SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY

944 Whitley Avenue, Suite E, Corcoran, CA 93212
559-762-7240 www.swkgsa.org

AGENDA
REGULAR MEETING OF THE BOARD OF DIRECTORS

February 4, 2022
1:00 pm
944 Whitley Avenue, 2nd Floor Boardroom
Corcoran, CA 93212

Join Zoom Meeting
https://us02web.zoom.us/j/89931378948?pwd=NmJSOUNVb2UzRWpDS3NUQjhuSloyZz09
Meeting ID: 899 3137 8948
Passcode: 109073
Dial in: +1 669 900 9128

The public may participate in the meeting as otherwise permitted under the Brown Act by calling into the telephone number above. Any member of the public may address the SWKGSA Board of Directors concerning any item on the agenda before or during its consideration of that matter, as appropriate.

CALL TO ORDER 1:00 pm

ROLL CALL
Mark Grewal, Vice Chair
Kimberly Brown, Secretary/Treasurer
Jim Wilson
Ceil W. Howe III
John Vidovich

Recognition of John Vidovich to Southwest Kings GSA Board of Directors

PUBLIC COMMENT

The Board of Directors welcomes participation in Board meetings. The public may address matters under the jurisdiction of the Board that have not been posted in the Agenda. However, California Law prohibits the Board from taking action on any matter that is not on the posted Agenda unless the Board determines that it is an emergency or one of the other situations specified in Government Code section 54954.2. The public will be given the opportunity to address the Board on any item on the Agenda at this time or before the Board's consideration of that item. If members of the public desire to address the Board relative to a particular Agenda item at the time it is to be considered, they should so notify the Chair of the Board at this time. The Chair may limit the total amount of time allocated for public testimony on particular issues for each individual speaker.

POTENTIAL CONFLICTS OF INTERESTS
(Any Board member who has a potential conflict of interest may now identify the item and recuse him/herself from discussing and voting on the matter.) [FPPC § 87105.]

CONSENT CALENDAR

1. Minutes of the Regular Board Meeting held on December 3, 2021.
2. Warrants and Finances 11/16/2021 – 01/31/2022).
3. Treasurer's Report.
4. AB361 to continue to hold meetings via Zoom

ACTION CALENDAR

5. Consider action to **elect Officers for calendar year 2022 per Bylaws Section 3.10(a).**
   a. Chair
   b. Vice Chair
   c. Secretary/Treasurer
   d. If desired, motion to approve officers for calendar year 2022
6. Review and consider **day and time for regular Board meeting schedule.**
   a. Report by Executive Director
   b. Discussion
   c. Public Comments / Questions
   d. If desired, motion to set the meeting schedule for 2022
7. Consider action to **approve the engagement letter with Cuttone & Mastro to perform the audit for year ending December 31, 2021**
   a. Report by Executive Director
   b. Discussion
   c. Public Comments/Questions
   d. If desired, motion to approve the engagement letter with Cuttone & Mastro to perform the audit for year ending December 31, 2021
8. Consider for adoption Resolution 22-01 **A RESOLUTION IN SUPPORT OF THE TULARE LAKE SUBBASIN GROUNDWATER RECHARGE AND SUSTAINABILITY PROJECTS**
   a. Presentation by Executive Director
   b. Discussion
   c. Public Comments/Questions
   d. If desired, motion to adopt Resolution 22-01
9. Review and consider ratification of **tolling agreement with Westlands Water District**
   a. Presentation by Executive Director
   b. Discussion
   c. Public Comments/Questions
   d. If desired, motion to ratify tolling agreement
10. Review and consider action on **evapotranspiration data contract with Land IQ**
    a. Presentation by Joel Kimmelshue
    b. Discussion
    c. Public Comments/Questions
    d. If desired, motion to approve proposal for scope of work

11. Review and consider approval of **2022 Budget for Geosyntec**
    a. Review of budget by Amer Hussain
    b. Discussion
    c. Public Comments/Questions
    d. If desired, motion to approve the 2022 Budget for Geosyntec

COMMUNICATIONS/DISCUSSION ITEMS

12. Director's Reports/Comments/Suggestions
13. Communications
    a. DWR determination on the Tulare Lake Subbasin Groundwater Sustainability Plan
14. Reports of General Interest
    a. California Strategies Update – David Armanasco and Rusty Areias
    b. Tulare Lake Subbasin Update – Amer Hussain
        i. Annual Report
        ii. SGM Grant Program
    c. Legal Counsel Update – Jason Howard
    d. Other updates, as appropriate

ADJOURNMENT

15. Adjourn to the next Regular Board Meeting, scheduled for Friday, April 1, 2022 at 1:00 pm, at 944 Whitley Avenue, Corcoran, or as otherwise directed by the Board.

- Items on the Agenda may be taken in any order.
- Action may be taken on any item listed on the Agenda.
- Writings relating to open session Agenda items that are distributed to members of the Board of Directors will be available for inspection at the Authority office, excluding writings that are not public records or are exempt from disclosure under the California Public Records Acts.

Americans with Disabilities Act of 1990: Under this act, a qualifying person may request that the Authority provide a disability-related modification or accommodation in order to participate in any public meeting of the Authority. Such assistance includes alternative formats for the agendas and agenda packets used for any public meetings of the Authority. Requests for assistance shall be made in person, via telephone, or in written form to the SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY Office at 944 Whitley Avenue, Suite E, Corcoran, CA 93212 (559) 762-7240. Requests must be received at least 48 hours prior to a scheduled public meeting.

SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY
REGULAR BOARD MEETING
MINUTES
December 3, 2021

The Board of Directors of the Southwest Kings Groundwater Sustainability Agency met in the second-floor conference room, 944 Whitley Avenue, Corcoran, California, on Friday, December 3, 2021, at the hour of 1:00 p.m. The meeting was available via Zoom for interested parties.

Vice Chair Grewal presided and Executive Director Jackson kept the minutes.

DIRECTORS PRESENT: Mark Grewal
Kim Brown
Jim Wilson

DIRECTORS ABSENT: Ceil W. Howe III

OTHERS PRESENT: Deanna Jackson, Executive Director
Staci Wilkins, Executive Assistant
Jason Howard, McCormick Barstow
Amer Hussain, Geosyntec
Kiti Campbell, Westlands Water District
Cody Tolbert, Chevron
David Armanasco, California Strategies
Riley Jones, Tulare Lake Compost
Mike Nordstrom
Bryan Platt, DWR
asolorio

Vice Chair Grewal called the meeting to order at 1:02 p.m.

It was noted that John Vidovich was unable to attend the meeting due to weather conditions.

PUBLIC COMMENT
No public comment

CONSENT CALENDAR (Agenda items 1 – 3)

Upon the motion of Director Brown and seconded by Director Wilson, the Consent Calendar consisting of Minutes of the October 1, 2021 Regular Board Meeting, Warrants and Finances dated between 09/23/2021 and 11/15/2021, and the Treasurer's Report was approved as presented by the following roll call vote:

Brown	Wilson	Howe	Grewal
Aye	Aye	Absent	Aye

ACTION CALENDAR

4. Review and consider the appointment of a Director to the JPIA Board of Directors. Bernard Puget had been the previous representative with Executive Director Jackson as the Alternate Representative. On the motion of Director Grewal and seconded by Director Wilson, Director Brown was appointed to be the Director Representative to the JPIA Board of Directors with Executive Director Jackson remaining as the Alternate Representative. The Directors voted as follows:

Brown	Wilson	Howe	Grewal
Aye	Aye	Absent	Aye

5. Consider for approval submitting a letter of support for Tulare Lake Subbasin Grant Application. Executive Director Jackson noted that the managers for the Tulare Lake Subbasin were meeting to select possible projects to submit in the upcoming grant application. The projects haven't been determined yet but each GSA would be asked to submit a letter of support. Director Brown motioned to authorize the Executive Director to issue a letter of support once the projects are determined which was seconded by Director Wilson. The Directors voted as follows:

Brown	Wilson	Howe	Grewal
Aye	Aye	Absent	Aye

6. Consider for approval AB361 in regards to continuing to offer Board meetings via Zoom in addition to being in person. Director Brown motioned to continue with the meeting format as both in person and via Zoom which was seconded by Director Wilson. The Directors voted as follows:

Brown	Wilson	Howe	Grewal
Aye	Aye	Absent	Aye

COMMUNICATIONS /DISCUSSION ITEMS

7. **Director's Reports /Comments /Suggestion**
   None

8. **Reports of General Interest**

   a) California Strategies –David Armanasco
   They are in contact with Secretary Crowfoot's office to make arrangements for him to visit the subbasin in January, 2022, and their office has been assisting Claire Van Zuiden in

looking for grant funding for both the Tulare Lake and Tule Subbasins. It was noted that there is money available for fallowing through the Department of Conservation.

b) Tulare Lake Subbasin Update – Deanna Jackson / Amer Hussain

- The Annual Report data is being collected and analyzed. Of particular interest is looking at the ET data and any surface water that was brought in and how they affect the calculations for total water used. Key dates for providing draft data to the GSAs, receiving feedback and uploading the final report to SGMA portal were reviewed.
- The tolling agreement is continuing with Westlands Water District.
- The GSP Comment Letter is still being anticipated in the next week. This will be a consultation letter and the formal letter will be available by the end of January, 2022.
- The Westlands GSP Comment Letter was included with the meeting material to give Directors and the public an idea of what the letter for Tulare Lake might look like for potential deficiencies and corrective actions.
- The grant funding available includes Prop. 68 Round 2 money plus additional money to total $7.6 million per Critically Overdrafted subbasin. However, the legislature included some additional steps to receive the funding which is going to make it more difficult to qualify. The project submission deadline is January 31, 2022, with funding awarded in March.

c) Legal Counsel Report – Jason Howard
None

d) Other updates, as appropriate
None

ADJOURNMENT

9. There being no further business to come before the Board on the occasion of December 3, 2021, meeting, Vice Chair Grewal adjourned the meeting at 2:00 pm until the next Regular Meeting on February 4, 2022, at 944 Whitley Avenue, Corcoran, or as otherwise directed by the Board.

Attest:

_____
Kim Brown, Secretary

_____
Mark Grewal, Vice Chair

DRAFT

Southwest Kings Groundwater Sustainability Agency

Check Detail

November 16, 2021 - January 31, 2022

DATE	TRANSACTION TYPE	NUM	NAME	MEMO/DESCRIPTION	CLR	AMOUNT
Bill.com Money Out Clearing						
12/01/2021	Bill Payment (Check)		Provost & Pritchard Consulting Group	Inv #88439		-88.20
						-88.20
12/01/2021	Bill Payment (Check)		California Strategies and Advocacy, LLC	Inv #1121059		-3,600.00
						-3,600.00
12/01/2021	Bill Payment (Check)		Tri County Water Authority	Inv #617		-7,000.00
						-7,000.00
12/20/2021	Bill Payment (Check)		McCormick Barstow LLP	Inv #2100815		-30.00
						-30.00
12/20/2021	Bill Payment (Check)		Tri County Water Authority	Inv #724		-7,000.00
						-7,000.00
12/20/2021	Bill Payment (Check)		Geosyntec Consultants, Inc.	Inv #32453606		-6,127.42
						-6,127.42
01/04/2022	Bill Payment (Check)		Provost & Pritchard Consulting Group	Inv #88986		-88.20
						-88.20
01/04/2022	Bill Payment (Check)		California Strategies and Advocacy, LLC	Inv #1221059		-3,600.00
						-3,600.00
01/04/2022	Bill Payment (Check)		Geosyntec Consultants, Inc.	Inv #32455210		-1,261.24
						-1,261.24
01/04/2022	Bill Payment (Check)		ACWA	Inv #12/15/2021		-1,072.50
						-1,072.50

Note
No assurance is provided on these financial statements.

Southwest Kings Groundwater Sustainability Agency

Budget vs. Actuals: FY_2021 - FY21 P&L

January - December 2021

	TOTAL			
	ACTUAL	BUDGET	OVER BUDGET	% OF BUDGET
Income				
401 Benefit Assessment	180,372.76	182,362.00	-1,989.24	98.91 %
Total Income	**$180,372.76**	**$182,362.00**	**$ -1,989.24**	**98.91 %**
GROSS PROFIT	**$180,372.76**	**$182,362.00**	**$ -1,989.24**	**98.91 %**
Expenses				
502 Accounting	6,297.50	7,750.00	-1,452.50	81.26 %
503 Legal	1,573.50	18,000.00	-16,426.50	8.74 %
505 Insurance	2,215.00	3,000.00	-785.00	73.83 %
506 Website	925.46	2,000.00	-1,074.54	46.27 %
507 Audit	4,100.00	5,000.00	-900.00	82.00 %
520 GSP				
520-1 Budget Overrun		25,000.00	-25,000.00	
520-2 Annual Report	8,095.14	15,000.00	-6,904.86	53.97 %
520-3 Monitoring/DMS	16,276.04	20,000.00	-3,723.96	81.38 %
520-4 Grant Applications/Admin	129.78	15,000.00	-14,870.22	0.87 %
Total 520 GSP	**24,500.96**	**75,000.00**	**-50,499.04**	**32.67 %**
530 Dues	1,578.98		1,578.98	
540 Contingency	7,500.00	36,000.00	-28,500.00	20.83 %
580 Outside Services				
580.1 Consulting	43,200.00	43,200.00	0.00	100.00 %
580.2 Engineering	4,261.11		4,261.11	
580.3 Management Fees	77,000.00	84,000.00	-7,000.00	91.67 %
Total 580 Outside Services	**124,461.11**	**127,200.00**	**-2,738.89**	**97.85 %**
590 Other	851.83		851.83	
Total Expenses	**$174,004.34**	**$273,950.00**	**$ -99,945.66**	**63.52 %**
NET OPERATING INCOME	**$6,368.42**	**$ -91,588.00**	**$97,956.42**	**-6.95 %**
Other Income				
490 Interest	1,398.22	4,000.00	-2,601.78	34.96 %
495 Miscellaneous	67,083.71		67,083.71	
Total Other Income	**$68,481.93**	**$4,000.00**	**$64,481.93**	**1,712.05 %**
NET OTHER INCOME	**$68,481.93**	**$4,000.00**	**$64,481.93**	**1,712.05 %**
NET INCOME	**$74,850.35**	**$ -87,588.00**	**$162,438.35**	**-85.46 %**

Note
No assurance is provided on these financial statements.

Southwest Kings Groundwater Sustainability Agency

Statement of Net Assets

As of December 31, 2022

	TOTAL		
	AS OF DEC 31, 2022	AS OF DEC 31, 2021 (PY)	CHANGE
ASSETS			
Current Assets			
Bank Accounts			
102 LAIF	351,404.76	351,204.45	200.31
Suncrest Bank	125,736.78	61,604.51	64,132.27
Total Bank Accounts	**$477,141.54**	**$412,808.96**	**$64,332.58**
Accounts Receivable			
Accounts Receivable	68,901.94	3,664.21	65,237.73
Total Accounts Receivable	**$68,901.94**	**$3,664.21**	**$65,237.73**
Other Current Assets			
Undeposited Funds	0.00	200.31	-200.31
Total Other Current Assets	**$0.00**	**$200.31**	**$ -200.31**
Total Current Assets	**$546,043.48**	**$416,673.48**	**$129,370.00**
TOTAL ASSETS	**$546,043.48**	**$416,673.48**	**$129,370.00**
LIABILITIES AND EQUITY			
Liabilities			
Current Liabilities			
Accounts Payable			
Accounts Payable	22,078.72	9,229.18	12,849.54
Total Accounts Payable	**$22,078.72**	**$9,229.18**	**$12,849.54**
Total Current Liabilities	**$22,078.72**	**$9,229.18**	**$12,849.54**
Total Liabilities	**$22,078.72**	**$9,229.18**	**$12,849.54**
Equity			
Retained Earnings	407,444.30	332,593.95	74,850.35
Net Income	116,520.46	74,850.35	41,670.11
Total Equity	**$523,964.76**	**$407,444.30**	**$116,520.46**
TOTAL LIABILITIES AND EQUITY	**$546,043.48**	**$416,673.48**	**$129,370.00**

Note
No assurance is provided on these financial statements.

Accrual Basis

cuttone & mastro
CERTIFIED PUBLIC ACCOUNTANTS

December 22, 2021

Southwest Kings Groundwater Sustainability Agency
944 Whitley Avenue, Suite E
Corcoran, CA 93212

To Board of Directors and Management

We are pleased to confirm our understanding of the services we are to provide Southwest Kings Groundwater Sustainability Agency for the year ended December 31, 2021.

Audit Scope and Objectives

We will audit the financial statements of the governmental activities, the business-type activities, the aggregate discretely presented component units, each major fund, and the aggregate remaining fund information, and the disclosures, which collectively comprise the basic financial statements of Southwest Kings Groundwater Sustainability Agency as of and for the year ended December 31, 2021. Accounting standards generally accepted in the United States of America (GAAS) provide for certain required supplementary information (RSI), such as management's discussion and analysis (MD&A), to supplement Southwest Kings Groundwater Sustainability Agency's basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. As part of our engagement, we will apply certain limited procedures to Southwest Kings Groundwater Sustainability Agency's RSI in accordance with GAAS. These limited procedures will consist of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We will not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance. The Management's Discussion and Analysis is required by U.S. generally accepted accounting principles (GAAP) and will be subjected to certain limited procedures, but will not be audited.

The objectives of our audit are to obtain reasonable assurance as to whether the financial statements as a whole are free from material misstatement, whether due to fraud or error; issue an auditor's report that includes our opinion about whether your financial statements are fairly presented, in all material respects, in conformity with GAAP; and report on the fairness of the supplementary information referred to in the second paragraph when considered in relation to the financial statements as a whole. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. Misstatements, including omissions, can arise from fraud or error and are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment of a reasonable user made based on the financial statements.

Auditor's Responsibilities for the Audit of the Financial Statements

We will conduct our audit in accordance with GAAS and will include tests of your accounting records and other procedures we consider necessary to enable us to express such opinions. As part of an audit in accordance with GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit.

7543 North Ingram, Suite 102
Fresno, California 93711
phone 559-261-4300 fax 559-261-4301

We will evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management. We will also evaluate the overall presentation of the financial statements, including the disclosures, and determine whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation. We will plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether from (1) errors, (2) fraudulent financial reporting, (3) misappropriation of assets, or (4) violations of laws or governmental regulations that are attributable to the government or to acts by management or employees acting on behalf of the government.

Because of the inherent limitations of an audit, combined with the inherent limitations of internal control, and because we will not perform a detailed examination of all transactions, there is an unavoidable risk that some material misstatements may not be detected by us, even though the audit is properly planned and performed in accordance with GAAS. In addition, an audit is not designed to detect immaterial misstatements or violations of laws or governmental regulations that do not have a direct and material effect on the financial statements. However, we will inform the appropriate level of management of any material errors, fraudulent financial reporting, or misappropriation of assets that comes to our attention. We will also inform the appropriate level of management of any violations of laws or governmental regulations that come to our attention, unless clearly inconsequential. Our responsibility as auditors is limited to the period covered by our audit and does not extend to any later periods for which we are not engaged as auditors.

We will also conclude, based on the audit evidence obtained, whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the government's ability to continue as a going concern for a reasonable period of time.

Our procedures will include tests of documentary evidence supporting the transactions recorded in the accounts, tests of the physical existence of inventories, and direct confirmation of receivables and certain assets and liabilities by correspondence with selected customers, creditors, and financial institutions. We will also request written representations from your attorneys as part of the engagement.

We may, from time to time and depending on the circumstances, use third-party service providers in serving your account. We may share confidential information about you with these service providers but remain committed to maintaining the confidentiality and security of your information. Accordingly, we maintain internal policies, procedures, and safeguards to protect the confidentiality of your personal information. In addition, we will secure confidentiality agreements with all service providers to maintain the confidentiality of your information and we will take reasonable precautions to determine that they have appropriate procedures in place to prevent the unauthorized release of your confidential information to others. In the event that we are unable to secure an appropriate confidentiality agreement, you will be asked to provide your consent prior to the sharing of your confidential information with the third-party service provider. Furthermore, we will remain responsible for the work provided by any such third-party service providers.

Audit Procedures—Internal Control

We will obtain an understanding of the government and its environment, including internal control relevant to the audit, sufficient to identify and assess the risks of material misstatement of the financial statements, whether due to error or fraud, and to design and perform audit procedures responsive to those risks and obtain evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentation, or the override of internal control. An audit is not designed to provide assurance on internal control or to identify deficiencies in internal control. Accordingly, we will express no such opinion. However, during the audit, we will communicate to management and those charged with governance internal control related matters that are required to be communicated under AICPA professional standards.

Although planning has not concluded and modifications may be made, we have identified the following significant risks of material misstatement as part of our audit planning:

1. The existence of significant or unusual transactions and the need to evaluate the proper reporting of these transactions in accordance with Generally Accepted Accounting Principles.
2. That commitments and contingencies will not be identified and disclosed.
3. That allowance for doubtful accounts may underestimated.
4. The evaluation of new accounting standards that may affect the current financial reporting
5. There is a fraud risk of improper revenue recognition and management override of controls.

Audit Procedures—Compliance

As part of obtaining reasonable assurance about whether the financial statements are free of material misstatement, we will perform tests of Tri-County Water District's compliance with the provisions of applicable laws, regulations, contracts, and agreements. However, the objective of our audit will not be to provide an opinion on overall compliance, and we will not express such an opinion.

Other Services

We will also prepare the financial statements of Southwest Kings Groundwater Sustainability Agency in conformity with accounting principles generally accepted in the United States of America based on information provided by you. We will also prepare any necessary journal entries.

We will perform the services in accordance with applicable professional standards. The other services are limited to the financial statement services previously defined. We, in our sole professional judgment, reserve the right to refuse to perform any procedure or take any action that could be construed as assuming management responsibilities.

We have also been engaged to prepare the annual State Controller's Financial Transaction Report from information you provide. It will not be subjected to the auditing procedures applied in our audit of the financial statements, and our auditor's report will not provide an opinion or any assurance. You will be billed separately for these services.

Responsibilities of Management for the Financial Statements

Our audit will be conducted on the basis that you acknowledge and understand your responsibility for designing, implementing, and maintaining internal controls relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error, including monitoring ongoing activities; for the selection and application of accounting principles; and for the preparation and fair presentation of the financial statements in conformity with accounting principles generally accepted in the United States of America.

Management is responsible for making drafts of financial statements, all financial records, and related information available to us and for the accuracy and completeness of that information (including information from outside of the general and subsidiary ledgers). You are also responsible for providing us with (1) access to all information of which you are aware that is relevant to the preparation and fair presentation of the financial statements, such as records, documentation, identification of all related parties and all related-party relationships and transactions, and other matters; (2) additional information that we may request for the purpose of the audit; and (3) unrestricted access to persons within the government from whom we determine it necessary to obtain audit evidence. At the conclusion of our audit, we will require certain written representations from you about the financial statements and related matters.

Your responsibilities include adjusting the financial statements to correct material misstatements and confirming to us in the management representation letter that the effects of any uncorrected misstatements aggregated by us during the current engagement and pertaining to the latest period presented are immaterial, both individually and in the aggregate, to the financial statements of each opinion unit taken as a whole.

You are responsible for the design and implementation of programs and controls to prevent and detect fraud, and for informing us about all known or suspected fraud affecting the government involving (1) management, (2) employees who have significant roles in internal control, and (3) others where the fraud could have a material effect on the financial statements. Your responsibilities include informing us of your knowledge of any allegations of fraud or suspected fraud affecting the government received in communications from employees, former employees, grantors, regulators, or others. In addition, you are responsible for identifying and ensuring that the government complies with applicable laws and regulations.

You are responsible for the preparation of the supplementary information in conformity with accounting principles generally accepted in the United States of America. You agree to include our report on the supplementary information in any document that contains, and indicates that we have reported on, the supplementary information. You also agree to include the audited financial statements with any presentation of the supplementary information that includes our report thereon. Your responsibilities include acknowledging to us in the representation letter that (1) you are responsible for presentation of the supplementary information in accordance with GAAP; (2) you believe the supplementary information, including its form and content, is fairly presented in accordance with GAAP; (3) the methods of measurement or presentation have not changed from those used in the prior period (or,

if they have changed, the reasons for such changes); and (4) you have disclosed to us any significant assumptions or interpretations underlying the measurement or presentation of the supplementary information.

You agree to assume all management responsibilities for the financial statement preparation services and any other nonattest services we provide; oversee the services by designating an individual, preferably from senior management, with suitable skill, knowledge, or experience; evaluate the adequacy and results of the services; and accept responsibility for them.

Engagement Administration, Fees, and Other

We understand that your employees will prepare all cash, accounts receivable, or other confirmations we request and will locate any documents selected by us for testing.

The audit documentation for this engagement is the property of Cuttone & Mastro, Certified Public Accountants and constitutes confidential information. However, subject to applicable laws and regulations, audit documentation and appropriate individuals will be made available upon request and in a timely manner to a regulator or its designee. We will notify you of any such request. If requested, access to such audit documentation will be provided under the supervision of Cuttone & Mastro, Certified Public Accountants personnel. Furthermore, upon request, we may provide copies of selected audit documentation to a regulator or its designee. The regulator or its designee may intend or decide to distribute the copies or information contained therein to others, including other governmental agencies.

Michael B. Cuttone, CPA is the engagement partner and is responsible for supervising the engagement and signing the report or authorizing another individual to sign it. We expect to begin our audit as soon workpapers for the audit are provided and to issue our reports no later than August 1, 2022.

Our fee for services will be at our standard hourly rates plus out-of-pocket costs (such as report reproduction, word processing, postage, travel, copies, telephone, etc.) except that we agree that our gross fee, including expenses, will not exceed $4,475. Our standard hourly rates vary according to the degree of responsibility involved and the experience level of the personnel assigned to your audit. Our invoices for these fees will be rendered each month as work progresses and are payable on presentation. In accordance with our firm policies, work may be suspended if your account becomes 60 days or more overdue and may not be resumed until your account is paid in full. If we elect to terminate our services for nonpayment, our engagement will be deemed to have been completed upon written notification of termination, even if we have not completed our report. You will be obligated to compensate us for all time expended and to reimburse us for all out-of-pocket costs through the date of termination. The above fee is based on anticipated cooperation from your personnel and the assumption that unexpected circumstances will not be encountered during the audit. If significant additional time is necessary, we will discuss it with you and arrive at a new fee estimate before we incur the additional costs.

Reporting

We will issue a written report upon completion of our audit of Southwest Kings Groundwater Sustainability Agency's financial statements. Our report will be addressed to the board of directors of Southwest Kings Groundwater Sustainability Agency. Circumstances may arise in which our report may differ from its expected form and content based on the results of our audit. Depending on the nature of these circumstances, it may be necessary for us to modify our opinions, add a separate section, or add an emphasis-of-matter or other-matter paragraph to our auditor's report, or if necessary, withdraw from this engagement. If our opinions are other than unmodified, we will discuss the reasons with you in advance. If, for any reason, we are unable to complete the audit or are unable to form or have not formed opinions, we may decline to express opinions or withdraw from this engagement.

We appreciate the opportunity to be of service to Southwest Kings Groundwater Sustainability Agency and believe this letter accurately summarizes the significant terms of our engagement. If you have any questions, please let us know. If you agree with the terms of our engagement as described in this letter, please sign the attached copy, and return it to us.

Very truly yours,

Cuttone & Mastro

Cuttone & Mastro

RESPONSE:

This letter correctly sets forth the understanding of Southwest Kings Groundwater Sustainability Agency.

Management signature: _____

Title: Executive Director

Date: February 4, 2022

Governance signature: _____

Title: Chair

Date: February 4, 2022

SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY

RESOLUTION NO. 22-01

Resolved by the Board of Directors of Southwest Kings Groundwater Sustainability Agency, that an application be made to the California Department of Water Resources to obtain a grant under the 2021 Sustainable Groundwater Management (SGM) Grant Program SGMA Implementation – Planning and Projects Grant pursuant to the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 (Proposition 68) (Pub. Resource Code, § 80000 et seq.) and the California Budget Act of 2021 (Stats. 2021, ch. 240, § 80) and to enter into an agreement to receive a grant for the: Tulare Lake Subbasin Groundwater Recharge and Sustainability Projects. Dennis Mills, General Manager of the Mid-Kings River Groundwater Sustainability Agency or designee, is hereby authorized and directed to prepare the necessary data, conduct investigations, file such application, and execute a grant agreement and any future amendments (if required), submit invoices, and submit any reporting requirements with the California Department of Water Resources. Passed and adopted at a meeting of the Board of Directors of Southwest Kings Groundwater Sustainability Agency on February 4, 2022.

Approved this day, the 4th of February, 2022.

_____

Mark Grewal, Vice Chair
Board of Directors

_____

Kimberly Brown
Secretary

CERTIFICATION

I do hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the Southwest Kings Groundwater Sustainability Agency Board of Directors held on February 4, 2022.

_____

Kimberly Brown, Secretary

DRAFT

Third Amendment to the Interim Principles of a GSA Coordination Agreement Between Southwest Kings and Westlands Water District Groundwater Sustainability Agencies

This **Third Amendment** to the Interim Principles of a GSA Coordination Agreement Between Southwest Kings and Westlands Water District Groundwater Sustainability Agencies, dated May 15, 2020 ("**Agreement**"), is hereby entered into by and between the Southwest Kings Groundwater Sustainability Agency ("**SWK GSA**") and the Westlands Water District ("**WWD**"), hereinafter referred to jointly as "**Parties**" and may be referred to individually as a "**Party**."

NOW, THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is hereby mutually agreed by the **Parties** hereto as follows:

1. The **Parties** hereby amend the **Agreement** to extend the Termination date contained in paragraph 6 of the **Agreement** until January 31, 2023.

2. All other provisions of the **Agreement** remain in full force and effect.

3. Each person signing below represents that he or she has authority to bind the **Party** he or she represents.

4. This **Third Amendment** is effective as of the date last signed below.

CONFIDENTIAL - OFFER OF COMPROMISE

Southwest Kings Groundwater Sustainability Agency	Westlands Water District
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____
Date: February 4, 2022	Date: _____

Third Amendment to the Interim Principles of a GSA Coordination Agreement Between Southwest Kings and Westlands Water District Groundwater Sustainability Agencies

This **Third Amendment** to the Interim Principles of a GSA Coordination Agreement Between Southwest Kings and Westlands Water District Groundwater Sustainability Agencies, dated May 15, 2020 ("**Agreement**"), is hereby entered into by and between the Southwest Kings Groundwater Sustainability Agency ("**SWK GSA**") and the Westlands Water District ("**WWD**"), hereinafter referred to jointly as "**Parties**" and may be referred to individually as a "**Party**."

NOW, THEREFORE, in consideration of the mutual and dependent covenants herein contained, it is hereby mutually agreed by the **Parties** hereto as follows:

1. The **Parties** hereby amend the **Agreement** to extend the Termination date contained in paragraph 6 of the **Agreement** until February 7, 2022.

2. All other provisions of the **Agreement** remain in full force and effect.

3. Each person signing below represents that he or she has authority to bind the **Party** he or she represents.

4. This **Third Amendment** is effective as of the date last signed below.

Southwest Kings
Groundwater Sustainability Agency

By: _____
Name: Jason O. Howard
Title: General Counsel
Date: 1/28/22

Westlands Water District

By: _____
Name: Scott Steven Slater
Title: Special Counsel
Date: 1/28/2022

LAND IQ ET – A DATA DRIVEN METHOD FOR EVAPOTRANSPIRATION AT THE FIELD LEVEL – SOUTHWEST KINGS GSA

PREPARED FOR: Deanna Jackson/Southwest Kings GSA

PREPARED BY: Joel Kimmelshue/Land IQ
Zhongwu Wang/Land IQ
Frank Anderson/Land IQ
Seth Mulder/Land IQ
Casey Gudel/Land IQ

DATE: January 7, 2021

INTRODUCTION

This scope of work proposal was developed at the request of the Southwest Kings GSA (SWKGSA) for the purpose of developing a monthly and annual calculation of actual, field by field evapotranspiration (ET) (consumptive use) occurring within the Tulare Lake Subbasin for a 12-month period.

Calculation of ET can be performed accurately using weighing lysimeters and eddy correlation monitoring techniques. These methods are limited, however, because they provide point values of ET for a specific location and fail to provide the ET on a regional scale. This limitation has motivated the development of using remotely sensed (RS) data from satellites to evaluate ET over large areas. Satellite data are well suited for deriving spatially continuous ET surfaces that can be sometimes pared down to the field scale because of their temporal and spatial characteristics. However, the most accurate use of RS models require calibration to surface measurements and work from the field level originally. The approach proposed for the tasks in this scope of work includes a combination of high-density, specific ground measurements and remotely sensed modeling, calibrated with those measurements.

STAFFING RESOURCES AND PROJECT COOPERATORS

Staff expected to work on this project from Land IQ have been involved in various aspects of evapotranspiration modeling, agricultural remote sensing, and regulatory support for the last 3 to 25 years, and are listed below. Other appropriately qualified staff may also participate to facilitate completion of any tasks approved by SWKGSA as a part of this proposed scope of work.

- Principal in Charge and Principal Agricultural Scientist – Joel Kimmelshue, PhD
- Principal Remote Sensing Analyst – Zhongwu Wang, PhD
- Biometeorologist – Frank Anderson, MS
- Agricultural Scientist – Seth Mulder, MS
- Agricultural Scientist – Chris Stall, MS
- Remote Sensing Analyst – Juan Geng, MS

Scope Confidentiality: This scope of work is considered confidential in nature, and is intended for review and consideration only by the addressees or direct representatives of the organization in the "Prepared For" line.

- Project Manager/Client Relations – Casey Gudel, MS
- GIS Analyst – Justin Sitton, BS
- Support Staff – Various as needed

Land IQ also welcomes input and collaboration with the irrigation district staff and intends on integrating staff into continued instrumentation efforts, data collection, and monitoring programs as the on-the-ground, local component of the team, if possible and feasible for the client organization(s).

Implementation of these tasks may also include coordination efforts with other technical providers that Land IQ will manage as a part of this overall effort. Land IQ intends on working openly with these parties to help facilitate, to the extent possible, understanding and acceptance of the work approaches and data management used for analysis and ultimate results.

TASKS

This scope of work has been developed based on individual task discussions and requests from the SWKGSA. These tasks include:

- **Task 1** – Monthly Consumptive Use Analysis (12 months)
- **Task 2** – Monthly and Annual Reporting (2021)
- **Task 3** – Outreach and Presentations
- **Task 4** – Non-Irrigated Consumptive Use Analysis (12 months)

Each of these tasks is discussed in detail below and includes schedule and deliverables. A cost summary for all work is provided.

TASK 1. MONTHLY CONSUMPTIVE USE ANALYSIS (2021)

Scope of Work: It is proposed that the Land IQ ET data driven approach developed for Semitropic Water Storage District (used since 2016), North Kern Water Storage District (used since 2018), Shafter Wasco Irrigation District (used since 2018), East Kaweah Groundwater Sustainability Agency (currently installed in 2020), Tule Subbasin Groundwater Sustainability Agencies (used since May 2020), and Southern San Joaquin Municipal Utilities District be used. The LDDM is used to interpret image data and leverages robust and repeated ground station data to be implemented within the SWKGSA as well as a more direct image analysis. The approach yields more accurate results when repeated and representative ground calibration data are available. It is also less labor-intensive than METRIC-based (or similar) remote sensing methods at this refined scale.

Because the Land IQ ET data driven approach establishes calibration and validation data at the field level and also analyzes at the field level, the result is field-level consumed water which can then be rolled up to any regional area or crop type desired. This is unique to the Land IQ ET data driven approach as compared to other RS approaches and models.

This method does, however, require robust ground truthing data. Representative ground truthing stations installed within the SWKGSA (limited station installation for the first 12 months) and also results from neighboring districts will be used for calibration and validation datasets. This effort will employ Landsat 8, RapidEye, and Sentinel 2 satellite imagery (freely available) as well as Maxar Imagery (contracted by Land IQ and included in the overall cost). Satellite data will be screened for cloud cover and terrain corrected. It is important that some the images used contain a clear sky. Ground

Scope Confidentiality: This scope of work is considered confidential in nature, and is intended for review and consideration only by the addressees or direct representatives of the organization in the "Prepared For" line.

measurements from monitored eddy covariance and surface renewal stations will be used to generate hourly ET data correlated to Landsat 8, RapidEye, Sentinel 2 and Maxar Imagery satellite overpasses and then used as a dependent variable in the modeling process.

It should be noted that Land IQ has entered into a collaboration agreement with Dr. Daniele Zaccaria and Dr. Rick Snyder (emeritus) from the University of California, Davis as collaborating partners. As such we are able to use the data from 6 neighboring eddy covariance/surface energy balance stations for this project in addition to other existing and neighboring stations, in addition to dozens of Land IQ installed and maintained stations. These stations are owned by UC Davis and operated by Land IQ and UC Davis. The partnership between UC Davis and Land IQ allows Land IQ to use the data from these stations and also provides for independent review by Drs. Daniele Zaccaria and Rick Snyder of RS final results.

Deliverables: None

Schedule: Individual analyses will be completed monthly and annually at the end of each calendar year (Task 2) and results delivered to the SWKGSA within approximately 25 days from the end of the previous month.

TASK 2. MONTHLY AND ANNUAL REPORTING (2021)

Scope of Work: Monthly template reports will be developed. An annual report will also be developed which summarizes the previous year, once completed. The first of the 12 monthly reports will begin approximately 25 days following completion of recording of 30 days of climatic data and will be delivered within 30 days of the end of the previous month.

Deliverables: Monthly results will be delivered in data summary, shape file, and report formats. Annual results will be delivered in report format only. Results can also be delivered in a format that can be consumed by online tools for delivery to growers directly. This does not include the partitioning of results by ownership.

In addition to ET reporting, Land IQ will provide field by field crop type mapping for the SWKGSA in electronic and summary form at least annually and more frequently for multi-cropping areas. These data will be the same type and quality of data for crop mapping that are provided to the State of California, Department of Water Resources as Land IQ is the contractor for that dataset as required by SGMA.

Schedule: Individual analyses and reporting will be completed monthly and results delivered within approximately 25 days of the end of the previous month being analyzed. Annual summarization and reporting will be completed within approximately 45 days following the end of the previous 12-month period.

TASK 3. OUTREACH AND PRESENTATIONS

Scope of Work: This task accounts for up to three meetings per year to assist with or participate in outreach meetings with growers and irrigation district representatives.

Deliverables: Presentation materials

Schedule: As needed or directed by the SWKGSA.

Scope Confidentiality: This scope of work is considered confidential in nature, and is intended for review and consideration only by the addressees or direct representatives of the organization in the "Prepared For" line.

TOTAL COST AND PAYMENT TERMS

According to State of California Subbasin and GSA boundaries, SWKGSA records and Land IQ mapping there are a total of approximately 179,738 acres. Normally, Land IQ enters into a 3-year agreement that includes full station installation across the entire analysis area. The SWKGSA has requested a 12-month trial period with limited station installation, focusing on the cropped portion of the district. Therefore, two costs are provided per this request. For this version of the cost estimate, and based on some conversations with GSA manager, the first cost (Tasks 1, 2 and 3) is for the irrigated portion of the district only at a rate of $0.65/acre/year. It is usually the case that Land IQ analyzes the entire footprint of a GSA, however for the first 12 months these alterations are being made.

It should be noted that without ground truthing stations, the accuracy of the results should be reasonable, but also will only be as good as the calibration data received from the limited number of installed stations and stations within neighboring areas. If the SWKGSA decide to continue this work after the 12-month trial period, it will be necessary to install stations and measure the climatic parameters within the analysis area for a 3-year commitment at a current price of $0.76/acre/year.

In total, for the initial year (Water Year 2021), the analysis will cover 20,428 acres at a rate of $0.65/acre/year totaling **$13,278.20 or $1,106.52 per month**. After the initial year has concluded, the rate will increase to $0.76/acre/year for a three-year period. This totals **$16,289.84** or **$1,357.49** a month for 21,434 acres of contiguous analysis area.

The cost listed includes all rental station equipment, labor, expenses, supplies, project management, and all other associated costs.

Scope Confidentiality: This scope of work is considered confidential in nature, and is intended for review and consideration only by the addressees or direct representatives of the organization in the "Prepared For" line.

SWK FY 2022 Budget Breakdown

TASK #	TITLE	DESCRIPTION	Approved FY 2021 Budget	Proposed FY 2022 BUDGET
1	Project Management	Communication and meeting with SWK related teams; Attendance at Subbasin and other key meetings; Engage with other consulting teams	$ 10,000.00	$ 10,000.00
2	Monitoring Program	Collecting semi-annual water level measurements within the GSA; Reviewing and evaluating GSA thresholds and objectives; Surveying wells to SGMA BMP standards; Upholding commitments to the monitoring program as stated in the GSP	$ 10,000.00	$ 10,000.00
3	Surrounding Basin Coordination	Coordinating with surrounding basins and GSAs on management actions to achieve sustainability; Compare and evaluate sustainability efforts within the Subbasin and surrounding basins	$ 7,500.00	$ 5,000.00
4	Projects	Reviewing surface water storage and recharge projects upstream; Coordinating with surrounding basins to develop projects for surface water storage and recharge	$ 8,000.00	$ 3,000.00
5	Policies	Continued implementation of the Meter Policy; Meetings and communication with SWK and stakeholders. Help prepare additional new policies	N/A	$ 6,000.00
6	Response to DWR Comments	Prepare response to DWR comments. This amount is expected to be reimbursed by the SGM Grant. SWK share is approximately 18.4%	N/A	$ 55,500.00
7	Reimbursement from SGM Grant	Expected SGM grant		$ (55,500.00)
		Total	**$ 35,500.00**	**$ 34,000.00**

SWK's FY is based on calendar years. FY 2022 will be from January 1, 2022 to December 31, 2022.

DocuSign Envelope ID: 0FC68EEA-DCD0-4092-9ABE-D9AD5746B349

CALIFORNIA DEPARTMENT OF WATER RESOURCES
SUSTAINABLE GROUNDWATER MANAGEMENT OFFICE
715 P Street | Sacramento, CA 95814 | P.O. Box 942836 | Sacramento, CA 94236-0001

January 28, 2022

Amer Hussain
Tulare Lake Subbasin Plan Manager
1111 E Herndon Ave., Suite 217
Fresno, CA 93720
ahussain@geosyntec.com

RE: Incomplete Determination of the 2020 Tulare Lake Subbasin Groundwater Sustainability Plan

Dear Amer Hussain,

The Department of Water Resources (Department) has evaluated the groundwater sustainability plan (GSP) submitted for the Tulare Lake Subbasin (Subbasin) and has determined that the GSP is incomplete. The Department based its determination on recommendations from the Staff Report, included as an enclosure to the attached Statement of Findings, which describes that the Tulare Lake Subbasin GSP does not satisfy the objectives of the Sustainable Groundwater Management Act (SGMA) nor substantially comply with the GSP Regulations. The Staff Report also provides corrective actions which the Department recommends to address the identified deficiencies.

The Subbasin's Groundwater Sustainability Agencies (GSAs) have 180 days, the maximum allowed by GSP Regulations, to address the identified deficiencies. Where addressing the deficiencies requires modification of the GSP, the GSAs must adopt those modifications into the Subbasin's GSP or otherwise demonstrate that those modifications are part of the GSP before resubmitting it to the Department for evaluation no later than July 27, 2022. The Department understands that much work has occurred to advance sustainable groundwater management since the GSAs submitted the GSP in January 2020. To the extent to which those efforts are related or responsive to the Department's identified deficiencies, we encourage you to document that as part of your resubmittal. The Department prepared a Frequently Asked Questions document to provide general information and guidance on the process of addressing deficiencies in an incomplete determination.

Department staff will work expeditiously to review the revised components of your GSP resubmittal. If the revisions address the identified deficiencies, the Department will determine that the GSP is approved. In that scenario, Department staff will identify additional recommended corrective actions that the GSAs should address early in implementing their GSP (i.e., no later than the first required periodic evaluation). Among

DocuSign Envelope ID: 0FC68EEA-DCD0-4092-9ABE-D9AD5746B349

other items, those recommendations will include for the GSAs to provide more detail on their plans and schedules to address data gaps. Those recommendations will also call for significantly expanded documentation of the plans and schedules to implement specific projects and management actions. Regardless of those recommended corrective actions, the Department expects the first periodic evaluations, required no later than January 2025 – one-quarter of the way through the 20-year implementation period – to document significant progress toward achieving sustainable groundwater management.

If the GSAs cannot address the deficiencies identified in this letter by July 27, 2022, then the Department, after consultation with the State Water Resources Control Board, will determine the GSP to be inadequate. In that scenario, the State Water Resources Control Board may identify additional deficiencies that the GSAs would need to address in the state intervention processes outlined in SGMA.

Please contact Sustainable Groundwater Management staff by emailing sgmps@water.ca.gov if you have any questions about the Department's assessment, implementation of your GSP, or to arrange a meeting with the Department.

Thank you,

Paul Gosselin

Paul Gosselin
Deputy Director of Sustainable Groundwater Management

Attachments:

1. Statement of Findings Regarding the Determination of Incomplete Status of the San Joaquin Valley - Tulare Lake Subbasin Groundwater Sustainability Plan

DocuSign Envelope ID: 9A8D7BB0-2175-4776-ABE6-2784AFE31650

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

STATEMENT OF FINDINGS REGARDING THE DETERMINATION OF INCOMPLETE STATUS OF THE SAN JOAQUIN VALLEY – TULARE LAKE SUBBASIN GROUNDWATER SUSTAINABILITY PLAN

The Department of Water Resources (Department) is required to evaluate whether a submitted groundwater sustainability plan (GSP or Plan) conforms to specific requirements of the Sustainable Groundwater Management Act (SGMA), is likely to achieve the sustainability goal for the basin covered by the Plan, and whether the Plan adversely affects the ability of an adjacent basin to implement its GSP or impedes achievement of sustainability goals in an adjacent basin. (Water Code § 10733.) The Department is directed to issue an assessment of the Plan within two years of its submission. (Water Code § 10733.4.) This Statement of Findings explains the Department's decision regarding the Plan submitted jointly by the El Rico GSA, Mid-Kings River GSA, South Fork Kings GSA, Southwest Kings GSA, and Tri-County Water Authority GSA (collectively, the GSAs or Agencies) for the San Joaquin Valley – Tulare Lake Subbasin (No. 5-022.12).

Department management has reviewed the enclosed Staff Report, which recommends that the identified deficiencies should preclude approval of the GSP. Based on its review of the Staff Report, Department management is satisfied that staff have conducted a thorough evaluation and assessment of the Plan and concurs with, and hereby adopts, staff's recommendation and all the corrective actions provided. The Department thus deems the Plan incomplete based on the Staff Report and the findings contained herein.

A. The GSP does not define undesirable results or set sustainable management criteria for groundwater levels in the manner consistent with SGMA and the GSP Regulations.

    1. The GSP lacks justification for, and effects associated with, the sustainable management criteria for groundwater levels, particularly the minimum thresholds and undesirable results, and the effects of those criteria on the interests of beneficial uses and users of groundwater.

        i. The GSP does not explain how it considered and addressed potential impacts of dewatering wells in the context of the undesirable result of significant and unreasonable depletion of supply associated with the chronic lowering of groundwater levels. Furthermore, the GSP does not describe how the GSAs determined that significant and unreasonable depletion of supply will be

DocuSign Envelope ID: 9A8D7BB0-2175-4776-ABE6-2784AFE31650

avoided by managing to the established criteria for chronic lowering of groundwater levels.

ii. The GSP does not provide supporting information for how it determined that the selected minimum thresholds are consistent with avoiding undesirable results. Without supporting information, Department staff are unable to assess whether the GSAs have established sustainable management criteria based on a commensurate level of understanding of the basin setting or whether the interests of beneficial uses and users have been considered.

B. The GSP does not define undesirable results or set sustainable management criteria for subsidence in the manner consistent with SGMA and the GSP Regulations.

1. Similar to the deficiency described in Paragraph A above, the GSP did not define metrics for undesirable results and minimum thresholds based on the level of subsidence that substantially interferes with surface land uses, informed by, and in consideration of, the relevant and applicable beneficial uses and users in the Subbasin.

C. The GSP does not identify sustainable management criteria for degraded water quality.

1. The reliance on existing regulations and policies to define undesirable results that represent degraded water quality conditions occurring throughout the Subbasin for the purposes of SGMA does not satisfy the requirements of the GSP Regulations.

DocuSign Envelope ID: 9A8D7BB0-2175-4776-ABE6-2784AFE31650

Based on the above, the GSP submitted by the Agencies for the San Joaquin Valley – Tulare Lake Subbasin is determined to be incomplete because the GSP does not satisfy the requirements of SGMA, nor does it substantially comply with the GSP Regulations. The corrective actions provided in the Staff Report are intended to address the deficiencies that, at this time, preclude approval. The Agencies have up to 180 days to address the deficiencies outlined above and detailed in the Staff Report. Once the Agencies resubmit their Plan, the Department will review the revised GSP to evaluate whether the deficiencies were adequately addressed. Should the Agencies fail to take sufficient actions to correct the deficiencies identified by the Department in this assessment, the Department shall disapprove the Plan if, after consultation with the State Water Resources Control Board, the Department determines the Plan inadequate pursuant to 23 CCR § 355.2(e)(3)(C).

Signed:

Karla Nemeth, Director

Date: January 28, 2022

Enclosure: Groundwater Sustainability Plan Assessment Staff Report – San Joaquin Valley – Tulare Lake Subbasin

State of California
Department of Water Resources
Sustainable Groundwater Management Program
Groundwater Sustainability Plan Assessment Staff Report

Groundwater Basin Name:	San Joaquin Valley – Tulare Lake Subbasin (No. 5-022.12)
Submitting Agencies:	El Rico GSA, Mid-Kings River GSA, South Fork Kings GSA, Southwest Kings GSA, Tri-County Water Authority GSA
Recommendation:	Incomplete
Date:	January 28, 2022

The Sustainable Groundwater Management Act (SGMA)[1] allows for any of the three following planning scenarios: a single groundwater sustainability plan (GSP) developed and implemented by a single groundwater sustainability agency (GSA); a single GSP developed and implemented by multiple GSAs; and multiple GSPs implemented by multiple GSAs and coordinated pursuant to a single coordination agreement.[2] Here, as presented in this staff report, a single GSP covering the entire basin was adopted and submitted to the Department of Water Resources (Department) for review.[3]

The El Rico GSA, Mid-Kings River GSA, South Fork Kings GSA, Southwest Kings GSA, and Tri-County Water Authority GSA (collectively, the GSAs) jointly submitted the Tulare Lake Subbasin Groundwater Sustainability Plan (GSP or Plan) to the Department for evaluation and assessment as required by SGMA and the GSP Regulations.[4] The GSP covers the entire Tulare Lake Subbasin (Subbasin) for the implementation of SGMA.

Evaluation and assessment by the Department is based on whether an adopted and submitted GSP, either individually or in coordination with other adopted and submitted GSPs, complies with SGMA and substantially complies with the GSP Regulations. Department staff base their assessment on information submitted as part of an adopted GSP, public comments submitted to the Department, and other materials, data, and reports that are relevant to conducting a thorough assessment. Department staff have evaluated the GSP and have identified deficiencies that staff recommend should preclude its approval.[5] In addition, consistent with the GSP Regulations, Department staff have provided corrective actions[6] that the GSAs should review while determining how and whether to address the deficiencies. The deficiencies and corrective actions are explained in greater detail in Section 3 of this staff report and are generally related to the need to

[1] Water Code § 10720 *et seq.*
[2] Water Code § 10727.
[3] Water Code §§ 10727(b)(1), 10733.4; 23 CCR § 355.2.
[4] 23 CCR § 350 *et seq.*
[5] 23 CCR §355.2(e)(2).
[6] 23 CCR §355.2(e)(2)(B).

define sustainable management criteria in the manner required by SGMA and the GSP Regulations.

This assessment includes four sections:

- **Section 1 – Evaluation Criteria:** Describes the legislative requirements and the Department's evaluation criteria.
- **Section 2 – Required Conditions:** Describes the submission requirements, GSP completeness, and basin coverage required for a GSP to be evaluated by the Department.
- **Section 3 – Plan Evaluation:** Provides a detailed assessment of identified deficiencies in the GSP. Consistent with the GSP Regulations, Department staff have provided corrective actions for the GSAs to address the deficiencies.
- **Section 4 – Staff Recommendation:** Provides staff's recommendation regarding the Department's determination.

1 EVALUATION CRITERIA

The Department evaluates whether a GSP conforms to the statutory requirements of SGMA[7] and is likely to achieve the basin's sustainability goal.[8] To achieve the sustainability goal, the GSP must demonstrate that implementation of its groundwater sustainability program will lead to sustainable groundwater management, which means the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results.[9] Undesirable results are required to be defined quantitatively by the GSAs overlying a basin and occur when significant and unreasonable effects for any of the applicable sustainability indicators are caused by groundwater conditions occurring throughout the basin.[10] The Department is also required to evaluate whether the GSP will adversely affect the ability of an adjacent basin to implement its groundwater sustainability program or achieve its sustainability goal.[11]

To evaluate a GSP, the Department must first determine a GSP was submitted by the statutory deadline[12], is complete,[13] and covers the entire basin.[14] For those GSAs choosing to develop multiple GSPs, the GSPs must be coordinated pursuant to a single coordination agreement that covers the entire basin.[15] If these conditions are satisfied, the Department evaluates the GSP to determine whether it complies with SGMA and substantially complies with the GSP Regulations.[16] As stated in the GSP Regulations, "[s]ubstantial compliance means that the supporting information is sufficiently detailed and the analyses sufficiently thorough and reasonable, in the judgment of the Department, to evaluate the Plan, and the Department determines that any discrepancy would not materially affect the ability of the Agency to achieve the sustainability goal for the basin, or the ability of the Department to evaluate the likelihood of the Plan to attain that goal."[17]

When evaluating whether implementation of the GSP is likely to achieve the sustainability goal for the basin, Department staff review the information provided and relied upon in the GSP for sufficiency, credibility, and consistency with scientific and engineering professional standards of practice.[18] The Department's review considers whether there is a reasonable relationship between the information provided by the GSA and the

[7] Water Code §§ 10727.2, 10727.4.
[8] Water Code §§ 10733(a).
[9] Water Code § 10721(v).
[10] 23 CCR § 354.26 *et seq.*
[11] Water Code § 10733(c).
[12] Water Code § 10720.7; 23 CCR § 355.4(a)(1).
[13] 23 CCR §§ 355.4(a)(2).
[14] 23 CCR § 355.4(a)(3).
[15] Water Code §§ 10727(b)(3), 10727.6; 23 CCR § 357.4.
[16] 23 CCR § 350 *et seq.*
[17] 23 CCR § 355.4(b).
[18] 23 CCR § 351(h).

assumptions and conclusions presented in the GSP, including whether the interests of the beneficial uses and users of groundwater in the basin have been considered; whether sustainable management criteria and projects and management actions described in the GSP are commensurate with the level of understanding of the basin setting; and whether those projects and management actions are feasible and likely to prevent undesirable results.[19] The Department also considers whether the GSA has the legal authority and financial resources necessary to implement the GSP.[20]

To the extent that overdraft is present in a basin, the Department evaluates whether the GSP provides a reasonable assessment of the overdraft and includes reasonable means to mitigate it.[21] When applicable, the Department will assess whether coordination agreements have been adopted by all relevant parties and satisfy the requirements of SGMA and the GSP Regulations.[22] The Department also considers whether the GSP provides reasonable measures and schedules to eliminate identified data gaps.[23] Lastly, the Department's review considers the comments submitted on the GSP and evaluates whether the GSA adequately responded to the comments that raise credible technical or policy issues with the GSP.[24]

The Department is required to evaluate the GSP within two years of its submittal date and issue a written assessment.[25] The assessment is required to include a determination of the GSP's status.[26] The GSP Regulations provide three options for determining the status of a GSP: approved,[27] incomplete,[28] or inadequate.[29]

After review of the GSP, Department staff may find that the information provided is not sufficiently detailed, or the analyses not sufficiently thorough and reasonable, to evaluate whether the GSP is likely to achieve the sustainability goal for the basin. If the Department determines the deficiencies precluding approval may be capable of being corrected by the GSA in a timely manner,[30] the Department will determine the status of the GSP to be incomplete. A formerly deemed incomplete GSP may be resubmitted to the Department for reevaluation after all deficiencies have been addressed by the GSA within 180 days after the Department makes its incomplete determination. The Department will review the revised GSP to evaluate whether the identified deficiencies were sufficiently addressed. Depending on the outcome of that evaluation, the Department may determine the resubmitted GSP is approved. Alternatively, the Department may find a formerly deemed

[19] 23 CCR §§ 355.4(b)(1), (3), (4) and (5).
[20] 23 CCR § 355.4(b)(9).
[21] 23 CCR § 355.4(b)(6).
[22] 23 CCR § 355.4(b)(8).
[23] 23 CCR § 355.4(b)(2).
[24] 23 CCR § 355.4(b)(10).
[25] Water Code § 10733.4(d); 23 CCR § 355.2(e).
[26] Water Code § 10733.4(d); 23 CCR § 355.2(e).
[27] 23 CCR § 355.2(e)(1).
[28] 23 CCR § 355.2(e)(2).
[29] 23 CCR § 355.2(e)(3).
[30] 23 CCR § 355.2 (e)(2)(B)(i).

incomplete GSP is inadequate if, after consultation with the State Water Resources Control Board, it determines that the GSA has not taken sufficient actions to correct any identified deficiencies.[31]

Even when the Department determines a GSP is approved, indicating that it satisfies the requirements of SGMA and is in substantial compliance with the GSP Regulations, the Department may still recommend corrective actions.[32] Recommended corrective actions are intended to facilitate progress in achieving the sustainability goal within the basin and the Department's future evaluations, and to allow the Department to better evaluate whether implementation of the GSP adversely affects adjacent basins. While the issues addressed by the recommended corrective actions in an approved GSP do not, at the time the determination was made, preclude its approval, the Department recommends that the issues be addressed to ensure the GSP's implementation continues to be consistent with SGMA and the Department is able to assess progress in achieving the basin's sustainability goal.[33] Unless otherwise noted, the Department proposes that recommended corrective actions be addressed by the submission date for the first five-year assessment.[34]

The staff assessment of the GSP involves the review of information presented by the GSA, including models and assumptions, and an evaluation of that information based on scientific reasonableness. In conducting its assessment, the Department does not recalculate or reevaluate technical information provided in the GSP or perform its own geologic or engineering analysis of that information. The recommendation to approve a GSP does not signify that Department staff, were they to exercise the professional judgment required to develop a GSP for the basin, would make the same assumptions and interpretations as those contained in the GSP, but simply that Department staff have determined that the assumptions and interpretations relied upon by the submitting GSA are supported by adequate, credible evidence, and are scientifically reasonable.

Lastly, the Department's review of an approved GSP is a continual process. Both SGMA and the GSP Regulations provide the Department with the ongoing authority and duty to review the implementation of the GSP.[35] Also, GSAs have an ongoing duty to reassess their GSPs, provide annual reports to the Department and, when necessary, update or amend their GSPs.[36] The passage of time or new information may make what is reasonable and feasible at the time of this review to not be so in the future. The emphasis of the Department's periodic reviews will be to assess the progress toward achieving the sustainability goal for the basin and whether GSP implementation adversely affects the ability of adjacent basins to achieve its sustainability goals.

---

[31] 23 CCR § 355.2 (e)(3)(C).
[32] Water Code § 10733.4(d).
[33] Water Code § 10733.8.
[34] 23 CCR § 356.4.
[35] Water Code § 10733.8; 23 CCR § 355.6 *et seq.*
[36] Water Code §§ 10728 *et seq.*, 10728.2.

2 REQUIRED CONDITIONS

A GSP, to be evaluated by the Department, must be submitted within the applicable statutory deadline.[37] The GSP must also be complete and must, either on its own or in coordination with other GSPs, cover the entire basin. If a GSP is determined to be incomplete, Department staff may require corrective actions that address minor or potentially significant deficiencies identified in the GSP. The GSAs in a basin, whether developing a single GSP covering the basin or multiple GSPs, must sufficiently address those required corrective actions within the time provided, not to exceed 180 days, for the GSP to be reevaluated by the Department and potentially approved.

2.1 SUBMISSION DEADLINE

SGMA required basins categorized as high- or medium-priority as of January 1, 2017 and that were subject to critical conditions of overdraft to submit a GSP no later than January 31, 2020.[38]

The GSAs submitted the Tulare Lake GSP to the Department on January 29, 2020, in compliance with the statutory deadline.

2.2 COMPLETENESS

GSP Regulations specify that the Department shall evaluate a GSP if that GSP is complete and includes the information required by SGMA and the GSP Regulations.[39]

The GSAs submitted an adopted GSP for the entire Subbasin. Department staff found the Tulare Lake GSP to be complete and include the required information, sufficient to warrant an evaluation by the Department. Therefore, the Department posted the GSP to its website on January 31, 2020.

2.3 BASIN COVERAGE

A GSP, either on its own or in coordination with other GSPs, must cover the entire basin.[40] A GSP that intends to cover the entire basin may be presumed to do so if the basin is fully contained within the jurisdictional boundaries of the submitting GSAs.

The GSP intends to manage the entire Tulare Lake Subbasin and the jurisdictional boundaries of the submitting GSAs appear to cover the entire Subbasin.

[37] Water Code § 10720.7.
[38] Water Code § 10720.7(a)(1).
[39] 23 CCR § 355.4(a)(2).
[40] Water Code § 10727(b); 23 CCR § 355.4(a)(3).

3 PLAN EVALUATION

As stated in Section 355.4 of the GSP Regulations, a basin "shall be sustainably managed within 20 years of the applicable statutory deadline consistent with the objectives of the Act." The Department's assessment is based on a number of related factors including whether the elements of a GSP were developed in the manner required by the GSP Regulations, whether the GSP was developed using appropriate data and methodologies and whether its conclusions are scientifically reasonable, and whether the GSP, through the implementation of clearly defined and technically feasible projects and management actions, is likely to achieve a tenable sustainability goal for the basin.

Department staff have identified deficiencies in the GSP, the most serious of which preclude staff from recommending approval of the GSP at this time. Department staff believe the GSAs may be able to correct the identified deficiencies within 180 days. Consistent with the GSP Regulations, Department staff are providing corrective actions related to the deficiencies, detailed below, including the general regulatory background, the specific deficiency identified in the GSP, and the specific actions to address the deficiency.

3.1 DEFICIENCY 1. THE GSP DOES NOT DEFINE UNDESIRABLE RESULTS OR SET MINIMUM THRESHOLDS AND MEASURABLE OBJECTIVES FOR GROUNDWATER LEVELS IN A MANNER CONSISTENT WITH THE GSP REGULATIONS

3.1.1 Background

The GSP regulations require GSAs to set their minimum thresholds for chronic lowering of groundwater levels at "the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results."[41] The GSP Regulations also require that GSAs set measurable objectives for chronic lowering of groundwater levels, which are based on the same metrics and monitoring sites used for minimum thresholds[42] and which "provide a reasonable margin of operational flexibility under adverse conditions."[43]

3.1.2 Deficiency

Department staff conclude that the GSP does not define undesirable results, minimum thresholds, and measurable objectives for the chronic lowering of groundwater levels in the manner required by SGMA and the GSP Regulations (as described above). Specifically, the GSP did not define metrics for undesirable results and minimum thresholds based on the significant and unreasonable depletion of groundwater supply they intend to avoid through the implementation of the Plan, informed by, and in consideration of, the relevant and applicable beneficial uses and users in the Subbasin.

[41] 23 CCR § 354.28(c)(1).
[42] 23 CCR § 354.30(b).
[43] 23 CCR § 354.30(c).

Instead, the GSP developed those criteria based on a numerical modeling exercise that projected of current rates of groundwater level decline into the future.

Undesirable Results. When discussing undesirable results, the GSP discusses three general types of impacts that can occur due to lowering groundwater levels: water well problems, subsidence, and deterioration of water quality,[44] and states that, if undesirable results did occur, they could diminish groundwater supplies for agricultural, municipal, industrial, and domestic needs.[45] In addition, the GSP states that declines in groundwater levels could increase energy costs to pump water and result in the need to deepen wells, replace wells, and lower pumps.[46] The GSP further states that, while those impacts could technically be mitigated, they are considered "significant undesirable results" due to the expense of mitigation.[47] However, the GSP does not explain at what level those impacts would be considered significant and unreasonable, nor does it appear that those impacts were accounted for in the development of site-specific measurable objectives and minimum thresholds, as described below.

The GSP defines that an undesirable result for chronic lowering of groundwater levels would occur if 45 percent of the minimum thresholds are exceeded (i.e., if groundwater levels declined below the threshold) over a consecutive three-year period[48] but does not describe how the 45 percent level was determined or what it was based on, or the rationale for allowing those conditions to persist for up to three years. In describing the potential effect on beneficial uses and users of the groundwater level sustainable management criteria, the GSP acknowledges that groundwater levels would continue to drop before the GSAs can implement projects to begin stabilizing conditions.[49] The GSP states that the declines would increase energy costs associated with pumping and that if groundwater levels reach minimum thresholds, wells could go dry or require modification.[50] However, it is not clear if the GSAs have performed technical analysis to determine the magnitude of those effects (e.g., how many wells could go dry or require modification if groundwater levels in the Subbasin are between 23 and 73 feet lower than 2017 conditions [between the average measurable objective and the average minimum threshold, as described below]). (See Corrective Action 1a.)

Minimum Thresholds and Measurable Objectives. When defining minimum thresholds and measurable objectives, the GSP describes a stepwise process for determining site-specific values at representative monitoring wells. The stepwise process was informed by a modeling scenario that projected status-quo conditions into the future (i.e., the simulation used current land and water use conditions, a "normal" hydrologic condition,

[44] Tulare Lake GSP, p. 161.
[45] Tulare Lake GSP, p. 165.
[46] Tulare Lake GSP, p. 165.
[47] Tulare Lake GSP, p. 165.
[48] Tulare Lake GSP, p. 172.
[49] Tulare Lake GSP, p. 173.
[50] Tulare Lake GSP, p. 173.

and no implementation of projects or management actions).[51] The GSAs selected the simulated groundwater levels in 2035 from this status-quo model as the measurable objective at each monitoring site.[52] The GSAs then assigned the minimum thresholds by subtracting 50 feet from the measurable objective groundwater level.[53] Department staff compared the measurable objectives and minimum thresholds[54] with 2017 groundwater levels reported for each representative monitoring site and found that the measurable objectives ranged from 20 feet above 2017 groundwater levels to 131 feet lower than 2017, with an average of approximately 23 feet lower than 2017. Correspondingly, minimum thresholds ranged from approximately 29 to 181 feet lower than 2017 groundwater levels, with an average of 73 feet below 2017.

Department staff conclude that the GSP failed to explain how minimum thresholds at the representative monitoring sites are consistent with the requirement to be based on a groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results.[55] Department staff also do not find evidence in the GSP that indicates the GSAs considered the interests of beneficial users and uses of groundwater in defining undesirable results or establishing minimum thresholds. Department staff therefore are unable to assess whether the GSAs have established sustainable management criteria based on a commensurate level of understanding of the basin setting or whether the interests of beneficial uses and users have been considered.[56] (See Corrective Action 1b.)

3.1.3 Corrective Action 1

a. The GSAs should revise the GSP to describe, with information specific to the Subbasin, the groundwater level conditions that are considered significant and unreasonable and would result in undesirable results. The GSAs may choose to define the conditions in terms of the negative effects they mention in their GSP (e.g., water well problems, subsidence, and deterioration of water quality) or may use other methods to establish a different trigger that would define when an undesirable result would be experienced in the Subbasin. The GSAs should then explain or justify how the quantitative definition of undesirable results (i.e., 45 percent minimum threshold exceedances for three consecutive years), is consistent with avoiding the effects the GSAs have determined are undesirable results.
b. The GSAs must revise the minimum thresholds for chronic lowering of groundwater level to be consistent with the requirements of SGMA and the GSP Regulations. Rather than relying on a projection of continued groundwater level and storage decline to define the undesirable results and minimum thresholds, the

[51] Tulare Lake GSP, p. 168.
[52] Tulare Lake GSP, p. 168.
[53] Tulare Lake GSP, p. 168.
[54] Tulare Lake GSP, p. 388-390.
[55] 23 CCR § 354.28(c)(1).
[56] 23 CCR § 355.4(b)(3-4).

GSAs must determine and document criteria based on a significant and unreasonable depletion of groundwater supply, informed by their understanding of the Subbasin's beneficial uses and users. The GSAs must document the effects of their selected minimum thresholds on beneficial uses and users in the Subbasin. In particular, if the GSP retains minimum thresholds that allow for continued groundwater level decline then the GSP should explain the anticipated effects of that decline on beneficial uses and users, and should clearly explain whether projects and management actions have been identified to address impacts to those uses and users. If the GSP does not include projects and management actions to address impacts to uses and users that will be impacted by continued declines in groundwater levels, then it should clearly explain the rationale and analysis that led to that decision.

3.2 Deficiency 2. The GSP does not define undesirable results or set minimum thresholds and measurable objectives for Subsidence in a manner consistent with the GSP Regulations

3.2.1 Background

The GSP Regulations state that minimum thresholds for land subsidence should identify the rate and extent of subsidence that substantially interferes with surface land uses and may lead to undesirable results. These quantitative values should be supported by:

- The identification of land uses or property interests potentially affected by land subsidence;
- An explanation of how impacts to those land uses or property interests were considered when establishing minimum thresholds;
- Maps or graphs showing the rates and extents of land subsidence defined by the minimum thresholds.[57]

3.2.2 Deficiency Details

This deficiency is similar to Deficiency 1, above, because the rationale used by the GSAs for developing subsidence sustainable management criteria is similar to that used for developing their groundwater level sustainable management criteria. Department staff conclude that the GSP does not define undesirable results, minimum thresholds, and measurable objectives for subsidence in the manner required by SGMA and the GSP Regulations (as described above). Specifically, the GSP did not define metrics for undesirable results and minimum thresholds based on the level of subsidence that substantially interferes with surface land uses, informed by, and in consideration of, the relevant and applicable beneficial uses and users in the Subbasin. Instead, the GSP

[57] 23 CCR § 354.28(c)(5).

developed those criteria based on a numerical modeling exercise that projected current subsidence rates into the future.

Undesirable Results. The GSP states that an undesirable result for land subsidence would be "...the significant loss of functionality of a critical infrastructure or facility, so the feature(s) cannot be operated as designed, requiring either retrofitting or replacement to a point that is economically unfeasible."[58] The GSP also states that subsidence above the minimum threshold at either of the two representative monitoring sites (described below) would constitute an undesirable result.[59] It is unclear to Department staff how the quantitative definition based on minimum thresholds is related to the qualitative definition, especially because the only critical infrastructure or facility identified by the GSP (i.e., the California Aqueduct[60]) is not in the vicinity of the two representative monitoring sites. (See Corrective Action 2a.)

Minimum Thresholds and Measurable Objectives. The GSAs determined minimum thresholds and measurable objectives for subsidence using a similar, stepwise process described above for chronic lowering of groundwater levels. They first used the status-quo hydrologic model simulation to forecast subsidence in 2035 at each of two representative monitoring sites and then assigned that value as the measurable objective.[61] The two representative monitoring sites are existing continuous global positioning system (CGPS) sites that are part of the Central Valley Spatial Reference Network (CVSRN) operated by the California Department of Transportation (Caltrans); one site is located near the community of Lemoore and the other is located near the community of Corcoran.[62] The measurable objective values are reported in tables as feet of subsidence relative to the position of the land surface in 1990.[63] Based on reported subsidence at the Lemoore station of 1.98 feet (relative to 1990) in 2017 and the stated measurable objective of 5.52 feet (relative to 1990), DWR staff interpret the measurable objective to allow for approximately 3.5 feet of additional subsidence at Lemoore, relative to 2017. Similarly, the GSP reports 4.52 feet of subsidence at the Corcoran station in 2017 (relative to 1990) and states the measurable objective is 8.90 feet (relative to 1990). Therefore, DWR staff interpret the measurable objective to be approximately 4.4 feet of additional subsidence at the Corcoran station, relative to 2017. While staff do not believe that setting the measurable objectives purely on a projection of status-quo subsidence rates is consistent with the requirements of the GSP Regulations (see Corrective Action 2b), staff also note that some of the trends on which the measurable objectives are based are insufficiently explained in the GSP. For example, figures in the GSP illustrating the processes and data used to determine the measurable objectives appear to show that the projected status-quo/baseline rates of subsidence are much less at the Corcorran

[58] Tulare Lake GSP, p. 163.
[59] Tulare Lake GSP, p. 172.
[60] Tulare Lake GSP, p. 163.
[61] Tulare Lake GSP, pp. 169-170.
[62] Locations of the subsidence representative monitoring sites are shown on Figure 5-4 (Tulare Lake GSP, p. 356).
[63] Tulare Lake GSP, Tables 4-2a and 4-2b, p. 391.

station from 2017 to 2040 relative to rates from 1990 to 2017.[64] Explanation for the reduced rates are not provided, and appears questionable since no projects or pumping reductions were assumed that would reduce subsidence in the projection. On the other hand, figures in the GSP appear to show that subsidence rates at the Lemoore station increase significantly from approximately 2020 to 2040, relative to rates from 1990 to 2020.[65] Again, the GSP does not explain why the subsidence rates are expected to increase after GSP implementation. Resolving this deficiency should include clarification and explanation for planned trends in subsidence, as appropriate.

The Plan states that subsidence will continue to occur after the plan is implemented, until "benefits [of Plan implementation] accrue", and appeared to use that as justification for setting the minimum threshold at the maximum subsidence simulated at any point in the Subbasin for 2070 in the status-quo model.[66] The GSP does not explicitly state the value or location of maximum simulated subsidence in 2070, but DWR staff infer from tables in the GSP that the level used for the minimum threshold is 11.5 feet of decline relative to the position of the land surface in 1990.[67] Using the same tables noted above, this would represent declines in land surface elevation of approximately 9.5 feet and 7 feet at Lemoore and Corcoran, respectively, relative to 2017. The GSP does not explain, and Department staff do not find it reasonable to conclude, the rationale for why this seemingly worst-case scenario for subsidence over the twenty-year implementation period is an appropriate level for avoiding substantial interference to land surface uses and users. (See Corrective Action 2b).

The subsidence discussion in the GSP does not describe the specific impacts to critical infrastructure that could be anticipated if subsidence approaches the minimum thresholds (e.g., the impacts that could occur if more than 9 feet of additional subsidence [the minimum threshold] were to occur near Lemoore). Rather, the GSP describes the potential impacts of subsidence, in general terms, including the need to raise flood control levees, raise railroad tracks to mitigate flooding impacts, regrade canals to address changes in conveyance capacity, and flooding of major roads and highways.[68] The Plan also broadly states that subsidence can impact canals, levees, pipelines, bridges, private and public property, streets and highways, railroads, utility infrastructure, and groundwater wells.[69] However, the only specific piece of infrastructure discussed in the GSP is the California Aqueduct, which runs for 17 miles on the western edge of the Subbasin. The GSP notes that historical subsidence along the portion of the Aqueduct in the Subbasin hasn't been significant due to limited groundwater pumping in that area.[70] It was not clear to DWR staff whether any other pieces of infrastructure are considered

[64] See the upper graph of Figure 4-9 (Tulare Lake GSP, p. 352).
[65] See the upper graph of Figure 4-8 (Tulare Lake GSP, p. 351).
[66] Tulare Lake GSP, p. 170.
[67] Tulare Lake GSP, Tables 4-2a through 4-3b, p. 391.
[68] Tulare Lake GSP, p. 163.
[69] Tulare Lake GSP, p. 166.
[70] Tulare Lake GSP, p. 163.

"critical infrastructure" by the GSAs as it relates to defining minimum thresholds or the undesirable result. (See Corrective Action 2c.)

A subset of public comments on the GSP received by the Department relate to the lack of consideration or analysis of the impacts of additional subsidence on flood infrastructure and flood risk in the Subbasin.[71] While it does not appear, based on the list of public comments received by GSAs,[72] that those parties concerned with flood management commented on the draft GSP, it is apparent that the GSAs recognized the general risk that subsidence could have on flood infrastructure (e.g., levees, as noted above). However, it is not clear how that risk was accounted for in development of the sustainable management criteria. (See Corrective Action 2d.)

Similarly, DWR received public comments from parties (including from one of the GSAs that adopted the GSP) noting that some surface land uses have been negatively impacted by historical subsidence in the Subbasin.[73] These comments indicate that historical subsidence has resulted in the need to install additional lift stations and repair canals that had lost conveyance capacity, has resulted in lost conveyance capacity on other infrastructure, and has driven the need to raise certain levees to maintain flood protection. These impacts would seem to be at odds with the GSAs' claim that historical subsidence "…has been effectively managed by the GSA member agencies", and potentially at odds with the claim that "[t]he rate and degree to which subsidence has occurred have not been significant and unreasonable."[74] (See Corrective Action 2b.)

Department staff are concerned that no subsidence representative monitoring sites or sustainable management criteria were identified near the California Aqueduct, despite that being the only piece of critical infrastructure in the Subbasin specifically identified by the GSAs. While staff acknowledge that historical subsidence along the canal within the Subbasin does appear minimal, identification of minimum threholds and measurable objectives in that area would be a useful benchmark for identifying future impacts, whether those impacts are caused by groundwater use within the Subbasin or groundwater use outside the Subbasin. Public comments received by the Department were similarly concerned about the lack of subsidence criteria along the California Aqueduct, while also recognizing that historical subsidence in this area has been minimal.[75] These comments generally recommend that the GSAs assign subsidence

[71] See e.g., comments from the Central Valley Flood Protection Board (https://sgma.water.ca.gov/portal/service/gspdocument/download/3944) and DWR Division of Flood Management (https://sgma.water.ca.gov/portal/service/gspdocument/download/3907).
[72] Tulare Lake GSP, Appendix C, pp. 450-556.
[73] See e.g., comments from Angiola Water District (https://sgma.water.ca.gov/portal/service/gspdocument/download/4119) and Southwest Kings GSA (https://sgma.water.ca.gov/portal/service/gspdocument/download/3865).
[74] Tulare Lake GSP, p. 169.
[75] See e.g., comments from DWR State Water Project (https://sgma.water.ca.gov/portal/service/gspdocument/download/3906), Mojave Water Agency (https://sgma.water.ca.gov/portal/service/gspdocument/download/3889), and Metropolitan Water District of Southern California (https://sgma.water.ca.gov/portal/service/gspdocument/download/3879).

SMC in the vicinity of the Aqueduct that reflect that minimum amount of subsidence expected in that area. (See Corrective Action 2c.)

Department staff conclude that the GSP failed to explain how minimum thresholds, based on maximum simulated subsidence in 2070 under status quo conditions, at the representative monitoring sites are consistent with the requirement to be based on subsidence that represents substantial interference with surface land uses.[76] Department staff also do not find evidence in the GSP that indicates the GSAs considered the interests of beneficial users and uses of groundwater in defining undesirable results or establishing minimum thresholds for subsidence.[77] Department staff therefore are unable to assess whether the GSAs have established sustainable management criteria based on a commensurate level of understanding of the basin setting or whether the interests of beneficial uses and users have been considered.[78]

3.2.3 Corrective Action 2

a) The GSA should revise their undesirable results to be consistent with SGMA and the GSP Regulations, and to contain sufficient detail to demonstrate that they are reasonable, supported by best available information and science, are commensurate with the level of understanding of the basin, and consider the interests of beneficial users in the Subbasin. If the GSAs are concerned with the functionality of critical infrastructure then they should clearly describe the critical infrastructure in the Subbasin, and the level of subsidence that would substantially interfere with that infrastructure.

b) The GSA should revise their discussions of measurable objectives and minimum thresholds to be consistent with the requirements of SGMA. Rather than basing those criteria on projections of status-quo subsidence, they should be informed by the site-specific consideration of the level of subsidence that would substantially interfere with land surface uses.

c) In resolving this discrepancy, the GSAs should demonstrate that their represtenative monitoring sites, where minimum thresholds and measurable objectives are defined, are commensurate with monitoring for the undesirable results, such as impacts to critical infrastructure, that they are trying to avoid through implementation of the GSP.

d) In resolving this discrepancy, Department staff recommend including flood protection infrastructure in the assessment of users susceptible to potential interference from subsidence. Department staff recommend engaging with flood management agencies in the basin and region, as appropriate.

[76] 23 CCR § 354.28(c)(5).
[77] 23 CCR §§ 354.26(b)(3), 354.28(c)(5)(A).
[78] 23 CCR § 355.4(b)(3-4).

3.3 Deficiency 3. The GSP does not identify Sustainable Management Criteria for Degraded Water Quality

The third deficiency relates to the GSP's absence of identified undesirable results and other sustainable management criteria for degraded water quality, as well shortcomings of the proposed monitoring network.

3.3.1 Background

SGMA and the GSP Regulations do not require a GSP to address undesirable results associated with degraded water quality that occurred before, and have not been corrected by, January 1, 2015.[79] However, management of a basin under an adopted GSP should not result in further water quality degradation that is significant and unreasonable, either due to routine groundwater use or as a result of implementing projects or management actions called for in the GSP.[80] SGMA provides GSAs with legal authority to regulate and affect pumping and groundwater levels, which can potentially affect the concentration or migration of water quality constituents and result in degradation of water quality. Additionally, the GSP Regulations state that GSAs should consider local, state, and federal water quality standards when establishing sustainable management criteria.[81] SGMA provides a GSA with authority to manage and control polluted water and use authorities under existing laws to implement its GSP.[82] Thus, establishing sustainable management criteria and performing routine monitoring of water quality constituents known to affect beneficial uses and users is within the purview of a GSA.

3.3.2 Deficiency Details

The GSP states that "Groundwater quality is currently comprehensively monitored in the Subbasin by regulatory agencies. These agencies rely on existing regulations and policies to *define undesirable results* related to the deterioration of groundwater quality. The agencies include the Irrigated Lands Regulatory Program (ILRP), Groundwater Ambient Monitoring and Assessment Program (GAMA), Regional Water Quality Control Board (RWQCB), Central Valley Salinity Alternatives for Long-term Sustainability Program (CV-SALTS), and cities and communities with the Subbasin." (emphasis added).[83] The GSAs indication that existing water quality agencies and programs define undesirable results that represent degraded water quality conditions occurring throughout the Subbasin for the purposes of SGMA does not satisfy the requirements of the GSP Regulations.[84] The GSP Regulations require GSAs to characterize and describe groundwater conditions that, when significant and unreasonable, represent an undesirable result.[85] The GSAs descriptions must include the possible causes that would lead to the undesirable groundwater conditions, quantitative metrics that relate the

[79] Water Code § 10727.2(b)(4).
[80] Water Code § 10721(x)(4); 23 CCR § 354.28(c)(4).
[81] 23 CCR § 354.28(c)(4).
[82] Water Code §§ 10726.2(e), 10726.8(a).
[83] Tulare Lake GSP, p. 164.
[84] 23 CCR § 354.26.
[85] 23 CCR § 354.26(a).

minimum thresholds to the undesirable results, and the potential effects the undesirable results could have on beneficial uses and users.[86] The GSAs should coordinate with and refer to the existing water quality agencies and programs to define undesirable results for degraded water quality in the Subbasin.

The GSP further states that the GSAs are not responsible for existing groundwater quality concerns and that the minimum thresholds will be described by the existing water quality agencies and programs in the Subbasin.[87] While the GSAs are not responsible to address groundwater quality issues that were present before 2015, the GSAs are required to establish minimum thresholds that are commensurate with the level of understanding of the historic and current groundwater quality conditions in the Subbasin. As discussed above with defining undesirable results, it is also not the responsibility of the existing agencies and programs to establish minimum thresholds for the purposes of achieving the sustainability goal of the Subbasin and avoiding undesirable results during GSP implementation. As previously noted, the existing programs and agencies may have established standards and monitoring networks that the GSAs can leverage when establishing quantitative metrics to determine whether or not groundwater management activities are contributing or causing degradation of water quality. As currently presented, Department staff do not believe the GSP adequately describes how the federal or state water quality standards (i.e., maximum contaminant levels, etc.) will be "utilized by the Subbasin for MOs and MTs" as stated in the GSP.[88] The GSAs need to explain which federal and state standards apply to which representative monitoring sites for specific constituents of concern that are indicative of water quality degradation occurring throughout the Subbasin.

The GSP must also describe how the established sustainable management criteria for degraded water quality relates to the GSAs understanding of the Subbasins historic and current groundwater conditions.[89] The GSP states, "[i]n general, chemicals of concern that generally affect water quality in the San Joaquin Valley were screened including naturally occurring and anthropomorphic [sic]. These included salinity (TDS), arsenic, nitrate, and volatile organic chemicals (VOCs)."[90] The GSP also provides maps depicting concentrations of TDS, arsenic, nitrate, 1,2,3-TCP, DBCP, TCE, and PCE.[91] Although the GSP states the chemicals of concern were screened and the data are plotted on maps, Department staff find the GSP does not discuss the groundwater quality issues in terms of how the chemicals of concern may affect the supply and beneficial uses of the groundwater. In addition to establishing sustainable management criteria that is commensurate with the level of understanding of the basin setting, the GSAs should characterize and monitor the groundwater quality conditions to indicate whether or not

[86] 23 CCR § 354.26(b).
[87] Tulare Lake GSP, p. 170.
[88] Tulare Lake GSP, p. 171.
[89] 23 CCR § 354.28(b)(1); 23 CCR § 355.4(b)(3).
[90] Tulare Lake GSP, p. 131.
[91] Tulare Lake GSP, Figures 3-30 through 3-33d, pp. 314-320.

the GSAs' implementation of the GSP is degrading groundwater quality and impacting beneficial uses and users.

3.3.3 Corrective Action 3

The Agency must provide a more thorough discussion of how implementation of SGMA can impact the Subbasins water quality. To comply with SGMA requirements, the following are considered by Department staff to be necessary corrective actions:

a) Characterize historic and current groundwater quality conditions within the principal aquifers including the primary constituents of concern. Describe how the constituents will be monitored and how the baseline concentrations or federal and state standards will be assessed to evaluate potential degradation. Provide details for constituents which are partially or entirely linked to existing programs, the monitoring and management that those programs implement, and how they align with the requirements of a GSA under SGMA. Describe how the GSAs intend to coordinate and work with existing agencies and programs to evaluate and assess how GSP implementation may impact groundwater quality.

   Define sustainable management criteria based on the GSAs level of understanding of the historic and current groundwater conditions as required by the GSP Regulations. In defining sustainable management criteria, the GSAs should evaluate and utilize components of existing programs, including federal, state, and agricultural water quality standards. Include a discussion of the methodology used to determine which constituents are included in the sustainable management criteria and describe the potential affects the undesirable results and minimum thresholds may have on groundwater supply and beneficial users.

4 STAFF RECOMMENDATION

Department staff believe that the deficiencies identified in this assessment should preclude approval of the GSP for the Tulare Lake Subbasin. Department staff recommend that the GSP be determined incomplete.