SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY

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

AGENDA
SPECIAL MEETING OF THE BOARD OF DIRECTORS

July 21, 2022
1:00 pm
944 Whitley Avenue
Corcoran, CA 93212

This Southwest Kings GSA Board of Directors meeting will be accessible via Zoom and dial-in at:

Join Zoom Meeting
https://us02web.zoom.us/j/81003828114?pwd=SjBIdHZqV2l4ckd6QzV3NjJKbVBiUT09
Meeting ID: 810 0382 8114
Passcode: 736048
Dial in: +1 669 900 9128 US

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
John Vidovich, Chair
Kimberly Brown
Michael Nordstrom
Jim Wilson

Recognition and swearing-in of Carlo Wilcox 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 himself or herself from discussing and voting on the matter.) [FPPC § 87105.]

CONSENT CALENDAR

1. Minutes of the Special Board Meeting held on June 13, 2022
2. Warrants and Finances (06/06/2022 – 07/14/2022)
3. Treasurer's Report
4. Continued use of Zoom meetings in accordance with AB361

ACTION CALENDAR

5. Review and consider for adoption **2023 Budget and Assessment Rate for Southwest Kings GSA.**
    a. Report by Executive Director
    b. Discussion
    c. Public Comments / Questions
    d. If desired, motion to adopt the 2023 Budget
6. Consider for adoption Resolution 22-02 **A RESOLUTION OF THE SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY APPROVING THE LEVYING OF THE 2023 ASSESSMENTS.**
    a. Report by Executive Director
    b. Discussion
    c. Public Comments / Questions
    d. If desired, motion to adopt Resolution 22-02
7. Consider for adoption Resolution 22-03 **A RESOLUTION STATING THE POWERS OF A JOINT POWERS AUTHORITY TO FIX AND COLLECT CHARGES ON THE 2022-23 YEARS KINGS COUNTY TAX ROLL.**
    a. Report by Executive Director
    b. Discussion
    c. Public Comments / Questions
    d. If desired, motion to adopt Resolution 22-03
8. Consider for adoption Resolution 22-04 **A RESOLUTION AUTHORIZING THE ADOPTION OF THE AMENDED TULARE LAKE SUBBASIN GROUNDWATER SUSTAINABILITY PLAN BY THE SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY.**
    a. Review by Executive Director and Geosyntec
    b. Discussion
    c. Public comments/Questions
    d. If desired, motion to adopt Resolution 22-04

COMMUNICATIONS/DISCUSSION ITEMS

9. Director's Reports/Comments/Suggestions
10. Reports of General Interest
    a. California Strategies Update – David Armanasco and Rusty Areias
    b. Legal Counsel Update – Jason Howard
    c. Other updates, as appropriate
        i. Cancelation of Regular Board meeting on August 5, 2022

CLOSED SESSION

11. **CLOSED SESSION**

    Anticipated Litigation [Govt. Code Sec. 54956.9 (d)(4)]
    Conference with legal counsel regarding potential litigation (1 case)

12. **RETURN TO OPEN SESSION** - REPORT OF ACTION TAKEN IN CLOSED SESSION and/or ACTION ON MATTERS DISCUSSED IN CLOSED SESSION

ADJOURNMENT

13. Adjourn to the next Regular Board Meeting, scheduled for Friday, October 7, 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
SPECIAL BOARD MEETING
MINUTES
June 13, 2022

The Board of Directors of the Southwest Kings Groundwater Sustainability Agency met in the second-floor conference room, 944 Whitley Avenue, Corcoran, California, on Monday, June 13, 2022, at the hour of 1:00 p.m. The meeting was available via Zoom for interested parties.

Chair Vidovich presided and Staci Wilkins kept the minutes.

DIRECTORS PRESENT: John Vidovich
Mark Grewal
Kim Brown
Jim Wilson

DIRECTORS ABSENT: Michael Nordstrom

OTHERS PRESENT: Deanna Jackson, Executive Director
Staci Wilkins, Executive Assistant
Jason Howard, McCormick Barstow
Amer Hussain, Geosyntec
Dusty Ference, KCFB
Megan Powers, KRCD
Cody Tolbert, Chevron
Matt Hutton, LACSD

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

PUBLIC COMMENT
No public comment

CONSENT CALENDAR (Agenda items 1 – 4)

Upon the motion of Director Grewal and seconded by Director Brown, the Consent Calendar consisting of Minutes of the Regular Board meeting on April 8, 2022, the Special Board Meeting on May 10, 2022, Warrants and Finances dated between 04/01/2022 and 06/05/2022, the Treasurer's Report, and the continued use of Zoom was approved as presented by the following roll call vote:

Brown	Grewal	Nordstrom	Vidovich	Wilson
Aye	Aye	Absent	Aye	Aye

ACTION CALENDAR

5. Review and consider approval of Waiver for Potential Conflict of Interest for McCormick Barstow as legal counsel representing Tri-County Water Authority and Southwest Kings Groundwater Sustainability Agency.

   On the motion of Director Grewal and seconded by Director Wilson, the Waiver for Potential Conflict of Interest was approved. The Directors voted as follows:

Brown	Grewal	Nordstrom	Vidovich	Wilson
Aye	Aye	Absent	Aye	Aye

6. Review meter and telemetry proposal provided by Wildeye.

   Following a review of the estimated costs, a motion was made by Director Wilson and seconded by Director Grewal to purchase and provide maintenance of the equipment to landowners at the expense of the GSA. The Directors voted as follows:

Brown	Grewal	Nordstrom	Vidovich	Wilson
Aye	Aye	Absent	Aye	Aye

7. Review of the Tulare Lake Subbasin GSP revisions in response to DWR comments.

   Amer Hussain from Geosyntec presented the draft revision of the GSP that will be submitted to DWR for the July 27 deadline. The analysis being done is in order to provide more detail on water quality, water levels, and subsidence in response to the comments. It was important to identify critical infrastructure, domestic well counts and the MT Elevation percentile levels throughout the Subbasin that would be used to estimate how many domestic wells could potentially go dry. It was important to note that Kings County will be requiring any new wells within one mile of the CA Aqueduct to complete a subsidence study before approval will be issued. Also, discussion with the GSAs in the Subbasin is taking place to consider details for a mitigation plan for domestic well owners and how it will be structured.

   No action was taken by the Board.

COMMUNICATIONS/DISCUSSION ITEMS

8. **Director's Reports/Comments/Suggestion**

   None

9. **Communications**

   None

10. **Reports of General Interest**

    a) California Strategies
    No report

    b) Legal Counsel Update – Jason Howard
    No update

DRAFT

c) Other updates, as appropriate

i. Water Blueprint – Deanna Jackson

Information was included to highlight the work being done by the Blueprint. The collaborative action group now has a Mission and Vision Statement, a consolidated ask letter being sent to Sacramento in conjunction with Southern California and Bay Area water agencies, and a fish friendly plan. They are working hard to protect California water.

ADJOURNMENT

11. There being no further business to come before the Board on the occasion of June 13, 2022, meeting, Chair Vidovich asked for a motion to adjourn the meeting at 2:11 pm until the next meeting on July 21, 2022, at 944 Whitley Avenue, Corcoran, or as otherwise directed by the Board. Director Grewal motioned to adjourn with a second by Director Brown. The Directors voted as follows:

Brown	Grewal	Nordstrom	Vidovich	Wilson
Aye	Aye	Absent	Aye	Aye

Attest:

_____

Kim Brown, Secretary

_____

Deanna Jackson, Executive Director

DRAFT

SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY

RESOLUTION NO. 22-02

RESOLUTION OF THE SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY APPROVING THE LEVYING OF 2023 ASSESSMENTS

WHEREAS, the Southwest Kings Groundwater Sustainability Agency (the "Agency") is a joint powers authority, formed pursuant to the Joint Exercise of Powers Act (Gov. Code §§ 6500, *et seq.*); and

WHEREAS, pursuant to the Sustainable Groundwater Management Act ("SGMA"), the Agency is also an exclusive Groundwater Sustainability Agency ("GSA") in the portion of the Tulare Lake Subbasin (Subbasin 5-022.12 of the San Joaquin Valley Basin as defined by California Department of Water Resources Bulletin 118) underlying the Agency's boundaries; and

WHEREAS, pursuant to California Water Code Section 10730 provides that a GSA may levy fees or assessments and each member of the Agency has the authority to impose assessments in compliance with Proposition 218 as specified in Article XIIID of the California Constitution; and

WHEREAS, on June 28, 2017, the Agency adopted an engineer's report to explain the need for the imposition of a land-based assessments pursuant to Proposition 218 and authorized mailing ballots to the landowners; and

WHEREAS, on August 14, 2017, the Agency held a public hearing to receive public comment and calculate the ballots for the Proposition 218 election; and

WHEREAS, 95.7 percent of the landowners that returned their ballots voted in favor of levying the land-based assessments in an amount up to and including five dollars and no/100 ($5.00) per acre per year for those parcels that are ten acres or more; and

WHEREAS, either the Agency or the County of Kings may collect the Agency's assessments, but the Agency elected to have the County of Kings collect the 2023 assessments on its behalf.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY does hereby resolve, declare and order as follows:

1. The above Recitals are deemed true and correct and are incorporated herein by this reference.

2. The landowners within the Agency's boundaries authorized the Board of Directors of the Agency to levy a land-based assessment in an amount not to exceed five dollars and no/100 ($5.00) per acre per year.

3. The Board of Directors of the Agency hereby sets the 2023 land-based assessment rate at _____ dollar and _____ cents ($) per acre.

4. The Agency hereby elects to have the County of Kings collect the assessments on the Agency's behalf for the 2022-2023 assessment year and authorizes the Agency's consultants to work with the County of Kings to do so.

DRAFT

5. Agency consultants/staff are authorized and directed to complete the necessary documentation to levy the Agency's 2022-2023 assessment.

PASSED AND ADOPTED this 21st day of July, 2022, by the following vote to wit:

AYES:

NOES:

ABSTAIN:

ABSENT:

CERTIFICATE OF SECRETARY
OF
SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY,
a California joint powers agency

I, Kimberly Brown, do hereby certify that I am the duly authorized and appointed Secretary of the Southwest Kings Groundwater Sustainability Agency, a California joint powers agency (the "Agency"); that the following is a true and correct copy of that certain resolution duly and unanimously adopted and approved by the Board of Directors of the Agency on the 21st day of July, 2022; and that said resolution has not been modified or rescinded and remains in full force and effect as the date hereof:

IN WITNESS WHEREOF, I have executed this Certificate on this 21st day of July, 2022.

_____
Kimberly Brown, Secretary

DRAFT

SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY

RESOLUTION 22-03

RESOLUTION STATING THE POWERS OF A JOINT POWERS AUTHORITY TO FIX AND COLLECT CHARGES ON THE 2022-23 YEAR KINGS COUNTY TAX ROLL

WHEREAS, the Southwest Kings Groundwater Sustainability Agency ("Agency") is a joint powers authority formed pursuant to the Joint Exercise of Powers Act codified at California Government Code Sections 6500 *et seq.*; and

WHEREAS, the members of the Southwest Kings Groundwater Sustainability Agency include Dudley Ridge Water District, Tulare Lake Reclamation District No. 761, Kettleman City Community Services District, Tulare Lake Basin Water Storage District, and the County of Kings; and

WHEREAS, the Agency is located exclusively within Kings County; and

WHEREAS, the Agency may assess land in accordance the joint powers of the Agency's members and through its powers as a Groundwater Sustainability Agency ("GSA") under to the Sustainable Groundwater Management Act ("SGMA"); and

WHEREAS, pursuant to provisions of Proposition 218, as reflected in Article XIII D of the California Constitution, California Water Code Section 10730, and Sections 53750 through 53756 of the California Government Code, the Agency may, in lieu in whole or in part of levying assessments, fix and collect charges for services furnished by the Agency, including anyand all the following:

(a) Administrative costs for management, legal, and consultant costs to manage and maintain the Agency in compliance with State laws and regulations;
(b) Costs to comply with the SGMA, including but not limited to developing a Groundwater Sustainability Plan ("GSP") independently or in conjunction with other GSAs; and
(c) Costs to comply with SGMA in monitoring and reporting on the implementation of the GSP to the State through at least 2040.

WHEREAS, due to the cost of collection, the Southwest Kings Groundwater SustainabilityAgency Board of Directors does hereby request the County of Kings, without regard to property valuation, to levy these assessments and place them on the 2022-23 Year Kings County Tax Roll.

NOW, THEREFORE, BE IT RESOLVED that the:

1. Southwest Kings Groundwater Sustainability Agency will not pursue collection of delinquencies; and
2. Southwest Kings Groundwater Sustainability Agency Collector will secure and file all necessary documents to support assessments and charges added to the Kings County Tax Roll pursuant to this Resolution.

NOW, THEREFORE, MAY IT FURTHER BE RESOLVED, that the Board of Directors approved and adopted the foregoing at an official meeting held on Thursday, July 21, 2022.

AYES:

NOES:

ABSTAIN:

ABSENT:

CERTIFICATE OF SECRETARY
OF
SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY,
a California joint powers agency

I, Kimberly Brown , do hereby certify that I am the duly authorized and appointed Secretary of the Southwest Kings Groundwater Sustainability Agency, a California joint powers agency (the "Agency"); that the following is a true and correct copy of that certain resolution duly and unanimously adopted and approved by the Board of Directors of the Agency on the 21st day of July, 2022; and that said resolution has not been modified or rescinded and remains in full force and effect asthe date hereof:

IN WITNESS WHEREOF, I have executed this Certificate on this 21st day of July, 2022.

_____
Kimberly Brown, Secretary

RESOLUTION AUTHORIZING THE ADOPTION OF THE AMENDED TULARE LAKE SUBBASIN GROUNDWATER SUSTAINABILITY PLAN BY THE SOUTHWEST KINGS GROUNDWATER SUSTAINABILITY AGENCY

RESOLUTION 22-04

A. WHEREAS, in August 2014, the California Legislature passed, and in September 2014 the Governor signed, legislation creating the Sustainable Groundwater Management Act ("SGMA") "to provide local groundwater sustainability agencies with the authority and technical and financial assistance necessary to sustainably manage groundwater" (Wat. Code, § 10720(d)); and

B. WHEREAS, SGMA requires sustainable management through the development and implementation of groundwater sustainability plans ("GSPs"), which can be a single plan developed by one or more groundwater sustainability agencies ("GSAs") or multiple coordinated plans within a basin or subbasin (Wat. Code, § 10727); and

C. WHEREAS, the Southwest Kings Groundwater Sustainability Agency ("SWK GSA") was created as a joint powers authority under a joint powers agreement dated January 10, 2017, and submitted notice of its election to form a GSA to the Department of Water Resources ("DWR") on March 16, 2017 pursuant to California Water Code section 10723.8; and

D. WHEREAS, SWK GSA is authorized to exercise all actions required or authorized by DWR and the State Water Resources Control Board for GSA purposes; and

E. WHEREAS, pursuant to Water Code Section 10727, the following five GSAs in the Subbasin prepared one GSP for the Subbasin (the "Tulare Lake GSP"): Mid-Kings River GSA, El Rico GSA, South Fork Kings GSA, SWK GSA, and Tri-County Water Authority GSA (collectively, the "Tulare Lake GSAs"), and submitted the Tulare Lake GSP to DWR for review by January 31, 2020; and

F. WHEREAS, DWR provided the Tulare Lake Subbasin with a Determination Letter, attached hereto and incorporated herein as **Exhibit A**, informing the Tulare Lake GSAs that their adopted GSP was "incomplete" and recommending that the Tulare Lake GSAs amend the adopted GSP to address several potential corrective actions, which amended GSP is required to be submitted to the DWR by July 27, 2022; and

G. WHEREAS, in response, Tulare Lake GSAs amended its GSP to address those recommended potential corrective actions (the "Amended Tulare Lake GSP"); and

H. WHEREAS, on or about March 7, 2022, SWK GSA provided written notice to the County of Kings and Kettleman City regarding its intent to amend the Tulare Lake GSP.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of SWK GSA finds as follows:

1. The above Recitals are true and correct and the Board of Directors so finds, orders, and determines.

2. The Board of Directors hereby approves and adopts the Amended Tulare Lake GSP in substantially the form presented, subject to such modifications as the executing officer shall approve, said execution to provide conclusive proof of approval of any such modifications.

3. SWK GSA authorizes the Executive Director and its consultants to take such other actions as may be reasonably necessary to coordinate with the other Tulare Lake GSAs to ensure the submission of the Amended Tulare Lake GSP to DWR by July 27, 2022, and implement the purpose of this Resolution.

PASSED, APPROVED, AND ADOPTED this 21st day of January, 2022 by the following vote:

AYES:

NAYS:

ABSTAIN:

ABSENT:

John Vidovich, Chair
Southwest Kings Groundwater
Sustainability Agency

Attest:

Date: July 21, 2022

Kimberly Brown, Secretary

DRAFT

EXHIBIT

A

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

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.