so that the land can be farmed. On the east side, however, the groundwater is found at deeper depths and, for the most part, is the exclusive water source. With all of this in mind, I would again urge further consideration of this issue.	Based on this comment (provided in December 2020) and other similar comments, the NDA areas were later separated into Non-District East (NDE) and Non-District West (NDW). Based on this division, the specific undesirable results related to the NDE areas could be analyzed and targeted for GSP project development.	
Somach, Simmons, and Dunn	SSD-002	I think it would be helpful to see further analysis of the east and west sides within the boundaries of the districts (Modesto Irrigation District and Oakdale Irrigation District).	The delineation of Management Areas -- which are based on water sources -- was sufficient to identify how best to optimize projects and management actions. The areas without reliable surface water supply (NDE) were determined to be the most unsustainable with respect to GSP compliance.	
Tuolumne River Conservancy	TRC-001	We are concerned that the environmental beneficial uses of flood releases have not been considered. The river needs flooding to rejuvenate the riparian forest, flush invasive weeds, provide habitat for juvenile salmonids, and refresh the spawning riffles. Each of these needs could be negatively impacted if the flood releases are not made with these needs in mind. Gravel (spawning rock) must move each year to keep it clean of sand and silt. The gravel will begin to move when the releases are bank full (5,000 – 7,000 cfs) for several days. Therefore, flood releases are critical to the health of the fishery in many different ways.	Under the current Final Environmental Impact Statement for the relicensing of Don Pedro Reservoir, there is estimated to be approximately 1,500,000 AF of surface water in Wet WYs and 620,000 AF of surface water in Above Normal WYs in the Tuolumne River above and beyond that necessary to meeting existing customer demands (all Tuolumne River Partners) and the recommended instream flow obligations. As a result, 20,000 AF of Tuolumne River surface water to applicable NDE areas during the non-growing season amounts to approximately 1% and 3% of available surface water supply respectively, for Wet and Above Normal WYs. These relatively small volumes are not anticipated to adversely impact flood releases along the channel and may have benefits for better managing adverse impacts along the Lower Tuolumne River from flooding.	
Tuolumne River Conservancy	TRC-002	This document assumes water above the current customer demands and the “recommended” instream flow obligations, is available. It is unwise to commit flows to a new customer base. The license can be reopened and climate change is only one possible reason. The flows determined adequate at this point in time may be determined to be inadequate in the future.	The GSP does not commit any member agency to make surface water available to a new customer base. Rather the GSP describes a suite of projects that if implemented will help bring groundwater aquifers in the subbasin back to levels needed for long-term sustainability. As far as water availability, there have been several years historically where the Modesto and Turlock Irrigation District’s for example, released large volumes of water, over 400 TAF on average, into the Tuolumne River between November and February above and beyond any in-stream flow requirements.	
Tuolumne River Conservancy	TRC-002	Current customers will benefit from the new income stream as the additional agricultural acres are brought online. Additional revenue to cover fixed costs will benefit the current customer base. But, financial benefit for customers is not the purpose of the subbasin plan. The health of the ground water basin, without damaging the Tuolumne River, is the purpose of this plan.	The GSP does not assume that “additional agricultural acres are brought online” nor does it encourage the same. In fact, if additional irrigated acreage is developed outside of the current irrigation district boundaries, the groundwater basin will likely continue to be overdrafted. The long-term health of the subbasin is the goal of the GSP, not only in terms of groundwater but also as it impacts interconnected streams. The projects and management actions are necessary to reduce the current trend of lower aquifer water levels drawing from and depleting streamflows, particularly during dryer years. The continued overdraft of the aquifers will have a much more significant impact to streamflows than diverting a portion of high river flows during the winter.	
Tuolumne River Conservancy	TRC-003	The Project Description describes diverting 20,000 AF during Wet and Above Normal water years. The water year types are determined in May of each year, following the season for flood releases. Only preliminary determinations are available before April, with the first being February 15. Therefore, connecting the flood releases to water year type is not functional.	You’re correct in that using water year types to determine daily management decisions is not practical. The water year type was used more to inform the sustainable yield modeling rather than dictate when water would be available for groundwater recharge. The availability of surface water for groundwater recharge will be decided by the governing Boards of the water right holders and will be contingent on several factors including hydrologic conditions, customer demands, and in-stream flow requirements.	
Tuolumne River Conservancy	TRC-004	The FERC license Final Environmental Impact Statement (FEIS) staff alternative includes the measure “Modify the proposed spill management plan to include a provision for annual consultation with resource agencies to determine the preferred magnitude, duration, and timing of releases made under the plan and specific criteria for evaluation whether project operations during the descending limb of the spring snowmelt runoff period reasonably mimic the natural hydrograph.” The Districts proposed “Develop a spill management plan to maximize the benefit of spill events for fall-fun Chinook salmon floodplain rearing subject to the constraints of flood control, project safety, and water demands to include a provision for annual consultation with resource agencies to determine the preferred magnitude, duration, and timing of controllable spill events….”	Although related to the GSP, the FERC relicensing is a separate process. GSA member agencies who are directly involved in FERC relicensing remain committed to providing required downstream flows. The Districts involved in the FERC process have committed a significant amount of resources for monitoring, research, and habitat restoration. Although not addressed directly in the GSP, coordination on requirements of the FERC process and the GSP will continue through the member agencies involved in both.	
Tuolumne River Conservancy	TRC-005	Groundwater recharge is not included in the list of potential uses of flood releases in the FEIS.	Tuolumne River water has been historically diverted into Modesto Subbasin canals to prevent adverse downstream impacts from flooding. Recharge from Modesto Reservoir and other facilities provide significant benefits to beneficial users of groundwater. Conjunctive use is the cornerstone of the GSP and has been implemented in the Modesto Subbasin for decades.	

Author	CIN	Comment	Comment Response	*GSP Edits*
Tuolumne River Conservancy	TRC-006	Careful reading of 8.2.3.1.5, “Implementation Criteria, Status, and Strategy” is confusing. The phrase “for direct recharge during the growing season” does not seem to coordinate with recharge during flood releases. Any delivery during the growing season cannot be deemed to be flood mitigation and should be handled under a separate section of the GSP. This section is confusing and needs more explanation in the GSP.	The comment is correct; the project is not associated with the growing season. The GSP has been revised.	Section 8.2.3.1.5
Tuolumne River Conservancy	TRC-007	If it is true that customers of MID are not allowed to install wells for groundwater pumping, then it appears that the new customers will have an advantage. In the wet years, they would receive surface water via irrigation infrastructure. In the dry years they will be allowed to pump groundwater. That appears to put the new customers in a no-loss situation where they will always have irrigation water, and as early in the year as they need. Some analysis of this would be helpful to readers.	MID customers are allowed to install wells to supplement surface water with groundwater.	
V.A. Rodden	ROD-001	Page 5-8 notes, “For the projected water budget, the full period of WY 1969-2018 is used, which provides a 50-year record as required.” We encourage the STRGBA GSA to update the groundwater model to bring it up to date and continuously update the groundwater model as applicable to keep it current.	Comment noted. The GSAs intend to update the model as part of the Annual Report. Modeling tools will be improved over time as needed to better evaluate GSP implementation and the ability to achieve sustainable groundwater management..	
V.A. Rodden	ROD-002	Page 5-23 notes, “Each of these areas supplement their surface water with some groundwater production to meet their agricultural and urban demand, whereas the Non-District East areas rely entirely on groundwater production for its agricultural supplies.” This is not accurate, historically, there is some surface water that has been provided to the Non-District East areas. The GSP should reflect this.	While it is true that some surface water has been made available to the NDE Management Area in recent years, the amounts have been relatively small and the area continues to rely primarily on groundwater. The GSP text has been edited to reflect this condition.	Section 5.1.4.2
V.A. Rodden	ROD-003	Page 5-66 includes Non-District East under the heading “Group 2: Groundwater Only Users.” This is not accurate, historically, there is some surface water that has been provided to the Non-District East areas. The GSP should reflect this.	The heading is explained in the text as stated: "Users in Group 2 predominantly rely on groundwater." Given the small amount of surface water that has been available for that area during the historical study period, the representation as qualified by the text is considered accurate.	
V.A. Rodden	ROD-004	Page 5-67 notes, “The groundwater demand reduction is only one and/or part of the overall management actions that would result in groundwater sustainability within the Subbasin; factors such as water right, beneficial uses, needs, and human right to water should also be considered.” Demand Management should only be used when projects and management actions set-forth in the GSP either; (1) are not completed or (2) are not delivering the desired results within the implementation horizon.	The GSP text is referring to various considerations for management actions that could affect groundwater sustainability. Demand reduction strategies are included in the GSP as a tool that could be used to avoid undesirable results when and where they occur.	
V.A. Rodden	ROD-005	Page 6-5 notes, “As indicated in Table 6-1, no impacts from land subsidence have been observed in the Subbasin. However, basin condition indicate that land subsidence could occur if water levels continue to decline.” We recommend that the GSA pursue additional monitoring wells west of Highway 99 where the Corcoran Clay is present to monitor and preclude future subsidence within the Modesto Subbasin. Coordination with private landowners and/or the Department of Water Resources (DWR) is required.	Comment noted. Because water levels are used as a proxy for land subsidence monitoring, the current monitoring network for land subsidence consists of the monitoring wells shown on Figures 7-1 through 7-3. The GSAs will also be tracking the potential for land subsidence through an annual download and analysis of InSAR data (remote sensing) as discussed in Section 7.1.5. Finally, the GSAs intend to improve the current GSP monitoring networks over time, especially for the Western Lower Principal Aquifer.	
V.A. Rodden	ROD-006	Page 6-5 notes, “The Stanislaus, Tuolumne, and San Joaquin River are all interconnected surface water as defined by SGMA (see icons on Figure 6-1). Projected water budget analyses indicate increased streamflow depletion will occur in the future, which could lead to undesirable results unless water level declines are arrested (see Section 6.8).” All downstream beneficial uses and users of surface water benefit from decreased streamflow depletion. As the GSA weighs and balances the costs of implementing projects and management actions, the benefits to all downstream uses and users should be considered.	Comment noted. The GSAs recognize the numerous beneficial users of surface water and will consider all beneficial uses for avoiding adverse impacts from future streamflow depletion.	
V.A. Rodden	ROD-007	Page 6-8 notes, “The Non-District East Management Area is defined as lands in the eastern Subbasin outside of Oakdale ID and Modesto ID management areas. Unlike the other management areas, surface water has not been widely available for water supply; groundwater has served as the primary water supply for the expanding agricultural production in the Non-District East Management Area.” Has there been expanding agricultural production in the Non-District East Management Area since passage of Stanislaus County’s Groundwater Ordinance? If not, the language noted should be changed to reflect what is actually happening on the ground.	The expansion of the NDE agricultural groundwater production is reflected in the pumping totals included in the water budget analysis over the 25-year historical study period (WY 1991 - WY 2015) (see Figure 5-15). The expansion in groundwater production includes changing land use and crop types, which has increased water demand since the early 2000s.	
V.A. Rodden	ROD-008	Page 6-8 notes, “Most of the infrastructure required for GSP projects will need to be developed in the Non-District East Management Area by local landowners. The Non-District East Management Area will need to develop agreements and partnerships with both Modesto ID and the Oakdale ID management areas to bring additional water supply into the area.” Discussions with Oakdale ID and Modesto ID should begin immediately such that proper infrastructure design can be initiated and the Subbasin can begin to compete for funding under Prop 68 for project implementation. As structured, surface water to be supplied to the Non-District East Management Area will come at no-harm to existing agricultural and urban customers and if structured correctly, have the potential to be a significant revenue stream for Oakdale ID and Modesto ID.	Comment noted. GSA managers agree that the discussions on GSP projects and management actions need to begin immediately in the GSP implementation period.	
V.A. Rodden	ROD-009	Page 6-12 notes, “Impacted domestic well owners during the 2014-2017 drought reported the need for trucked water, use of temporary or permanent storage tanks, purchase of bottled water, lowering of well pumps, drilling of replacement wells, and other measures.” Moving forward, the STRGBA GSA should analyze the need for a well mitigation program for domestic well owners caused by declining groundwater levels. Development of such a program may lead to additional operational flexibility within the Subbasin.	Comment noted. The GSA managers will consider options for a Domestic Well Mitigation Program in GSP implementation, as needed. In addition, the GSP currently incorporates management actions including demand reduction, that could be employed to handle undesirable results with respect to domestic wells, if needed.	
V.A. Rodden	ROD-010	Page 6-15 notes, “Data gaps are recognized in the monitoring networks for both the Eastern Principal Aquifer and the Western Lower Principal Aquifer.” Coordination with private landowners and/or the Department of Water Resources (DWR) is required. Progress to fill these data gaps should be reported in annual reports and the five-year update.	Comment noted. Progress on GSP implementation will be included in annual reports, as required, and involve addressing data gaps and improving monitoring networks.	
V.A. Rodden	ROD-011	Page 6-67 notes, “For the Modesto Subbasin, a glide path provides needed flexibility for MAs of the Subbasin that will continue to decline – at rates dependent on future hydrologic conditions – until projects and management actions are implemented. The use of interim milestones is something strongly encourage by DWR and are a necessary practical component of the GSP to allow for operational flexibility while projects and management actions come online. The STRGBA GSA should be commended for their practical use of interim milestones in the GSP.	Comment noted.	
V.A. Rodden	ROD-012	Page 6-69 notes, “IMs have been designated conservatively for monitoring wells in the Oakdale ID MA and the NDE MA but will not be used to defer implementation of GSP projects or management actions. Other projects and/or management actions may also be needed during the first five years of GSP implementation to avoid undesirable results near wells if water levels reach the IMS. Implementation of additional projects should be considered before demand management. Demand management has immense economic impacts to the regional economy and the environment and should be avoided at all cost.	Comment noted. The GSAs agree, but have provided demand management as a backstop in the event that projects are not sufficient to bring the Subbasin into sustainability and avoid undesirable results.	
V.A. Rodden	ROD-013	Page 7-4 notes, “The monitoring network for the Western Lower Principal Aquifer contains five wells, as illustrated on Figure 7-2 and summarized in Table 7-1. The monitoring network includes two City of Modesto monitoring wells, two Proposition 68 monitoring wells, and one USGS monitoring well.” The data gap of groundwater elevations in the Western Lower Principal Aquifer is important as it relates to subsidence. Future annual reports and the five-year update should reflect the actions taken by the STRGBA GSA to fill this data gap.	Comment noted. The GSAs intend to improve the monitoring network in the Western Lower Principal Aquifer. In the meantime, the GSAs will track the potential for land subsidence on an annual basis throughout the entire Subbasin by downloading and analyzing InSAR (remote sensing) data, which is published by DWR. Data will be included and described in GSP Annual Reports (see Section 7.1.5).	
V.A. Rodden	ROD-014	Page 8-6 notes, “However, it is anticipated that not all PMAs will need to be implemented, or that some PMAs will be implemented by one GSA but not the other.” Tuolumne County has a de minimis amount of land within the Modesto Subbasin and no PMAs are slated for this area. This should be corrected to be clear that practically speaking there is only one GSA for the Modesto Subbasin.	While it is true that no projects have been targeted for the Tuolumne County GSA, the GSAs may need to coordinate on projects or management actions in the eastern Subbasin in the future. Chapter 8 clearly identifies the Project Proponent and Partners, which include member agencies of the STRGBA GSA (see Table 8-1). The Tuolumne County lands are included in the Non-District East Management Area.	

Author	CIN	Comment	Comment Response	*GSP Edits*
V.A. Rodden	ROD-015	Page 8-12 notes, “This project continues the water purchase agreement between Modesto Irrigation District (MID) and the City of Modesto to meet urban demands. It utilizes the expansion from Phase II of the Modesto Regional Water Treatment Plant (MRWTP).” The Amended and Restated Treatment and Delivery Agreement between Modesto ID and the City of Modesto governs the delivery of treated surface water to the City of Modesto.	It is recognized that agreements are in place. Modesto ID and the City are coordinating on the GSP project and will ensure that future actions are conducted within agreed-upon terms and conditions.	
V.A. Rodden	ROD-016	Page 8-24 notes, “The Project involves the delivery of approximately 60,000 AF of surface water from the Tuolumne River in Wet and Above Normal water years (WYs) through a limited number of new points of diversion off MID’s existing irrigation conveyance infrastructure and subsequent conveyance through newly constructed private irrigation conveyance infrastructure for in-lieu and direct recharge during the growing season. It should be explicitly noted that this Project is developed to avoid any impacts to MID’s existing agricultural and urban customers. Absent use of this water in nearly one-half of water years, the water would flow down the Tuolumne River and be lost from the Modesto Subbasin.	Comment noted. The project objectives (top of the page referred to in the comment) state that the Project is to be "implemented with no impacts to MID's existing agricultural and urban customers. "	
V.A. Rodden	ROD-017	Page 8-25 notes, “Benefits to groundwater conditions in the Modesto Subbasin are also expected to broadly benefit all DACs, SDACs, and EDAs.” The benefits to DACs, SDACs, and EDAs from the Project is a critical component of the Project and cannot be overstated.	Comment noted.	
V.A. Rodden	ROD-018	Page 8-25 notes, “On average across all years, the MID in-lieu and direct recharge project is expected to provide an average annual benefit 28,800 AFY of recharge benefit to the Modesto Subbasin.” The continued and future health of the Modesto Subbasin relies on cooperative projects like the Modesto in-lieu and direct recharge project. SGMA empowered locals to solve local problems with local resources, this project does just that, at no water cost to existing agricultural and urban customers.	Comment noted. The GSAs agree.	
V.A. Rodden	ROD-019	Page 8-27 notes, “It is anticipated that the GSA would identify funding sources to cover project costs as part of project development. These may include grants (e.g. Prop 1, Prop 68, NRCS, others), fees, and loans.” Post GSP completion the STRGBA GSA should consider engaging in a funding and financing analysis to support rate development in the Modesto Subbasin. Any progress on a funding and financing plan shall be made in the annual reports and the five-year update.	Comment noted. The GSAs are committed to providing details on grant funding and other funding mechanisms as part of GSP implementation progress	
V.A. Rodden	ROD-020	Page 8-28 notes, “Historically (2010-2019), OID has had system inflows (diversions) ranging from approximately 165,000 AF to approximately 246,000 AF, with an overall average of approximately 208,000 AF. Given OID’s existing surface water rights off the Stanislaus (300,000 AF) and their overall average system inflows, the surface water contemplated for this Project amounts to approximately 22% of the total available surface water supply above and beyond that necessary to meeting their existing customer demands (on an average basis). It should be explicitly noted that this Project is developed to avoid any impacts to OID’s existing agricultural customers and still retain some volume of water for “high-value” out-of-basin water transfers as they have historically done.	As noted in the text, the project documents sufficient water supply for OID to avoid impacts to existing customers while retaining "high-value" out-of-basin transfers.	
V.A. Rodden	ROD-021	Page 8-29 notes, “Governing agencies that may be consulted for this Project include, but are not limited to: the State Water Resources Control Board (SWRCB), the County(ies) of Stanislaus and/or Tuolumne, and DWR. The U.S. Bureau of Reclamation should be added to the list of potential governing agencies.	Comment noted. The U.S. Bureau of Reclamation has been added to the list of potential governing agencies.	Section 8.2.2.2.3
V.A. Rodden	ROD-022	Page 8-31 notes, “It is anticipated that the GSA would identify funding sources to cover project costs as part of project development. These may include grants (e.g. Prop 1, Prop 68, NRCS, others), fees, and loans.” Post GSP completion the STRGBA GSA should consider engaging in a funding and financing analysis to support rate development in the Modesto Subbasin. Any progress on a funding and financing plan shall be made in the annual reports and the five-year update.	Comment noted. The GSAs may consider various future analyses to support rate development in the Subbasin.	
V.A. Rodden	ROD-023	Page 8-32 notes, “The Tuolumne River Flood Mitigation and Direct Recharge Project (Project) is intended to be a cooperative long-term project between Modesto Irrigation District (MID) and the non-district east landowners and is designed to be implemented with no impacts to MID’s existing agricultural and urban customer.” The benefits to flood protection at a state level, local level, and for landowners on the lower Tuolumne River should be considered as part of project implementation and costs should be shared as determined appropriate and equitable.	Comment noted. The GSAs will consider cost sharing mechanisms, as available, for multiple benefits from GSP projects.	
V.A. Rodden	ROD-024	Page 8-36 notes, “The Dry Creek Flood Mitigation and Direct Recharge Project (Project) is intended to be a cooperative long-term Project implemented by the non-district east landowners and is designed to be constructed and managed in a way to prevent negative impacts to downstream users. The benefits to flood protection at a state level, local level, and for landowners on the lower Tuolumne River should be considered as part of project implementation and costs should be shared as determined appropriate and equitable.	Comment noted. The GSAs will consider cost sharing mechanisms, as available, for multiple benefits from GSP projects.	
V.A. Rodden	ROD-025	Page 8-49 notes, “However, it is anticipated that not all Management Action will need to be implemented, or that individual Management Actions may be implemented by one GSA but not by the other.” Tuolumne County has a de minimis amount of land within the Modesto Subbasin and no PMAs are slated for this area. This should be corrected to be clear that practically speaking there is only one GSA for the Modesto Subbasin.	County of Tuolumne GSA is included in the event that future management actions affect the Tuolumne County lands in the Subbasin.	
V.A. Rodden	ROD-026	Page 8-51 notes, “In case Projects are insufficient to manage the Subbasin in a sustainable condition, strategies may need to be developed to manage the agricultural and urban water demands in the Subbasin.” This is the correct progression and the STRGBA GSA should be applauded for their approach to maintain current land use through project implementation. Progress towards project implementation should be reported in annual reports and made available to the public. Any future decision by the STRGBA GSA to move toward demand management should be well vetted, discussed publicly, and provide the platform for all stakeholders to participate.	Comment noted. Progress towards GSP project implementation will be reported in annual reports; stakeholder outreach and notifications will continue throughout GSP implementation.	
V.A. Rodden	ROD-027	Page 8-51 notes, “Voluntary Conservation and/or Land Fallowing covers several strategies that can be designed to achieve both temporary and permanent water demand reduction.” Should voluntary conservation and/or land fallowing be considered by the STRGBA GSA during the implementation horizon as a result of unsuccessful project implementation, the STRGBA GSA should consider engaging in a funding and financing analysis and financial incentives should be considered as a means of incentivizing land fallowing.	As indicated in the GSP, this management action involves the assessment of options and program components that would incentivize voluntary actions.	
V.A. Rodden	ROD-028	Page 8-57 notes, “The Water Accounting Framework consists of four-tiered Management Actions that will be implemented in a prioritized order as determined by the Modesto Subbasin GSA to meet the Subbasin’s sustainability goal.” Consistent with SGMA, development and implementation of a water accounting framework or like program should be developed in a public and transparent public process. This should be explicitly noted for this project and all like projects included in the GSP, but yet to be developed.	Please note that each of the four-tiered Management Actions include a subheading on Public Noticing, each of which describes a public process by which the Management Actions will be developed (e.g., see Section 8.4.2.1.2, 8.4.2.2.2, 8.4.2.3.2, and 8.4.2.4.2).	
V.A. Rodden	ROD-029	Page 8-66 notes, “While there are certain administrative costs anticipated with the development and implementation of a Groundwater Extraction Fee, the Groundwater Extraction Fee itself is potential mechanism to fund the costs of groundwater management.” Aside from the administrative costs anticipated, there are significant initial capital and ongoing maintenance costs associated with measurement of groundwater extraction. Flowmeters are expensive, rarely installed correctly, and need frequent calibration to ensure accuracy long-term.	Comment noted. The GSAs recognize the limitations and concerns regarding various methods for estimating groundwater extractions. As with other management actions, the GSP includes a Public Noticing subheading (Section 8.4.2.3.2) and anticipates stakeholder input and public outreach prior to implementation of a Groundwater Extraction Fee.	
V.A. Rodden	ROD-030	Page 8-72 notes, “Analysis of conditions under Scenario 2 shows that under project buildout, sustainability goals as defined by the Minimum Thresholds (MTs) outlined in Chapter 6, Sustainability Management Criteria, can be met without demand management.” This is perhaps the most important conclusion in the GSP. Through regional cooperation, the Modesto Subbasin can be sustainable.	Comment noted.	
V.A. Rodden	ROD-031	Page 8-72 notes, “In the near-term, sustainability of the Modesto Subbasin relies on the Non-District East area to actively pursue the development of these projects and understands that interim management actions, including the potential for demand reduction, may be necessary to meet SMCs.” Clarification should be added to this statement recognizing that demand reduction will only be necessary if projects are not completed within the implementation horizon or aren’t delivering the benefit expected to occur.	Projects will need to be initiated early in the GSP Implementation period to avoid impacts to water supply wells and allow the groundwater levels to recover. Although the GSP allows for Interim Milestones, such milestones do not allow for undesirable results to worsen without action, even during the implementation period. Aggressive action will be required early in GSP implementation to protect against excessive streamflow depletions, widespread domestic well failures and expansion of the cone of depression to the west. If water levels are allowed to decline significantly, it will be even more difficult to recover. The backstop of demand reduction has to be recognized.	

Author	CIN	Comment	Comment Response	*GSP Edits*
V.A. Rodden	ROD-032	As the DRAFT GSP clearly demonstrates, sustainability within the Modesto Subbasin can be achieved through regional cooperation and use of available surface water supplies above and beyond that necessary to meet existing agricultural and urban demands. Further, delivery and use of surface water by Non-District East lands has the potential to generate substantial revenue for the local surface water suppliers allowing them to; (1) off-set rates for their customers and (2) continue to modernize their irrigation conveyance systems. From the perspective of regional collaboration and cooperation, this is simply a win-win for all involved. As noted in the comments included herein, we would recommend that following submission of the GSP at the end of January, the STRGBA GSA engage in a funding and financing analysis to lay the foundation for equitable allocation of implementation costs.	Comments noted. The GSAs intend to consider funding and financing options for GSP implementation early in the implementation period.	
Stacy L. Henderson	SH-2-001	The Modesto ID Management Area is a Net-Contributor and has already achieved Sustainability. In recognition of the fact that there are varying groundwater conditions in the Modesto Subbasin, the GSA identifies 4 Management Areas. Modesto ID's Management Area (as well as Oakdale ID's Management Area) utilizes surface water in conjunction with groundwater in a sustainable manner and is identified as a net-contributor to groundwater in the Draft GSP. The Draft GSP recognizes that the undesirable results of chronic lowering of water levels, overdraft and reduction of groundwater in storage have occurred primarily within and around the Non-District East Management Area. (Draft GSP Section 6.2.1, Table 6-1, Figure 6-1). The Draft GSP explains that the Non-District East Management Area is a net-extractor and is completely dependent on groundwater as its primary water supply. (Draft GSP Sections 5.1 .4.4, 5.3, 6.2 and 6.2.3, among others). The Non-District East would need to reduce its use of groundwater by 58% in order to meet the goals set forth by the sustainability indicators unless Projects and/or Management Actions are implemented. (Draft GSP Section 5.3). These facts set the stage for evaluating the need for, and terms of Projects and Management Actions as well as assessment of the associated costs. Unfortunately, Section 9.1.1 of the Draft GSP explains that the conceptual Projects identified for possible future implementation in the Non-District East are not projected to be implemented, if at all, until between 2023 - 2027. It is extremely concerning that while the GSA is waiting to see: (a) if the Non-District East will implement any of the conceptual Projects, (b) if any Projects that are implemented are actually effective in any measurable amount, (c) if Management Actions will be necessary, and (d) if any Management Actions that are undertaken are sufficient to bring the Non-District East closer to achieving sustainability, that the GSP does not identify any interim measures to avoid any further increase of the undesirable results. Noticeably lacking from the GSP is any requirement that the Non-District East begin addressing the overdraft issue that exists. Specifically, neither the GSP nor any other agency, requires the Non-District East to immediately reduce groundwater pumping, which is especially troubling during drought years like this year. Nor is the Non-District East required to monitor the use of groundwater at this time, although we know that the continued overdraft is inevitable until Projects and/or Management Actions are in place. Thus, during this uncertain timeframe, nothing is stopping the Non-District East from exacerbating the overdraft problem or requiring the Non-District East to be held accountable to the rest of the Modesto Subbasin for the current and anticipated future undesirable results.	Comment noted. The GSA managers agree with the need for action and have recently received encouraging information through their GSA representative, Stanislaus County. Information provided after the close of the public comment period indicates that the Non-District East MA landowners have been coordinating on project planning. Planning level costs for project design and implementation have been provided for inclusion in the GSP. The GSP includes several Management Actions that provide for demand reduction strategies as a backstop to any inaction or delay by the Non-District East MA landowners. In the meantime, GSP implementation will begin including monitoring and analyses for the first Annual Report. These results will continue to drive the actions and schedule over the initial few years of implementation as projects come online.	Section 8.2
Stacy L. Henderson	SH-2-002	he GSP should clearly articulate that all Projects and Management Actions are to be funded by the Management Area(s) in need of the Projects and Management Actions. The area(s) that need to implement Projects and Management Actions in order to achieve Sustainability should be required to completely fund the Projects and Management Actions, as well as all monitoring, reporting, enforcement and other actions related thereto. Although Draft GSP Section 6.2.3 recognizes that "[m]ost of the infrastructure required for GSP [P]rojects will need to be developed in the Non-District East Management Areas by local landowners," Chapter 9 of the Draft GSP does not mandate a definitive method for allocating any costs associated with Projects and Management Actions. The draft of Section 9.2 includes estimated costs of GSP implementation and GSA Management at $200,000 to $300,000 per year, with additional costs for Projects and Management Actions in an unknown amount. Section 9.2.1 indicates the GSA will develop a financing plan, which may include pumping fees, assessments or a combination of fees and assessments. Surprisingly, Section 9.2.1 states: "During development of a financing plan, the GSA would also determine whether to apply fees across the Subbasin as a whole or just within certain Management Areas." We believe the GSA should definitively confirm that the GSA's financing plan will absolutely require that any and all fees and assessments associated with the implementation of the GSP be imposed at varying rates in accordance with each Management Area's impact or benefit to the Subbasin. A Management Area that is a net contributor to the Subbasin should pay far less than the unsustainable Management Areas that is completely dependent on groundwater and must implement Projects or undertake Management Actions to avoid any further undesirable results. Given the Draft GSP's recognition that a "one-size-fits-all" approach is not appropriate for water budgets due to the varying groundwater conditions in the Modesto Subbasin, we believe the GSP should also confirm that fees and assessments, if any, will not be imposed using a "one-size-fits-all" approach. It is critical that all costs are allocated in a sensible manner to avoid requiring those Areas, like the Modesto ID Management Area, which includes the residents of the City of Modesto and Modesto ID's Farmers, who have already expended considerable funds and effort in developing, implementing and effectively managing the use of groundwater to achieve sustainability and to be a net-contributor of groundwater, being forced to pay more than is reasonable under the circumstances. It would be demonstrably unreasonable for MID's Farmers, the City of Modesto's citizens, and others who live in the areas of the Modesto Subbasin that have already achieved sustainability to be required to either (a) contribute to the cost of Projects, or participate in Management Actions that are not needed in the Modesto ID Management Area (or any other sustainable Management Area), or (b) to pay the same fees or assessments for GSP administration as the Non-District East given that the vast majority of the work needed to comply with SGMA is the result of the overdraft conditions in the Non-District East Management Area. Accordingly, the GSP should include a detailed analysis of the various costs associated with the GSP's implementation, administration, monitoring and reporting of Projects and Management Actions, and equitably allocate those costs among the Management Areas based on each Management Area's impact on sustainable management criteria. Put simply, all costs should be allocated and apportioned according to need and benefit.	As stated in the comment, the GSAs have developed preliminary implementation costs in Section 9.2 and have committed to development of a financing plan for these costs. the GSAs will consider issues of area variability and equitable fee structures in the plan. The details of the financing plan will be discussed in public forums at STRGBA GSA regular meetings and stakeholder input will be welcome. With regards to costs to implement projects, Section 9.2.2 provides potential financing options specific to each GSP project (see Table 9-2). Table 9-2 also clearly states the entity responsible for project implementation for the projects needed to bring the Non-District East Management Area into sustainability. Also, as indicated on Table 9-2, GSAs recognize that State grants have been available for other GSP implementation activities and will available seek grant funding to get projects off the ground more quickly.	
Stacy L. Henderson	SH-2-003	Management Actions must be implemented only on an as-needed basis in unsustainable Management Areas - NOT in the Modesto ID Management Area. Section 8.4 of the Draft GSP describes potential Management Actions involving demand reduction in the form of either conservation or land fallowing, as well as pumping management to reduce pumping through managing and monitoring the use of groundwater and assessment of groundwater extraction fees. Although we agree with the general content of the statements in the draft GSP indicating that the Management Actions "would be evaluated and selected for implementation if, based on data gathered during GSP implementation, the GSA finds that established IMs and MOs cannot be maintained and/or if MTs are being approached," we believe it is appropriate and necessary that the GSP confirm that decisions regarding the implementation of Management Actions will be made on a Management Area-level, as opposed to using a Subbasin-wide approach.	As stated in Section 8.4 of the GSP, "…Implementation [of management actions] will be determined based upon need **within each Management Area separately**." (emphasis added). This information demonstrates the GSAs intention of focusing management actions where needed.	

Author	CIN	Comment	Comment Response	*GSP Edits*
Stacy L. Henderson	SH-1-001	As the GSA works to draft the GSP, we believe it is important that those involved in the process ensure this GSP is carefully drafted to recognize the unique conditions existing in the Modesto Subbasin, and, in particular, the fact that groundwater conditions, hydrology and geology vary significantly across the Subbasin. For example, in the area of the Subbasin where MID is located, groundwater on the west side is plentiful. The groundwater table is high in this area and requires significant pumping from shallow wells so crops can be grown. In addition, the groundwater table on the west side recovered very quickly during and following the recent drought. In contrast, the groundwater table on the east side of the Subbasin is much lower, requires the use of deeper wells to extract the groundwater, and continues to be depleted without replenishment.	Comments noted. The variability in groundwater conditions across the Subbasin is addressed in the GSP in numerous chapters. In Chapter 3, groundwater conditions provide the details required to evaluate the variability of water levels to water year type and aquifer response to drought. Chapter 5 provides the details on zone water budgets that document water use and aquifer response to overpumping in identified areas. Chapter 6 provides a summary of the hydrogeologic conditions that affect sustainability and are considered for sustainable management criteria. The delineation of management areas are described as being based on variability in water sources across the Subbasin. Chapters 8 and 9 address the need for locating projects in specific areas and provide analyses of the benefits to the Subbasin from those efforts. Chapter 9 addresses project implementation and financing.	
Stacy L. Henderson	SH-1-002	We appreciate the information and proposal provided by Todd Groundwater during the July 8, 2020 GSA meeting identifying the proposed areas for Zone Budgets to be developed within the Modesto Subbasin. Using the information provided during the GSA meetings, as well as historical information about groundwater conditions underlying the MID service area in particular, we believe that ongoing groundwater management in the Subbasin should be tailored to the groundwater conditions within each distinct area in the Subbasin. Because of the varied conditions which exist in many subbasins, GSAs have developed various methods to allow for separate management and operation based on location. SGMA allows GSAs to develop Management Areas to facilitate implementation of the GSP. Generally, a Management Area is an area within a sub basin for which the GSP may identify different minimum thresholds, measurable objectives, monitoring, projects and/or management actions based on differences in water use sector, water source type, geology, aquifer characteristics or other factors. However, the formal use of Management Areas triggers some burdensome and costly reporting requirements that may not be advantageous to the GSA. Management of the Modesto Subbasin using distinct objectives, criteria, projects, etc. based on the conditions within the various areas of our Subbasin can be accomplished without the reporting requirements by using an alternative nomenclature such as "Water Zones," "Management Zones," "Subareas," etc. For ease of reference in this Memorandum, we refer to these distinct areas within the Modesto Subbasin as Management Zones, recognizing that the ultimate term used by our GSA may differ in the future. By creating Management Zones the GSA can maintain maximum flexibility over SGMA compliance because each zone will have the ability to implement projects and actions applicable to the relevant area. Management Zones also allow for local water accounting and management actions related to imports, exports, consumption, conservation and pumping appropriate for the relevant area, and for costs and expenses to be allocated accordingly. A number of GSPs developed for the critically overdrafted subbasins include the use of Management Areas. A few examples include the GSPs for the following: Chowchilla Subbasin, 1 Semitropic Water Storage District2 and Eastern Tule.3 Other GSAs utilize sub-areas or management zones, including, but not limited to the North Kings GSA 4 and the Kings River East GSA. We believe it is both logical and consistent with the purpose and intent of SGMA for Management Zones to be developed within the Modesto Subbasin to account for the complexities and differences that exist. Todd Groundwater's presentation identified a couple of distinct delivery areas for purposes of creating the initial Zone Budgets, which we believe is a reasonable starting point to establish Management Zones. However, given the variation in groundwater conditions within MID in particular, we believe there should be at least 2 Management Zones (and 2 areas for purposes of determining the initial Water Budgets) within MID's boundaries.5 Generally, the groundwater to the west is high with Drainage Wells required to keep the rootzone from being saturated. In the eastern portion of MID, although the aquifer is still in good condition, groundwater is found at deeper depths. Based upon information provided by MID and produced by Todd Groundwater to date, we believe the Corcoran Clay boundary is a definitive method of separating the eastern and western portions of MID into 2 Management Zones (East and West). However, since the MID customers all use the exact same water source, we believe it is reasonable for all MID customers to be subject to the same management and operational costs.	See response above; the GSP provides a clear linkage between projects/management actions and the distinct areas of concern in the Subbasin. For this GSP, Management Areas are based on variability in water sources and do not complicate the plan with differing sustainable management criteria. Rather, the hydraulic connectivity of the groundwater system across the Subbasin is recognized and the Subbasin groundwater is being managed as such. This is also protective against future potential undesirable results that projected modeling indicates could occur if future water levels are allow to decline significantly in other areas of the Subbasin (e.g., streamflow depletion along interconnected surface water or land subsidence). The GSAs considered these comments and examples when delineating Management Areas. The STRGBA GSAs ultimately decided that segregating the MID service area into two separate east and west Management Areas was not necessary, given that the need for coordinated management along the entire Tuolumne River boundary.	
Stacy L. Henderson	SH-1-003	Management Zones will allow for the development of appropriate requirements to address the vastly different conditions within the Subbasin and will avoid a broader Subbasin-wide approach that is not justified given the inconsistent conditions of the Subbasin, and MID's service area in particular. Since groundwater sustainability concerns are not consistent throughout the Modesto Subbasin, it is appropriate for the sustainable yield, monitoring protocols, required projects, and management actions to be established with varying terms, conditions and expenses within the Subbasin. Management Zones allow this to occur. As the GSA works to evaluate the modeling results, develop sustainability goals and criteria, identify management scenarios, and develop project requirements and parameters, we believe it is important for the GSA to ensure that distinct decisions are made for each of the Management Zones. While the GSA meetings have not yet focused on defining these terms with any specificity, we believe the designation of Management Zones is an integral step of the GSP development process and should be completed as soon as possible.	Comments are noted; see responses above. As demonstrated in this comment letter and documented above, the Modesto Subbasin Management Areas were delineated with input from stakeholder participation throughout the GSP process.	
Stacy L. Henderson	SH-1-004	That being said, we recognize that although a portion of the City of Modesto lies within the proposed West MID Management Zone, it would be reasonable for that area to be combined with the East MID Management Zone so all of the citizens of Modesto, who use the exact same water source, will be held to the same standards and subject to the same management and operational costs.	Comment noted. The City of Modesto is incorporated into the Modesto ID Management Area as suggested. This also allows for continued coordination between the City and Modesto ID for sustainable groundwater management.	

Author	CIN	Comment	Comment Response	*GSP Edits*
Stacy L. Henderson	SH-1-005	We understand that a number of GSAs in critically overdrafted basins have established initial fee structures based on acreage or groundwater use after meeting the Proposition 218 requirements, and that at least one GSA (Kings River East8) established a per acre-foot per year groundwater pumping fee under Proposition 26 guidelines. In many cases, these fees were established in order to generate revenue necessary to pay for the preparation of the GSP, which was reasonable given conditions within the Subbasins at issue and the lack of an alternative funding source. We are very appreciative of the STRGBA GSA's work to secure grants to fund preparation of our GSP as well as the installation of monitoring wells. We are also cognizant, however, that costs associated with implementation of the GSP, including, but not limited to, the costs associated with the development and implementation of required projects, monitoring, and continued management of the GSA following submittal of the GSP, must be funded. As the GSA evaluates funding issues, we believe it is critical that management costs are allocated in a sensible manner. Ideally, costs would be allocated based upon the impact each Management Zone has on groundwater conditions within the Subbasin, as well as the projects, operations and management actions required for each Management Zone. If certain Management Zones do not have significant chronic lowering of groundwater levels and/or sustainability concerns, those areas should not have the same management costs as areas in need of projects and management actions to ensure sustainable use of groundwater in the future. Accordingly, we respectfully suggest the GSA consider establishing a "beneficiary pays" policy once the projects and management actions are further developed and implemented. Such a policy would require that projects are funded by the actual project proponent/beneficiary.	Comments noted; see also responses above. As described in Section 9.2, the GSAs will be developing a financing plan for GSP implementation. Numerous rate structuring options will be considered during that process. As stated in Section 9.2.1, "(d)uring development of a financing plan, the GSAs would also determine whether to apply fees across the Subbasin as a whole or just within certain Management Areas." In addition, the GSAs are committed to applying for state funding when available - just as they have done for the GSP development ($1M grant under Proposition 1) and GSP Support for Monitoring Well Installation ($1M under Proposition 68).Lastly, the GSP is clear that the project beneficiaries will be responsibility for financing projects (Section 9.2.2 and Table 9-2).	
Stacy L. Henderson	SH-1-006	We also recommend the GSA consider other creative options related to the allocation of costs associated with addressing groundwater sustainability issues including, but not limited to, giving credits toward management costs or extraction limits within Management Zones, or even at the landowner or public agency level, for projects that have already been implemented at significant expense, giving individual credits to landowners who use flood irrigation or provide other means of recharging the groundwater basin and/or a banking program, etc. Recharge facilities/programs and banking programs, in particular, provide flexibility in the management of water supplies. The GSA should look to protect existing recharge and banking programs and incentivize the development of additional opportunities by public agencies and private landowners. The credits applied to these beneficial facilities, conditions, and programs should be formulated to account for the measured benefits of reasonable and beneficial use of groundwater supplies, reduction for natural evaporative and operational losses, and should deter against undesirable results caused by over pumping which is not mitigated (e.g., by recharge).	As new and existing projects are further assessed with respect to groundwater conditions in the Subbasin, credits and other incentives for maintaining sustainable groundwater management may be considered. The GSAs invite continued input from stakeholders on these matters, which will be discussed in future STRGBA GSA public meetings.	
Stacy L. Henderson	SH-1-006	As ideas are discussed, it is important to recognize all of the actions that have been taken to date within the Modesto Subbasin to address groundwater sustainability and the substantial costs associated with those efforts…	Comment noted. Previous actions may be considered in future GSP financing.	
Stacy L. Henderson	SH-1-007	The STRGBA GSA would not be the first to appropriately allocate costs according to need and benefit. As just one example, the Paso Robles Subbasin's GSP13 provides for project implementation "by willing entities" and also references a potential fee study for purposes of developing a groundwater pumping fee to cover the costs of implementing the regulatory programs described in the GSP. Such programs include costs related to monitoring and reporting, hydrogeologic studies, pumping reduction enforcement where necessary, and public outreach. Section 10.2 of the Paso Robles Sub basin GSP describes the plan to conduct focused public outreach and hold meetings to educate and solicit input on the proposed fee structure. We believe a similar effort should be made by the STRGBA GSA to give all who will ultimately be impacted by the GSP the opportunity to vet options and discuss the wide array of alternatives with the GSA.	Comments and example cost allocation considerations are noted. GSP costs will be discussed with stakeholders at future STRGBA GSA public meetings as implementation progresses.	
Stacy L. Henderson	SH-1-008	The GSP will necessarily have to impose restrictions on groundwater extraction for those areas where actions need to be taken for sustainability to be achieved. In contrast, in those areas where sustainability is not an issue, water may be available for transfer, especially in areas where groundwater water levels are high. We firmly believe the GSA should not attempt to restrict the ability of landowners to engage in both interbasin/Management Zone transfers or out of basin/Management Zone transfers. Rather, we believe it is appropriate for the GSA to consider developing a framework for providing credits for transfers of groundwater for beneficial use, and/or for carryover of unused groundwater allocations for use in drier periods.	Comment noted. The GSP does not currently place restrictions on extractions or transfers. As noted in Section 8.4, a series of Management Actions involving pumping reductions are included as a backstop for implementation as needed.	
TRT & CSPA	TRT-001	TRT and CSPA believe there is room for improvement in setting more ambitious goals to achieve groundwater sustainability. We encourage STRGBA to aim to exceed baseline conditions established on January 1, 2015, which was several years into an extended drought that led to overreliance on groundwater and depleted groundwater reserves.	By setting sustainable management criteria close to current water levels, the GSAs are establishing a floor to protect against future overdraft and chronic water level declines. This does not mean that water levels will be maintained at drought levels; water levels will fluctuate above the criteria in response to Subbasin hydrologic conditions. Although the Modesto Subbasin can reach sustainability through projects identified in the GSP, declining water levels are expected to fall below MTs and recovery will be required. In addition, current water levels in the western Subbasin are already so shallow that they can interfere with farming (high water table in the root zone). Managing western groundwater at higher levels would simply allow for increased subsurface outflow from the Subbasin.	
TRT & CSPA	TRT-002	To help fund a more ambitious plan, we propose that STRGBA engage with the San Francisco Public Utilities Commission (SFPUC) to explore opportunities for collaboration on infrastructure improvements, water use efficiency, and groundwater banking. We believe the SFPUC would be very interested in helping to fund projects in the Modesto Subbasin in exchange for water credits or a water insurance policy to be used in the case of drought. The SFPUC uses an extremely conservative drought planning scenario that couples the drought of record (1987-92) with the driest two-year period on record (1976/77) to create a manufactured 8.5-year design drought. This is in spite of the fact that the SFPUC's recent Long-Term Vulnerability Assessment suggests the likelihood of occurrence of the design drought is extremely low. In recent years, the SFPUC and its wholesale customers have reduced overall demand dramatically. Rationing and alternatives supplies allow them to stretch their water supplies even further. The SFPUC's 10-Year Financial Plan projects that water sales will remain flat for at least the next decade, largely due to hefty rate increases on the horizon that will encourage greater efficiency. Nonetheless, despite its enviable position, the SFPUC is seeking greater assurance that it won't run out of water.	Comment noted. The GSAs will continue to consider groundwater recharge opportunities and banking partners in the future. Initial projects for the GSP are currently expected to allow the Subbasin to reach its Sustainability Goal, but the GSAs will consider additional projects for future implementation, even if they are not currently on the GSP project list.	
TRT & CSPA	TRT-003	In addition to the Projects and Management Actions identified in Chapter 8 of the GSP, TRT and CSPA believe there are further opportunities to reduce water loss and groundwater pumping. An MID presentation on February 28, 2012 titled "Comprehensive Water Resources Management Plan" stated, "The average amount of water to be retained annually [from infrastructure upgrades] will be between 25,000 and 40,000 acre feet," and, "The total estimated cost of all anticipated improvements will be about $115 million." Amortized over 20 years, the cost of each acre-foot saved would be about $200. While expensive for farmers in the MID service area (almost 10 times what they currently pay), $200 is only one-tenth of what SFPUC customers pay for treated Tuolumne River water. It would be much cheaper for the SFPUC to help fund projects in Stanislaus County than develop alternative water supplies in the Bay Area.	Comment noted; see response above. The GSAs will consider outside partners and investments for infrastructure upgrades in the future as appropriate.	

Author	CIN	Comment	Comment Response	*GSP Edits*
TRT & CSPA	TRT-004	Furthermore, MID's 2020 Agricultural Water Management Plan (AWMP) states that MID's on-farm irrigation improvement program "provides up to 50% funding for physical improvements and management practices" and "when state grants are available, MID has contributed up to 67% of the projects' cost." This program has tremendous potential. For example, after the South San Joaquin Irrigation District (SSJID) initiated a pilot project to automate and pressurize an irrigation system, water and energy use decreased by 30% and crop yield increased by 30%.2 However, funding is needed to improve on-farm infrastructure to achieve greater water use efficiency, and could be secured through an agreement with the SFPUC.	Comment noted. See responses to the two comments above.	
TRT & CSPA	TRT-005	The SFPUC could help fund the in-lieu and direct groundwater recharge projects identified in the GSP. Another possibility is that the SFPUC could use the Hetch Hetchy aqueduct, which runs the length of the Modesto Subbasin, to deliver water to areas with good groundwater recharge potential. An additional benefit of such a program could be to restore, enhance or create vernal pool habitats for threatened species.	Comment noted. The GSAs will continue to prioritize GSP projects with multiple benefits including environmental benefits such as habitat restoration and protection of threatened species. See also the responses to the other TRT comments above.	
TRT & CSPA	TRT-005	To incentivize the SFPUC's participation in groundwater recharge projects, a groundwater water bank could be established to operate in a similar fashion to the Don Pedro Water Bank. The SFPUC would essentially pre-pay water for use by parties in the Modesto Subbasin (especially in dry years), and be allowed to redeem banked credits at Hetch Hetchy by diverting additional water there during droughts. Similar to the Don Pedro Water Bank, no water from the Modesto Subbasin would be directly transported to the San Francisco Bay Area. Water users in the Modesto Subbasin would instead rely on groundwater already banked by the SFPUC, while the SFPUC could divert a defined amount of water at Hetch Hetchy above its normal allocation as a junior diverter.	Comment noted. See responses to the two comments above. As stated, the GSAs will continue to consider more opportunities for groundwater replenishment and the potential for outside partners in the future, even if such projects are not on the current GSP project list.	
TRT & CSPA	TRT-006	Finally, we support the following recommendation from the National Marine Fisheries Service (NMFS) that STRGBA explore the possibility of recharging groundwater through floodplain inundation: NMFS recommendation for future Projects and Management Actions: We suspect that groundwater recharge projects are likely to be an important action implemented as part of the effort to achieve groundwater sustainability in the Modesto subbasin. NMFS encourages the GSA to consider implementing recharge projects that facilitate floodplain inundation while offering multiple benefits, including downstream flood attenuation, groundwater recharge, and ecosystem restoration. Managed floodplain inundation can recharge floodplain aquifers, which in turn slowly release stored water back to the stream during summer months. These projects also reconnect the stream channel with floodplain habitat, which can benefit juvenile salmon and steelhead by creating off-channel habitat characterized by slow water velocities, ample cover in the form of submerged vegetation, and high food availability. As an added bonus, these types of multi-benefit projects likely have more diverse grant funding streams that can lower their cost as compared to traditional off-channel recharge projects. NMFS stands ready to work with any GSA interested in designing and implementing floodplain recharge projects.3	Comment notes; see responses to TRT-005 (and other TRT comments) above.	
Clean Water Action et. al	CWA-001	Based on our review, we have significant concerns regarding the treatment of key beneficial users in the Draft GSP and consider the GSP to be insufficient under SGMA. We highlight the following findings: 1. Beneficial uses and users are not sufficiently considered in GSP development. a. Human Right to Water considerations are not sufficiently incorporated. b. Public trust resources are not sufficiently considered. c. Impacts of Minimum Thresholds, Measurable Objectives and Undesirable Results on beneficial uses and users are not sufficiently analyzed. 2. Climate change is not sufficiently considered. 3. Data gaps are not sufficiently identified and the GSP needs additional plans to eliminate them. 4. Projects and Management Actions do not sufficiently consider potential impacts or benefits to beneficial uses and users.	Summary text - recommend removal - covered in comments below.	
Clean Water Action et. al	CWA-002	The identification of Disadvantaged Communities (DACs) and drinking water users is incomplete. The GSP provides information on DACs, including identification by name and location on a map (Figure 4-1), as well as the population dependent on groundwater as their source of drinking water in the subbasin. However, the GSP fails to clearly state the population of each DAC. The GSP provides a density map of domestic wells in the subbasin (Figure 2-14). However, the plan fails to provide depth of these wells (such as minimum well depth, average well depth, or depth range) within the subbasin. This information is necessary to understand the distribution of shallow and vulnerable drinking water wells within the subbasin. These missing elements are required for the GSAs to fully understand the specific interests and water demands of these beneficial users, and to support the consideration of beneficial users in the development of sustainable management criteria and selection of projects and management actions.	The DAC map on Figure 4-1 has been updated to include the Census Block Group, along with the Census Place. The population of each DAC has also been added to Table 4-2 in Chapter 4. The domestic well analysis in Section 2.3.3 goes farther than just reporting well depths. That analysis compares well depths for more than 2,000 domestic wells to Fall 2015 water levels and estimates the thickness of the water column in the well. This not only identifies wells that could be dewatered at 2015 levels, but estimates which wells have less than 50 feet of saturated thickness and are most vulnerable if water levels declined significantly lower than those levels. A separate but similar analysis was conducted on the more than 200 domestic wells that have been drilled since 2015. Figures 2-16 and 2-17 summarize those analyses. As discussed in the text, about 5 percent of the domestic wells failed during the 2015 drought, but with more than 200 deeper wells drilled since that time, most have likely been replaced. Only a small number of replacement wells appear vulnerable to water level declines anticipated with selected minimum thresholds. In addition, domestic well data is also included as a known data gap in Section 9.5 of the GSP. Moving forward during GSP implementation, the GSAs will consider how to best improve domestic well datasets including use of the Nitrate Control Program as a resource. Those analyses were used to select sustainable management criteria that considered the specific interests and water demands of these beneficial uses. In addition, contrary to the assertion in the comment, projects and management actions were selected specifically to provide protection to these vulnerable areas. As an example, the City of Waterford project (Section 8.2.1.4) provides surface water for drinking water supply, which will reduce local pumping in this DAC area near vulnerable domestic wells.	Table 4-2 in Section 4.2.10; Section 2.3.3; Section 9.5
Clean Water Action et. al	CWA-002	The identification of Interconnected Surface Waters (ISW) is insufficient. The GSP states that the ISW analysis is awaiting modeling results. As this analysis is finalized for the final GSP, note our recommendations listed below. ● Provide a map of streams in the subbasin. Clearly label reaches as interconnected (gaining/losing) or disconnected. Consider any segments with data gaps as potential ISWs and clearly mark them as such on maps provided in the GSP.	The analysis of interconnected surface water is discussed in Section 3.2.7 with modeling results from water budget analyses in Chapter 5. As described in Section 3.2.7, all three river boundaries - the Stanislaus, Tuolumne, and San Joaquin rivers - are all interconnected surface water as defined by SGMA. Further, all rivers remain connected over the historical and projected future conditions study periods. Each river was analyzed with the C2VSimTM surface water-groundwater model for losing and gaining reaches over time. Specifically, each model node was determine as predominantly gaining or losing over the historical study period and the future projected 50-year period. Maps similar to those being recommended in the comment are provided on Figure 3-61. Additionally, the nuber and location of monitoring sites along the river boundaries and interconnected surface waters were identified as a data gap in Section 9.5. The GSAs intends to coordinate with neighboring subbasins to install additional monitoring wells along the river boundaries as opportunities arise.	Section 9.5

Author	CIN	Comment	Comment Response	*GSP Edits*
Clean Water Action et. al	CWA-003	● Use seasonal data over multiple water year types to capture the variability in environmental conditions inherent in California's climate, when mapping ISWs. We recommend the 10-year pre-SGMA baseline period of 2005 to 2015.	The C2VSimTM model analyzed interconnected surface water conditions over the 25-year historical study period as well as the 50-year projected future (baseline) conditions.	
Clean Water Action et. al	CWA-004	● To confirm and illustrate the results of the modeling analysis, overlay the subbasin's stream reaches on depth-to-groundwater contour maps to illustrate groundwater depths and the groundwater gradient near the stream reaches. Show the location of groundwater wells used in the analysis.	The calibrated C2VSimTM model analyzes the stream's reaches at each node along the rivers (see Figure 3-61). The analysis integrates surface water and groundwater interaction in a much more contiguous and detailed manner than could be accomplished with well data.	
Clean Water Action et. al	CWA-005	● For the depth-to-groundwater contour maps, use the best practices presented in Attachment D. Specifically, ensure that the first step is contouring groundwater elevations, and then subtracting this layer from land surface elevations from a Digital Elevation Model (DEM) to estimate depth-to-groundwater contours across the landscape. This will provide accurate contours of depth to groundwater along streams and other land surface depressions where GDEs are commonly found.	The depth to water maps that were used to support the domestic well analysis (Figures 2-16 and 2-17) and the GDE analysis (Figures 3-63 and 3-65) incorporated the DEM and were conducted in a manner consistent with the methodology suggested in the comment.	
Clean Water Action et. al	CWA-006	The identification of Groundwater Dependent Ecosystems (GDEs) is insufficient. The GSP took initial steps to identify and map GDEs using the Natural Communities Commonly Associated with Groundwater dataset (NC dataset), but states that the analysis of GDEs will be continued after the analysis of ISWs is complete. As this analysis is finalized for the final GSP, note our recommendations listed below. ● Use depth-to-groundwater data from multiple seasons and water year types (e.g., wet, dry, average, drought) to determine the range of depth to groundwater around NC dataset polygons. We recommend that a baseline period (10 years from 2005 to 2015) be established to characterize groundwater conditions over multiple water year types. Refer to Attachment D of this letter for best practices for using local groundwater data to verify whether polygons in the NC Dataset are supported by groundwater in an aquifer.	The modeling analysis of ISW referenced in the responses above indicated that groundwater was connected to the river systems along the Subbasin boundaries and was sufficiently high to support GDEs along the rivers. Depth to groundwater analyses were conducted using depth to groundwater maps generated in the manner suggested by the comments. The analysis compared the NC dataset polygons to both wet and dry conditions to characterize conditions over different water year types. In addition, an analysis of polygons located on the Mapes Ranch in the western Subbasin was conducted by Moore Biological Consultants to determine whether potential GDEs identified in the NC dataset on this property were actual GDEs. That analysis was used to eliminate additional polygons; the full analysis is included in Appendix D.	
Clean Water Action et. al	CWA-007	● Provide depth-to-groundwater contour maps, noting the best practices presented in Attachment D. Specifically, ensure that the first step is contouring groundwater elevations, and then subtracting this layer from land surface elevations from a DEM to estimate depth-to-groundwater contours across the landscape.	As mentioned in the response above, the depth-to-groundwater maps were conducted using the best practices presented in Attachment D, including the GIS analysis that computes the depths from the DEM.	
Clean Water Action et. al	CWA-008	● If insufficient data are available to describe groundwater conditions within or near polygons from the NC dataset, include those polygons as "Potential GDEs" in the GSP until data gaps are reconciled in the monitoring network.	Comment noted. Only the depth to groundwater analysis and the local analysis by Moore Biological Consultants were used to eliminate polygons. All remaining polygons were retained as potential GDEs.	
Clean Water Action et. al	CWA-009	Provide a complete inventory, map, or description of fauna (e.g., birds, fish, amphibian) and flora (e.g., plants) species in the subbasin and note any threatened or endangered species (see Attachment C in this letter for a list of freshwater species located in the Modesto Subbasin).	The species associated with the NC polygons are retained in the GIS datasets as needed. Species associated with those polygons analyzed on Mapes Ranch are documented in Appendix D. The sustainable management criteria were set sufficiently high along the river boundaries to retain the connectivity of surface water and groundwater. Remaining potential GDEs were identified as a data gap and are subject to additional future analysis (see Section 9.5).	Section 9.5; Appendix D
Clean Water Action et. al	CWA-10	Native vegetation and managed wetlands are water use sectors that are required to be included n the water budget. The integration of these ecosystems into the water budget s insufficient. The water budget did explicitly include the current, historical, and projected demands of native vegetation, but did not include the current, historical, and projected demands of managed wetlands. Managed wetlands are not mentioned in the GSP, but are present in DWR's statewide cropping dataset on the SGMA Data Viewer. The omission of explicit water demands for managed wetlands is problematic because key environmental uses of groundwater are not being accounted for as water supply decisions are made using this budget, nor will they likely be considered in project and management actions. Discuss and map the presence of managed wetlands in the subbasin. Quantify and present all water use sector demands in the historical, current, and projected water budgets with individual line items for each water use sector, including managed wetlands.	As noted by the comment, native vegetation is included in the water budget analysis. The GSAs are not aware of currently managed wetlands in the Subbasin. Previous DWR statewide cropping datasets (2014) indicated small areas around the San Joaquin River that were identified as Riparian/managed wetlands (mostly west of the river and outside the Subbasin). However, those areas are not interpreted as managed wetlands in more recent datasets (2018).	
Clean Water Action et. al	CWA-011	Stakeholder Engagement During GSP Development Stakeholder engagement during GSP development is insufficient. SGMA's requirement for public notice and engagement of stakeholders is not fully met by the description in the Communication and Engagement Plan (Appendix D). The plan states that Modesto Subbasin Stakeholder Assessment was conducted as part of the stakeholder assessment, however it was based on a small sample size and the results show that the assessment did not include beneficial users including DAC members, domestic well owners, or environmental stakeholders.	Comment noted. The stakeholder assessment and Communication and Engagement Plan, provided in Appendix D to the GSP, was intended to inform outreach activities during GSP development. Chapter 4 of the GSP describes how stakeholders, including DAC members, domestic well owners, and environmental stakeholders, were noticed about and engaged in development of the GSP. Domestic well owners and organizations representing DAC members and environmental stakeholders were included in the stakeholder assessment interviews. The stakeholder assessment also included a bilingual survey that solicited input stakeholders throughout the Modesto Subbasin.	
Clean Water Action et. al	CWA-012	[illegible] interests of these DACs are represented on the GSA Committee and Technical Advisory Committee by city representatives. However, we note the following deficiencies with the overall stakeholder engagement process: ● The GSP documents opportunities for public involvement and engagement in very general terms for listed stakeholders. Public notice and engagement activities include monthly GSA Committee and Technical Advisory Committee meetings, notifications via the GSA website, emails to the Interested Parties Database, public workshops, and GSP Office Hours for informational purposes. Table 4-1 (Nature of Consultation with Beneficial Users) of the Communication and Engagement Plan does not include environmental stakeholder representation on the GSA Committee or Technical Advisory Committee for the subbasin, and the GSP does not document targeted outreach to environmental stakeholders.	Comment noted. Environmental stakeholders had the opportunity to attend and provide comment during monthly meetings, workshops, and other outreach activities, and provide comment on draft GSP chapters.	
Clean Water Action et. al	CWA-013	● The plan does not include documentation on how stakeholder input from the above-mentioned outreach and engagement was solicited, considered, and incorporated into the GSP development process, or how it will continue into the GSP implementation phase.	Chapter 4 of GSP describes how stakeholder input was solicited, considered, and incorporated into the GSP development process. Chapter 4, Section 4.6 describes anticipated public outreach activities during GSP implementation. Public input provided during public workshops, GSP Office Hours, and GSA meetings was documented in workshop summaries and meeting minutes and considered by the GSAs and planning staff during development of the GSP. Copies of workshop and Office Hours summaries are provided in Appendix D to the GSP. Public meeting minutes are provided on the STRGBA GSA website.	
Clean Water Action et. al	CWA-014	● In the Communication and Engagement Plan, describe active and targeted outreach to engage all stakeholders throughout the GSP development and implementation phases. Refer to Attachment B for specific recommendations on how to actively engage stakeholders during all phases of the GSP process.	Chapter 4, Section 4.6 describes anticipated public outreach activities during GSP implementation.	
Clean Water Action et. al	CWA-015	● Provide documentation on how stakeholder input was incorporated into the GSP development process.	Chapter 4 of GSP describes how stakeholder input was solicited, considered, and incorporated into the GSP development process. Public input provided during public workshops, GSP Office Hours, and GSA meetings was documented in workshop summaries and meeting minutes and considered by the GSAs and planning staff during development of the GSP. Copies of workshop and Office Hours summaries are provided in Appendix D to the GSP. Public meeting minutes are provided on the STRGBA GSA website.	
Clean Water Action et. al	CWA-016	• Utilize DWR's tribal engagement guidance to comprehensively identify, involve, and address all tribes and tribal interests that may be present in the subbasin.	Comment noted. As described in Chapters 2 and 4 of the GSP, no tribal lands are documented in the DWR Water Management Planning Tool or are known to exist in the Modesto Subbasin.	
Clean Water Action et. al	CWA-017	The consideration of beneficial uses and users when establishing sustainable management criteria (SMC) is insufficient. The consideration of potential impacts on all beneficial users of groundwater in the basin are required when defining undesirable results and establishing minimum thresholds.	The selection of sustainable management criteria considered all beneficial uses in the Subbasin. By selecting protective criteria for the sustainability indicators, numerous beneficial uses are covered by each.	

Author	CIN	Comment	Comment Response	*GSP Edits*
Clean Water Action et. al	CWA-018	For chronic lowering of groundwater levels, the GSP provides discussion of the impact on domestic wells from the recent drought. The GSP states (p. 6-13): “For this GSP, the widespread impacts to water supply wells during the 2014-2017 drought (which were caused by then-historic groundwater level declines) are considered to be undesirable results. Although impacts appear to be mostly mitigated at current groundwater levels, the GSP strives to avoid similar undesirable results in the future by arresting chronic groundwater level declines in the Subbasin.” Minimum thresholds are set to the historic low groundwater elevation observed or estimated during water years 1991-2020 at each representative monitoring location. The GSP justifies this in part with the following statement (p. 6-18): “The large number of new and deeper domestic wells drilled since 2015 can reasonably be assumed to accommodate current low water levels, with some tolerance for future droughts.” However, despite the discussion of impacts to domestic wells during the previous drought, no quantitative data is provided on the impact to current domestic wells.	Quantitative analyses of domestic well impacts are included in Section 2.3.3. An internal reference to that section has been added to Section 6.3.1.1 and 6.3.2.1 in the GSP. Data gaps are recognized for domestic wells including status and construction data. Data gaps are addressed in Section 9.5.3.	Section 2.3.3; Section 6.3.1.1 and 6.3.2.1; Section 9.5
Clean Water Action et. al	CWA-019	The GSP does not sufficiently describe whether minimum thresholds set by the GSAs will avoid significant and unreasonable loss of drinking water to domestic well users, especially given the absence of a domestic well impact mitigation plan in the GSP. In addition, the GSP does not sufficiently describe or analyze direct or indirect impacts on DACs or drinking water users when defining undesirable results, nor does it describe how the groundwater level minimum thresholds are consistent with the Human Right to Water policy and will avoid significant and unreasonable impacts on these beneficial users.	As noted above, Section 2.3.3 contains a quantitative analysis of domestic wells. As described in Section 6.3, the sustainable management criteria for chronic lowering of water levels specifically relates to drinking water wells. Table 6-2 summarizes adverse impacts to domestic and municipal drinking water wells used in defining undesirable results. As mentioned above, an analysis of domestic wells was provided in Section 2.3.3 and indicated a relatively small number of wells would likely be impacted at the selected MTs -- less than the 5% of total domestic wells that failed during 2015-2017. As demonstrated in Appendix F, the 2020 water levels over most of the Subbasin are within about 10 feet of the MTs. Yet very few domestic well problems have been identified over the last few years even though drought conditions have persisted. Declines during drought were generally about 25 feet in the area of vulnerable domestic wells (Figure 3-25); the domestic well analysis in Section 2.3.3 specifically notes that only a small number of domestic wells have less than 50 feet of saturated thickness in the wells at the 2015 drought water levels (Figures 3-24 and 3-25). Collectively, these data indicate that domestic wells will be protected at the selected MTs. The map of disadvantaged communities (Figure 4-1) demonstrates that areas of vulnerable domestic wells (Figures 2-17 and 6-1) overlap DACs including Waterford and Oakdale. In Section 6.3.1.2, the potential effects on beneficial uses from undesirable results states the following: "...domestic well owners in the Modesto Subbasin are often without financial resources necessary to replace their household water supply. Many domestic wells are located in underrepresented and economically-disadvantaged communities where wells are the only available drinking water source." Importantly, GSP projects are being specifically targeted to control water level declines in the central and eastern portions of the Subbasin where domestic well failures previously occurred. Specifically, the City of Waterford will be provided surface water supply to decrease local groundwater pumping (Section 8.2.1.4). GSP projects planned by the City of Modesto involve recharge and decreased groundwtaer pumping and will benefit local DAC areas and areas of domestic wells (Sections 8.2.1.1 and 8.2.1.3).	
Clean Water Action et. al	CWA-020	The GSP establishes an undesirable result to be when at least 33% of representative monitoring wells exceed the minimum threshold for a principal aquifer in three consecutive fall monitoring events. Using this definition of undesirable results for groundwater levels, significant and unreasonable impacts to beneficial users experienced during dry years or periods of drought will not result in an undesirable result. This is problematic since the GSP is failing to manage the subbasin in such a way that strives to minimize significant adverse impacts to beneficial users, which are often felt greatest in below-average, dry, and drought years. Furthermore, the requirement that one-third of monitoring wells exceed the minimum threshold before triggering an undesirable result means that areas with high concentrations of domestic wells may experience impacts significantly greater than the established minimum threshold because the one-third threshold isn’t triggered.	As explained in Section 6.3.1.3, the undesirable result criteria use the 2015 drought to predict when undesirable results would occur. When water levels declined in three Fall monitoring events from 2013 - 2015, domestic wells and municipal wells began to fail. Note that the criteria do not allow for a Spring recovery to restart the clock on Fall declines, which are used to represent multi-year declines versus seasonal declines. In addition, the 33 percent allows only a small number of monitoring wells to fall below the MT before an undesirable result is triggered -- 13 wells out of 61 total wells in the water level monitoring network (33% is applied for each Principal Aquifer not the total number of wells. The percentage is about 20% of the total RMWs). Finally, the percentage of wells also recognizes the geometry of the long and relatively narrow Subbasin and the location of current water level declines - which are primarily in the Non-District East Management Area. This area has been targeted for GSP projects to arrest these declines.	
Clean Water Action et. al	CWA-021	For degraded water quality, minimum thresholds are set as the primary or secondary California maximum contaminant level (MCL) for water quality constituents of concern (COCs), which include both anthropogenic and naturally-occurring COCs. Measurable objectives are defined as the historical maximum concentration of each constituent of concern at each representative monitoring location. The GSP establishes undesirable results as follows (p. 6-37): “An undesirable result will occur when a Subbasin potable water supply well in the defined monitoring network reports a new (first-time) exceedance of an MT or an increase in concentration above the MT for a Modesto Subbasin constituent of concern that results in increased operational costs and is caused by GSA management activities as listed above.” The GSP only includes a very general discussion of impacts on drinking water users when defining undesirable results and evaluating the impacts of proposed minimum thresholds for degraded water quality. The GSP does not, however, mention or discuss direct and indirect impacts on DACs when defining undesirable results for degraded water quality, nor does it evaluate the cumulative or indirect impacts of proposed minimum thresholds on these stakeholders.	A more technical and statistical analysis of groundwater quality is provided in Section 3.2.5 of the Basin Setting. In Section 6.6.1.1 Causes of Undesirable Results, the GSP states: "Increasing costs to provide a reliable and safe drinking water supply could lead to undesirable results. Costs and impacts for domestic wells are also a concern because those wells often represent the sole water supply for the household." Further, in Section 6.6.1.2 Potential Effects on Beneficial Uses, the GSP states: "If constituents of concern impact domestic wells, residents may lose their water supply; if water quality is not well known in domestic wells, impacts to public health and safety could occur." A comparison of Figure 4-1 and 2-17 demonstrates that most domestic wells are located in disadvantaged communities (Waterford, vicinity of Oakdale, Empire, and other areas).	

Author	CIN	Comment	Comment Response	*GSP Edits*
Clean Water Action et. al	CWA-022	Sustainable management criteria for chronic lowering of groundwater levels provided in the GSP do not consider potential impacts to environmental beneficial users. Since GDEs are present in the subbasin, they must be considered when developing SMC for chronic lowering of groundwater levels. The GSP neither describes nor analyzes direct or indirect impacts on environmental users of groundwater when defining undesirable results. This is problematic because without identifying potential impacts on GDEs, minimum thresholds may compromise, or even destroy, these environmental beneficial users. The GSP justifies the consideration of impacts to GDEs for only the depletion of interconnected surface water sustainability indicator by stating that GDEs are primarily located near surface water features. However, Figure 3-60 (Vegetation Commonly Associated with Groundwater and Wetlands) shows GDEs in areas of the subbasin that are non-adjacent to surface water. ● When establishing SMC for the subbasin, consider that the SGMA statute [Water Code §10727.4(l)] specifically calls out that GSPs shall include "impacts on groundwater dependent ecosystems." ● When defining undesirable results for chronic lowering of groundwater levels, provide specifics on what biological responses (e.g., extent of habitat, growth, recruitment rates) would best characterize a significant and unreasonable impact to GDEs. Undesirable results to environmental users occur when 'significant and unreasonable' effects on beneficial users are caused by one of the sustainability indicators (i.e., chronic lowering of groundwater levels, degraded water quality, or depletion of interconnected surface water). Thus, potential impacts on environmental beneficial uses and users need to be considered when defining undesirable results in the subbasin. Defining undesirable results is the crucial first step before the minimum thresholds can be determined. When defining undesirable results for depletion of interconnected surface water, include a description of potential impacts on instream habitats within ISWs when minimum thresholds in the subbasin are reached.14 The GSP should confirm that minimum thresholds for ISWs avoid adverse impacts on environmental beneficial users of interconnected surface waters as these environmental users could be left unprotected by the GSP. These recommendations apply especially to environmental beneficial users that are already protected under pre-existing state or federal law.	Because almost all of the GDEs in the Modesto Subbasin are clustered along the river boundaries, they are considered and protected by MTs for interconnected surface water, which are higher water levels than used for chronic lowering of water levels in inland areas. Nonetheless, it is not true that GDEs were not considered in the chronic lowering of water level analyses. In Section 6.3.1 Undesirable Results for Chronic Lowering of Water Levels, the GSP states: "In addition to impacts to wells as described below, the lowering of groundwater levels may also lead to undesirable results for the other sustainability indicators such as reduction of groundwater in storage, land subsidence, depletions of interconnected surface water and adverse impacts to groundwater dependent ecosystems (GDEs)." Also, because the MTs do not allow for long-term water level declines beyond what has already occurred in the Subbasin, no future adverse impacts to inland GDEs would be expected. Section 6.3.1.2 states: "Given that GDEs in the Modesto Subbasin are primarily located along the three river boundaries, GDE impacts are also affected by the interconnected surface water sustainability indicator, as discussed in Section 6.8." Section 6.8.1.2 notes that potential GDEs are located along most of the reaches along the Subbasin river boundaries and recognize that lower groundwater levels could impact these GDEs. A more detailed discussion of potential GDEs in the Modesto Subbasin is provided in Section 3.2.7. Similar to GDEs, environmental uses of groundwater -- including instream habitat in interconnected surface water -- is considered with the interconnected surface water sustainability indicator rather than the chronic lowering of water level indicator. The interconnected surface water MTs are more protective of GDEs and instream habitat than chronic lowering of water levels. As mentioned previously, the GSAs are not required to correct for undesirable results that occurred prior to January 1, 2015. The sustainable management criteria protects interconnected surface water -- including instream habitat -- by establishing MTs at 2015 levels.	
Clean Water Action et. al	CWA-023	Sustainable management criteria for depletion of interconnected surface water are established by proxy using groundwater levels. Minimum thresholds are defined as the low groundwater elevation observed in Fall 2015 at each representative monitoring location. Undesirable results are established as follows (p. 6-60): "An undesirable result will occur on either the Tuolumne or Stanislaus rivers when 33% of representative monitoring wells for that river exceed the MT in three consecutive Fall monitoring events. An undesirable result will occur on the San Joaquin River when 50% of representative monitoring wells for that river exceed the MT in three consecutive Fall monitoring events." However, if minimum thresholds are set to drought-level low groundwater levels and the subbasin is allowed to operate at or close to those levels over many years, there is a risk of causing catastrophic damage to ecosystems that are more adverse than what was occurring at the height of the 2012-2016 drought. This is because California ecosystems, which are adapted to our Mediterranean climate, have some drought strategies that they can utilize to deal with short-term water stress. However, if the drought conditions are prolonged, the ecosystem can collapse. No analysis or discussion is presented to describe how the SMC will affect beneficial users, and more specifically GDEs, or the impact of these minimum thresholds on GDEs in the subbasin. Furthermore, the GSP makes no attempt to evaluate how the proposed minimum thresholds and measurable objectives avoid significant and unreasonable effects on surface water beneficial users in the subbasin (see Attachment C for a list of environmental users in the subbasin), such as increased mortality and inability to perform key life processes (e.g., reproduction, migration).	By setting the MTs at 2015 levels, a floor is established that, when exceeded, could lead to undesirable results. Notwithstanding the 2015 MTs, water levels will fluctuate between the MT and higher levels in response to ongoing hydrologic conditions. The GSAs will not manage groundwater such that water levels are maintained at low levels near the MTs. If fact, all of the measurable objectives (MOs) -- which are defined as "...quantifiable goals for the maintenance or improvement of specified groundwater conditions" -- are all above the MT and based on historical high water levels in the Subbasin. By setting the MTs at 2015 levels - i.e., water levels that have already occurred with respect to current instream habitat -- the GSP is being protective to avoid future predicted streamflow depletions that could affect environmental uses of groundwater in interconnected surface water. These actions, combined with the separate process of meeting instream flow requirements from FERC licensing, are protective of instream habitat and GDEs.	
Clean Water Action et. al	CWA-024	The SGMA statute identifies climate change as a significant threat to groundwater resources and one that must be examined and incorporated in the GSPs. The GSP Regulations require integration of climate change into the projected water budget to ensure that projects and management actions sufficiently account for the range of potential climate futures.16 The effects of climate change will intensify the impacts of water stress on GDEs, making available shallow groundwater resources especially critical to their survival. Condon et al. (2020) shows that GDEs are more likely to succumb to water stress and rely more on groundwater during times of drought.17 When shallow groundwater is unavailable, riparian forests can die off and key life processes (e.g., migration and spawning) for aquatic organisms, such as steelhead, can be impeded. The integration of climate change into the projected water budget is insufficient. The GSP incorporates climate change into the projected water budget using DWR change factors for 2070. However, the GSP does not indicate whether multiple climate scenarios (e.g., the 2070 extremely wet and extremely dry climate scenarios) were considered in the projected water budget. The GSP would benefit from clearly and transparently incorporating the extremely wet and dry scenarios provided by DWR into projected water budgets, or selecting more appropriate extreme scenarios for the subbasin. While these extreme scenarios may have a lower likelihood of occurring and their consideration is not required (only suggested) by DWR, their consequences could be significant and their inclusion can help identify important vulnerabilities in the subbasin's approach to groundwater management.	The GSP intends to provide the most realistic projected conditions scenario that supports sustainable groundwater management including effects of implementation of projects and management actions. To that end, all efforts are made to minimize the uncertainties in the projected conditions with respect to data including the hydrologic, hydrogeologic, land and water use operations, as well as climate change. The climate change scenario analysis used in the GSP reflects the most likely scenario, based on the DWR analysis, i.e., the 2070 central tendency. Although extreme dry and wet climate scenarios are also presented by DWR, the GSP adopted the most likely scenario to evaluate impacts on the water budget components. The evolving approaches involved in the climate change analysis introduce significant uncertainties, which do not lend itself to appropriate engineering design of projects for GSP development. Consistent with adaptive management, the GSAs can perform additional analysis of impacts of climate change on projects during GSP impelmentation, as warranted. Consistent with the approach of adaptive management, additional Group 3 projects and management actions have been identified in the GSP for implementation if future conditions warrant.	
Clean Water Action et. al	CWA-025	The GSP integrates climate change into key inputs (e.g., changes in precipitation, evapotranspiration, and surface water flow) of the projected water budget. However, the sustainable yield is based on the projected baseline water budget, instead of the projected water budget with climate change incorporated. If the water budgets are incomplete, including the omission of extremely wet and dry scenarios and the omission of climate change projections in the sustainable yield calculations, then there is increased uncertainty in virtually every subsequent calculation used to plan for projects, derive measurable objectives, and set minimum thresholds. Plans that do not adequately include climate change projections may underestimate future impacts on vulnerable beneficial users of groundwater such as ecosystems, DACs, and domestic well owners. ● Integrate climate change, including extreme climate scenarios, into all elements of the projected water budget to form the basis for development of sustainable management criteria and projects and management actions. ● Calculate sustainable yield based on the projected water budget with climate change incorporated. ● Incorporate climate change scenarios into projects and management actions.	The GSP has included the most likely climate change scenario, per DWR (2070 central tendency), in the analysis of all components of the water budget. The GSP, however, intends to minimize these uncertainties on the sustainable yield estimates and definition and sizing of the projects and management actions. For immediate implementation, GSP projects require accurate considerations on the size, water source, and economics and financing of the projects to be implemented. As stated above, additional Group 3 projects and management actions have been identified in the GSP for implementation if future conditions warrant.	
Clean Water Action et. al	CWA-026	The consideration of beneficial users when establishing monitoring networks is insufficient, due to lack of adequate Representative Monitoring Sites (RMSs) in the monitoring network that represent shallow groundwater elevations around DACs, domestic wells, GDEs, and ISWs in the subbasin. These beneficial users may remain unprotected by the GSP without adequate monitoring and identification of data gaps in the shallow aquifer. The Plan therefore fails to meet SGMA's requirements for the monitoring network.	A comparison of Figures 4-1, 7-1, 7-2, and 7-3 shows that representative monitoring wells are located in each of the DACs/SDACs in the Subbasin including Waterford, Empire, Airport, West Modesto, and Oakdale. In addition, a comparison of Figures 2-15, 2-16, 2-17, 7-1, and 7-3 shows that numerous representative monitoring wells are located in areas of domestic wells, including areas of previously failed wells and areas of current vulnerable wells. The comments fail to recognize that representative monitoring wells do not have to be within a certain distance of a single domestic well to monitor groundwater levels for that area. By managing the MTs close to previous water level surfaces within the Subbasin rather than isolated local levels, groundwater levels in the hydraulically-connected Subbasin can be readily monitored with fewer wells. Notwithstanding these responses, the GSP recognizes that improvements to the monitoring network in certain areas would be beneficial and will be made over time (Sections 9.4.4 and 9.5.1).	Section 9.5.1

Author	CIN	Comment	Comment Response	*GSP Edits*
Clean Water Action et. al	CWA-027	We note that the plan includes a strategy to improve the monitoring network stated as follows (p. 7-3): “In addition to the representative wells in the monitoring networks, the GSAs will measure groundwater elevations in over 40 existing wells. These wells will be designated as SGMA monitoring wells, and will not be used to monitor the sustainability indicators, and therefore do not have MTs and MOs However, groundwater elevation data collected from the SGMA monitoring wells will be used for monitoring overall groundwater conditions and support analyses, such as the preparation of groundwater elevation contour maps. As part of the GSP five-year update, water level data from the SGMA monitoring wells will be compared to data from representative monitoring wells and these wells can be added to the monitoring network to reduce uncertainty or address data gaps, as needed.” Figure 7-4 (Water Quality Monitoring Sites) shows sufficient representation of DACs and drinking water users for the water quality monitoring network. Maps of shallow and deep wells within the subbasin (Figures 7-1 to 7-3) show insufficient spatial representation of DACs and drinking water users for the groundwater elevations monitoring network, particularly in areas with the highest density of drinking water wells. Refer to Attachment E for maps of these monitoring sites in relation to key beneficial users of groundwater. Note that we were only able to map groundwater elevation RMSs with information provided in the Draft GSP. The GSP states (p. 7-14): “The GSAs have adopted a Management Action to make ongoing improvements to the current GSP monitoring network (see Section 8.x). Additional improvements to the monitoring network are envisioned in the first five years of GSP implementation as described in Section 8.x.” Chapter 8 of the GSP (Projects and Management Actions) fails to provide specific projects and management actions that address shallow groundwater wells within the subbasin. Additionally, the GSP does not provide specific plans, such as locations or a timeline, to fill the mentioned data gaps. ● Provide maps that overlay current and proposed monitoring well locations with the locations of DACs, domestic wells, and GDEs to clearly identify monitored areas. ● Increase the number of RMSs in the shallow aquifer across the subbasin as needed to map ISWs and adequately monitor all groundwater condition indicators across the subbasin and at appropriate depths for all beneficial users. Prioritize proximity to DACs, domestic wells, GDEs, and ISWs when identifying new RMSs. ● Ensure groundwater elevation and water quality RMSs are monitoring groundwater conditions spatially and at the correct depth for all beneficial users especially DACs, domestic wells, and GDEs. ● Describe biological monitoring that can be used to assess the potential for significant and unreasonable impacts to GDEs or ISWs due to groundwater conditions in the subbasin. ● Clarify which section of Chapter 8 provides further discussion of improvements to the monitoring network. Ensure the GSP includes specific plans to address data gaps for GDEs and ISWs.	Comments are noted regarding the inclusion of additional SGMA wells and the sufficiency of the water quality monitoring network. With regards to the comment that monitoring is insufficient in areas of DACs and drinking water wells, please refer to the response above. With regards to the reference of a management action for monitoring network improvements, the action to address data gaps is included as an implementation activity in Chapter 9.5.1. With regards to the bulleted recommendations included in the comments: • Figure 4-1 provides locations of DACs. Domestic Well maps are provided on Figures 2-14 through 2-17. Potential GDEs are provided on Figure 3-67. • As indicated on Figure 7-1 and 7-3, sufficient shallow wells are monitored for DACs and domestic wells. Additional monitoring wells are planned for interconnected surface water and will be identified and coordinated with adjacent subbasins, where additional wells are also being planned (see Section 9.5.1). • See first bullet above and response to Comment CWA-026 above. • Various research and monitoring programs are ongoing along the Tuolumne River as part of the separate FERC licensing project. Monitoring for the GSP does not duplicate those efforts and is conducted through groundwater elevation and streamflow monitoring. • Improvements to the monitoring network are incorporated into the implementation activities to address data gaps in Section 9.5.1.	Chapter 7 references to Management Action clarified to refer to data gap analysis and Implementation activities; Section 9.5.1
Clean Water Action et. al	CWA-028	The consideration of beneficial users when developing projects and management actions is incomplete. The GSP identifies benefits and impacts of identified projects and management actions, including water quality impacts, to key beneficial users of groundwater such as DACs and drinking water users. However, the projects and management actions to improve water supply and GDE habitats (e.g., Voluntary Conservation and/or Land Fallowing) are described as potential projects without a known timeline for implementation. We note that the plan does not include a domestic well mitigation program to avoid significant and unreasonable loss of drinking water. We strongly recommend inclusion of a drinking water well impact mitigation program to proactively monitor and protect drinking water wells through GSP implementation. ● For DACs and domestic well owners, include a drinking water well impact mitigation program to proactively monitor and protect drinking water wells through GSP implementation. Refer to Attachment B for specific recommendations on how to implement a drinking water well mitigation program. ● Recharge ponds, reservoirs, and facilities for managed aquifer recharge can be designed as multiple-benefit projects to include elements that act functionally as wetlands and provide a benefit for wildlife and aquatic species. For guidance on how to integrate multi-benefit recharge projects into your GSP, refer to the “Multi-Benefit Recharge Project Methodology Guidance Document.”19 ● Develop management actions that incorporate climate and water delivery uncertainties to address future water demand and prevent future undesirable results.	The comment that projects and management actions that improve water supply and GDE habitats are only potential projects without a known timeline for implementation is not correct. For example, the City of Modesto has already begun preliminary implementation of the Storm Drain Cross Connection Removal Project (Section 8.2.1.3). This project increases recharge in areas of drinking water wells and nearby disadvantages communities (described in Section 8.2.1.3.4). As stated in the GSP, maintenance of groundwater levels will assist rural domestic wells. In addition to the associated benefits from groundwater recharge, significant benefits also include improved water quality for Dry Creek and the Tuolumne River - both of which are 303d water bodies. This improvement benefits aquatic resources and GDEs along both Dry Creek and the Tuolumne River. The reduction of sanitary sewer overflows and reduction of localized flooding also represent key environmental benefits. With regards to the bulleted recommendations included in the comments: • Section 9.5.3 identifies data gaps with respect to domestic wells and implements strategies to address those data gaps. In addition, the GSP identifies Management Actions including pumping reductions that can be used to avoid undesirable results, including widespread domestic well failures, as needed. The GSAs will consider options for a Domestic Well Mitigation Program in GSP implementation, as needed. • As stated in Section 8.1, "Projects were developed, where possible, to be aligned with State grant program preferences and the Governor’s Water Action Plan, by providing multiple benefits, embracing innovation and new technologies, and benefitting disadvantaged communities (DACs) and environmental water users." Many of these projects are in preliminary planning stages (Group 3) and can be developed to optimize multiple benefits, including environmental water users. • Consistent with the approach to adaptive management, Group 3 projects and management actions have been identified to implement if future conditions warrant.	Section 9.5
Provost & Pritchard	PP-2-001	1.2: Considering John Davids’ departure from Modesto Irrigation District the Plan manager should be updated.	Plan manager has been updated in the GSP.	Section 1.2
Provost & Pritchard	PP-2-002	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.	Implementation costs have been added to Section 1.3.	Section 1.3
Provost & Pritchard	PP-2-003	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.	As summarized in Section 1.3.2 and discussed in more detail in Section 9.2, the GSAs intend to develop a financing plan, considering numerous options for GSA funding. As stated in Section 9.2.1, "(d)uring development of a financing plan, the GSAs would also determine whether to apply fees across the Subbasin as a whole or just within certain Management Areas. "	
Provost & Pritchard	PP-2-004	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.	GSP implementation in the Non-District East Management Area is best discussed in Chapter 8, where projects and management actions have targeted that area for implementation. The differences in groundwater conditions for various management areas are summarized in the Executive Summary, described in Section 3.2 of the Basin Setting, analyzed by Management Area in the Subbasin water budgets (Section 5.1.4), considered in the selection of sustainable management criteria (Figure 6-1), and targeted for the new monitoring wells drilled under the Proposition 68 grant (Section 7.1.1.3).	
Provost & Pritchard	PP-2-005	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.	Comment noted. Brief paragraph on private irrigation well information has been added to Section 2.3.2 in response to the comment.	Section 2.3.2
Provost & Pritchard	PP-2-006	4.2.7, second paragraph, last sentence Add Stanislaus County as an entity that represents surface water users (in non-district areas).	Comment noted; additional sentence provided at the end of Section 4.2.7 to add Stanislaus County.	Section 4.2.7

Author	CIN	Comment	Comment Response	*GSP Edits*
Provost & Pritchard	PP-2-007	4.4 Table 4-3 The list of public meetings is out of date, update the meetings to include all meetings in 2021.	Meeting list has been updated.	Table 4-3
Provost & Pritchard	PP-2-008	4.5.1 Mention that comment letters on the GSP were also posted on the website.	Comment noted and added to GSP.	Section 4.5.1
Provost & Pritchard	PP-2-009	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.	GSP implementation activities are provided in Chapter 9. As indicated in Section 9.2, the GSAs will develop a financing plan, considering a variety of funding mechanisms as described in the GSP. As mentioned in previous responses, the GSAs will consider whether certain fees should be different for each Management Areas.	
Provost & Pritchard	PP-2-010	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.	The comprehensive water budgets, presented in Chapter 5 of the GSP, represent an aggregation of detailed water accounting to support the evaluation of the subbasin's groundwater sustainability. Tables 5-2 through 5-8 include the referenced flow components grouped into the following categories. (1) Agency operated drainage wells are operated to mitigate high water levels and supplement water supply. To support the multi-use benefit of these wells, district drainage and water supply pumping is included in the category Agricultural Agency Groundwater Pumping. (2) Private drainage and water supply pumping used for irrigation was estimated by C2VSimTM based on agricultural groundwater demand and are included in the water budgets as Private Agricultural Groundwater Production. (3) Canal spill water, tailwater, and drainage water return systems are included in the aggregated term, Agricultural Runoff & Return Flow. These features were estimated in the IWFM model and calibrated using a combination of agency-provided data and Agricultural Water Management Plans. More information on how the model handles certain water sources is included in the Appendix C, C2VSimTM Model Documentation.	
Provost & Pritchard	PP-2-011	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.	Comment noted. Shallow pumping and drainage control are not incorporated into the Sustainability Goal or the sustainable management criteria.	
Provost & Pritchard	PP-2-012	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.	The differences in hydrogeology and groundwater conditions are discussed throughout the GSP (see response to comment PP-2-004 above). Local groundwater management activities in the Modesto ID Management Area can be modified by Modesto ID, if consistent with the GSP. The GSAs can review the current Management Areas if needed at the Five-Year GSP update.	
Provost & Pritchard	PP-2-013	6.3.1 This section and Chapter 7 note that a significant data gaps exists in the nondistrict 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.	An implementation activity to fill data gaps -- including new monitoring wells -- has been added to Section 9.5 of the GSP (see Section 9.5.1). Text has been revised in Chapter 7 to refer to the data gap analysis as an implementation activity rather than a Management Action.	Section 9.5; references to Management Actions in Cpt 7
Provost & Pritchard	PP-2-014	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.	Figure 2-17 shows the location of new and/or replacement domestic wells since the 2015 drought. The MTs are set to avoid undesirable results for land subsidence and interconnected surface water in the western Subbasin.	Section 2.3.3; Section 6.3.2
Provost & Pritchard	PP-2-015	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.	Revisions to Section 3.2.6 are included in the Revised Draft GSP posted on the STRGBA website.	Section 3.2.6
Provost & Pritchard	PP-2-016	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.	Revisions to Section 3.2.8 are included in the Revised Draft GSP posted on the STRGBA website.	Section 3.2.8
Provost & Pritchard	PP-2-017	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.	Those GSP projects have been identified to address issues in the Non-District East Management Area. Landowners in that Management Area have begun coordination efforts and have only recently provided information on project design and implementation. Some details have been added to those project descriptions since the public review draft was posted. Planning level costs have been provided and incorporated into the GSP. These details will be further developed during GSP implementation.	Section 8.2