

MEMORANDUM

TO: Delta-Mendota Subbasin Coordination Committee

FROM: Lauren D. Layne

DATE: April 26, 2023

RE: Delta-Mendota Subbasin MOA Options

The Delta-Mendota Subbasin Groundwater Sustainability Agencies (“GSAs”) are exploring either (1) revising the Subbasin Coordination Agreement, or (2) entering into a memorandum of agreement (“MOA”) instead of a Coordination Agreement if there is only one Groundwater Sustainability Plan (“GSP”) adopted for the Subbasin. In this memorandum, we outline potential terms for a revised agreement and pose questions for the Delta-Mendota Subbasin Coordination Committee to consider.

Questions for the Committee to Consider

- Under a single GSP:
 - Should cost sharing be restructured?
 - Can some committees be eliminated to help streamline decision making?
 - Are GSP groups still necessary? If so, are these called something else?
 - Do we amend the Coordination Agreement or enter into an MOA instead?
 - What is the role of the SLDMWA?
- What is the adaptive management process for addressing exceedances? (Look at Kern Subbasin)
- How can we address the monitoring network in a way that is consistent across the Subbasin (i.e., for both upper and lower aquifer pumping, even when a GSA doesn’t pump in one or the other)?

Outline of Revised Agreement Terms

- Section 1 Recitals – Stay relatively the same as the Coordination Agreement, but will need to address “GSP Groups” and whether or not there is one GSP.
- Section 2 Definitions – may be reduced if certain committees or groups are no longer necessary. Need to address the definition of “Participation Percentages.” Otherwise, most definitions will remain.
- Section 3 General Guidelines – Revise to discuss Formation, Purpose and Powers. Remove the discussion on requirements to coordinate. Address the Coordination Committee in Section 5 or add a new section on Governance.
- Section 4 Role of SLDMWA – Need to address
- Section 5 Responsibilities for Key Functions – Address the Coordination Committee here that is currently discussed in Section 3. Revise based on how we want to structure this Committee if only one GSP. Discuss the authority of the Coordination Committee. Establish standing committees instead of GSP groups (TAC, Policy Committee, and Financial Committee)?
- Section 6 Approval by Individual Parties – Address GSA approvals
- Section 7 Exchange of Data and Information – May want to update based on how we are moving forward (e.g., submit all information to one consultant).
- Section 8 Methodologies and Assumptions – Remove coordination requirements. Determine whether or not we still want to address “technical memoranda” in this agreement.
- Section 9 Monitoring Network – provide more detail.
- Section 10 Coordinated Water Budget – Not needed, because will only have one.
- Section 11 Coordinated Data Management System – Not necessarily needed, but could retain what is in the Coordination Agreement.
- Section 12 Adoption and Use of the Coordination Agreement – remove
- Section 13 Modification and Termination of the Coordination Agreement – update for modification of the MOA
- Section 14 Withdrawal, Term and Termination – revise to state the term and responsibilities of each GSA. Add an indemnification provision.

- Section 15 Procedure for Resolving Conflicts – could remain.
- Section 16 General Provisions – relatively the same.
- Add a section on Adaptive Management Process. See Kern Subbasin and Turlock Subbasin documents attached. Also, a general concept could be as follows:

Establishment of an Adaptive Management Process. The Parties acknowledge that SGMA has a long-term horizon to achieve sustainability and that management of the Subbasin will require an iterative process on the part of the GSAs and the Coordination Committee to review groundwater conditions at least annually and propose revisions to underlying data, methodologies, and assumptions, sustainable management criteria, and other Subbasin-wide coordinated information as necessary to meet changing conditions. Accordingly, the Parties establish the following framework for addressing necessary changes to the GSP during the SGMA implementation period:

1. The Coordination Committee shall initiate an annual review of the Annual Reports for the GSP Groups no later than thirty (30) days after the submission of the Annual Reports to DWR (“Annual Review”). The Coordination Committee may designate Annual Review duties to a consultant or a subcommittee.

2. The Annual Review shall take into account all matters to be considered in Annual Reports pursuant to the DWR Regulations, section 356.2, including but not limited to changes in groundwater elevation, groundwater storage and the status of minimum thresholds and interim milestones in the Subbasin GSPs.

2.1 Should any GSA have three (3) or more minimum threshold exceedances, the Coordination Committee (at the recommendation of the Plan Manager, a designated subcommittee, or a consultant) shall recommend actions to take to address such exceedances to be taken by the Subbasin collectively, as necessary.

Attachments: West Turlock Subbasin and East Turlock Subbasin GSAs MOA and First Amendment thereto
Kern Subbasin Monitoring Protocol
Kern Subbasin Exceedance Policy

MEMORANDUM OF AGREEMENT
BETWEEN THE WEST TURLOCK SUBBASIN GROUNDWATER SUSTAINABILITY
AGENCY AND THE EAST TURLOCK SUBBASIN GROUNDWATER
SUSTAINABILITY AGENCY

THIS AGREEMENT is entered into and effective this 14th day of December, 2017 (“**Effective Date**”), by and among the West Turlock Subbasin Groundwater Sustainability Agency (“**WTS GSA**”) and the East Turlock Subbasin Groundwater Sustainability Agency (“**ETS GSA**”) (collectively “**Parties**” or individually a “**Party**”).

RECITALS

A. On August 29, 2014, the California Legislature passed comprehensive groundwater legislation contained in SB 1168, SB 1319 and AB 1739. Collectively, those bills, as subsequently amended, enacted the “Sustainable Groundwater Management Act” (“**SGMA**”). Governor Brown signed the legislation on September 16, 2014 and it became effective on January 1, 2015.

B. Each of the Parties overlies the San Joaquin Valley Groundwater Basin, Turlock Subbasin, California Department of Water Resources (“**DWR**”) Basin No. 5-22.03 as its boundaries may be modified from time to time in accordance with Water Code Section 10722.2 (the “**Basin**”).

C. The WTS GSA elected to manage the groundwater over the boundaries of its members and act as the Groundwater Sustainability Agency (“**GSA**”) pursuant to SGMA with the DWR on or about March 27, 2017.

D. The ETS GSA elected to manage the groundwater over the boundaries of its members and act as the GSA pursuant to SGMA with the DWR on or about April 3, 2017.

E. The members of the WTS GSA and ETS GSA have previously collaborated on groundwater management through membership in the Turlock Groundwater Basin Association.

F. The Parties desire, through this Agreement, to coordinate the work of the GSAs and the management of the Basin, in accordance with SGMA.

G. The Parties plan to review this Agreement and the provisions therein after a joint GSP has been developed or in 2022, whichever occurs earlier.

THEREFORE, in consideration of the mutual promises, covenants and conditions herein set forth, the Parties agree as follows:

ARTICLE 1: DEFINITIONS

1.1 **Definitions.** As used in this Agreement, unless the context requires otherwise, the meaning of the terms hereinafter set forth shall be as follows:

a. **“Agreement”** shall mean this Agreement between the WTS GSA and the ETS GSA.

b. **“Basin”** shall mean Turlock Groundwater Subbasin, California Department of Water Resources Basin No. 5-22.03 as its boundaries may be modified from time to time in accordance with Water Code Section 10722.2.

c. **“Basin-Wide Activities”** shall mean those activities or actions that affect the Basin as a whole, or are otherwise required by SGMA to be determined as the Basin level.

d. **“Coordination Agreement”** shall mean a legal agreement adopted between two or more GSAs that provides the basis for intra-basin coordination for more than one groundwater sustainability plan (“GSP”) within a single basin.

e. **“DWR”** shall mean the California Department of Water Resources.

f. **“Effective Date”** shall be as set forth in the Preamble.

g. **“Groundwater Sustainability Agency”** or **“GSA”** shall mean an agency enabled by SGMA to regulate a portion of the Basin cooperatively with all other Groundwater Sustainability Agencies in the Basin, in compliance with the terms and provisions of SGMA.

h. **“Groundwater Sustainability Plan”** or **“GSP”** shall mean a plan of a Groundwater Sustainability Agency adopted pursuant to SGMA.

i. **“Joint TAC”** shall mean a meeting of the technical advisory committees of both of the Parties.

j. **“Management Area”** shall mean the area within the boundaries of a GSP that are managed separately or differently than the remainder of the GSP for the Basin.

k. **“Members”** shall mean the member agencies of each of the Parties’ Joint Powers Agreements.

l. **“Parties”** shall mean any of the signatories to this Agreement.

m. **“Project Agreement”** shall mean a separate Agreement amongst and between the Parties for a specific project, whose purpose, terms, or financial contributions are different than those set forth in this Agreement.

n. **“SGMA”** shall mean the Sustainable Groundwater Management Act of 2014 and all regulations adopted under the legislation (SB 1168, SB 1319 and AB 1739) that

collectively comprise the Act, as that legislation and those regulations may be amended from time to time.

ARTICLE 2: KEY PRINCIPLES

2.1 The Parties intend to work together in mutual cooperation to develop a GSP in compliance with SGMA, for the sustainable management of groundwater for the portion of the Basin underlying the boundaries of each of the Parties.

2.2 The Parties intend to mutually cooperate to the extent possible to jointly implement the GSP within the Basin.

2.3 To the extent the Parties are not able to collaborate on a single GSP, each Party reserves the right to develop a GSP for the portion of the Basin the GSA is authorized to manage. To the extent it is not possible to jointly implement the GSP within the Basin, the Parties reserve the right to implement the GSP within its boundaries, and work with all Parties to coordinate such implementation in accordance with the requirements of SGMA.

2.4 The Parties expressly intend that this Agreement shall not limit or interfere with the respective Parties' rights and authorities over their own internal matters, including, but not limited to, a Party's legal rights to surface water supplies and assets, groundwater supplies and assets, facilities, operations, water management and water supply matters. The Parties make no commitments by entering into this Agreement to share or otherwise contribute their water supply assets as part of the development or implementation of a GSP.

2.5 Nothing in this Agreement is intended to modify or limit a Party's police powers, land use authorities, or any other authority.

2.6 The Parties further intend through this Agreement to collaborate in obtaining consulting, administrative and management services needed to efficiently and effectively develop a GSP, to conduct outreach to other Basin agencies and private parties, and to identify mechanisms for the management and funding commitments reasonably anticipated to be necessary for the purposes of this Agreement.

2.7 The Parties acknowledge and agree that SGMA is a new, complex and evolving legislation, with implementing regulations continuing to be developed by DWR. While this Agreement reflects the Parties' initial approach to SGMA compliance, a great deal of data needed for implementation is unknown, and necessary models are still in development. The Parties may experience changes in political boundaries, gain experience in the application of SGMA, or discover other considerations that may affect the decision of Parties on how to best comply with SGMA within each of their own boundaries and/or Management Area boundaries. DWR has acknowledged the need for entities to be able to change their decisions about participating in or becoming a GSA, and it is the intent of the Parties to support flexibility in admitting additional Parties, accommodating voluntary withdrawals, coordinating with other multi-agency or individual GSAs, changing the form of their organizational documents, for example, or creating an independent agency through a Joint Powers Agreement, and making other types of adjustments required by the Parties to achieve efficient compliance with SGMA,

consistent with the schedule and requirements of SGMA for coordination throughout the Basin and the provisions of this Agreement.

2.8 Each of the Parties acknowledges that SGMA requires that multiple GSAs within a Bulletin 118 groundwater basin designated as high- or medium-priority must coordinate, use the same data and consistent methodologies for certain required technical assumptions when developing a GSP, and the entire basin must be managed under one or more GSPs.

ARTICLE 3: FORMATION, PURPOSE AND POWERS

3.1 **Recitals:** The foregoing recitals are incorporated by reference.

3.2 **Certification.** Each of the Parties certifies and declares that it is a public agency (as defined in Government Code Section 6500 *et seq.*) that is authorized to be a GSA and manage groundwater for the portion of the Basin for which its members overlie.

3.3 **Purpose of the Agreement.** The purposes of this Agreement are to:

- a. Cooperatively carry out the purposes, goals and objectives of SGMA;
- b. Provide for coordination amongst and between the Parties to develop and implement a GSP and/or facilitate a Coordination Agreement, to the extent necessary for SGMA compliance;
- c. Develop, adopt and implement a legally sufficient GSP in compliance with SGMA covering those portions of the Basin that are within the jurisdictional boundaries of the Parties, subject to the limitations set forth in this Agreement; and
- d. Satisfy the requirements of SGMA for coordination among the WTS GSA and the ETS GSA.

3.4 **Authority Under the Agreement.** To the extent authorized by the Parties, subject to the limitations set forth in this Agreement and the limitations of all applicable laws, the Parties acting collectively shall have the following authority including, but not limited to the power to:

- a. Coordinate the implementation of SGMA among the Parties in accordance with this Agreement;
- b. Recommend the adoption of actions, rules, regulations, policies, and procedures related to the coordination of the Parties for purposes of implementation of SGMA;
- c. Perform all acts necessary or proper to carry out fully the purposes of this Agreement and to exercise all other powers necessary and incidental to the implementation of the powers set forth herein.

3.5 **Powers Reserved to Parties.** Each of the Parties will have the sole and absolute right, in its sole discretion, to:

- a. Act as a GSA within its boundaries or the Management Area managed in whole or in part by such Parties;
- b. Approve any portion, section or chapter of the GSP developed pursuant to this Agreement;
- c. Exercise authorities granted to each of the Parties as a GSA under SGMA;
- d. Exercise authority to implement SGMA and any GSP adopted pursuant to this Agreement;
- e. Defend any challenge to the adoption or implementation of a GSP developed pursuant to this Agreement; and
- f. Notwithstanding anything to the contrary in this Agreement, this Agreement does not provide any Parties the authority to undertake any activities within the geographic or service area boundaries of any other Parties pursuant to the GSP developed or adopted hereunder, unless the Parties have formally and expressly consented and agreed in writing to the activity proposed.

3.6 **Term.** This Agreement shall be effective as of the Effective Date and shall remain in effect until terminated in accordance with Article 7.4 of this Agreement.

3.7 **Role of Party Members.** Each of the Parties agrees to undertake such additional proceedings or actions as may be necessary in order to carry out the terms and intent of this Agreement, including the support of its Members, to participate in this Agreement. This support will involve the following types of actions:

- a. The Parties will provide support to the Joint TAC and any third party facilitating the development of the GSP by making available staff time, information and facilities within available resources.
- b. Policy support shall be provided by the Parties to either approve, or respond quickly to, any recommendations made as to funding shares, operational decisions, fare structures, and other policy areas.
- c. Each of the Parties may contribute public resources including but not limited to personnel, services, equipment or property to facilitate this Agreement. Such in-kind resource support is made in order to facilitate this Agreement and comply with SGMA; without a separate Project Agreement, the contributions shall not be made with the expectation of reimbursement from other Parties.

3.8 **Other Officers and Employees.** To the extent the Parties need support from employees, officers, consultants or otherwise need to hire employees, the Parties may do the following:

- a. Provide that any employee of the Parties, or the Parties' respective Members, with the express approval of the Parties, may work on behalf of the Parties under this

Agreement, and shall perform the same various duties under the direction of the Joint TAC as for his or her other employer in order to carry out this Agreement. This work may be completed and funded under the existing employment with the Parties or each of their Members. In the alternative, the Joint TAC may recommend that work performed by employees of the Parties or Members of the Parties be reimbursed by the Parties. Such recommendation shall include the scope of activities and the recommended reimbursement structure.

b. With the consent of the Parties, per Article 3.7, the Parties may independently contract or hire consultants and/or employees to perform work under this Agreement. Under this arrangement, the hiring or contracting Parties must present the contract to the Joint TAC for review and approval. Further, the contract must include appropriate indemnity, insurance, and non-disclosures to protect all Parties.

ARTICLE 4: GOVERNANCE

4.1 **Joint Technical Advisory Committee.** Activities under this Agreement will be guided by the appointed technical advisory committees of each Party (“Joint TAC”). The Joint TAC shall work collaboratively under this Agreement to develop recommendations for the technical and substantive Basin-wide issues. Recommendations from the Joint TAC that require approval or action of the Parties shall be provided to each Parties’ respective governing boards for adoption, approval, or other recommended action. The Joint TAC shall be responsible, but not be limited to, the following actions:

- a. Develop budget(s) for any project or program that requires funding from the Parties;
- b. Draft reports or options with regard to decisions related to the levying of taxes, assessments or property-related fees and charges;
- c. Propose guidance and options for obtaining grant funding;
- d. Recommend the adoption of rules, regulations, policies, and procedures related to the Agreement;
- e. Recommend the approval of contracts with consultants or subcontractors that would undertake work on behalf of the Parties pursuant to this Agreement;
- f. Update each Party’s respective governing boards on specific issues, including the development of the GSP, when appropriate or requested;
- g. Advise the Parties when the convening of an Ad Hoc committee is needed to resolve an impasse or inability to make a consensus recommendation;
- h. Conduct outreach with stakeholder groups;
- i. Participate and guide the development of GSP and materials in support thereof;

- j. Recommend action and/or approval of a GSP.

4.2 **Meetings.** The Joint TAC shall provide for regular and special meetings in accordance with Chapter 9, Division 2, Title 5 of Government Code of the State of California (the “Ralph M. Brown Act” commencing at Section 54950), and any subsequent amendments of those provisions.

4.3 **Advisory Committees.** The Joint TAC may establish other advisory committees, technical committees or other committees for any purpose, including but not limited to the GSP purposes in Water Code Section 10727.8.

4.4 **Impasse Resolution.** To the extent the Joint TAC is unable to make a consensus-based recommendation on an issue for which their respective governing boards need to make a decision, the Joint TAC may convene an Ad Hoc committee comprised of the Parties’ governing board members in an attempt to resolve the impasse.

ARTICLE 5: INFORMATION AND DATA SHARING

5.1 **Exchange of Information.** The Parties acknowledge and recognize pursuant to this Agreement and SGMA, the Parties will need to exchange information amongst and between the Parties.

5.2 **Procedure for Exchange of Information.** The Parties may exchange information through collaboration and/or informal requests made at the Joint TAC level or through working/stakeholder committees. However, to the extent it is necessary to make a written request for information to other Parties, the following protocols shall be followed:

5.2.1 Each of the Parties shall designate a representative to respond to information requests and provide the name and contact information of the designee to the Joint TAC. Requests may be communicated in writing and transmitted in person or by mail, facsimile machine or other electronic means to the appropriate representative as named in this agreement.

5.3 **Non-Disclosure of Confidential Information.** It is understood and agreed to that the Parties to this Agreement may provide the Parties with certain information that may be considered confidential. To ensure the protection of such information and in consideration of the agreement to exchange said information, the Parties agree as follows:

5.3.1 The confidential information to be disclosed under this Agreement (“Confidential Information”) includes data, information, modeling, projections, estimates, plans, that are not public and in which the Parties have a reasonable expectation of confidentiality, regardless of whether such information is designated as “Confidential Information” at the time of its disclosure.

5.3.2 In addition to the above, Confidential Information shall also include, and the Parties shall have a duty to protect, other confidential and/or sensitive information which is (a) disclosed as such in writing and marked as confidential (or with other similar designation) at

the time of disclosure; and/or (b) disclosed in any other manner and identified as confidential at the time of disclosure and is also summarized and designated as confidential in a written memorandum delivered within thirty (30) days of the disclosure.

5.3.3 The Parties shall use the Confidential Information only for the purposes set forth in this Agreement.

5.3.4 The Parties shall limit disclosure of Confidential Information within its own organization to its directors, officers, partners, consultants, members and/or employees having a need to know and shall not disclose Confidential Information to any third party (whether an individual, corporation, or other entity) without prior written consent. The Parties shall satisfy its obligations under this paragraph if it takes affirmative measures to ensure compliance with these confidentiality obligations by its employees, agents, consultants and others who are permitted access to or use of the Confidential Information.

5.3.5 This Agreement imposes no obligation upon the Parties with respect to any Confidential Information (a) that was possessed before receipt; (b) is or becomes a matter of public knowledge through no fault of receiving Parties; (c) is rightfully received from a third party not owing a duty of confidentiality; (d) is disclosed without a duty of confidentiality to a third party by, or with the authorization of the disclosing Parties; or (e) is independently developed.

5.3.6 If there is a breach or threatened breach of any provision of this section, it is agreed and understood that the non-breaching Parties shall have no adequate remedy in money or other damages and accordingly shall be entitled to injunctive relief; provided however, no specification in this Agreement of any particular remedy shall be construed as a waiver or prohibition of any other remedies in the event of a breach or threatened breach of this Agreement.

ARTICLE 6: FINANCIAL PROVISIONS

6.1 **Contributions and Expenses:** Each of the Parties shall be responsible to fund its participation in this Agreement. The Parties agree to fund Basin-wide activities, including development of the GSP, in a manner consistent with how each of the Parties' Members funded participation in the Turlock Groundwater Basin Association ("TGBA"). Specifically, this funding obligation would be allocated as 49.36 percent to the ETS GSA and 50.64 percent to the WTS GSA. Funding for non-basin-wide activities or other activities that the Parties separately agree shall not be split proportionately, shall be through a separate Project Agreement. For the activities under Project Agreements, the Joint TAC shall develop a scope of work, proposed cost allocation, and separate Project Agreement that would need to be approved by each Party's respective governing board before it is binding on such Parties. This provision shall be revisited by the Parties upon completion of the GSP or 2022, whichever is earlier.

6.2 **Funding Responsibility.** Each of the Parties will be solely responsible for raising funds for payment of the Parties' share of operating and administrative costs. The obligation of each of the Parties to make payments under the terms and provisions of this Agreement is an individual and severable obligation and not a joint obligation with those of the other Parties.

Each of the Parties shall be individually responsible for its own covenants, obligations, and liabilities under this Agreement. No Parties shall be precluded from independently pursuing any of the activities contemplated in this Agreement. No Parties shall be the agent or have the right or power to bind any other Parties without such Parties' express written consent, except as expressly provided in this Agreement.

6.3 **Alternate Funding Sources.** The Parties may secure contributions of grant funding, state, federal, or county funding as funding or a portion of funding for projects between the Parties.

ARTICLE 7: CHANGES IN PURPOSE, PARTICIPATION, WITHDRAWAL AND TERMINATION

7.1 **Changes in Purpose.** This Agreement shall remain in place and all applicable provisions shall remain in effect, in the event the Parties determine it is not possible to develop a single GSP pursuant to this Agreement. In that instance, the Parties may develop separate, multiple GSPs and continue to collaborate and work together as necessary to comply with SGMA and develop a Coordination Agreement as required by SGMA.

7.2 **Noncompliance.** In the event any of the Parties (1) fails to comply with the terms of this Agreement, or (2) undertakes actions that conflict with or undermine the compliance with SGMA and/or achieving sustainable groundwater management, the Parties alleging non-compliance shall provide written notice summarizing the nature of lacking compliance to the Party against whom the allegations are lodged. The alleged non-compliant Party agrees to make best efforts to resolve or remedy any such non-compliance. Such actions may include, for example, failure to pay its agreed upon contributions when due; refusal to participate in GSA activities or to provide required monitoring of sustainability indicators; refusal to enforce controls as required by the GSP; refusal to implement any necessary actions as outlined by the approved GSP; and exceedance of minimum thresholds that are likely to lead to "undesirable results" under SGMA.

7.3 **Mediation.** To the extent notice and informal discussion of non-compliance pursuant to section 7.2 does not resolve the issue of non-compliance, the Parties agree to participate in good faith to settle the alleged non-compliance by mediation administered under its standard mediation procedures before resorting to arbitration, litigation, or some other dispute resolution procedure.

7.4 **Withdrawal and Termination.** Either Party may, in its sole discretion, unilaterally withdraw and terminate its participation from this Agreement, effective upon thirty (30) days' prior written notice to the governing board of the other Party, provided that (a) the withdrawing Party will remain responsible for its proportionate share of any obligation or liability duly incurred while a Party to this Agreement. In the event the withdrawing Party has any rights in any property or has incurred obligations, the Party may not sell, lease or transfer such rights or be relieved of its obligations, except in accordance with a written agreement executed by it and the other Party.

7.5 **Disposition of Property Upon Termination.** Upon termination of this Agreement, the Joint TAC shall recommend the Parties distribute the assets between the successor entity and the Parties in proportion to how the assets were provided.

7.6 **Use of Data.** Upon withdrawal, a Party shall be entitled to use any data or other information developed during its time as a Party to the Agreement. Further, should a Party withdraw after completion of the GSP, it shall be entitled to utilize the GSP for future implementation of SGMA within its boundaries.

ARTICLE 8: MISCELLANEOUS PROVISIONS

8.1 **Indemnification.** Each of the Parties shall hold harmless, defend and indemnify the other Party, and its agents, officers and employees from and against any liability, claims, actions, costs, damages or losses of any kind, including death or injury to any person and/or damage to property arising out of the activities of this Agreement. These indemnification obligations shall continue beyond the Term of this Agreement as to any acts or omissions occurring before or under this Agreement or any extension of this Agreement.

8.2 **CASGEM Reporting Entity.** The Department of Water Resources runs the California Statewide Groundwater Elevation Monitoring (“CASGEM”) Program, which requires the identification of a local monitoring entity to report elevation data. Prior to the enactment of SGMA, the TGBA acted as the CASGEM monitoring entity. The Parties hereby agree that the WTS GSA shall act as the CASGEM monitoring entity from the Effective Date of this Agreement. The WTS GSA shall work through this Agreement to obtain the necessary approvals from DWR to transfer the local monitoring entity’s duties to the WTS GSA, coordinate with the ETS GSA to obtain required information, and collaborate with the ETS GSA on data provided as the CASGEM monitoring entity.

8.3 **Liability of Joint TAC.** Each Party must defend, indemnify and hold harmless the other Party from the actions of its employees or agents taken within the scope of the authority of this Agreement.

8.4 **Amendments.** This Agreement may only be amended by a written instrument executed by all Parties.

8.5 **Binding on Successors.** Except as otherwise provided in this Agreement, the rights and duties of the Parties may not be assigned or delegated without a unanimous vote by the Parties. Any approved assignment or delegation shall be consistent with the terms of any contracts, resolutions, indemnities and other obligations then in effect. This Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of the Parties hereto.

8.6 **Notice.** Any notice or instrument required to be given or delivered under this Agreement may be made by: (a) depositing the same in any United States Post Office, postage prepaid, and shall be deemed to have been received at the expiration of 72 hours after its deposit in the United States Post Office; (b) transmission by facsimile copy to the addressee; (c) transmission by electronic mail; or (d) personal delivery, as follows:

WTS GSA

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WTS GSA Technical Advisory Committee Chair
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Email: mcooke@turlock.ca.us
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ETS GSA

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Phone: (209) 478-4940

With copy to: Baker Manock & Jensen
c/o Lauren D. Layne
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Fresno, CA 93704
E-mail: llayne@bakermanock.com
Phone: (559) 432-5400

8.7 **Counterparts.** This Agreement may be executed by the Parties in separate counterparts, each of which when so executed and delivered shall be an original. All such counterparts shall together constitute but one and the same instrument.

8.8 **Choice of Law.** This Agreement shall be governed by the laws of the State of California.

8.9 **Severability.** If one or more clauses, sentences, paragraphs or provisions of this Agreement are held to be unlawful, invalid or unenforceable, it is hereby agreed by the Parties that the remainder of the Agreement shall not be affected thereby. Such clauses, sentences, paragraphs or provisions shall be deemed reformed so as to be lawful, valid and enforced to the maximum extent possible.

8.10 **Headings.** The paragraph headings used in this Agreement are intended for convenience only and shall not be used in interpreting this Agreement or in determining any of the rights or obligations of the Parties to this Agreement.

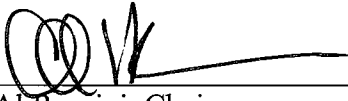
8.11 **Construction and Interpretation.** This Agreement has been arrived at through negotiation and each of the Parties has had a full and fair opportunity to revise the terms of this Agreement. As a result, the normal rule of construction that any ambiguities are to be resolved against the drafting Parties shall not apply in the construction or interpretation of this Agreement.

8.12 **Entire Agreement.** This Agreement constitutes the entire agreement among the Parties and supersedes all prior agreements and understandings, written or oral.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the day and year first above-written.

“ETS GSA”

East Turlock Subbasin Groundwater Sustainability Agency

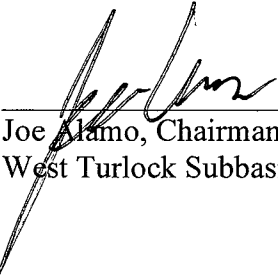


Al Rossini, Chairman
East Turlock Subbasin GSA

Date: 01/18/18

“WTS GSA”

West Turlock Subbasin Groundwater Sustainability Agency



Joe Alamo, Chairman
West Turlock Subbasin GSA

Date: 1/18/18

**FIRST AMENDMENT TO
MEMORANDUM OF AGREEMENT
BETWEEN THE WEST TURLOCK SUBBASIN GROUNDWATER SUSTAINABILITY
AGENCY AND THE EAST TURLOCK SUBBASIN GROUNDWATER
SUSTAINABILITY AGENCY**

THIS FIRST AMENDMENT TO AGREEMENT (“**First Amendment**”) is entered into and effective this 15th day of November, 2021 (“**Effective Date**”), by and among the West Turlock Subbasin Groundwater Sustainability Agency (“**WTS GSA**”) and the East Turlock Subbasin Groundwater Sustainability Agency (“**ETS GSA**”) as an amendment to that Memorandum of Agreement between the Parties dated December 14, 2017 (“**MOA**”). Capitalized terms in this First Amendment shall have the meaning assigned in the MOA.

RECITALS

A. As contemplated by the MOA, the Parties are collaborating to develop a joint GSP for the Basin.

B. The Parties acknowledge that implementation of the GSP will require that an accounting of groundwater, surface water stored in basin aquifers and/or the sustainable yield of the Subbasin (“**Groundwater Accounting Structure**”) be allocated to each GSA.

C. The Parties have not been able to agree on an Groundwater Accounting Structure between the two GSAs, but have agreed to resolve that issue immediately after the GSP is submitted to the Department of Water Resources (“**DWR**”) for review.

THEREFORE, in consideration of the mutual promises, covenants and conditions herein set forth, the Parties agree as follows:

1. METHOD TO RESOLVE THE GROUNDWATER ACCOUNTING STRUCTURE.
The Parties agree that they will undertake the following steps to resolve the accounting framework:

A. Continue to collaborate on the development of a single GSP for the Turlock Subbasin;

B. Suspend current negotiations over the Groundwater Accounting Structure until after the GSP is adopted by both GSAs;

C. Include an appendix in the GSP that includes the documents produced so far by both GSAs on the concept of the Groundwater Accounting Structure, which are attached hereto as **EXHIBIT A-1** and **EXHIBIT A-2** for the WTS GSA and **EXHIBIT B-1** and **EXHIBIT B-2** for the ETS GSA;

D. Include text in the appropriate sections of the GSP stating that the Groundwater Accounting Structure is an outstanding issue to be resolved, and that the current positions of each GSA is provided in the appendix; and

E. Add an Implementation Support Activity (or mutually acceptable equivalent) to the GSP requiring the development of an agreed upon Groundwater Accounting Structure by the GSAs, along with a timeline for doing so.

2. **CONTINUED VALIDITY.** Except as expressly provided in this First Amendment, the MOA shall continue unmodified and in full force and effect.

3. **RESERVATION OF SECTION 2.3.** To the extent the development of an agreed-upon Groundwater Accounting Structure is not achievable within a reasonable timeframe or otherwise impedes either Party’s ability to implement the GSP or achieve sustainability within its respective GSA boundary, the Parties agree that any one Party may develop a separate GSP pursuant to section 2.3 of the MOA. Further, the Parties agree that the development of separate GSPs is allowable at any time under this First Amendment and that no action, including the submittal of a joint GSP to DWR, the development of annual reports, the acceptance of basin-level grant funding, shall preclude any Party from developing and submitting to DWR a separate GSP pursuant to this section and section 2.3 of the MOA.

4. **COUNTERPARTS AND ELECTRONIC SIGNATURES.** This First Amendment may be executed simultaneously in one or more counterparts, each of which shall be an original, but all of which together shall constitute one and the same document. A facsimile of .pdf signature of the Agreement shall be considered an original signature of this Agreement for all purposes.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the day and year first above-written.

“ETS GSA”

EAST TURLOCK SUBBASIN
GROUNDWATER SUSTAINABILITY AGENCY

By:  Date: 11/28/2021
83B7943604764B6...
Al Rossini, Chairman
East Turlock Subbasin GSA

“WTS GSA”

WEST TURLOCK SUBBASIN
GROUNDWATER SUSTAINABILITY AGENCY

By:  Date: 11/29/2021
83FCD632ECA846A...
Joe Alamo, Chairman
West Turlock Subbasin GSA

EXHIBIT A-1

WTS GSA

Turlock Subbasin Proposed Water Accounting Framework

Purpose/Objective

This framework is intended to generally define groundwater supply sources throughout the Turlock Subbasin, but do not represent an allocation between the ETS and the WTS GSAs or to individual landowners. The accounting framework will facilitate development of solutions to ensure the Turlock subbasin is able to achieve sustainability.

Native Groundwater Supply

Native groundwater supply (native supply) is water that occurs naturally in the subbasin and is subject to extraction by overlying water right holders or appropriators. However, the Turlock Subbasin is currently in a state of overdraft, as determined by DWR, and as such, the native supply is not subject to new appropriation. Proposed accounting of the native supply yield is generally the total native supply divided by acres in the Turlock Subbasin. Native supply includes the following sources:

- Percolation from rain and precipitation
- Streambed percolation, from natural flow in channels
- Return flows from applied native groundwater
- Subsurface flows or underflows from deep aquifers, the Sierra-Nevada foothills and adjacent subbasins

Imported Water

Imported water is surface water that is brought from outside the subbasin, that is stored, conveyed, and applied to land within the subbasin with the intent of reclaiming it. Unless otherwise agreed to, imported water and the seepage therefrom is owned by the importer. Proposed accounting: seepage and storage

of imported water remains owned by the importing party. Subject to current law¹ and any contractual agreements stating otherwise, supply of imported water includes:

- Seepage and percolation from imported stored water in natural watercourses
- Seepage and percolation from imported water in conveyance facilities (canals, reservoirs, etc.)
- Percolation from application of imported water on irrigated lands

Salvaged Water

Salvaged water is water that is saved from waste and reclaimed by conservation or investment. Proposed accounting: Unless otherwise agreed to, salvaged water and seepage/percolation from salvaged water is owned by salvaging party. Supply of salvaged water includes:

- Water recaptured from stormwater return flows
- Water that is recharged from treated wastewater discharge
- Conserved water from infrastructure improvements

Measurement

Any imported or salvaged water reclaimed must be reported, in accordance with GSP requirements.²

Living Document

This Water Accounting Framework is a living document that shall be revisited by the GSAs at least every five years as part of the GSP update.

¹ See City of Santa Maria v. Adam, 149 Cal. Rptr. 3d. 491, 520–25 (Cal. Ct. App. 2012); City of Los Angeles v. City of Glendale, 142 P.2d 289, 294–95 (Cal. 1943); City of Los Angeles v. City of San Fernando, 537 P.2d 1250, 1294 – 95 (Cal. 1975).

² Water Code § 10726.

EXHIBIT A-2

TECHNICAL MEMORANDUM

DATE: September 13, 2021 **PROJECT #:** 9602.0101

TO: Debbie Montalbano, Turlock Irrigation District
Michael Cooke, Turlock Irrigation District

Valerie Kincaid, O’Laughlin & Paris LLP

FROM: Derrik Williams, P.G., C.Hg., Louis Wersan, P.G.

PROJECT: GSP Technical Support

SUBJECT: Updated Water Accounting Framework White Paper

INTRODUCTION

Montgomery & Associates (M&A) is developing a Water Accounting Framework (Framework) for the Turlock Subbasin on behalf of the Turlock Irrigation District (TID). The Framework classifies various components of the Subbasin’s groundwater budget, consistent with commonly accepted rules regarding surface water and groundwater rights. The Framework provides a defensible and logical approach to allocating water and recognizes the investments made by various entities in the Subbasin to secure dependable and reliable water supplies.

The Framework is not an assessment or quantification of water rights. All groundwater extraction and use must comply with Article X, Section 2 of the California constitution, and conform to all other state and local laws.

WATER ACCOUNTING FRAMEWORK CONCEPTS

The Framework classifies groundwater supplies based on generalized concepts of groundwater rights. The three generalized water rights concepts included in this memorandum include:

1. Common pool groundwater. Groundwater recharge that results from natural processes and conditions is common pool water. Examples include rainfall percolation, percolation of natural river flows, mountain front recharge, and inflow from neighboring subbasins. All overlying landowners in the Subbasin have a correlative right to extract and use common pool groundwater, and put it to beneficial use.
2. Imported Water. Water percolating to the groundwater as a result of importing water into the subbasin is imported water. Examples of percolation from imported water include

water that percolates to the groundwater through canal leakage, is intentionally recharged by ponds or wells, or percolates past the root zone after being applied for irrigation. The water that percolates from imported water is not divided among all groundwater users, but rather, belongs to the importer. Only the entity that imported the water has the right to extract imported water and put it to beneficial use.

3. Salvaged groundwater. Water that would otherwise leave the Subbasin or not otherwise be available for use but for the efforts of an entity is salvaged water. Examples include captured stormwater, treated wastewater, efficiency improvements, or percolation from the release of previously stored water. Any salvaged water that percolates to the groundwater through canal leakage, is intentionally recharged by ponds or wells, or percolates past the root zone after being applied for irrigation is salvaged groundwater. Only the entity that salvaged the water has the right to extract salvaged groundwater and put it to beneficial use.

The Framework is not a water budget. It does not address change in groundwater storage and does not concern groundwater flow directions within the Subbasin. The Framework only classifies groundwater inflows into the three water rights classifications listed above. Once groundwater is assigned one of the three classifications, it retains that classification regardless of where it flows in the Subbasin.

The Framework presented in this memorandum divides the groundwater inflows between two entities: the West Turlock Subbasin GSA (WTSGSA) and the East Turlock Subbasin GSA (ETSGSA). Further refinement of the Framework within each GSA could be possible with additional data and analysis.

WATER ACCOUNTING FRAMEWORK DATA

The initial Framework is derived from detailed groundwater and land-surface budget data provided by Woodard Curran on December 8, 2020, and updated on February 24, 2021 and July 8, 2021 (D. Liebersbach, emails to D. Williams, December 8, 2020, and February 25, 2021). The groundwater and land-surface budget terms were extracted from the C2VSim-based model used by the Modesto and Turlock Subbasins for developing Groundwater Sustainability Plans (GSPs). Data from both the land surface budget and groundwater budget were used to develop the Framework.

The initial Framework was updated with data from the Draft Turlock Subbasin GSP released on July 8, 2021. Framework calculations and water supply data presented in this memorandum reflect the updated data. Water budget data from the draft GSP was only available for the historical and baseline averages as well as the year 2010. No other year-specific data were available for this update.

GROUNDWATER ACCOUNTING FRAMEWORK ASSUMPTIONS AND CALCULATIONS

Montgomery & Associates estimated the Framework components shown in the list below. These are the terms that could be extracted or calculated from the C2VSim output. The groundwater budget terms extracted from the C2VSim model do not strictly correlate with the Framework components. Some assumptions and calculations were necessary to estimate the Framework components.

Common Pool Components

- Mountain front recharge
- Subsurface flow from neighboring subbasins
- River gains and losses
- Deep percolation of precipitation on agricultural land
- Recharge from land covered with native vegetation
- Recharge in urban areas
- Deep percolation of agricultural irrigation water from private wells
- Deep percolation of applied agricultural irrigation water from TID wells
- Canal infiltration from groundwater pumped by TID

Imported Water Components

- Canal and reservoir infiltration of diverted water
- Deep percolation of agricultural irrigation water from river diversions

Salvaged Water Components

- Treated wastewater and recharged stormwater in urban settings
 - This is not currently differentiated from other urban recharge. This may be included in future versions of the Framework when more detailed model data are available

Common Pool Components

This Framework calculates common pool components for the entire Subbasin rather than for the West Turlock and East Turlock GSAs. This is in accordance with groundwater case law, which apportions common pool groundwater among all users in the subbasin.

Mountain Front Recharge and Subsurface Flow from Adjacent Subbasins

Mountain front recharge and subsurface flow from adjacent subbasins are both natural processes and are included in the common pool. Net subsurface flows (inflows minus outflows) for both

mountain front recharge and adjacent subbasins were extracted directly from C2VSim output spreadsheets.

Net Recharge or Discharge from River Gains and Losses

River losses and gains, although influenced by reservoir releases and groundwater elevations, are considered natural processes that are included in the common pool. The annual net recharge or discharge from river gains and losses was extracted directly from C2VSim output. This single value represents the net recharge and discharge from the Tuolumne, Merced, and San Joaquin rivers.

Deep Percolation of Precipitation on Agricultural, and Native Vegetation Land

Recharge of precipitation is a natural process and is included in the common pool. This Framework assumes that all recharge beneath lands covered with native vegetation is from precipitation, because there is no irrigation on these lands. Annual total recharge on lands with native vegetation and deep percolation of precipitation on agricultural lands were extracted directly from C2VSim output spreadsheets.

Deep Percolation Beneath Urban Land

This Framework assumes that all deep percolation beneath urban lands has historically been derived from either precipitation or groundwater pumped by urban water agencies. Both sources are common pool sources and therefore all deep percolation beneath urban land remains common pool water. Annual deep percolation of water beneath urban land was extracted directly from C2VSim output spreadsheets.

In the future, some deep percolation beneath urban lands may be derived from imported surface waters, and this calculation will need to be adjusted to reflect the source of the urban water percolation. Currently, there is no estimate of how much future urban percolation may be from imported surface water supplies.

Deep Percolation of Irrigation Water Applied to Agricultural Land from Private Agricultural Wells and Agricultural Agency Wells

This Framework assumes all wells extract common pool water, and therefore deep percolation of irrigation return flow from this pumping remains common pool water. This assumption likely results in an overestimate of common pool water and underestimate of imported water. Annual deep percolation of return flow from pumped groundwater was extracted directly from C2VSim output spreadsheets.

Canal Infiltration of Groundwater Pumped by Agricultural Agencies

TID pumps groundwater into its canal system for delivery to growers. This Framework assumes the TID wells extract common pool water, and therefore any of this water that infiltrates through the bottom or sides of canals remains common pool water. This assumption likely results in an overestimate of common pool water and underestimate of imported water. The C2VSim model output does not differentiate between canal infiltration of pumped groundwater and canal infiltration of diverted water. This Framework estimates the amount of canal infiltration from pumped water by multiplying the total canal infiltration below the broad-crested weir at Turlock Lake by the percentage of water in canals derived from groundwater.

Canal Infiltration of Ag. Agency Pumping =

$$\text{Canal Infiltration Below Turlock Lake} \times \frac{\text{Ag. Agency Pumping}}{(\text{Ag. Agency Pumping}) + (\text{Ag. Agency Diversions})}$$

This may overestimate the canal infiltration of TID's pumped water, and therefore overestimate the amount of water in the common pool. A significant amount of infiltration from TID's canals below Turlock Lake likely occurs before groundwater is added to the canal system. Therefore, the canal and reservoir losses are mainly diverted river water, not pumped groundwater. This approach, however, provides a reasonable first estimate that could be refined with additional data and model outputs.

Total Common Pool Supply

The average available common pool supplies for both the historical simulated period and the future baseline simulated period are shown in Table 1. Negative values represent a loss of groundwater from the Subbasin; positive values represent a gain of groundwater in the Subbasin.

- Table 1. Average Amounts of Common Pool Supplies

Component	Historical Average (acre-feet/year)	Baseline Average (acre-feet/year)
Mountain front recharge	2,200	2,100
Subsurface inflow/outflow	35,900	27,900
River gains/losses	-56,600	38,400
Percolation beneath native vegetation	11,800	6,500
Percolation of precipitation on ag. land	62,400	56,900
Percolation beneath urban lands	5,100	11,700
Percolation from private well pumping irrigating ag. land	47,500	47,200
Percolation from ag. agency well pumping irrigating ag. land	22,900	12,200
Infiltration of ag. agency pumping through canals	5,659	3,850
Totals	136,859	206,750

Imported Water Components

Once surface water is lawfully diverted from a stream or river, the water becomes the possessory right of the diverter. Any infiltration of this diverted water through canals remains the possession of the diverter. This Framework calculates imported water components separately for the West Turlock and East Turlock GSAs. This is in accordance with groundwater case law, which allocates imported water to the importer.

Canal and Reservoir Infiltration of Diverted Surface Water

This Framework assumes that all canal infiltration of diversions in the West Turlock subarea are from TID's canal system, and all canal infiltration of diversions in the East Turlock subarea are from Merced Irrigation District's (MID's) canal system.

This Framework assumes that all water in the MID canal is diverted river water, and therefore all infiltration of MID's canal water is imported water. Annual infiltration from East Turlock subarea canals was extracted directly from C2VSim output spreadsheets.

TID conveys both diverted river water and pumped groundwater through its canal system. The C2VSim model output does not differentiate between canal/reservoir infiltration of pumped groundwater and canal/reservoir infiltration of diverted water. This Framework estimates the amount of canal and reservoir infiltration from diverted water by multiplying the total canal infiltration below the broad-crested weir at Turlock Lake by the percentage of water in canals and reservoirs derived from diversions.

Canal Infiltration of Diversions =

$$\text{Canal Infiltration Below Turlock Lake} \times \frac{\text{West Turlock Diversions}}{(\text{TID Pumping}) + (\text{West Turlock Diversions})}$$

This likely underestimates the canal infiltration of TID's diversions, and therefore underestimates the amount of imported water that belongs to the WTSGSA. A significant amount of infiltration from TID's canals below Turlock Lake likely occurs before groundwater is added to the canal system. Therefore, the canal and reservoir losses are mainly diverted river water, not pumped groundwater. This approach, however, provides a reasonable first estimate that could be refined with additional data and model outputs.

Deep Percolation of Irrigation Water Applied to Agricultural Land from Diversions

Any deep percolation of irrigation return flow from this diverted water remains the possession of the diverter. Annual deep percolation of return flow from diverted water was extracted directly from C2VSim output spreadsheets for both the West Turlock and East Turlock subareas.

Total Imported Water Supplies

The average available imported water supplies for both the historical simulated period, and the future baseline simulated period are shown in [Table 2](#) for the West Turlock Subarea, and [Table 3](#) for the East Turlock Subarea.

- [Table 2. Average Amounts of Imported Water Supplies: West Turlock Subarea](#)

Component	Historical Average (acre-feet/year)	Baseline Average (acre-feet/year)
Canal and reservoir infiltration of diverted water	67,966	76,305
Percolation of diverted water applied for irrigation	129,000	116,500
Total	196,966	192,805

- [Table 3. Average Amounts of Imported Water Supplies: East Turlock Subarea](#)

Component	Historical Average (acre-feet/year)	Baseline Average (acre-feet/year)
Canal and reservoir infiltration of diverted water	4,888	5,223
Percolation of diverted water applied for irrigation	1,900	1,600
Total	6,788	6,823

Salvaged Water

The C2VSim model output did not include any data for potential salvaged water, such as irrigation with recycled water from the Modesto wastewater treatment plant, recharge of stormwater capture, or seepage from stored water flowing in a natural water course.

Unclear Model Output

The C2VSim model output provides values for water budget components that are unclear, such as agricultural runoff and return flow. The updated water budget data do not separate the terms labeled agricultural return and agricultural surface runoff; the fate of the return flow component is also unknown, and therefore, this Framework has not yet assigned this runoff and return flow to any one of the three Framework classifications. This runoff and return flow Subbasin-wide is small compared to some of the other water budget components: approximately 16,700 acre-feet per year. Therefore, although this component will have some influence on the Framework, the general results of this analysis will not be substantially changed by adding the return flow component later.

Deep percolation data presented in the updated Framework is based on data from the C2VSim model Land System Budget output. The updated Water budget data presented in the July 8, 2021 update to the Turlock Sub-Basin GSP resolved a discrepancy between the Groundwater Budget and Land System Budget used to build previous versions of the Framework. However, since the updated data only includes historical and baseline averages and the year 2010, other annual data presented in this version of the Framework are still based on the original C2VSim model outputs used in previous versions, described below.

Deep percolation data for the previous Framework versions were derived from both groundwater and land surface budgets of the C2VSim model Groundwater Budget. The percolation in the Land System Budget, however, included percolating water that remains in storage within the vadose zone and does not recharge the local aquifer. The Framework used percolation data from the Land System Budget to differentiate water ownership, however this leads to an overestimation of basin-wide recharge. From 1991-2015 the average difference between the Land System Budget Percolation Term and the Groundwater Budget Deep Percolation term was 13,287 AF.

To account for this discrepancy in the Framework, the difference between the percolation data from the Land System and Groundwater Budgets was calculated for each year. This difference is assumed to be water that remains as soil moisture, so it is subtracted from the Land System Budget data categories to calculate percolation that reaches the groundwater table. The soil moisture is subtracted from the various percolation components in proportion to each component's percentage of total percolation. An example of this calculation is shown below to calculate the Native Net Deep Percolation for the Water Accounting Framework.

LSB: Land System Budget

GWB: Groundwater Budget

Water Accounting Framework Native Net Deep Percolation =

$$LSB \text{ Native Percolation} - \left[\left(\frac{LSB \text{ Native Percolation}}{LSB \text{ Total Percolation}} \right) * (LSB \text{ Percolation} - GWB \text{ Deep Percolation}) \right]$$

COMPLETE WATER ACCOUNTING FRAMEWORK

The complete Framework combines the common pool, imported water, and salvaged water classifications. For these allocations, common pool water is apportioned between the WTSGSA and ETSGSA based on total net acreage. A per-acre allocation is first calculated for the entire Subbasin. The per-acre allocation is then multiplied by the number of acres in each GSA to arrive at a GSA specific allocation of the common pool water. The calculations showing the division of common pool supply between WTSGSA and ETSGSA is shown in [Table 4](#).

- [Table 4. Common Pool Supply Divided Between WTSGSA and ETSGSA](#)

	Historical Average (acre-feet/year)	Baseline Average (acre-feet/year)
Subbasin-Wide		
Average amount of available common pool water	136,859	206,750
Acres	348,511	348,511
Common pool allocation (acre-feet/acre)	0.393	0.593
Subareas		
West Turlock GSA (212,476 acres)	83,439	126,049
East Turlock GSA (136,035 acres)	53,420	80,701

The complete Water Accounting Framework accounting is shown in [Table 5](#). This allocation combines the common pool and imported water allocations to estimate the total amount of water each GSA is allocated under the historical and baseline conditions. [Table 5](#) also includes estimates of historical and future pumping in the ETSGSA and WTSGSA. The difference between the actual pumping and the allocation is an estimate of the overdraft or surplus that the ETSGSA and WTSGSA contribute to the Subbasin.

- Table 5. Water Accounting Framework Allocations

	Historical Average (acre-feet/year)		Baseline Average (acre-feet/year)	
	WTSGSA	ETSGSA	WTSGSA	ETSGSA
Common Pool	83,439	53,420	126,049	80,701
Imported Water	196,966	6,788	192,805	6,823
Total Allocation	280,405	60,209	318,853	87,524
Estimated Pumping	190,867	213,580	165,426	248,611
Surplus (positive) or overdraft (negative)	89,538	-153,371	153,427	-161,087

EXHIBIT B-1

ETS GSA

Turlock Subbasin Proposed Water Accounting Framework

Purpose/Objective

This framework is intended to generally define groundwater supply sources throughout the Turlock Subbasin, but does not represent an allocation between the ETS and the WTS GSAs, or to individual landowners. The accounting framework will facilitate development of solutions to ensure the Turlock subbasin is able to achieve sustainability.

Native Groundwater Supply

Native groundwater supply (native supply) is water that occurs naturally in the subbasin and is subject to extraction by overlying water right holders or appropriators. However, the Turlock Subbasin is currently in a state of overdraft, as determined by DWR, and as such, the native supply is not subject to new appropriation. Proposed accounting of the native supply yield is generally the total native supply divided by acres in the Turlock Subbasin. Native supply includes the following sources:

- Percolation from rain and precipitation
- Streambed percolation, from natural flow in channels
- Return flows from applied native groundwater
- Subsurface flows or underflows from deep aquifers, the Sierra-Nevada foothills and adjacent subbasins

Imported Water

Imported water is surface water that is brought from outside the subbasin, that is stored, conveyed, and applied to land within the subbasin. Imported surface water is owned by the importer. In most instances, the seepage percolation from imported water is also owned by the importer, but there are exceptions to this rule. The GSAs agree to complete in 2022 a proposed accounting for the following:

- Seepage and percolation from imported stored water in natural watercourses
- Seepage and percolation from imported water in conveyance facilities (canals, reservoirs, etc.)
- Percolation from application of imported water on irrigated lands.

Salvaged Water

Salvaged water is water that is saved from waste and reclaimed by conservation or investment. Proposed accounting: Unless otherwise agreed to, salvaged water and seepage/percolation from salvaged water is owned by salvaging party. Supply of salvaged water includes:

- Water recaptured from stormwater return flows
- Water that is recharged from treated wastewater discharge
- Conserved water from infrastructure improvements

Measurement

Any imported or salvaged water reclaimed will be measured using acceptable industry standards/methods of the then-current time and in a manner consistent with GSP requirements.³

Living Document

This Water Accounting Framework is a living document that shall be revisited by the GSAs at least every five years as part of the GSP update.

³ Water Code § 10726.

EXHIBIT B-2

EAST TURLOCK SUBBASIN GSA
TURLOCK SUBBASIN WATER ALLOCATION FRAMEWORK
Legal Issues November 10, 2021

BACKGROUND

Part of the problem is that the September 13, 2021 Technical Memorandum prepared by Derrick Williams and Louis Wersan inaccurately characterizes water that leaks from project facilities or deep percolation of project irrigation water as Imported Water. Once recharged, such water meets the definition of Salvaged Water, as described below.

IMPORTED WATER

Imported or foreign water are used interchangeably in California law:

If foreign waters are brought by artificial means into a watershed from another watershed, the person or organization constructing the diversion works and importing the water owns the right to use the water. This is true even when a natural watercourse is used as a conduit for foreign waters.⁴ The importer of foreign waters has full rights to their use.⁵

Furthermore, as pointed out in *Haun v. DeVours*,⁶ an importer of water can sell or transfer foreign waters before their abandonment. In fact, the importer can dispose of such return foreign waters by contract prior to abandonment.⁷

Native water is water which, without human intervention, historically provided replenishment to any given source. Accordingly, rainfall, stream channel infiltration, and tributary runoff all comprise the natural or native water supply.

Rights to imported or foreign water are those rights which attach to water that does not originate within a given watershed or groundwater basin.⁸

There is a tendency to refer to native water held in storage as “developed water” even though it may originate from within the watershed and is not technically imported. This is because the stored flow may augment the quantity of water that would otherwise be available from natural conditions in a different season or from year to year.

For the developed water supply to be classified as “foreign,” it must originate from outside the boundaries of the watershed into which the water supply is imported for its ultimate use. The water supply is considered to be foreign, because it does not naturally originate within the watershed of its use.⁹

⁴ See Wat. Code §7075

⁵ *City of Los Angeles v. City of Glendale* (1943) 23 Cal. 2d 68, 76-78; *Stevens v. Oakdale Irrig. District* (1939) 13 Cal. 2d 343, 348-353.

⁶ *Haun v. DeVours* (1950) 97 Cal. App 2d 841, 844.

⁷ *Stevinson Water Dist. v. Roduner* (1950) 36 Cal. 2d 264, 267-671; Rogers & Nichols *Water for California* Volume I, Chapter XI §263.

⁸ *City of Los Angeles v. City of San Fernando* (1975) 14 Cal.3d 199, 255-256; Slater, California Water Law and Policy, 7-3.

⁹ Slater, California Water Law and Policy, 7-7 – 7-8.

SALVAGED WATER

Salvaged water may be native to the extent it would naturally flow within the stream to which it is released, but it is “foreign in time.”¹⁰ As such, it may include water that would have occurred in the aquifer under natural, pre-development conditions. This has important implications that limit a developer’s ability to lay claim to salvaged water recharged from its water importation facilities.

Salvaged waters are waters that are saved from loss in a stream or water source.¹¹ In general, the person who undertakes artificial works obtains the benefit of the waters thus developed or salvaged, as long as he does not infringe prior rights of others.

Thus, developers are entitled to waters that were not part of the natural flow. As to such waters, the court in *Vineland Irrigation Dist. v. Azusa Irrigating Co.*¹² pointed out that one is not entitled to developed waters that would naturally have gone into the watercourse or where their development injures the rights of others.¹³

The determination of whether one may enjoy the use of salvaged or conserved water originating from native supplies still depends on whether injury will result to existing lawful users.¹⁴

Water comprising a portion of the natural flow of a stream or comprising a portion of the natural, pre-development safe yield of a local groundwater basin, but which is salvaged through conservation efforts, is available to use by the salvager provided that no injury will result to other lawful users.¹⁵

SPECIFIC LEGAL ISSUES

1. SALVAGED WATER CAN ONLY BE RECOVERED IF IT DOES NOT INJURE ANOTHER USER OF WATER.

As is the case with return flows of imported water, a priority right to salvaged water *may* belong to the party salvaging the water and making it available to use, subject to certain limitations.

The general rule governing rights to the use of salvaged water is that the person who by his own efforts makes waters available that would have been part of the pre-development native yield, is entitled to use them, provided that in doing so he is not infringing the prior rights of other legal users.¹⁶ The essential feature of the right to the use of salvaged waters is that its

¹⁰ See Attwater and Markle, Overview of California Water Rights and Water Quality Law (1988) 19 Pacific L.J. 957, 966.

¹¹ *Vernon Irrig. Co. v. Los Angeles* (1895) 106 Cal. 237, 253.

¹² (1899) 126 Cal 486.

¹³ Rogers & Nichols *Water for California* Volume I, Chapter XII §265.

¹⁴ Slater, California Water Law and Policy, 7-10.

¹⁵ *Scott v. Fruit Growers Supply Co.* (1927) 202 Cal. 47, 51-55; Slater, California Water Law and Policy, 7-1.

¹⁶ Hutchins, *The California Law of Water Rights*, at p. 383.

exercise does not cause injury to any pre-existing right.¹⁷ If return flows available to lawful users are diminished by salvage operations, the actions of the salvager may be enjoined.¹⁸

Historically, before the dam(s) were constructed, and the Tuolumne River flowed freely, the flow was absorbed in the valley stretch of the stream as groundwater recharge. That pre-development groundwater recharge from uncontrolled winter and spring flows was decreased when the dam(s) were constructed, but overlying pumpers are entitled to pump the originally available recharge prior to development, and a salvager may not lay claim to such water. To the extent that such water originates in the Tuolumne River under natural conditions, the groundwater users are entitled to protection from depletion of the supply as the result of project operation. No challenge was brought to construction of the dam(s) on these grounds. However, canals that convey the surface water and the applied water from the Tuolumne River also recharge the groundwater basin, and overlying users within the basin have been using that water for decades. **If TID now makes a claim to that recharged water, these overlying users of pre-existing native groundwater would be injured.**

- Therefore, TID can make a claim to its salvaged water only to the extent that its operations create recharge over and above natural recharge that would have occurred without its storage project. Further hydrologic studies, including an analysis of pre-development conditions and simulation of pre-development versus post development recharge would have to take place to document this number. Alternative approaches may be agreed to in recognition of the fact that all such modeling studies are limited by the availability of data and other factors, and are inherently uncertain.
- Further, TID cannot make a claim at this late date on recapturing salvaged water from the groundwater basin without injury to existing groundwater users. Historically, TID has relinquished dominion and control of its surface water after it is used by landowners within its jurisdiction or lost to leakage from its facilities. Consequently, those supplies have become available for appropriation by overlying pumpers. TID cannot now attempt to recapture those waters without injury to the historic overlying users, who have a right to their equivalent share of the pre-development native yield.

2. TID HAS NOT OBTAINED A PERMIT TO RECOVER THE SALVAGED WATER IT CLAIMS.

The State Water Resources Control Board takes the position that under existing California law a salvager must obtain a permit before appropriation of salvaged water; in others words, TID cannot store and recapture water in the underground (i.e., lay an ownership claim to it) without supplementing its existing water rights with an Underground Storage Supplement. In addition, it is unclear under California law what priority a salvager receives after salvage and

¹⁷ *Id.* at p. 385.

¹⁸ Slater, *California Water Law and Policy*, at p. 7-15, citing *Scott v. Fruit Growers Supply Co.* (1927) 202 Cal. 47, 51-55.

diversion. Under existing administrative practice, the State Water Resources Control Board grants salvagers permit rights subject to claims by senior users.¹⁹

3. IN THE ALTERNATIVE, GROUNDWATER PUMPERS MAY HAVE ACQUIRED A PRESCRIPTIVE RIGHT TO THE WATER.

If no prescriptive rights have attached to imported water used to recharge a basin, the imported water generally belongs solely to the importer, who may extract it (even if the basin is in overdraft) and use or export it without liability to other basin users. However, there is an open question as to whether prescription of imported water from the subbasin has occurred.²⁰

4. THERE SHOULD BE A LEAVE BEHIND OF SALVAGED WATER FOR PROTECTION OF THE GROUNDWATER BASIN.

In order to insure that a groundwater banking project protects the health of the basin, a leave-behind requirement from 10 to 30 percent is ordinarily imposed. “There are well defined rules regarding leave behinds to address migration of water necessary to keep the subbasin whole.”²¹ In the case of Salvaged Water, a leave behind is necessary so as not to injure the rights of overlying pumpers to extract their correlative share of the pre-project native yield. This would further reduce the amount of groundwater recharge from project facilities that is available for salvage.

CONCERNS WITH TURLOCK SUBBASIN PROPOSED WATER ACCOUNTING FRAMEWORK AND TECHNICAL MEMORANDUM (“Framework”)

The Framework defines Native groundwater supply as “water that occurs naturally in the subbasin and is subject to extraction by overlying water right holders of appropriators.” Native supply is stated to include (among other things):

- Streambed percolation, from natural flow in channels
- Return flows from applied native groundwater

It is important to remember that, historically, “natural flow in channels” included all flows now impounded by the New Don Pedro Project. Historically, high winter and spring flows regularly topped the Tuolumne River’s banks and supplied extensive recharge water to the Subbasin. This historical recharge volume should be considered part of the native groundwater supply. As noted in the water accounting framework concepts: “All overlying landowners in the Subbasin have a correlative right to extract and use common pool groundwater, and put it to beneficial use.”

Imported Water is defined as “surface water that is brought from outside the subbasin.” This is stated to include:

¹⁹ *Governor’s Commission to Review California Water Rights Law*, at p. 61 (December, 1978).

²⁰ Environmental Defense Fund and New Current Water and Land, LLC, *Groundwater Pumping Allocations under California’s Sustainable Groundwater Management Act* (July 2018) at p. 3.

²¹ *Id.*

- Seepage and percolation from imported stored water in natural watercourses;
- Seepage and percolation from imported water in conveyance facilities (canals, reservoirs, etc.); and
- Percolation from application of imported water on irrigated lands.

These definitions are legally correct; however, in the technical memorandum, canal and reservoir infiltration of diverted Tuolumne River water and deep percolation of agricultural irrigation water from Tuolumne River diversions are incorrectly classified only as imported water components and allocated solely and exclusively to TID. Clearly, use of Tuolumne River water does not meet the stated definition of Imported Water that is “brought from outside the subbasin.” The Framework states that all water in canals is diverted river water, and therefore all infiltration of canal water is imported water – a questionable conclusion. In fact, since project water originates from within the Tuolumne River basin and is diverted within the subbasin, seepage and percolation of this water is not imported water, but abandoned salvage water, and subject to appropriation only to the extent it does not harm an overlying pumpers right to extract their correlative share of the pre-development native yield.

CONCLUSIONS AND NEXT STEPS

1. WTSGSA continues to characterize water from their projects as “imported water.” There is no imported water in the basin; all of the water WTSGSA is referring to as imported water is legally categorized as salvaged water.
2. The WTSGSA Framework reaches the following conclusions regarding baseline averages:

	WTSGSA	ETSGSA
Common Pool	126,486	80,981
Imported Water	192,029	6,879
Total Allocation	318,515	87,859
Estimated Pumping	165,389	248,611
Surplus (positive) or overdraft (negative)	153,137	-160,751

Of the 192,029 acre feet of incorrectly labelled “imported water,” 76,305 acre feet is from canal and reservoir infiltration of Tuolumne River water diverted into canals and reservoirs, and 116,500 acre feet is from percolation of Tuolumne River water applied for irrigation.

3. Under the law, the ETSGSA has a strong legal claim to a significant portion of the native Tuolumne River water.
4. In order to make an informed argument as to which portion of the salvaged water ETSGSA is entitled to, additional information is needed to determine:

- What portion of the claimed water is attributable to historical natural flow in or flood events from, the river;
- What portion of the claimed seepage and percolation should be left behind for the basin; and
- What portion of the claimed seepage and percolation has been historically abandoned and/or used within the groundwater basin?

Kern Subbasin Monitoring Network & Protocols

Monitoring Network shall be developed to be capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends in groundwater and related surface conditions, and yield representative information about groundwater conditions as necessary to evaluate Plan implementation. The monitoring network objectives shall be implemented to accomplish the following:

- 1) Demonstrate progress toward achieving measurable objectives described in the Plan
- 2) Monitor impacts to the beneficial uses and users of groundwater
- 3) Monitor changes in groundwater conditions relative to measurable objectives and minimum thresholds
- 4) Quantify annual changes in water budget components

Monitoring Network shall be designed to ensure adequate coverage of sustainability indicators. If management areas are established, the quantity and density of monitoring sites in those areas shall be sufficient to evaluate conditions of the basin setting and sustainable management criteria specific to that area. To the extent possible, the use of existing monitoring data and infrastructure should be utilized to meet the needs for characterization, historical record documentation and continued monitoring requirements.

Monitoring Network shall describe the scientific rationale for the monitoring site selection and for each sustainability indicator, the quantitative values for the minimum threshold, measurable objective and interim milestones shall be indicated at each monitoring site.

Monitoring Protocols developed shall include a description of technical standards, data collection methods, and other procedures or protocols for monitoring sites or other data collection facilities to ensure that the monitoring network utilizes comparable data and methodologies. There is no definitive rule for the density of groundwater monitoring points needed in a basin. The table below provides guidance for the density of monitoring wells per hundred square miles. One important item to consider is how the definitions of undesirable results will be impacted to provide the necessary information to indicate compliance.

Reference	Monitoring Well Density (wells per 100 miles ²)
Heath (1976)	0.2 - 10
Sophocleous (1983)	6.3
Basins pumping more than 10,000 acre-feet/year per 100 miles	4.0
Basins pumping between 1,000 and 10,000 acre-feet/year per 100 miles	2.0
Basins pumping between 250 and 1,000 acre-feet/year per 100 miles	1.0
Basins pumping between 100 and 250 acre-feet/year per 100 miles	0.7

Measuring Groundwater Levels

Given the significant variations in groundwater elevations throughout the Kern subbasin which are due to variations in hydrologic conditions, no single groundwater elevation surface should be considered a representation of groundwater flow directions in this basin.

Requirements for well selections:

- A long-term access agreement that includes year-round site access to allow for increased monitoring frequency
- A unique identifier that includes a general written description of the site location, date established, access instructions and point of contact, type of information to be collected, latitude, longitude and elevation
- Monitoring location should also track all modifications to the site in a modification log

The following data collection protocols are to be followed within the Kern subbasin:

- Groundwater level data shall be sufficient to produce seasonal maps of potentiometric surfaces or water table surfaces throughout the basin that clearly identify changes in groundwater flow direction and gradient.
- Use the Well Data form provided (see attached)
- Groundwater level data shall be collected from each principal aquifer in the basin
- Collection of data between the approved time frames only
 - January 15th to March 30th
 - September 15th to November 15th
- If attempts have been made and a measurement cannot be collected from a representative monitoring well during the approved timeframe, one of the following is to occur:
 - A measurement from a nearby well with similar water levels trends can be used as a proxy.
 - If no substitute well is available, the static water level can be estimated based on trending from the previous four bi-annual measurements; estimates are used for purposes of the established triggers for each Management Area exceedance only.
 - If the water level is a measurement from a nearby well or estimated, the entry must be flagged with a DWR No Measurement Code using the DWR pull-down menu options and described in the Water Level Measurements Comments field as “Nearby proxy well” or “Estimated groundwater level based on trend of previous four bi-annual measurements” as applicable.
- If an existing representative monitoring well cannot be measured during one two bi-annual timeframes, a plan to replace or repair the well in the monitoring network shall be made prior to the subsequent monitoring period or annual report, whichever occurs first.
- A weighted water level meter or other CASGEM approved measuring device will be used to measure the depth to groundwater
- Depth to groundwater must be measured relative to an established Reference Point on the well casing. If no mark or reference point is apparent, the person performing the measurement should measure the depth to groundwater from the north side of the top of the well casing
- The elevation of the Reference Point of the well must be referenced to the North American Vertical Datum of 1988. The accuracy of the reference point should be consistent with CASGEM established guidelines.

- Each well's Reference Point will be cataloged to ensure identical procedures are followed for subsequent measurements.
- The data collector should remove the appropriate cap, lid or plug that covers the monitoring access point listening for pressure release. If a release is observed, the measurement should follow a period of time to allow the water level to equilibrate.
- Depth to groundwater must be measured to the accuracy associated with the approved monitoring method or device.
- The water level meter shall be decontaminated after measuring each well.
- The data collector shall calculate the groundwater elevation as:
 - $GWE = RPE - DTW$
 - GWE = Groundwater Elevation
 - RPE = Reference Point Elevation
 - DTW = Depth to Water
- The data collector must ensure that all measurements are consistent units of feet, tenths of feet or hundredths of feet. Measurements and Reference Point Elevations should not be recorded in feet and inches.

Groundwater Quality

Groundwater quality monitoring networks shall be designed to demonstrate that the degraded water quality sustainability indicator is being observed for the purpose of meeting the definition of the sustainability goal.

Requirements for well selections:

- A long-term access agreement that includes year-round site access to allow for increased monitoring frequency
- A unique identifier that includes a general written description of the site location, date established, access instructions and point of contact, type of information to be collected, latitude, longitude and elevation
- Monitoring location should also track all modifications to the site in a modification log
- The use of existing water quality data within the basin should be done to the greatest extent possible
- Monitoring network should consist largely as a supplemental monitoring locations where known groundwater contamination plumes are under existing regulatory management

The following data collection protocols are to be followed within the Kern subbasin:

- Monitor groundwater quality data from each principal aquifer in the basin
- Data should be sufficient for mapping movement of degraded water quality
- Data should be sufficient to assess groundwater quality impacts to beneficial uses and users
- Data should be sufficient to evaluate whether management activities are contributing to water quality degradation.
- All analyses should be performed by a laboratory certified under the State Environmental Laboratory Accreditation Program

- Samples will be collected according to the standards listed in the Standard Methods for the Examination of Water and Wastewater, USGS National Field Manual for the Collection of Water Quality Data
- Prior to sampling, the sampler must contact the laboratory to schedule laboratory time, obtain appropriate sampler containers, and clarify any sample holding times or sample preservation requirements
- Each well used for groundwater quality monitoring must have a unique identifier. This identifier must appear on the well housing or the well casing to avoid confusion
- In the case of wells with dedicated pumps, samples should be collected at or near the wellhead. Samples are not to be taken/collected from storage tanks, at the end of long pipe runs or after any water treatment infrastructure
- Samples will be taken/collected only after the appropriate volume of water has been purged from the casing and field parameters have stabilized
- Sampler will clean the sampling port and/or sampling equipment. The sampling port and/or sampling equipment must be free of any contaminants
- Groundwater elevation in the well should be measured following the protocols described in the groundwater level measuring protocols
- Field parameters of pH, electrical conductivity and temperature should be collected for each sample. Lab pH analysis are typically unachievable due to short hold times.
- All field instruments should be calibrated daily and evaluated for drift throughout the day
- Sample containers should be labeled prior to sample collection. The sample label must include:
 - Sample ID (well ID)
 - Sample date and time
 - Sample personnel
 - Sample location
 - Preservative used
 - Analytes and analytical method
- Samples shall be collected under laminar flow conditions. This may require reducing pumping rates prior to sample collection
- Samples requiring preservation must be preserved as soon as practically possible
- Samples to be analyzed for metals should be field-filtered prior to preservation. Do not collect an unfiltered sample in a preserved container
- Samples will be chilled and maintained at 4 C to prevent degradation of the sample
- Samples will be shipped under a chain of custody documentation to the appropriate laboratory promptly to avoid violating holding time restrictions
- Custody Seal will be used by the field technician if a third-party transportation service is used
- A Field Sampling Log will include:
 - Sampler's identification
 - Well identification
 - Climatic conditions
 - Depth to water prior to purging
 - Type of purging and sampling device
 - Purging rate and volume
 - Relative well yield volume
 - Field parameter measurements (pH, temperature, EC, DO)
 - Type and number of samples collected
 - Date and time collected

Change in Groundwater Storage

Since the groundwater storage is not a directly measurable condition, it does rely heavily on the collection of accurate groundwater levels. The changes in groundwater levels reflect changes in storage and can thus be estimated with assumptions of thickness of units, porosity, and connectivity. These observations will be essential for use in calculating the water budget.

A water budget is a foundational tool used to compile water flows (supplies) and outflows (demands). It is an accounting of the total groundwater and surface water entering and leaving a basin or user-defined area. The difference between flows and outflows is a change in the amount of water stored.

Coordination of Water Budget Data to comply with groundwater storage:

- Surface water supply
- Total water use
- Water budget
- Sustainable yield

The change in the annual volume of groundwater storage between seasonal high conditions shall be quantified in the water budget.

Land Subsidence

Land subsidence protocols are to be set up to identify the rate and extent of land subsidence, which maybe measured by extensometers, surveying, remote sensing technology, or other appropriate method. To the extent possible, the use of existing data should be utilized.

Prior to development of a specific subsidence monitoring network a screening level analysis should be conducted. The screening of subsidence occurrence should include:

- Review of the HCM and understanding of grain-size distributions and potential for subsidence to occur
- Review of any known regional or correlative geologic conditions where subsidence has been observed.
- Review of historic range of groundwater levels in the principal aquifers of the basin
- Review of historic records of infrastructure impacts, including but not limited to damage to pipelines, canals, roadways or bridges or well collapse potentially associated with land surface elevation changes
- Review of remote sending results such as InSAR or other land surface monitoring data
- Review of existing CGPS surveys

This basin has decided to work together on this protocol with a consultant to obtain the required data.

See the attached for the coordinated effort by all the GSAs in the Kern Subbasin pertaining to Land Subsidence.

KGA Action Plan Related to Exceedance of Minimum Thresholds for Chronic Lowering of Groundwater

The Groundwater Sustainability Plans (GSPs) in the Kern County Subbasin (Subbasin) define sustainability under the Sustainable Groundwater Management Act (SGMA) as the avoidance of undesirable results. Undesirable results for the chronic lowering of groundwater occur when a certain number of minimum thresholds are exceeded at Representative Monitoring Well (RMW) sites. While a single or isolated exceedance of a minimum threshold will not, by itself, cause an undesirable result, such an exceedance may be indicative of future or trending exceedances which could result in undesirable results for chronic lowering of groundwater.

The Kern Groundwater Authority (KGA) GSP defines undesirable results within each Management Area Plan (MAP) developed by respective KGA members. Each KGA member is responsible for monitoring groundwater conditions, complying with GSP requirements and coordinating with other agencies and entities (cities, small systems, etc.) within their respective MAPs. However, the KGA coordinates with its member agencies to facilitate SGMA compliance. As part of this coordination, the KGA works with other groundwater sustainability agencies (GSAs) in the Subbasin to compile an annual report and submit that report to the Department of Water Resources (DWR) each year on April 1. Information that reflects compliance with or exceedance of minimum thresholds is included in each annual report, if present.

It is important to monitor compliance with minimum thresholds over time to understand the Subbasin's likelihood of achieving sustainability. The following four-step action plan is proposed to address a minimum threshold exceedance for the chronic lowering of groundwater levels at a single representative monitoring well (RMW), including coordination between KGA member districts.

1. Identify Exceedance and Investigate the RMW Area:

After each annual report, the KGA managers team will review data and identify any exceedances of minimum thresholds for each RMW and will compile a summary of minimum threshold exceedances, as noted in the annual report, for review by the KGA Board.

A. Various conditions surrounding the RMW will be considered. For example: Are water levels declining in nearby wells? If so, how large of an area is affected? Has a new well been installed nearby or localized groundwater extraction increased? Is the problem related to area-wide drought conditions? Has local demand increased? If increased demand is responsible for the exceedance, then is a sustainable water budget needed and/or being adhered to in the area?

2. Evaluate Outside MAP Contributing Factors:

Provided the aquifer connectivity between MAP areas and groundwater impacts crossing MAP boundaries, declining groundwater levels in an area may be the result of operations in an adjacent MAP and/or an adjacent GSA. In this situation, the KGA member may not be able to resolve any exceedances unilaterally. KGA members in adjacent MAPs agree to coordinate. Updates or proposals shall be reported back to the KGA.

3. Consider Developing Management Actions and/or Projects:

Any KGA member with a minimum threshold exceedance may develop or modify existing management actions or projects to mitigate a minimum threshold exceedance and avoid undesirable results ("mitigation plan"). Any mitigation plan should be submitted to the KGA managers team for review. The mitigation plan along with any KGA managers team comments shall be submitted to the KGA Board. To the extent the mitigation

plan includes any new management actions, any proposed modifications to an existing management action or new projects, the KGA will consider how those changes will be incorporated into any update to the KGA GSP.

4. Consider Enforcement Plan:

In the event of a management area exceedance the KGA member or contributing member(s) will consider developing and/or implementing policies and programs intended to eliminate or mitigate the exceedance (enforcement plan). The enforcement plan(s) must be submitted to the KGA and the KGA will have 90 days to determine whether the enforcement plan is sufficient to demonstrate the avoidance of undesirable results. If no enforcement plan is submitted to KGA, the KGA Board may recommend policies or programs to the member(s) that could, in its discretion, take to remedy the existence of a management area exceedance(s) and to avoid undesirable results.

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