Comments to the Public Review Draft of the MKGSA Groundwater Sustainability Plan (GSP)

Submitted on September 3, 2019

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Page 1-1
1.1.2 Executive Summary

1.1.2—*"occupying some 700 sq miles"*. Simple calculation: 700 sq miles x 640 acre/sq mile = 448,000 acres within the KSB. Current accepted KSB acreage is 441,000 acres. So which figure is the most accurate? If the 441,000 acres is correct, then the *"occupying some 700 sq miles"* needs to be changed to "689 sq miles" to be more accurate (441,000 acres divided by 640 acre per sq mile = 689 sq miles).

Page 1-2

Top of the page—should add in *"possible degraded individual septic systems as the result of age, poor maintenance, and/or lack of routine service."* See attachment from Washington State Department of Health, *How Nitrogen from Septic Systems Can Harm Water Quality.*
https://www.doh.wa.gov/Portals/1/Documents/4450/337-142-Nitrogen-Removal-from-OSS-FactSheet.pdf (See Attachment A)

Would add in "minimum" threshold (MT) and "measurable" objective (MO).

Page 1-4

1.4.1—Kaweah Subbasin (696 sq miles). By calculation: 696 sq miles x 640 acres/sq mile = 445,000 which is different than section 1.1.2 at *"700 sq miles"* which calculates/equates to 448,000 acres in the KSB. There needs to be agreement and accuracy on the total acreage within the KSB.

Page 1-9

Figures 1-6 (Domestic) and 1-7 (Production). Both of these figures show these two types of wells within the jurisdictional boundaries of Tulare and Visalia. With specific regard to **Figure 1-7 (Production)**, it is surprising that there are agriculture production wells within the jurisdictional boundaries of both of these cities. Is this data accurate?

Page 1-15
1.4.3.3 City of Tulare General Plan

The Conservation and Open Space Element of the Tulare General Plan also addresses the issue of water resources for the City. One of the element's objectives is to "ensure a reliable, adequate water supply to sustain a high quality of life, ***while protecting and enhancing the environment****."*

In this section of the MKGSA GSP in the Tulare General Plan it states: *to "ensure a reliable, adequate water supply to sustain a high quality of life, while protecting and enhancing the environment.". "**protecting and enhancing the [Tulare's] environment**"* to include the city's "urban forest" is critical to *"a high quality of life"*. What is an "urban forest"? First, there are two major components—the public "urban forest" (parks and other city-owned trees, major shrubs and plants for which the city is charged with caring for and maintaining), and the private "urban forest" (residential, commercial, industrial, institutional trees and major shrubs and plants). One should not have priority of the other as both are very important to a city's overall general health and well-being. An "urban forest" can be defined and should include all major trees, shrubs and plants within a city's jurisdictional boundaries. It's that flora environment within a city which would be very difficult and costly to replace in the short-term no matter who owns them.

Unfortunately many (probably greater than 75%) of a city's "urban forest" trees (public and private) are "lawn trees". Lawn trees are those trees that at being watered secondarily to lawns—they only receive water because the lawn is being watered—they are direct beneficiaries of the lawn watering. If there are major mandatory reductions in outdoor landscape and lawn watering, then those trees won't receive adequate water and will become stressed and subject to a variety of stress-related diseases and infestations and possibly die. Lawns are easily rejuvenated by just reapplying water and possibly over-seeding but once major trees and shrubs are lost, they are expensive to remove and replace plus it'll be years before they (replacements) reach maturity and provide maximum "urban forest" benefits. Dead mature tree removal is expensive costing anywhere from $800 to $1,200 per tree. This will be an added financial burden to residential homeowners especially since Tulare is designated as a "disadvantage community" (see **Page 1-25, 1.5.2.11 Disadvantaged Communities** "*The City of Tulare has been identified as a Disadvantaged Community,…*"). The use of a city's municipal groundwater supply is a "reasonable and beneficial" of water in order to have a viable "urban forest".

"Environmental Stewardship" is term originally coined by UC Davis. With regard to a city's "urban forest", this term has application in that there are two important components. One is "Conservation" and the other is "Preservation". Conservation of a city's groundwater supply must be balanced with the Preservation of a city's "urban forest". With SGMA the focus is sustainability of groundwater but little consideration has been given to preservation of a city's "urban forest" (as well as agriculture's "rural forest"). Draconian mandatory reductions in outdoor landscape water usage will have devastating affects on a city's (Tulare and Visalia) "urban forest". A resultant massive die-off in the range of 20-40% or more of trees (and major shrubs and plants) is unacceptable for any city—there has to be a balance, an "Environmental Stewardship" approach (Conservation + Preservation).

There needs to be a "Double E" approach for Tulare (and Visalia) in order to maintain and have its "urban forests" thrive. The first "E" is for Education. Educate the residents of Tulare just how important the city's "urban forest" is. Educate them on water conservation and efficiency measures such as "Cycle-Soak" watering regimes that can be

applied to outdoor landscape water usage (https://crconserve.com/188/Cycle-Soak Note: this website is listed only as an example of the educational and informational resources available on the internet regarding "Cycle-Soak" methods. Search by "Cycle-Soak" or "Cycle & Soak".), and the "Tree Ring Irrigation Contraption—TRIC", (https://ccuh.ucdavis.edu/tric). (Note: there are soaker hose setups of various lengths that will do the same thing as TRIC that can be purchased for substantially less than the TRIC product at Lowe's, The Home Depot, Tractor Supply, etc.) Posts of this sort of information and/or web links to this information should be on the city's website. Use informational flyers in the city's utility bill several times annually. Use social media. Engage with the UC Cooperation Extension's Tulare-Kings County Master Garden Program as an additional educational resource. (https://ucanr.edu/sites/UC_Master_Gardeners/ and https://ucanr.edu/sites/UC_Master_Gardeners/Drought_Information/)

The second "E" is for Enforcement. Unfortunately, Education will not reach all residents, businesses, etc. For those that are just not informed (or don't want to be) or are just plain defiant regarding water usage, this approach usually is a good incentive—it hits their wallet. There's lots of unnecessary water wastage and abuse daily—water running in the gutter—not just some over-spray onto a driveway or sidewalk which is often unavoidable but 10s to 100s of gallons unnecessarily flowing into the gutter, and watering off-schedule and at the wrong time of day particularly when evaporation rates are the highest. This wastage/abuse is not limited to the private sector, it's also seen on the city's side—they're guilty too. They need to get their own house in order before being too heavy handed on the private sector. Hopefully after the first citation there will be an incentive to come onboard with the Educational portion of the "Double E" approach.

A number of cities in California have a department or division of Urban Forestry. Visalia has a Parks & Urban Forestry Division but not Tulare—Parks only but not Urban Forestry. One recommendation is that Tulare rapidly moves forward in establishing an Urban Forestry Division.

Here is a small list of benefits attributed to maintaining a city's "urban forest":

--Trees (all plants) produce oxygen, clean the air, cool the air and reduce global warming by removing CO_2 (remember that CO_2 is plant food—without it there wouldn't be trees and other plants including the vegetables we eat).

--Trees and sidewalk gardens reduce flooding and water pollution

--Trees and sidewalk gardens increase revenues in shopping districts

--Trees make the wait for a bus feel shorter. The more mature trees are present, the shorter the wait time is perceived.

--Street trees and sidewalk gardens create a physical and mental barrier between the street and the sidewalk, keeping pedestrians, children and pets out of harm's way.

--Street trees and sidewalk gardens provide a natural habitat for birds and insects.

--Street trees absorb traffic noise and increase privacy.

--Street trees and sidewalk gardens build neighborhood and civic pride.

For a more extensive list of resources on this topic, do a Google search on "the value of an urban forest".

Tulare's groundwater usage compared to the Sustainable Yield for the KSB is only 2.7% (Tulare annually pumps slightly less than 18,000 AF—data from the City of Tulare. The Sustainable Yield for the KSB is approximately 660,000 AF—date from MKGSA GSP—Public Review Draft, Page 6-3 Table 6-2: GSA Apportionment. Calculations: 18,000 AF divided by 660,000 AF = 2.7% of Sustainable Yield.) Looking at Tulare's groundwater pumping relative to the Total Net Extraction for the KSB is 2.25% (18,000 AF divided by 798,400 AF from Table 32, Page 109, Basin Setting Components Draft March 2019 Revision) and for the MKGSA, Tulare's percentage is 9.36% as a percent of the Total Net Extraction (18,000 AF divided by 192,200 AF from Table 2-1, Page 2-3, MKGSA GSP—Public Review DRAFT).

Lastly, the average annual groundwater pumped from 2010-2017 on an AF/acre of land [within their respective jurisdictional boundaries] for Tulare and Visalia was 1.30 AF/acre and 1.32 AF/acre, respectively. Whereas during that same time period the total applied water for crop irrigation purposes within the Tulare Irrigation District (TID) was approximately 3.20 AF/acre with 2.14 AF/acre coming from groundwater pumping. The two cities, individually, are pumping about 39% less groundwater than the growers in the TID. If the Sustainable Yield (SY) on an AF/acre basis within the KSB is around 1.50 AF/acre (660,000 total AF SY for KSB divided by 441,000 total acres within the KSB = 1.496 rounded up to 1.50 AF/acre) then both cities pumped less than the SY on an AF/acre basis: Tulare at 1.30 AF/acre and Visalia at 1.32 AF/acre versus 1.50 AF/acre for the KSB. (NOTE: Data on groundwater pumping was obtained directly for the City of Tulare, the City of Visalia, and the TID for that time period 2010-2017.)

To impose heavy-handed restrictions of outdoor landscape usage is grossly unnecessary and would have very negative impacts on maintaining the viability of Tulare's "urban forest". It is hoped that the City of Tulare recognizes the "reasonable and beneficial use" of landscape watering, and now the State needs to be convinced of its importance also. California cities are easy targets as they are required to report groundwater pumping (metered pumping), and to impose cutbacks in the area of 30% is only a fraction of all groundwater pumping. The Public Policy Institute of California (PPIC) has stated that urban water usage is only about 10%-12% of the total water usage in California.
The above comments could also be included in **1.5.2 -- *Beneficial Uses and Users*** on **Page 1-23.**

Page 1-16

At the bottom of the page, *"...Communication & Engagement (C&E) Plan, developed by Stantec for MKGSA and adopted on **August 14, 2018** and included as **Appendix 1C**."* The posted document in **Appendix 1C** has a date of August 7, 2018, Draft: Version 4, rather than the **August 14th** date cited in the above quoted text. There should or must be a later version to reflect the noted date of August 14, 2018, as the database of the August 7, 2018 document is definitely not up-to-date. The last entry in that database of August 7, 2018, is the Waksache Tribe. In **Appendix D: Communications and Engagement Activities Database** version that I have there are a number of **Organization Names** following the Waksache Tribe entry. Those missing organizations in the August 7, 2018 version are in my version are the: Tulare County Agricultural Commissioner; University of California Cooperative Extension (Tulare and Kings County Master Gardener Program); University of California Davis Veterinary Medicine Teaching and Research Center; Western United Dairymen; Milk Producers Council; and the California Milk Advisory Board.

Also it's probably too late for this version of the MKGSA GSP draft, but in the future it would be very helpful when a **Figure**, **Table**, **Appendix**, etc. is referenced that one could move the cursor to that item and click on it and it would take you directly to that item. Right now, one has to get out of a document and search in the Table of Contents in order to go to the referenced item(s)—very inconvenient and time consuming. I had to do a lot of searching (and time consuming) to find **Appendix 1C** noted above. Clicking directly on **Appendix 1C** would have been much more efficient.

Also see **Page 1-26**, the last sentence of the last paragraph. *"All outreach efforts and engagement activities were tracked in a Community Engagement and Activities Database (CE & AD) that was **continuously monitored and updated**, consistent with DWR Emergency Regulations §354.10 (b) and §354.10 (d)."* As noted above, the Communications and Engagement Activities Database is not up-to-date.

Page 1-24
1.5.2.6 Municipal and Industrial Well Operators

"The City of Tulare and the City of Visalia account for about 20 and 30 percent of the land area within the MKGSA, respectively." More accurately, Tulare's land area within the MKGSA is **12.7%** (13,631acres divided by 107,000 acres in MKGSA) and Visalia's land area is **21.7%** (23,197 acres divided by 107,000 acres in MKGSA) for a total urban acreage of approximately 37,000 acres or **35%** (~37,000 acres divided by 107,000 acres) of the MKGSA acreage.

Page 2-2
2.3 GSA Water Budget

In the first sentence of the second paragraph starting with *"...Section 6 of this GSP..."* – after "Section 6" should insert reference to **Table 6.2** so as to read "...Section 6 **in Table 6.2** of this GSP...". By adding in **Table 6.2** makes for better clarity.

Also see on **Page 6-3 (Section 6 Water Supply Accounting)** in the last sentence, *"...Yet, as acknowledged in Section 2 of this Plan,..."*, reference to **Table 2-1** should be inserted after "Section 2" so as to read *"...Yet, as acknowledged in Section 2* ***in Table 2-1*** *of this Plan,..."*. By adding in **Table 2-1** makes for better clarity.

Page 2-4
2.4 Management Areas

With regards to the 4th bullet point, *"Financial contributions by each Member towards projects may depend on an evaluation of existing water management agreements among them and on the water accounting framework (Section 6) which will define the water budget components of each Member. These contributions may not be equal and would therefore vary depending on the management area."*. It states that "*the water accounting framework (Section 6) which will define the water budget components of each Member.*". Can further explanation be given as to how the "water [supply] accounting framework" (WSAF), **Table 6-2** in **Section 6**, will define the "water budget", **Table 2-1** in **Section 2**? How are they related? I thought each one was independent of the other—the WSAF being based on a legal construct concept/definition whereas the water budget is the physical movement of water? It is curious that by combing those two figures for the MKGSA there is essentially a 50,000 AF range (swing) from a +38,000 AF surplus in the WSAF (**Table 6-2**) to a -13,000 AF deficit in water budget (**Table 2-1**). So is/are WSAF data/inputs considered the independent variable (driver), and then the water budget would then be considered the dependent variable of the WSAF? With the approximate -13,000 AF deficit in the water budget is this the more realistic figure/calculation that should be used by the three management areas (Tulare, Visalia, & TID) when establishing Minimum Thresholds and Measurable Objectives?

Page 3-3
3.2.1 Causes leading to Undesirable Results

At the end of the first sentence should add after "*...interconnected surface waters...*" the 6th Undesirable Result which is "*seawater intrusion*". All 6 Undesirable Results (UR) should be listed in this opening sentence as seawater intrusion is the last listed UR in section **3.2.1.6 Seawater Intrusion** at the bottom of the page.

3.2.1.1 Groundwater Levels

From the Sustainable Management Criteria – BMP document, November 2017, page 4, under the heading ***Sustainability Indicators,*** the first indicator, "Chronic lowering of groundwater levels…" I would like to add a direct quote from there to the end of the sentence at the top of **Page 3.4** from this section of the BMP which states, *"Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods."* A lot of people on these GSA boards, committees, etc. are not aware of the above "wiggle room" statement allowed by the State--this is a very important point. To me, the State recognizes that agriculture may have to overdraft during a declared drought period in order to be economically sustainable but then it must make-up for that overdraft in normal and wet years. After all, the primary purpose of SGMA is to stop the chronic lowering of our groundwater, and we have until 2040 to bring our groundwater into sustainability.

In **Section 3.2.1.1 Groundwater Levels** should now read, *"Undesirable results associated with groundwater level declines are caused by over-pumping or nominal groundwater recharge operations during drought periods such that groundwater levels fall and remain below minimum thresholds. Over-pumping and lack of recharge is area specific, and some GSA Management Areas experience greater adverse impacts than others.* **[However],** ***Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods."*** . (Note: The bold, italic insert above is from the Sustainable Management Criteria – BMP document, November 2017, page 4)
Also note that on **Page 5-2, Section 5.3.1.2 Undesirable Results** has the complete text for the definition of undesirable results for groundwater elevations (including the *"…**Overdraft during a period of drought**…"* caveat sentence for additional clarification): *"Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon.* ***Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods."***

Page 3-4
3.2.1.3 Land Subsidence

It states, *"…Over-pumping during drought periods, which may result in new lows in terms of groundwater elevations, is of particular concern based on current scientific understanding of subsidence trends in this region.* ***Regional correlations of water levels***

v. subsidence trends remain difficult to ascertain... " and yet on **Page 4-6, Section 4.2.3 Representative Monitoring,** in the second sentence of the second paragraph it states, "*...The USGS and DWR have utilized changes in groundwater elevations to estimate changes in storage and* ***have demonstrated a correlation*** *between groundwater elevation and subsidence...* ". This appears to infer a stronger correlation of groundwater elevations and subsidence than what was stated in **Section 3.2.1.3** where is states, "*...Regional correlations of water levels v. subsidence trends remain difficult to ascertain...* ". So for the Kaweah Subbasin, in general, and the MKGSA, in particular, how strong is the correlation? Because of differential subsidence and regional affects on critical infrastructure, groundwater elevations may or may not have a good or strong correlation with land subsidence—it that correct? It's my understanding that within the KSB there are some regions of strong correlations for groundwater elevations and land subsidence, and for other regions the correlations are quite weak? Is the language in those two sections in conflict with each other?

Also see **Page 4-15, Section 4.10.1.3 Land Subsidence Data Gaps** where is states, "*...Additionally, there was not sufficient data to find a good correlation between pumping and land surface subsidence...* ". With this text there is some conflicting information to the casual reader on the relationship between groundwater elevations [due to pumping] and land subsidence. (NOTE: Perhaps I'm "beating a dead horse" here with semantics and parsing words in those three above referenced sections on the correlation between groundwater elevations and land subsidence. What will DWR accept here? As noted there are data gaps and perhaps by 2025 with better monitoring sites and technology there will be a better understanding of that relationship between groundwater elevations and subsidence whether for better or worse—meaning a more positive correlation or a less positive one, or good in one region and not good in another.)

Page 5-2
5.3 Minimum Thresholds
5.3.1 ***Minimum Thresholds – Lowered Groundwater Levels***
5.3.1.1 Overview

In the third sentence of the first paragraph should be inserted **"minimum threshold (MT)"** before "*...groundwater..* " so as to read, "*...If any of the representative monitoring wells fall below the* ***minimum threshold (MT)*** *groundwater elevation in its respective zone, undesirable results could occur...* ".

Page 5-5
Table 5-3: Summary of Groundwater Level Sustainability Management Criteria for MKGS

In the first row under the heading of Well ID, **KSB-0922**, and under the **Measurable Objective** heading, the **fmsl** figure/number is listed as a minus 19 (-19) which is incorrect as it should be positive 19 fmsl. In **Appendix 5B** ***Groundwater Level***

Sustainable Management Criteria Hydrographs the first hydrograph is for well **KSB-0922** which definitely shows a Measurable Objective of +19 **fmsl** and not a negative figure. Of the 42 listed Well IDs in **Table 5-3,** well **KSB-0922** is the only well I compared or cross-checked the numbers to the hydrographs shown in **Appendix 5-B**. (Due to the tediousness of going completely through each well in that table and comparing/cross-checking them to the hydrographs, and the time constraints of thoroughly going though this GSP, I did not examine the data for each of the other 41 wells listed. Hopefully well **KSB-0922** is the only well in **Table 5-3** in incorrect data.)

Section 5 Appendices:
Although the following comments may be out of contextual order but while in **Section 5 Appendices** (from above), I also looked at **Appendix 5D: Water Storage Additions – An Alternative Approach.** In **Figure 1: Hypothetical Representation of Measurable and Optimal Objectives** (on the last page), the four **Interim Milestone** numbers in parenthesis are shown as positive numbers. Shouldn't they be listed as negative numbers as all are below zero (0) with regards to storage depletion on the y-axis? They should be -21, -33, -40, & -42 TAF. Also the **Storage Depletion** label/units in parenthesis should be **(TAF)** rather than the **(AF)** as currently shown.

Page 5-7
In the paragraph beginning with the sentence, *"...The results of this well impact analysis..."*, there is reference to *"...**Figure 5-2** is an example plot showing 144 domestic wells in Hydrogeologic Zone 2..."*. None of the plots and statistical well summaries categorized by zone (1-10) have listings by **Figures** which makes it difficult to locate what is listed as **Figure 5-2**. Can this be corrected to add a **Figure x.x**, accordingly, to each of the plot and statistical well summaries? Also not seeing the well impact evaluation summaries referred to in the following sentence, *"...The **well impact evaluation summaries** for all zones (**Appendix 5C**) indicate that 18 percent of agricultural wells, 9 percent of public wells, and 21 percent of rural residential wells including domestic wells..."*. There is no summary for all zones—only plots by each zone without **Figure x.x** assignments.

Page 5-13
5.3.3 *Minimum Threshold– Degraded Water Quality*
5.3.3.3 Minimum Thresholds

In the next to the last sentence of the last paragraph of this section on degraded water quality (**Page 5-13**) it states, *"...The relationship between groundwater levels and degradation trends, if any, is site-specific."*. At the June 14, 2019, meeting of the GKGSA's Combine Meeting of the Rural Communities Committee and Stakeholder Committee, Agenda Item 4 (handout), there were a total of 13 data graphs presented from various HZs in the KSB: 3 for Arsenic and 10 for Nitrates. All 13 graphs showed either a very poor correlation and/or no correlation between groundwater levels and water quality

for those 2 constituents/substances. It is paramount that all GSAs in the KSB are not in some way or another held "hostage" to [degraded] water quality issues. This lack of correlation may perhaps be unique to the KSB (but doubtful), and water quality issues should not be the driver of projects and management actions that would have a positive outcome on preventing the undesirable results of other sustainability indicators, particularly groundwater levels, groundwater storage, and land subsidence.

Page 5-20
5.4.1 ***Groundwater Level Measurable Objectives***

In the third to the last sentence in the last paragraph on Page 5-20, it states, *"...MKGSA anticipates that coordination will focus on the Management Areas where water budgets remain in deficit, depending on degree..."*. Obviously there is a water budget for the MKGSA but are there also individual waters budgets for the 3 Management Areas—City of Tulare, City of Visalia, and TID? If there are separate water budgets for each Management Area, when will they be published? This is the first I've heard of additional water budgets [within the MKGSA], and I may be totally mis-reading that sentence.

Page 5-21
5.4.2 ***Groundwater Storage Measurable Objectives***

In the second sentence of the paragraph following the bullet points it states, ***"...Figure 5-3 shows the results of this analysis indicating that the measurable objective has 641,000 AF in storage at 2040, and the optimal objective has 1,356,000 AF in storage at 2040..."***. When going back to **Figure 5-3** on **Page 5-10**, that figure shows the Optimal Objective at 1,340,000 AF rather than the number of 1,356,000 AF cited above—that's a difference of 16,000 AF (which is almost the amount of groundwater pumped annually by the City of Tulare at roughly 18,000 AF). Which number is correct?

Page 5-21
5.4.3 ***Water Quality Measurable Objectives***

In the second sentence of first paragraph under the heading, **5.4.3** ***Water Quality Measurable Objectives*** it states, *"...All future projects and management actions implemented by the MKGSA are designed to avoid causing further groundwater quality degradation..."*. It's my firm understanding that the primary charge of SGMA is to stop the chronic lowering of groundwater which will be accomplished through projects and management actions. Projects and management actions most likely will always benefit groundwater quality but there's also a small risk that somehow it (water quality) may be negatively impacted such as unintentional plume migration. I'm very concerned that stating *"...all future projects and management action...are designed to avoid causing further groundwater water degradation..."* could be a potential segue into litigation through misinterpretation, and that sentence should be stricken from this GSP in the final

document version for submission to DWR. Again, the design of future projects and management actions should be heavily geared towards the sustainability indicators of chronic lowering of groundwater levels, loss of groundwater storage, and land subsidence through preventing or eliminating those undesirable results—hopefully groundwater quality will be a [secondary] beneficiary of those projects and management actions, and not the primary focus as currently stated above. Again, it should be noted that there is a very poor correlation between groundwater levels and water quality (for Arsenic and Nitrates) as shown in the graphical data presented at the meeting of the GKGSA's Combine Meeting of the Rural Communities Committee and Stakeholder Committee on June 14, 2019 (see reference to **Page 5-13** above.)

Page 5-23 Table 5-3

In **Table 5-3** in the **Measurable Objective** column there are no units, i.e. "inches", nor is that a timeframe. Can those additions be made to the **Measurable Objective** column? Also it's not clear as to how the **Measurable Objective** numbers were determined.

Page 6-4
6. Water Supply Accounting
6.3 Water Accounting Framework Allocation

In the third sentence of the first paragraph it states, *"...Whereas the average water accounting framework water balance is positive, the comparable hydrogeologic water budget is negative by about 13,000 AF..."*. After the word *"positive"* should insert ***"at around 38,000 AF"***, in order to be consistent with the negative *"13,000 AF"*. With the insert ***"at around 38,000 AF"*** that sentence would now read, *"...Whereas the average water accounting framework water balance is positive* ***at around 38,000 AF****, the comparable hydrogeologic water budget is negative by about 13,000 AF..."*. This would help the reader to see both the positive and negative number for better clarity.

With regard to **Figure 6.1**, several additions would make this figure more understandable. First the label on the y-axis needs to be **Groundwater Storage**, and the *"Change in Acre-Feet"* needs to be in parenthesis, *"(Change in Acre-Feet)"*. Lastly, to the right of the two horizontal lines, in the upper line, **Shared/Owner Ave**, put in the *38,000 AF* figure to reflect what is in the text above, and for the lower line, **Hydrogeologic Ave**, put in the negative/minus *-13,000 AF*, again to be consistent with the text description above on **Page 6.4** and give the reader better clarity of that figure.

Page 7-1
7. Projects and Management Actions
7.1 Summary

In the first sentence (4th line) of the second paragraph on **Page 7.1** it states, *"...future urban and agricultural conservation,..."* and yet on **Page 7.2**, in the **Table/Chart** under the column heading, **Management Actions:**, for the bullet point, **Agricultural Water Conservation and Management Program**, none of the four boxes are checked for the 4 Sustainability Indicators and states, **Not Applicable**, whereas the bullet point, **Urban Water Conservation Program**, 2 of the Sustainability Indicators, **GW Levels** and **Reduction in Storage**, are checked. Why does the **Agricultural Water Conservation and Management Program** get a pass on conservation? I would have thought that all 4 Sustainability Indicator boxes for the **Agricultural Water Conservation and Management Program** would have been checked—after all agriculture is by far and away the largest extractor of groundwater. This is not to pit ag versus urban but putting an unrealistic burden on urban areas (cities) is counter productive. I'll refer you back to my comments on Pages 2 through 4 regarding the "urban forest" and the actual urban water usage.

Also under the heading of **Extraction Measurement Program** it states **Not Applicable**. Although SGMA doesn't require "metering", the regulatory agencies will never fully have an accounting of groundwater extraction until there is metering. All the "players" who have "straws in the punch bowl" need to be metered at some point—realistically by 2025. Meters will be part of the costs of doing business. Those "players" who are designated or self-designated as *"de minimis"* (less than 2 AF annually) need to prove they are truly *de minimis*, and the only accurate and reliable way to demonstrate that is by being metered. Yes, one could argue that the *de minimis* user's groundwater extraction is probably less than 5% of the total groundwater pumped but again if the regulatory agencies want to know ALL extractors and to have equality, then metering is the only answer. Right now the small 3-5 acre "ranchettes" will get a pass on SGMA whereas a city resident (and I'm a definite *de minimis* user) may have draconian reductions impose on outdoor landscape usage for my "urban forest".

Page 7-33
7. Projects and Management Actions
7.4.2 *Groundwater Extraction Allocation Implementation*
7.4.2.2 Status of Implementation

In the first sentence of the first paragraph it states, *"...As identified in GSP Section 6.1, the MKGSA's water budget shortfall is estimated to be **fairly negligible**.."*. After *"**fairly negligible**"* consider inserting *"**by about -13,000 AF**..."* so as to read, *"...As identified in GSP Section 6.1, the MKGSA's water budget shortfall is estimated to be **fairly negligible** by about -13,000 AF...."*. Then in the second sentence of the same paragraph after the word *"...surplus..."* consider inserting *"**at around 38,000 AF**"* so as to read, *"...a surplus **at around 38,000 AF** is in fact inferred based on preliminary water accounting framework..."* By inserting those figures/numbers in those two sentences would give the reader more clarity regarding the actual numbers, and would spare [the reader] the need and time to refer back to Section 6.1 in order to verify those numbers—just makes for an easier read.

In the third sentence of that same paragraph there is a major typo reference/category—**water budget** versus **water accounting framework**. It states in part, "*...hydrogeologic evaluations will continue to determine the reason for the differences between the **water budget surplus** and the conditions of decline..*". That's incorrect as it's not the ***"...water budget surplus..."*** which in fact has a deficit by about -13,000 AF but rather it's the ***"...water accounting framework..."*** that has a 38,000 AF surplus. With the correction that portion of the sentence should now read, *hydrogeologic evaluations will continue to determine the reason for the differences between the **water accounting framework surplus** and the conditions of decline..*".

Page 7-34
7.4.2.3 Permitting and Regulatory Compliance

In the second sentence of the first paragraph it states, "*...this initial phase of an allocation program shall exclude those well owners who extract less than two AF per year (i.e., de minimis extractors)...*". Again, I will challenge how a *de minimis extractor* will be identified? So if one lives in the county (not within the jurisdictional boundaries of a city—i.e. Tulare or Visalia) on a 2-3 acre parcel with a half-dozen head of beef cattle, a couple of horses, irrigated pasture(s), some fruit and nut trees, a vegetable garden, a ½ acre green lawn, etc. that will be declared a *de minimis extractor*—there's no way that parcel/residence is a *de minimis extractor*? I live in Tulare on just under 1/3 of an acre, and I am definitely a *de minimis* user of groundwater. But because I'm within the jurisdictional boundary of Tulare, I won't have the same rights [to use that groundwater] as a *de minimis extractor*. Granted I don't have the risks of a well going dry or potentially degraded water quality or other well associated operation and maintenance concerns as one who has a domestic well in the county but something is wrong with this picture. Make *de minimis extractors* prove they are truly *de minimis*—keep the playing field level and equitable. Meter the *de minimis extractor*.

Page 7-41
7.4.6 *Urban Water Conservation*
7.4.6.3 Permitting and Regulatory Compliance

In the third line of that paragraph it states, "*...mandates of a **20 percent reduction** in urban per capita water usage by 2020...*". What is the base year for the reduction? During the drought years 2012-2016, cities were mandated by the governor to cut the water usage by 28-32% from the base year of 2013. Will 2013 be used again as the base year?

Page 7-43

The last bullet point at the bottom of the page states, "*...A determination by the GSA to **not regulate any de minimis extractor**, i.e., any well owner pumping two acre-feet or less annually...*". Again, I'll voice my concern that in fact a "*...**de minimis extractor**...*" should have to prove the ***de minimis extractor*** designation or classification—metering will be the only way to validate such a claim.

Page 7-46
7.5 Implementation
7.5.1 *Implementation Schedule*

In the first sentence of the first paragraph on **Page 7-46** (below **Figure 7-5**) it states, "*...coupled with this GSA's assigned share of the Subbasin **water budget** as articulated in Section 6 of this Plan...*". Isn't it the **water accounting framework** which present in **Section 6**? Instead of referring to the "***water budget***" shouldn't replacing the term ***water budget*** with the term ***water accounting framework*** be more correct/accurate as it is articulated on **Page 6-3** in **Section 6** of this Plan, in **Table 6-2** and **Table 6-3**.

Page 7-48

In the first paragraph below **Table 7-1**, the third sentence states, "*...This range of recharge accomplishments is depicted in the "Cumulative Added Storage" bandwidth on **Figure 7-5**...*" It should read ***Figure 7.6***, not ***Figure 7-5.***

Page 7-50
7.6 Benefits Analyses
7.6.1 Surplus Water Recharge Analysis

At the bottom 1/3 of **Table 7.2** under the heading, **Combined**, it has "**SVP Surplus**"—shouldn't read "**CVP Surplus**"?

Page 7-51

In the paragraph below **Table 7-3** in the second sentence of that paragraph it states, "*...Technical Memorandum (TM) "Estimate of Future Friant Division Supplies For Use in Groundwater Sustainability Plans," Friant Water Authority, December 2018, included as an appendix to the Basin Setting report...*". To facilitate easier location of this Technical Memorandum (TM), it should be noted or referenced that this document is in **Appendix D. Friant Water Authority Future Water Supply Study**, of **Section 2 Appendices – 2A Kaweah Subbasin Basin Setting Componets**. At the MKGSA

website the **Basin Setting Components** document, due to its MB size, is split—**Pages 1-200 (23.2MB)** and **Pages 200-373 (20.4MB)**. The Friant document, referenced, above is in the second half, **Pages 200-373**, and is the very last document listed.

Page 8-1
8. DWR Reporting
8.1 Annual Reporting Summary

In the first paragraph note that September only has 30 days.
*"...which will be WY 2019 (October 1, 2018 to **September 31**, 2019)..."*

ATTACHMENT H

How Nitrogen from Septic Systems Can Harm Water Quality

Washington State Department of Health

Why do we care?

Septic systems, also known as on-site sewage systems (OSS), are designed to reduce pollution by treating the solids, pathogens, organics, and ammonium (a form of nitrogen) in human waste before it is discharged to the soil. By design, bacteria consume ammonium and convert it to nitrate either in the drainfield or through aeration.

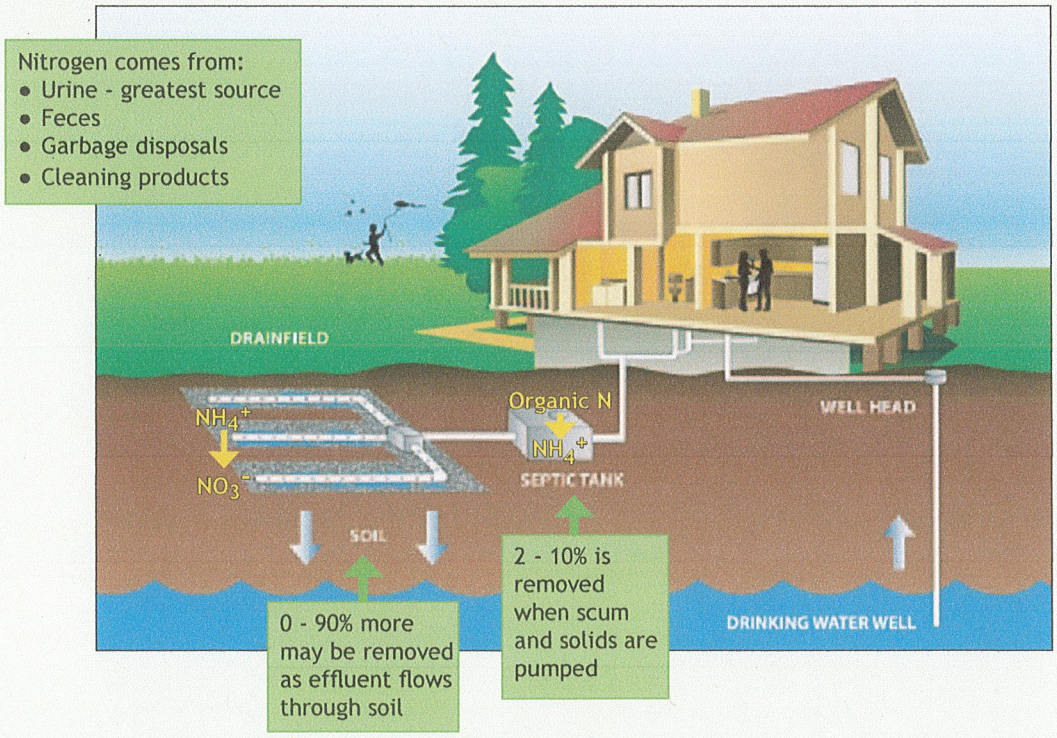
Wastewater treated by a properly functioning OSS generally contains significant amounts of nitrate. After leaving a properly functioning drainfield, nitrified effluent flows through soil. What happens to nitrates in soil is highly variable. It may be used by plants, flow to ground or surface water, or be consumed by bacteria. The amount of nitrate removed after leaving the drainfield varies between 0 and 90% depending on site conditions.

An improperly functioning OSS can result in excessive ammonium/ammonia or nitrates discharged to the soil, where it can flow to groundwater or surface water and cause problems.

Moderate levels of nitrate in drinking water can cause blue baby syndrome and other adverse health effects. Excess nitrate can also harm the environment by increasing algal growth and decreasing oxygen levels in Puget Sound and lakes.

How do on-site systems treat nitrogen from human waste?

Nitrogen removal in wastewater varies depending on the type and concentration of the waste and the type of OSS used to treat it. Nitrogen concentrations are generally between 50 and 60 milligrams per liter (mg/L) in domestic wastewater but can be higher if a home uses low-flow fixtures or if the waste is coming from a school, campground, or office building. The drawing below shows nitrogen transformations as effluent flows through an OSS.



How Nitrogen from Septic Systems Can Harm Water Quality

Some nitrogen that enters the septic tank is removed when the scum and solids are pumped from the tank. In most OSS, oxygen loving bacteria convert ammonium to nitrate in the drainfield. This process is called "nitrification" and the effluent becomes "nitrified."

Advanced systems that aerate and recirculate wastewater can remove even more nitrogen (up to 60 percent). In the Puget Sound region only about 20 percent of OSS are advanced systems. Systems that include oxygen-free conditions in part of the treatment process can remove over 90 percent of nitrogen through a process called denitrification. Denitrification converts nitrate to nitrogen gas which is released to the air. Denitrification requires a type of bacteria that grow in oxygen-free conditions. Very few nitrogen reducing systems are used in the Puget Sound region. Some advanced systems are registered to remove nitrogen.

A properly designed drainfield can also increase nitrogen removal. Characteristics such as the size of the drainfield, the rate wastewater is released to soil, the depth of soil, how the wastewater is applied and distributed (such as drip irrigation or trenches, gravity or pressure), and vegetation management over the drainfield can all influence what happens to the nitrogen once it enters and eventually leaves the drainfield.

What is the role of soil?

Nitrogen removal in the soil is highly variable. Denitrification and plant uptake of nitrates are the two ways soil can remove nitrogen from wastewater. A deeper, moist, finer textured soil will generally remove more nitrogen than a shallow coarse soil. Nitrates move slower through fine soils and have more opportunity to be used as food by plants. Fine moist soils also allow the growth of bacteria required for denitrification. This is especially true in the wet climates of western Washington and Puget Sound.

Denitrification treatment system study

Recognizing the need for more treatment options to affordably reduce nitrogen in wastewater, we collaborated with the University of Washington to study the performance of three public domain treatment systems.

The 2013 study evaluated the effectiveness of the three systems listed in the table below and the recirculating gravel filter (RGF) as a stand-alone system with the goal of reducing total nitrogen concentrations in wastewater below 20 mg/L. For more details on the study go to our Denitrification Verification Project web page.

The three treatment processes reduced effluent nitrogen concentrations well below the goal of an annual average of 20 mg/L and the RGF achieved a 51 percent reduction to levels just above the target concentration.

Treatment Process	Average Total Influent Nitrogen Concentration	Average Effluent Nitrogen Concentrations				Total Nitrogren Removal
		NH3-N (mg/L)	NOx-N (mg/L)	Organic N (mg/L)	Total N (mg/L)	
Recirculating Gravel Filter (RGF)	48.6 mg/L	0.7	20.9	2.2	23.9	51%
Vegetated RGF		4.1	9.5	1.6	15.1	69%
Enhanced RGF		6.8	0.6	1.3	8.6	82%
Vegetated Woodchip RGF		0.5	2.4	1.1	4.0	92%

The Pacific Northwest Salmon Center installed an RGF woodchip bed systems to further document their long-term performance. To learn more about PNSC's project go to their OSS nitrogen reduction web page.

Addendum on September 5, 2019

Page 7-33
7.4.2.2 Status of Implementation

In the third sentence of the first paragraph there is an additional correction which was missed in my original comments' submission on September 3, 2019, and it states, "…*Despite the **water budget** surplus, as evidenced in Section 2 (Basin Setting **Appendix 2A**), groundwater levels and storage have been in decline within the Mid-Kaweah area*…". In fact, there is not a **water budget** surplus as stated above (go to the MKGSA website and see **Section 2 Appendices 2A**, **Page 109**, **Table 32,** which shows a **-77.6 TAF** deficit for the entire Kaweah Subbasin**)**, but rather it's the **water accounting framework** which shows a surplus within the MKGSA of around **38 TAF** in **Section 6 – Water Supply Accounting** (on **Page 6-3**, **Table 6-3** of this **GSP**). Later in that same sentence it states, "…*and hydrogeologic evaluations will continue to determine the reason for the differences between the between the **water budget** surplus and the conditions of decline*…". Again, it's the **water accounting framework** which shows a surplus (**~38 TAF**) and not the **water budget** (**~ -13 TAF**—see **Page 2-3**, **Table 2-1** of this **GSP**). With those corrections that sentence should now read as follows, "…*Despite the ~~**water budget**~~ **water accounting framework** surplus, as evidenced in ~~Section 2 (Basin Setting **Appendix 2A**)~~ **Section 6 – Water Supply Accounting** (on **Page 6-3**, **Table 6-3**) of this **GSP**, groundwater levels and storage have been in decline within the Mid-Kaweah area and hydrogeologic evaluations will continue to determine the reason for the differences between the ~~**water budget**~~ **water accounting framework** surplus and the conditions of decline*…".

I'm concerned that there is incorrect interchangeable usage of the terms **water budget** and **water accounting framework** and will confuse the causal reader. On **Page 2-2, 2.3 GSA Water Budget**, there's a good definition and the current estimate of the MKGSA **water budget**: "…*This localized **water budget** represents the estimated physical movement of water in and out of the MKGSA area on an annual basis and provides an average for the 21-year period. During that period, **average groundwater storage depletions were 12.6 thousand acre-feet (TAF) per year** due to a combination of water management activities within the GSA as well as influences from neighboring GSAs both in the Kaweah Subbasin and in neighboring subbasins…*". Also on **Page 2-2** there is a good definition of the **water accounting framework** [which is specifically addressed on **Page 6-3, Table 6-2 and Table 6-3** of this **GSP**] and shows an **Imputed Balance** (**Table 6-3**) surplus within the Mid-Kaweah area of approximately **37.8 thousand acre-feet (TAF)** per year: "…*To apportion responsibilities for the development of projects and management actions (extraction reductions), Section 6 of this GSP segregates groundwater inflows based on a **legal construct of native, foreign, and salvaged components**. These components are proportionately assigned to each of the three Subbasin GSAs. This construct and apportionment were considered and accepted by each GSA and represent a preliminary **water accounting framework** to be further discussed and refined during the first five-year assessment of this GSP…"*. These two components/entities are calculated quite differently, and should not be loosely interchanged particularly when one is negative and the other is positive.

Addendum #2 on September 7, 2019

Page 5-11
5.3.3 ***Minimum Threshold– Degraded Water Quality***
5.3.3.1 Overview

While in the process of doing an extensive word search on "projects' and "management actions", a second identical sentence to the one on **Page 5-21, section 5.4.3** ***Water Quality Measurable Objectives*** was found (obviously an oversight on my part when I first read this GSP) which states, *"…All future projects and management actions implemented by the MKGSA will be designed to avoid causing further groundwater quality degradation…"*. As stated then in my initial GSP comments (submitted on September 3, 2016), this sentence should be stricken from this GSP in the final document version for submission to DWR. I'll refer the reader of these GSP comments back
to my original comments on **Page 5-21** which will apply here also.

Please insert this page between Pages 9 & 10 of my originally submitted comments of September 3, 2019.

Addendum #3 on September 10, 2019

A general comment on the term **"sustainable yield"** as it is used in the MKGSA GSP. The term **"sustainable yield"** is used a total of 10 times in this GSP but it does not indicate or state an actual numerical value for the **"sustainable yield"** in any of the text.

At many of the KSB's GSA meetings over the past 6 months it's been stated by the 3 GSA managers and others, and shown in tabular form that the **"sustainable yield"** is 659,999 AF (660,000 AF rounded up) for the KSB. This is depicted on **Page 6-3, Table 6-2: GSA Apportionment**, of this GSP. (NOTE: This table is also known as the **Water [Supply] Accounting Framework**, and also referred to as the **"Three Buckets"** accounting method) In that table in the lower right-hand corner is the figure of 659,999 which is oftened referred to as the **"sustainable yield"** but not specifically labeled as such. I would suggest putting a double asterisks (**) after the 659,999 number. Then below the table add this additional footnote (to the ones already there) with a double asterisks (**). The footnote would then read, *"…****Sustainable Yield for KSB****…*".

Although **"sustainable yield"** is used 10 times, there is no concise definition of the term **"sustainable yield"** found anywhere in this GSP. At the MKGSA website under **Documents** in **Section 3 Appendices, 3B Sustainable Management Criteria Best Management Practices, 5. KEY DEFINITIONS, Page 34,** it gives the definition of **"sustainable yield"** as follows:

(w) ***"Sustainable yield"*** *means the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.*

Perhaps this definition should be inserted in parenthesis the first time the term **"sustainable yield"** (last bullet point) is used in the **1. Introduction, General Information, 1.1.1** ***Purpose of GSP*** on **Page 1-1**. That last bullet point would now read in part, "*…the sustainability goal and*

ensure that the Subbasin is ultimately operated within the ***sustainable yield.*** *(****"Sustainable yield"*** *means the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result.)…".*

Please add this Addendum #3 to the last page of my GSP comments which were originally submitted on September 3, 2019.

Edward T. Henry, DVM

Addendum #4 on September 14, 2019 **Page 1 of 2**

The term "**hydrogeologic zone(s)**" (AKA **HZs**) is used 14 times in the MKGSA GSP, and yet there is not an actual map/figure of the KSB showing those nine (9) **HZs** of which there are four (4) **HZs** in the MKGSA—1, 2, 4, and 7. An excellent map/figure is found (at the MKGSA website) under **Documents**, **Section 5 Appendices**, **Appendix 5A** ***Overview of Application of Hydrogeologic Zones for Development of Groundwater Level Minimum Thresholds***, **Figure 5.1** on **Page A5-1**. For easy reference by the reader of this GSP, I would suggest imbedding **Figure 5.1** into **Section 2. Basin Setting** at the bottom of **Page 2-5** and above the **Section 2 – Basin Setting** explanation box. In the first sentence of the third paragraph from the bottom on **Page 2-5**, it reads in part, "…*Each MA's minimum thresholds have been determined using the hydrogeologic zone mapping…*", and yet there is no **HZs** map in this GSP. Since the word "*…mapping…*" is used here, this would be an excellent place to include/insert this map/figure. After the word "*…mapping…*", should be added ***(Figure 5.1)***, so as to read, "…*Each MA's minimum thresholds have been determined using the hydrogeologic zone mapping* ***(Figure 5.1)****…*".
In **Appendix 5B** ***Groundwater Level Sustainable Management Criteria Hydrographs*** there are approximately 34 hydrographs. In the heading at the top of each hydrograph there is a well designation (plus other information), i.e. **Well KSB-0922**, but it does not identify the **HZ** where that particular well is located. After some prolonged looking, **Well KSB-0922** can be found in **HZ1**. It would be more convenient if the **HZ** for each hydrograph were to be labeled with the **HZ** in the heading as shown in the example below: **Well KSB-0922 – HZ1**
Mid Kaweah GSA **Well ID: CID_038** **Aquifer System: Unknown – Model Layer 3** Also, none of the 34 hydrographs listed in **Appendix 5B** have a **Figure** designation, i.e. **Figure x.xx**, in their lower left-hand corner as do other **Figures** and **Tables** in this GSP and the accompanying **Appendices** at the MKGSA website. Having all **Tables** and **Figures** labeled as such would be more convenient for referencing and cross-checking when needed.

Addendum #5 on September 15, 2019 **Page 1 of 3**

In the last sentence of the second complete paragraph down from the top of **Page 5-19** of this GSP it states, "…*This approach is summarized in the* ***bullet list*** *that follows and is illustrated on* ***Figure 5.1*** *of* ***Appendix 5A****:…*". There is a definite inaccuracy here related to "…***Figure 5.1** *of* ***Appendix 5A****:…*" as ***Figure 5.1*** is a map/figure (not a hydrograph) of the **Hydrogeologic Zones** in the KSB (see map/figure below). Could you be referring instead to **Figure 5.2** through **Figure**

5.5 in **Appendix 5A**, OR RATHER is it in **Appendix 5B** where the first hydrograph (unlabeled—no **Figure** designation) is shown as **Well KSB-0922**? In looking further at the "…***bullet list***…" and in the discussions that follow about the minimum thresholds, measurable objectives, and interim milestones, it seems logical that **Well KSB-0922** is the well being referred to here as the example illustration. But since **Well KSB-0922** does not have a **Figure** designation attached to it, it was confusing initially. (See hydrograph of **Well KSB-0922** on **Page 2 of 2** below.)

In the second sentence of the next to the last paragraph on **Page 5-19** it states, "…***Figure 5-1*** *shows these criteria at a* ***single well*** *in the southwest area of MKGSA and* ***Appendix 5B*** *includes these criteria for each well*…". That "…***single well***…" is **Well KSB-0922** which is in **HZ1** (the southwest area of the MKGSA) but it does not have a ***Figure 5-1*** designation (confusing). All 34 hydrographs in ***Appendix 5B*** need to be updated with a **Figure** designation, i.e. **Figure x.xx**, in the lower left-hand corner (below the hydrograph) of the each hydrograph for a more concise and easier referencing process.

As mentioned earlier on **Page 2 of 2**, **Addendum #4** (of these GSP comments) where the example for **Well KSB-0922 – HZ1** is shown (to include the **HZ** number), it is first of all suggested here that the "well title headings" include the **HZ** for all 34 hydrographs. Secondly, it also would be very convenient to have all hydrographs grouped by **Hydrogeologic Zones** for easier referencing in this GSP. Although on **Page 5-2** it states,

"…*one-third of the Subbasin's representative monitoring sites exceeding minimum thresholds for water levels would constitute an undesirable result*…", it would be very helpful to know if those exceedances are random within the KSB or even the MKGSA or if one **HZ** is statistically more heavily impacted than another **HZ**. If those exceedences were isolated to a particular **HZ**, then possibly Projects and Management Actions could be specifically tailored to that **HZ** or a region of that **HZ**, and/or the Management Area occupying that **HZ.** There is the possibility the exceedances could occur in only one Management Area of a particular **HZ** (which potentially traverses one or more Management Areas—i.e. **HZ4** which traverses all three Management Areas of the MKGSA) and not throughout an entire **HZ**. As an example, what if the "…*one-third*…" exceedances occurred only in the northeast section of the City of Tulare which is in part of **HZ4**? The whole KSB and the MKGSA should not be penalized in that scenario. In summary, there are several main points here: First, is to identify the **HZ** in which each well resides and add to each well's "well title headings" which **HZ** it's located in, and secondly, would be to group the 34 wells by **HZ.**

In the MKGSA GSP in **Table 4-5: Groundwater Level monitoring network Well Summary** on **Page 4-8** there are 43 **Well IDs** listed, and yet in ***Appendix 5B*** there are hydrographs for only 34 wells. That's a difference of nine monitoring wells without hydrographs. All nine wells are in the Tulare Irrigation District and have the following **Well ID**: KSB-1320s; KSB-1320d; KSB-1408s; KSB-1408d; KSB-1536s; KSB-1536d; KSB-1545s; KSB-1545d; & KSB-1879. With the

exception of KSB-1879 the other eight wells appear to have good and complete **Well Construction Information** as listed in those three columns of **Table 4-5**. Why are those nine wells which are listed in **Table 4-5** not showing hydrographs in ***Appendix 5B***?

Edward T. Henry, DVM