**Vina Groundwater Sustainability Agency**
308 Nelson Avenue,
Oroville, CA 95965
(530) 552-3592
VinaGSA@gmail.com

**Rock Creek Reclamation District**
P.O Box 1679
Oroville, CA 95965-1679
(530) 533-2855



# Vina Groundwater Sustainability Agency (GSA) and Rock Creek Reclamation District Groundwater Sustainability Agency (GSA) Joint Board Meeting Agenda

Date: Wednesday, June 10, 2026
Time: 3:30 PM
Location: Chico City Council Chamber, 421 Main Street, Chico CA

Or Join the Vina GSA Board Meeting via Zoom
Meeting ID: 678 207 7386

***Live streaming and recording of Vina GSA Board meetings are provided for viewing purposes only. Please note that in-person attendance is required for public participation. Streaming and recording services are subject to discontinuance if technical or other issues prevent effective meeting proceedings.***

## PUBLIC COMMENT INFORMATION:

Public comment will be accepted in-person at the meeting or may be submitted by email prior to the meeting to VINAGSAPUBLICCOMMENTS@CHICOCA.GOV. If you would like to address the Board at this meeting, you are requested to complete a speaker card and hand it to the Board Clerk prior to the conclusion of the staff presentation for that item. A time limit of three (3) minutes per speaker on all items and an overall time limit of thirty minutes for agenda items has been established. If more than 10 speaker cards are submitted for agenda items, the time limitation may be reduced to one and a half minutes per speaker.

When submitting public comments via email, please indicate the item number your comment corresponds to in the subject line. Comments submitted will be sent to the full GSA Board members electronically prior to the start of the meeting. Email comments will be acknowledged and read into the record by name only during the public comment period for each agenda item. Emailed comments received prior to the end of the meeting will be made part of the written record but not acknowledged at the meeting.

# VINA GSA AND ROCK CREEK RECLAMATION DISTRICT GSA
# JOINT BOARD MEETING AGENDA

June 10, 2026

## 1. VINA GROUNDWATER SUSTAINABILITY AGENCY (GSA) BOARD MEETING

**1.1.** Call To Order

**1.2.** Roll Call

## 2. ROCK CREEK RECLAMATION DISTRICT (RCRD) GSA BOARD MEETING

**2.1.** Call to Order

**2.2.** Roll Call

## 3. BUSINESS FROM THE FLOOR

Members of the public may address the Vina GSA and RCRD GSA Boards at this time on any matter not already listed on the agenda; comments are limited to three minutes. The Boards cannot take any action at this meeting on requests made under this section of the agenda.

## 4. JOINT VINA GSA/RCRD GSA BOARD MEETING AGENDA

### 4.1. *Recharge Feasibility Analysis Project Recap

The Boards will receive a presentation on the main outcomes from the Recharge Feasibility Analysis, a SGM grant funded effort to identify opportunities to enhance recharge in the Vina subbasin. When available, the study's reports will be available on the project webpage. ***(Report – Christina Buck, Assistant Director, Butte County Water & Resources Conservation and Joe Turner, Geosyntec Consultants)***

**Requested Action**: Accept as information.

### 4.2. *Update on the Status and Anticipated Timeline for the Vina Groundwater Sustainability Plan (GSP) Periodic Evaluation

Staff will provide an update on the anticipated topics and timelines over the next several months related to the Periodic Evaluation as well as a review of related webpages and interactive maps available to support the discussions. **(Verbal Report – Christina Buck, Asst. Director Butte County Water and Resource Conservation)**

**Requested Action**: Accept as information.

### 4.3. *Consideration of Groundwater Sustainability Plan Amendments to the Land Subsidence Sustainable Management Criteria (SMC) in response to the Department of Water Resources' Recommended Corrective Actions

Staff will present an overview of proposed amendments to the land subsidence monitoring network and Sustainable Management Criteria (SMC) in the Vina Groundwater Sustainability Plan (GSP) in response to the Department of Water Resources' (DWR) Recommended Corrective Actions. The Stakeholder Advisory Committee (SHAC) reviewed the proposed amendments at its May 27, 2026, meeting and provided recommendations to the Vina GSA Board. ***(Report – Christina Buck, Assistant Director, Butte County Water & Resources Conservation.)***

**Potential Action**: Approve changes to the Land Subsidence Sustainable Management Criteria as plan amendments and document the response to DWR's Recommended Corrective Action in the Periodic Evaluation consistent with the approach to amend the GSP.

**4.4. *Consideration of the Approach to Addressing Interconnected Surface Water (ISW) in the Periodic Evaluation in response to the Department of Water Resources' Recommended Corrective Actions**

Staff will present an overview of the proposed approach to addressing interconnected surface waters in the Vina Groundwater Sustainability Plan (GSP) Periodic Evaluation in response to the Department of Water Resources' (DWR) Recommended Corrective Actions. The Stakeholder Advisory Committee (SHAC) reviewed the approach at its May 27, 2026 meeting and provided a recommendation to the Vina GSA Board. ***(Report – Christina Buck, Assistant Director, Butte County Water & Resources Conservation.)***

**Potential Action**: Approve an approach to addressing DWR's Recommended Corrective Actions regarding ISW in the Periodic Evaluation

**5. ADJOURNMENT:**

The Vina GSA/RCRD GSA Joint Board meeting will adjourn to the Vina GSA Meeting after tonight's Vina/RCRD GSA Joint Board Meeting.

*****RECONVENE TO VINA GSA BOARD MEETING*****

**1. Vina Groundwater Sustainability Agency (GSA) Board Meeting**

**1.1** Call To Order

**1.2** Roll Call

**2. CONSENT AGENDA:**

**2.1 *Approval of the 5-13-26 Vina GSA Board Meeting Minutes.**

**Requested Action:** Approve the 5-13-26 Vina GSA Board meetings minutes.

**2.2 *Consideration of Resolution No. 2026-01 Approving the Fiscal Year 2026-27 Annual Operations Budget.**

The Board reviewed two draft budget options at the May Board meeting and directed staff to move forward with the budget that includes funding for development of a Well Mitigation Plan. The Board will now consider adopting the Vina Groundwater Sustainability Agency (GSA) Fiscal Year 2026-27 Annual Operations Budget. The proposed budget totals $986,150 in operational expenses and will be funded through collection of SGMA regulatory fees. ***(Report – Dillon McGregor, GSA Program Manager)***

**Requested Action:** Adopt Resolution No. 2026-01 Approving the Fiscal Year 2026-27 Annual Operations Budget and authorize the Chair to sign.

**2.3 *Consideration of Resolution No. 2026-02 Setting Regulatory Sustainable Groundwater Management Act Fees for Fiscal Year 2026-27**

The Board will consider adopting the Vina Groundwater Sustainability Agency (GSA) SGMA regulatory fees for Fiscal Year 2026-27. The proposed fees have been calculated in accordance with the fee methodology established in Resolution No. 2025-02. Fee amounts are set forth in Attachment A. ***(Report – Dillon McGregor, GSA Program Manager)***

**Requested Action:** Adopt Resolution No. 2026-02 Setting Regulatory Sustainable Groundwater Management Act Fees for Fiscal Year 2026-27 and authorize the Chair to sign.

**2.4 *Consideration of Resolution No. 2026-03 Certifying to the County of Butte the Validity of the Legal Process Used to Place Direct Assessments (Special Assessments) on the Secured Tax Roll**

The Board will consider adopting a resolution certifying to the County of Butte that the Vina Groundwater Sustainability Agency (GSA) has completed all legal requirements necessary to place SGMA regulatory fees on the Butte County secured property tax roll for collection. ***(Report – Dillon McGregor, GSA Program Manager)***

**Requested Action:** Adopt Resolution No. 2026-03 Certifying to the County of Butte the Validity of the Legal Process Used to Place Direct Assessments (Special Assessments) on the Secured Tax Roll and authorize the Chair to sign.

**2.5 *Consideration of Approval of Sustainable Groundwater Management Grant Agreement Amendment No. 3**

The Board will consider approval of Amendment No. 3 to the Sustainable Groundwater Management (SGM) Grant Agreement between the Vina Groundwater Sustainability Agency (GSA) and the California Department of Water Resources (DWR). The proposed amendment reallocates $88,944.05 in unspent grant funds from completed project components to remaining active components to support completion of grant-funded activities. The amendment does not increase the total grant award and is intended to ensure full utilization locally of available grant funds. ***(Report – Becky Fairbanks, SGM Grant Projects Manager)***

**Requested Action:** Approve Amendment No. 3 to Sustainable Groundwater Management Grant Agreement No. 4600015664 between the Vina Groundwater Sustainability Agency and the California Department of Water Resources and authorize the Director of Water and Resource Conservation to sign all documents necessary to execute the amendment on behalf of the GSA.

## 3. REGULAR AGENDA

**3.1 Formation of an Ad Hoc Nomination Committee for Non-Agricultural Domestic Well User Stakeholder Alternate Director Vacancy**

The Non-Agricultural Domestic Well User Stakeholder Alternate Director has submitted a letter of resignation from the Vina Groundwater Sustainability Agency Board of Directors, effective May 14, 2026. Per Section 7.3.2(c) of the Joint Powers Agreement, the Board must form an ad hoc nomination committee to provide a recommendation for appointment of a new Alternate Director. The committee shall consist of representatives from the Member Agencies, excluding Butte County, and shall carry out an open and transparent public process to recommend a qualified candidate for appointment by the Butte County Board of Supervisors. ***(Report – Dillon McGregor, GSA Program Manager)***

**REQUESTED ACTION:** Form an ad hoc nomination committee composed of the Member Agency Directors from the City of Chico and the Durham Irrigation District to conduct a public nomination process and provide a recommendation to the Butte County Board of Supervisors for appointment of a new Non-Agricultural Domestic Well User Stakeholder Alternate Director.

## 4. ITEMS REMOVED FROM CONSENT – IF ANY

## 5. COMMUNICATIONS AND REPORTS

**5.1** Program Manager Report **(Information Only - Dillon McGregor, GSA Program Manager)**

**5.2** *Butte County Public Health Department Quarterly Well Permit Summary. **(Information Only)**

**6. BOARD MEMBER REQUESTS FOR FUTURE ITEMS:**

Board Members may propose topics, projects, or issues for inclusion on a future agenda. Proposals will be noted for consideration by the Chair and Program Manager, subject to feasibility and alignment with the Agency's priorities. No discussion or action will be taken on proposed items at this meeting.

**7. ADJOURNMENT:**

The Vina GSA Board meeting will adjourn to Closed Session after tonight's Vina GSA Board Meeting.

**********

**1. CLOSED SESSION PUBLIC COMMENTS OR BOARD DISQUALIFICATIONS:**

Members of the public may address the Board at this time on the closed session item only; comments are limited to three (3) minutes, or time limit as determined by the Chair.

**2. ADJOURN TO CLOSED SESSION:**

**3. CLOSED SESSION**

**3.1 Call to Order**

**4. CLOSED SESSION AGENDA**

**4.1 PURSUANT TO GOVERNMENT CODE SECTION 54956.9(d)(1) - CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION – Butte County Superior Court #23CV02789 - Ronald R Titus, as Trustee of the 2005 Titus Trust et al vs Vina Groundwater Sustainability Agency**

**4.2 PURSUANT TO GOVERNMENT CODE SECTION 54956.9(d)(1) - CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION – Butte County Superior Court #22CV00321 - AquAlliance et al vs Vina Groundwater Sustainability Agency et al.**

**4.3 PURSUANT TO GOVERNMENT CODE SECTION 54956.9(d)(1) - CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION – Butte County Superior Court #24CV04275 - AquAlliance et al vs Vina Groundwater Sustainability Agency et al.**

**5. CLOSED SESSION ANNOUNCEMENT:**

Report on any action taken during the closed session.

**6. ADJOURNMENT:**

The Vina GSA Closed Session will adjourn to a Vina GSA Regular Board Meeting on July 8, 2026, at 3:30 p.m. at the Chico City Council Chamber Building at 421 Main Street, Chico, CA and online via Zoom for viewing only.

Geosyntec consultants

engineers | scientists | innovators

Sustainable Groundwater Management (SGM) Grant Program

# Groundwater Recharge Feasibility Study

PRESENTED TO

Vina Groundwater Sustainability Agency

Date
June 10, 2026

*VINA GSA GRANT COMPONENT 5*

Butte County
WATER & RESOURCE CONSERVATION

Vina GSA

*Prepared by Geosyntec Consultants | In partnership with Butte County Department of Water & Resource Conservation*

1

Butte County

## Agenda

VINA GSA GRANT
COMPONENT 5





2

# Project Scope



*The Groundwater Recharge Feasibility Study consists of four core tasks:*

**1**

### Develop List of Potential Sites

Identify potential groundwater recharge sites and projects in coordination with landowners and stakeholders.

**2**

### Conduct Site Visits

Visit candidate sites to confirm accessibility, existing conditions, and landowner interest.

**3**

### Conduct Recharge Investigation

Characterize subsurface conditions using geophysics, borings, and monitoring wells.

**4**

### Conduct Pilot Tests

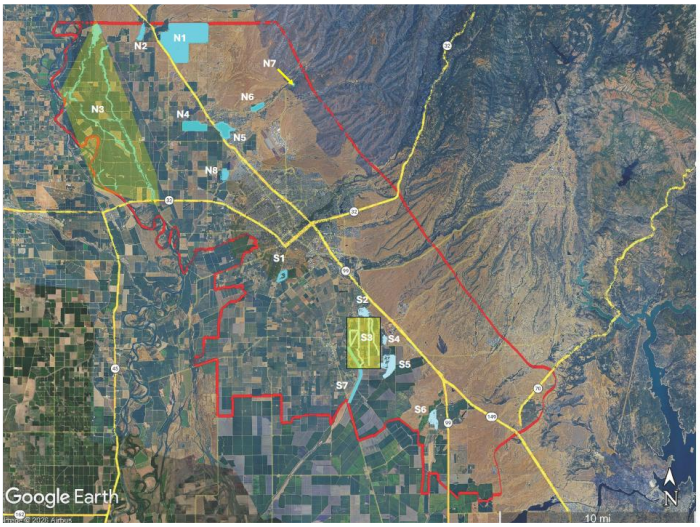
Where feasible, implement pilot tests to quantify recharge rates and validate project viability.



# Potential Sites



*Initial inventory of candidate recharge locations across the Vina Subbasin:*



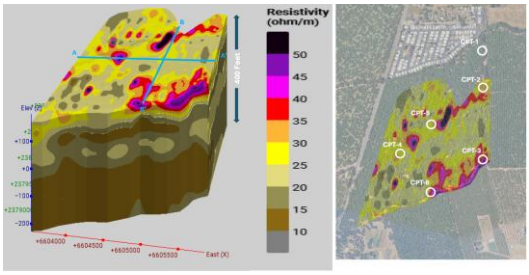

| Site | Size (Acres) |
|---|---|
| N1 | 1,900 |
| N2 | 50 |
| N3[1] | 700 |
| N4 | 342 |
| N5 | 242 |
| N6 | 92 |
| N7 | 5 |
| N8 | 103 |
| S1 | 88 |
| S2 | 93 |
| S3 | 7 miles[2] |
| S4 | 29 |
| S5 | 297 |
| S6 | 133 |
| S7[3] | 3.2 miles |

1. The highlighted cells are the sites selected for field investigations.
2. The site is along a linear pathway on easements next to canals/drainage ways.
3. Pipeline.

# Field Investigations

*Investigative activities conducted at each site:*

| Activity | N3 (DS Sites) | N4 | N5 | N6 | N8 | S1 | S6 | S7 |
|---|---|---|---|---|---|---|---|---|
| tTEM | | ● | ● | ● | ● | ● | ● | |
| CPT | | | ● | | | ● | | |
| Soil Boring / Perm Testing | ● | ● | ● | ● | | ● | ● | |
| Monitoring Well | | ● | ● | | | | ● | |
| Stream Stilling Well | | ● | ● | ● | | | | |
| Water Quality Testing | | ● | ● | | | | ● | |
| Condition Assessment | | | | | | | | ● |




- Activity conducted at this site

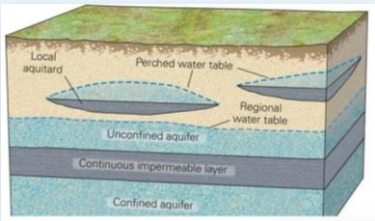




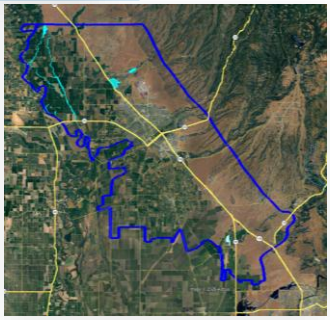
# Perched Groundwater Systems

### Site N3 — Groundwater Level Response


### Conceptual Model

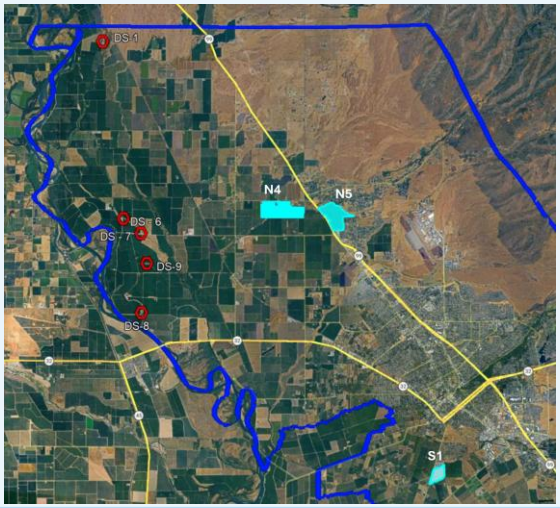



Shallow perched water tables exist above the regional aquifer in portions of the Subasin. These must be characterized before recharge projects can be designed, as they constrain infiltration and surface water management.



# Pilot Studies

*Three pilot testing approaches were evaluated across four sites:*




| Activity | N3 (DS) | N4 | N5 | S1 |
|---|---|---|---|---|
| Infiltration Basin | ● | ● | ● | ● |
| Reverse Tile Drain | | | | ● |
| FloodMAR (WC §1242.1) | | | | ● |

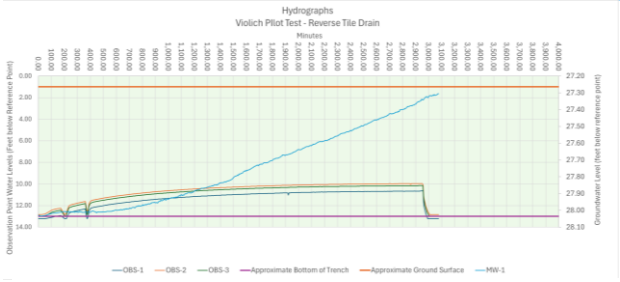
### Three Methods Tested

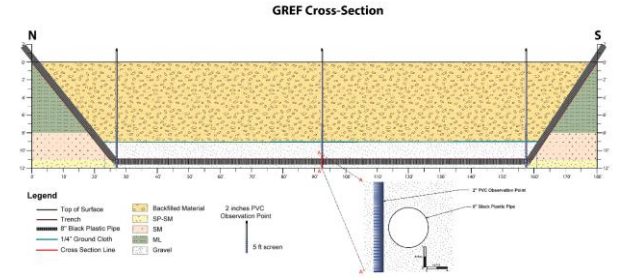
Infiltration basins at all four sites; reverse tile drain and FloodMAR under Water Code §1242.1 were tested at Site S1 (Comanche Creek area).





# Reverse Tile Drain




Pilot System

**0.34 acre-ft/day**

*≈ 100 gallons per minute sustained recharge*

Full-Scale Potential

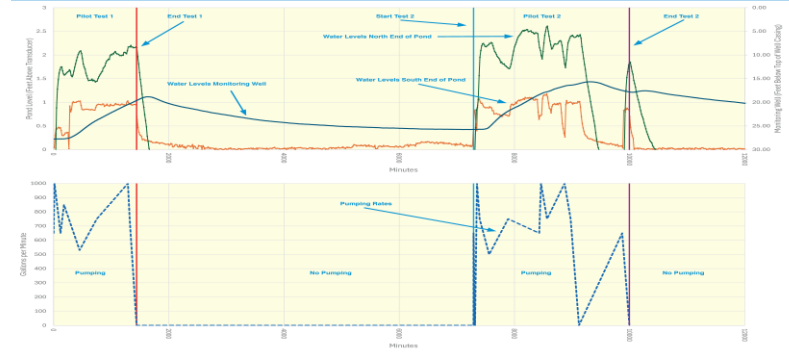
**13 acre-ft/day**

*≈ 3,000 gallons per minute*

Projected output from a 4,000-foot reverse tile drain system. One line going north to south on the 87-acre parcel is over 2,000 feet.

# FloodMAR §1242.1 — Pilot Implementation







## Pilot Results — February 2025

*Two events triggered §1242.1 diversion:*

- **February 20–21**
- **February 25–27**

WATER DISCHARGED TO BASIN

**~2M gallons**

*≈ 6 acre-feet recharged*

FULL-SCALE PROJECTION (20 ACRES)

**62 acre-ft/day**

*Reverse tile drain showed similar results*



# Proposed Projects



*Three projects are identified for advancement to design and potential pursuit of funding:*

## 01

**FloodMAR Infiltration Basins**

*Rock Creek / Keefer Slough*

Up to 438 acres of floodplain infiltration with potential 200 AF/day recharge during qualifying events.

## 02

**FloodMAR / Reverse Tile Drain**

*Comanche Creek*

Rehabilitation of historic diversion plus 34-acre pond and reverse tile drain system.

## 03

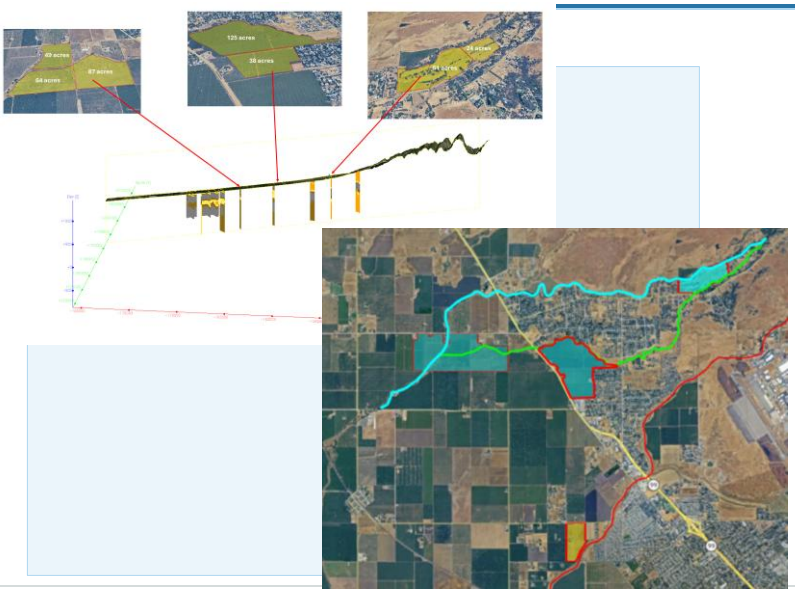
**DMWC Pipeline Restoration**

*Durham Mutual Water Company*

Condition assessment of ~16,000 linear-feet of 36-inch concrete pipeline with an estimated 20–40% water loss.

# 1. FloodMAR Infiltration Basins





***Rock Creek / Keefer Slough***

TOTAL POTENTIAL ACREAGE

**438** acres

WATER STORAGE AT 3-FT HEIGHT

**1,314** acre-feet

PEAK RECHARGE POTENTIAL

**200** acre-ft / day

*Based on Western site showing 1 ft/day infiltration*

*Additional in-stream recharge achieved by "slowing the water down".*



# 2. FloodMAR / Reverse Tile Drain



***Comanche Creek***

**Project includes rehabilitation of the Old Diversion Point.**

**34-ACRE POND**

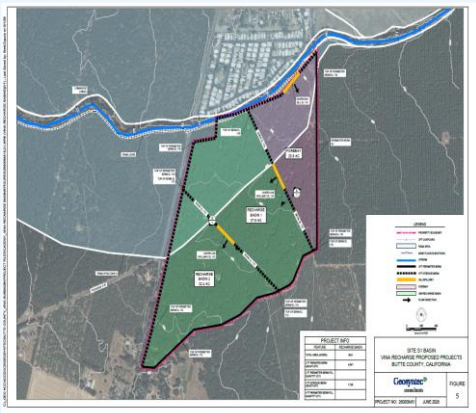
**Pilot test results**:
Could handle 105 AF/day (23,760 gpm)

*With factor of safety: 34 AF/day (7,694 gpm)*
*Additional 54 acres to south available if needed*

**REVERSE TILE DRAIN**

**Pilot test rate:**
0.0033 ft/day per linear foot of tile drain

*Projected output: 5,000 ft of tile drain =* **16 AF/day (3,620 gpm)**



# 3. Durham Mutual Water Company Pipeline



## Project Purpose

- Assess condition and performance of DMWC's primary irrigation conveyance system
- Quantify potential leakage and infrastructure deficiencies
- Support near-term repair prioritization and longer-term funding applications

## System Overview

| | |
|---|---|
| LENGTH<br>~16,000 Linear Feet | PIPE TYPE<br>36" concrete |
| ERA<br>Early 1900s | ESTIMATED WATER LOSS<br>20–40% |



# Durham Mutual Water Company Pipeline



## What we are doing

- Comparing flow measurements between conjunction boxes
- Identifying potential leakage zones
- Targeted CCTV (Video) inspection

## What we hope to accomplish

- Prepare condition assessment of pipeline
- Provide recommendations for repair with cost analysis

## For what purpose?

- Assess condition and performance of primary irrigation conveyance system
- Quantify potential leakage and infrastructure deficiencies
- Support near-term repair prioritization and longer-term funding applications
- Reduce groundwater pumping in area
- Provide source water for future groundwater recharge projects

# Key Takeaways

1. **Groundwater recharge projects can be implemented within the Vina Subbasin**
   - ❑ Successful recharge pilot tests were conducted using both infiltration basins and reverse tile drains
2. **Understanding the hydrogeology is a critical factor**
   - ❑ **Perched groundwater** is a major constraint at several sites, causing poor infiltration despite surface flooding.
   - ❑ tTEM is a **high-value screening tool**, allowing rapid elimination or prioritization of sites before costly drilling.
3. **FloodMAR under Water Code 1242.1 was a successful operational tool**
   - ❑ The pilot project demonstrates the Water Code can be applied practically and legally.
   - ❑ **Key insight** – FloodMAR is a flood risk management tool with groundwater benefits, making it politically and operationally attractive.
4. **Pilot tests suggest significant capacity for groundwater recharge in the subbasin**
   - ❑ But safety factors need to be applied (assume less recharge will occur for planning purposes).
5. **Water quality risks appear manageable – but require continued due diligence.**
   - ❑ Water quality monitoring would be included as part of projects.
6. **Repairing infrastructure for existing surface water features would reduce dependance on groundwater pumping**



# Schedule



**JUNE 15, 2026**
Public Workshop

**JUNE 30, 2026**
**Final Reports**
*Submitted to Vina GSA*

**June 24, 2026**
Vina Stakeholder Advisory Committee Presentation


# Questions?

*Thank you.*

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# Update on the Status and Anticipated Timeline for the Vina GSP Periodic Evaluation

Vina and Rock Creek Reclamation District GSA Joint Board Meeting
June 10, 2026

1



## Overview and Updates

- Focus of Periodic Evaluation is to address DWR Recommended Corrective Actions (RCAs)
- Larry Walker Associates is currently drafting sections of the PE
- May – August will be important decision-making months
- Important webpage to track current topics and resources:
  - http://www.vinagsa.org/gsp-periodic-evaluation
  - Periodic Evaluation Supporting Documents - Vina Groundwater Sustainability Agency

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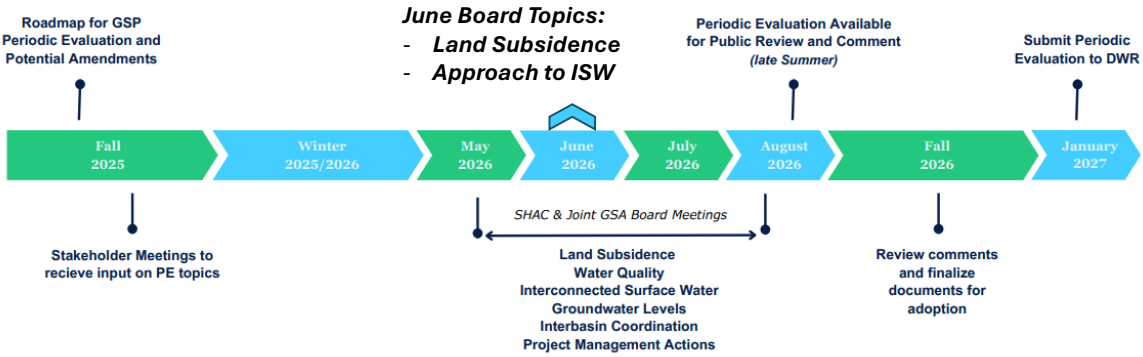
# GSP Periodic Evaluation Timeline




The focus of the Periodic Evaluation is to address the Department of Water Resources' 6 Recommended Corrective Actions and provide a written assessment of GSP implementation. Once submitted, DWR will complete its Periodic Review of the Vina GSP and issue a determination of the status of the Plan: Approved, Incomplete, or Inadequate.

v. April 20, 2026

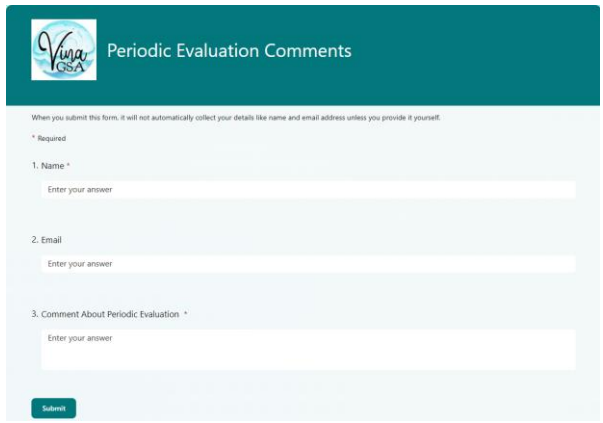


# Next Up: Tentative Topics for Upcoming Meetings

- **June SHAC / July Board Meetings (Tentative)**
  - **Groundwater Levels — approach to addressing DWR's RCA on chronic lowering of groundwater levels. Consideration of the network.**
  - **Sustainable Yield**
- **July SHAC / August Board Meetings (Tentative)**
  - **Groundwater Levels (continued)**
  - **Water Quality — approach to addressing DWR's RCA**
  - **Project Management Actions in the PE**

# Periodic Evaluation Comment Form:

- Single comment form for all Periodic Evaluation related comments
- Click on the Comment Form link, then submit comments
- GSP Periodic Evaluation - Vina Groundwater Sustainability Agency



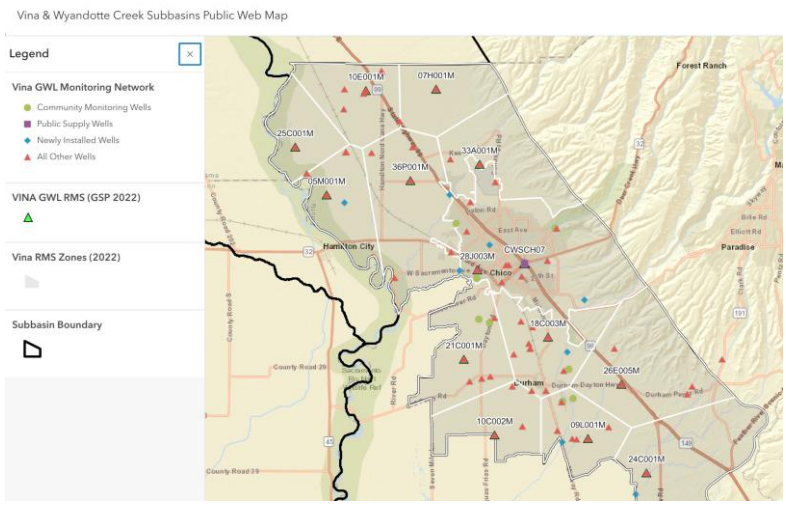

Contact Becky Fairbanks or Christina Buck with Questions





# Interactive Maps Available

- Interactive Groundwater Map - Vina Groundwater Sustainability Agency
- Linked in the 5/14/2026 Tuscan Water District Agenda Packet: Vina Subbasin 2022 RMS Network Dashboard



Joint Agenda Item 4.3

# Consideration of Land Subsidence SMC Amendments

## Vina GSA and Rock Creek Reclamation District GSA Boards

June 10, 2026

Christina Buck, PhD
Assistant Director
Butte County Dept. of Water and Resource Conservation
Providing technical staff support to the Vina GSA

# Why this item is before the Boards now

How to respond to DWR's land subsidence Recommended Corrective Actions in the Periodic Evaluation / amendment process?

## Background

Vina GSP adopted in 2021 and approved by DWR in 2023.

DWR provided Recommended Corrective Actions to be considered in the first Periodic Evaluation.

First Periodic Evaluation is due January 2027.

## Why land subsidence?

The 2022 GSP uses groundwater levels as a proxy for land subsidence. DWR requested a clearer, quantitative approach and direct monitoring of land elevation change.

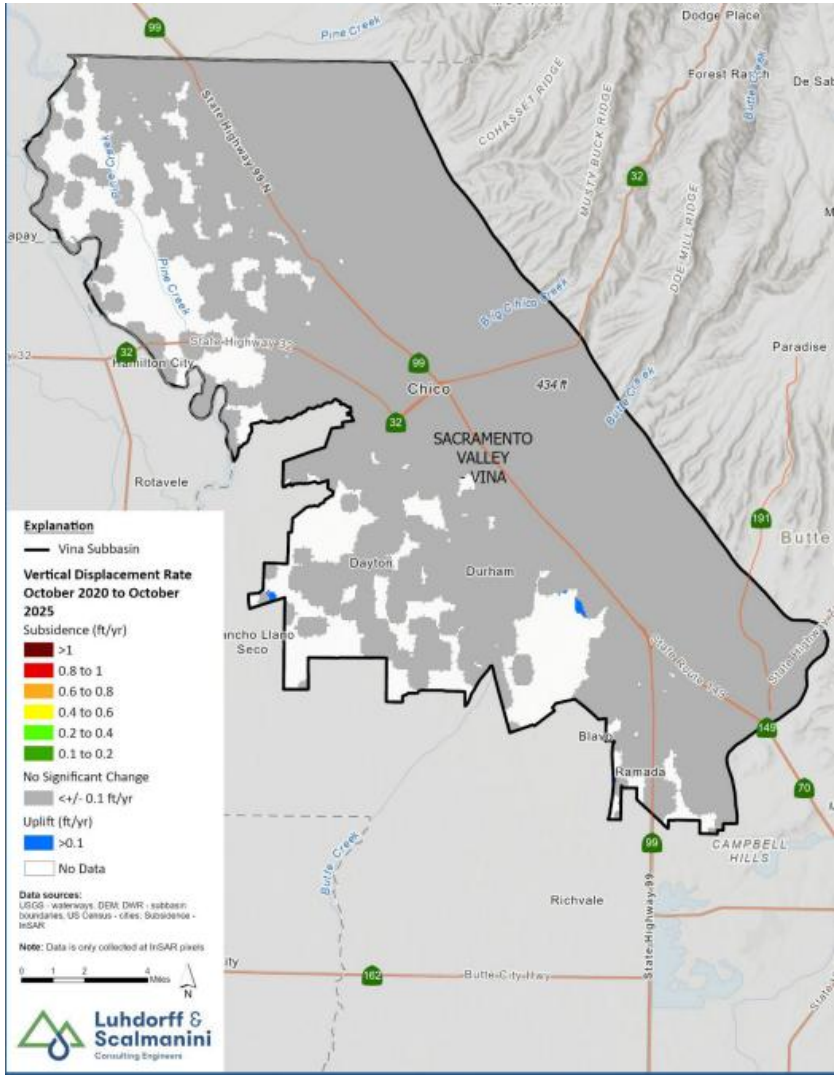
DWR's 2026 Best Management Practice document provides new guidance for this sustainability indicator.

## Requested Board Action

Provide direction on incorporation of changes to Land Subsidence SMC as plan amendments and response to DWR in the Periodic Evaluation

# Current Vina conditions: no observed inelastic subsidence

The issue is not an existing impact; it is whether the GSP should be amended to use direct subsidence SMC going forward.




**0**

recorded inelastic land subsidence in recent annual reporting

**2020–2025**

InSAR period shown as “no significant change” across most of the Subbasin

**<0.10 ft/yr**

treated as within InSAR measurement uncertainty

# DWR expectations: Recommended Corrective Action (RCA) #5

## RCA 5 asks the GSAs to:

**1. Quantitative undesirable result**

*Provide a clear, quantitative definition of when undesirable results for land subsidence may occur in the Subbasin, as required by the GSP regulations, to support the selection of land subsidence minimum thresholds that demonstrate avoidance of undesirable results.*

**2. Direct monitoring of land elevation change**

*Establish sustainable management criteria for land subsidence for the Subbasin utilizing a monitoring network that directly measures land elevation change such as remote sensing data, survey monuments, or global positioning system stations.*

## DWR also released a Best Management Practice (BMP) document on Land Subsidence in January 2026

# Development of proposed draft amendments

**“Strawman Proposal” -** an initial draft created to jump-start discussion and identify potential weaknesses or areas for improvement, serving as a starting point for collaborative refinement

- Vina GSA released a “strawman proposal” for Land Subsidence on April 27, 2026 to facilitate discussion and receive public input on whether the SMC for Land Subsidence should be amended in the GSP in response to DWR’s RCA
- A public discussion session was held May 7, 2026 to hear input and ideas regarding the strawman
- The strawman was revised and proposed draft amendments were provided to the SHAC for consideration on May 27, 2026
- Consistent with the SHAC’s recommendation, the draft amendments were further revised for consideration by the GSA Boards

# Current 2022 GSP approach vs. proposed amendment

The proposed amendment changes the basis for evaluating the land subsidence sustainability indicator.

| | 2022 GSP | Proposed amendment |
|---|---|---|
| **Monitoring** | Groundwater level network used as proxy | All InSAR data + one GPS station; RMS InSAR clusters near wells / infrastructure |
| **SMC basis** | Groundwater-level SMC used for subsidence | Direct land-surface deformation SMC |
| **Minimum Threshold** | Groundwater-level MT used as proxy | 0.5 ft cumulative subsidence over 5 years, attributable to declining GWLs |
| **Undesirable Result** | Groundwater-level UR used as proxy | MT exceedance for 2 consecutive years + confirmed infrastructure impacts + declining GWLs |

**Takeaway: the proposal retains groundwater levels as context/causation information, but no longer relies on GWLs as the SMC proxy.**

# Proposed SMC: nuts and bolts

Draft amendment language is written to replace GSP Sections 3.7, 4.5, and add Section 4.9.3.

| | |
|---|---|
| **MO** | 0.0 ft/yr of land subsidence at representative monitoring locations, recognizing uncertainty. |
| **MT** | 0.5 foot cumulative subsidence over a 5-year period at the same location, as a result of declining groundwater levels. |
| **IM** | No interim milestone needed because no subsidence has occurred in the Subbasin. |
| **UR** | MT exceedance at the same representative location for two consecutive years with confirmed infrastructure impacts and declining groundwater levels. |
| **Uncertainty** | <0.10 ft/yr considered within the range of InSAR measurement uncertainty. |

**Annual rates remain useful for context, but compliance is based on rolling 5-year cumulative change.**

# Monitoring approach: Broad network + RMS network

Use all available data for screening; use selected representative locations for SMC compliance.

### Broad monitoring network

All available DWR-provided InSAR data across the Subbasin.

One available GPS station in Vina used to corroborate displacement estimates.

Reviewed annually for spatial patterns and emerging trends.

### Representative Monitoring Site (RMS) Network

Link site selection to Groundwater Level monitoring network

Each location is a groundwater monitoring well plus one central InSAR pixel and eight supporting pixels.

Nine-pixel cluster average used for SMC compliance.

### Why pair with wells?

Supports interpretation of falling/rising groundwater levels and land surface change at the same location.

Helps evaluate whether observed subsidence is linked to groundwater management.

Keeps the network stable and repeatable over time.

**This approach preserves the full InSAR dataset for basin-wide understanding while creating a clear RMS network for reporting and compliance. The specific list of RMS wells would be finalized consistent with the groundwater level sustainability indicator monitoring network, to be discussed at a future meeting.**

# Representative monitoring site (RMS) network

The RMS network would be finalized consistent with the Groundwater Level sustainability indicator monitoring network — to be discussed at a future meeting.

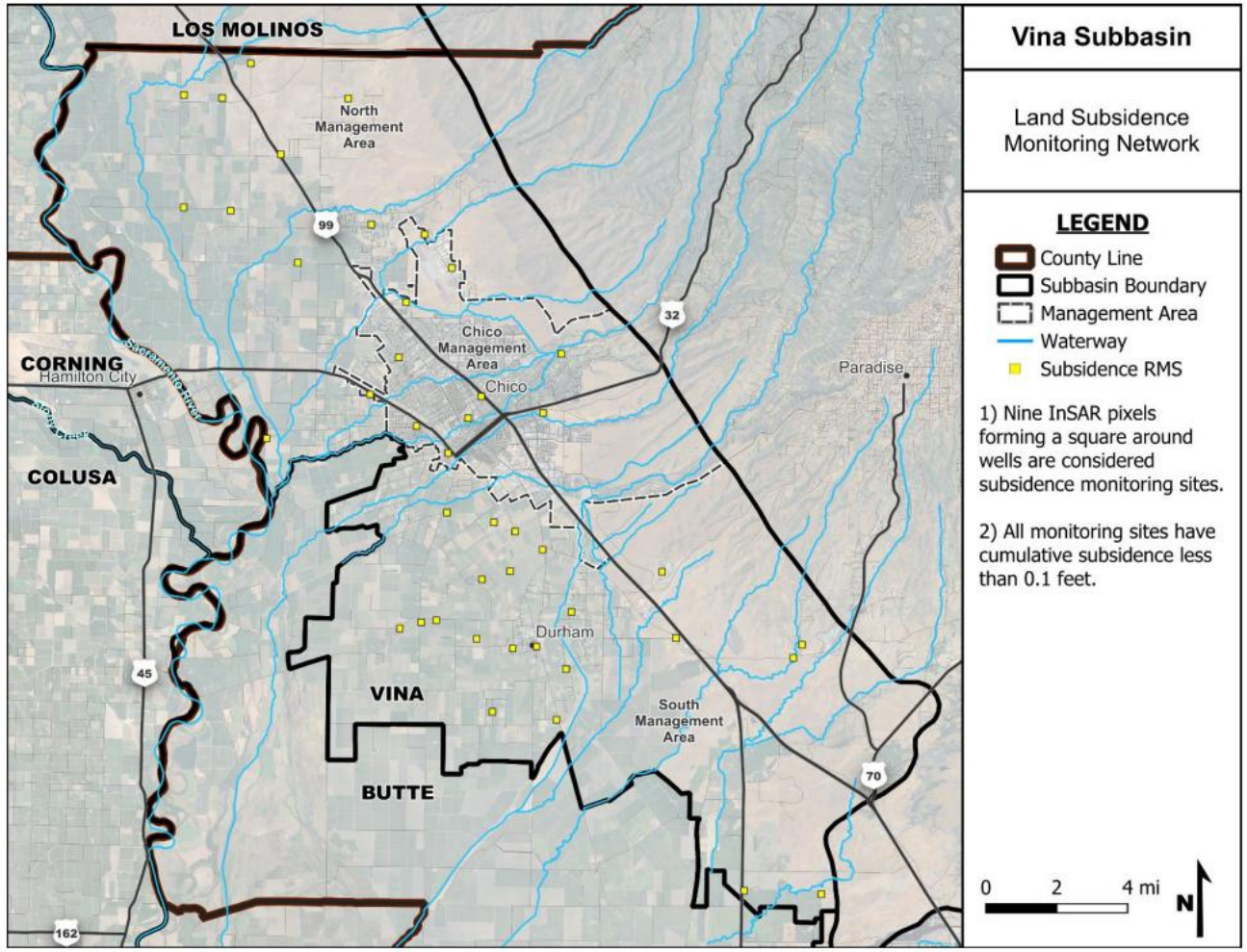



Figure 2. Land Subsidence Representative Monitoring Site (RMS) network

## Network features

Representative monitoring locations (to be finalized)

**9** InSAR pixels per well location

## Selection emphasis

- Data quality
- Infrastructure
- Groundwater pairing
- Spatial coverage

# SHAC Recommendation and Requested Board Action

SHAC voted unanimously to recommend the proposed amendments at its May 27, 2026 meeting.

## SHAC Recommendation

Voted unanimously to recommend the proposed Land Subsidence SMC amendments as presented to amend the 2022 GSP, and to establish the land subsidence RMS network consistent with the groundwater level sustainability indicator monitoring network.

## Requested Board Action

Approve approach to incorporate changes to the Land Subsidence Sustainable Management Criteria into the Vina GSP as plan amendments and document the response to DWR's Recommended Corrective Action in the Periodic Evaluation consistent with the approach to amend the GSP.

**Vina Groundwater Sustainability Agency**
**308 Nelson Avenue, Oroville, CA 95965**
**(530) 552-3592 · VinaGSA@gmail.com**

# MEMORANDUM

**To:** Vina GSA and Rock Creek Reclamation District GSA Boards

**From:** Christina Buck, Asst. Director Butte County Dept. Water and Resource Conservation (providing technical staff support to the GSA)

**Date:** June 4, 2026

**Subject: Consideration of Plan amendments to the Land Subsidence Sustainable Management Criteria in response to Department of Water Resources' Recommended Corrective Actions**

## Background

The Vina Groundwater Sustainability Plan (GSP) was adopted in December 2021 by the Vina Groundwater Sustainability Agency (GSA) and Rock Creek Reclamation District GSA and subsequently reviewed and approved by the California Department of Water Resources (DWR) in July 2023. As part of its review, DWR provided Recommended Corrective Actions (RCAs) in its Determination Letter identifying several areas for improvement with an expectation that the RCAs should be considered by the GSAs in the first periodic evaluation of the GSP or addressed through amendments to the GSP. The Sustainable Groundwater Management Act (SGMA) requires the GSAs to submit the first Periodic Evaluation (PE) by January 2027. The PE is the GSA's written assessment of its GSP implementation. The Vina GSA received funding through the Sustainable Groundwater Management Round 2 grant program to support work to address data gaps identified in the plan and complete the PE. Larry Walker Associates (LWA) was competitively selected to complete this work. In addition, Butte County staff provide technical staff support to the Vina GSA due to their local expertise and institutional knowledge. Documents and resources related to development of the PE can be found online: https://www.vinagsa.org/gsp-periodic-evaluation.

## Approach to Addressing Land Subsidence

This memo provides relevant context and information to support the joint GSA Boards in making a decision regarding how the GSAs will address DWR's RCA related to land subsidence (one of six sustainability indicators). The Vina GSA released a strawman proposal on April 27, 2026 to facilitate discussion and receive public input on whether the SMC for Land Subsidence should be amended in the GSP in response to DWR's RCA. As a result of public input, the strawman was revised and proposed draft amendments were provided for SHAC's consideration at their meeting on May 27, 2026. Consistent with the SHAC's recommendation, the draft amendments were further revised ( see Attachment A) and are provided for the Boards' consideration and direction for possible incorporation into the Periodic Evaluation and GSP amendments.

# Relevant Context

The following provides important relevant context regarding potential changes to the Land Subsidence SMC in the GSP.

## No Observed Land Subsidence in Vina Subbasin

Under the Sustainable Groundwater Management Act (SGMA), land subsidence is one of six sustainability indicators that is required to be managed in the GSP to avoid "undesirable results," which is defined as significant and unreasonable land sinking caused by excessive groundwater pumping. The 2025 Water Year Annual Report (and previous annual reports) show that no inelastic land subsidence has been recorded in the Vina Subbasin. The 2025 Annual Report's Figure 5-2 (included below for quick reference) shows "no significant change" of vertical displacement over a 5-year period. The entire Annual Report is available online.

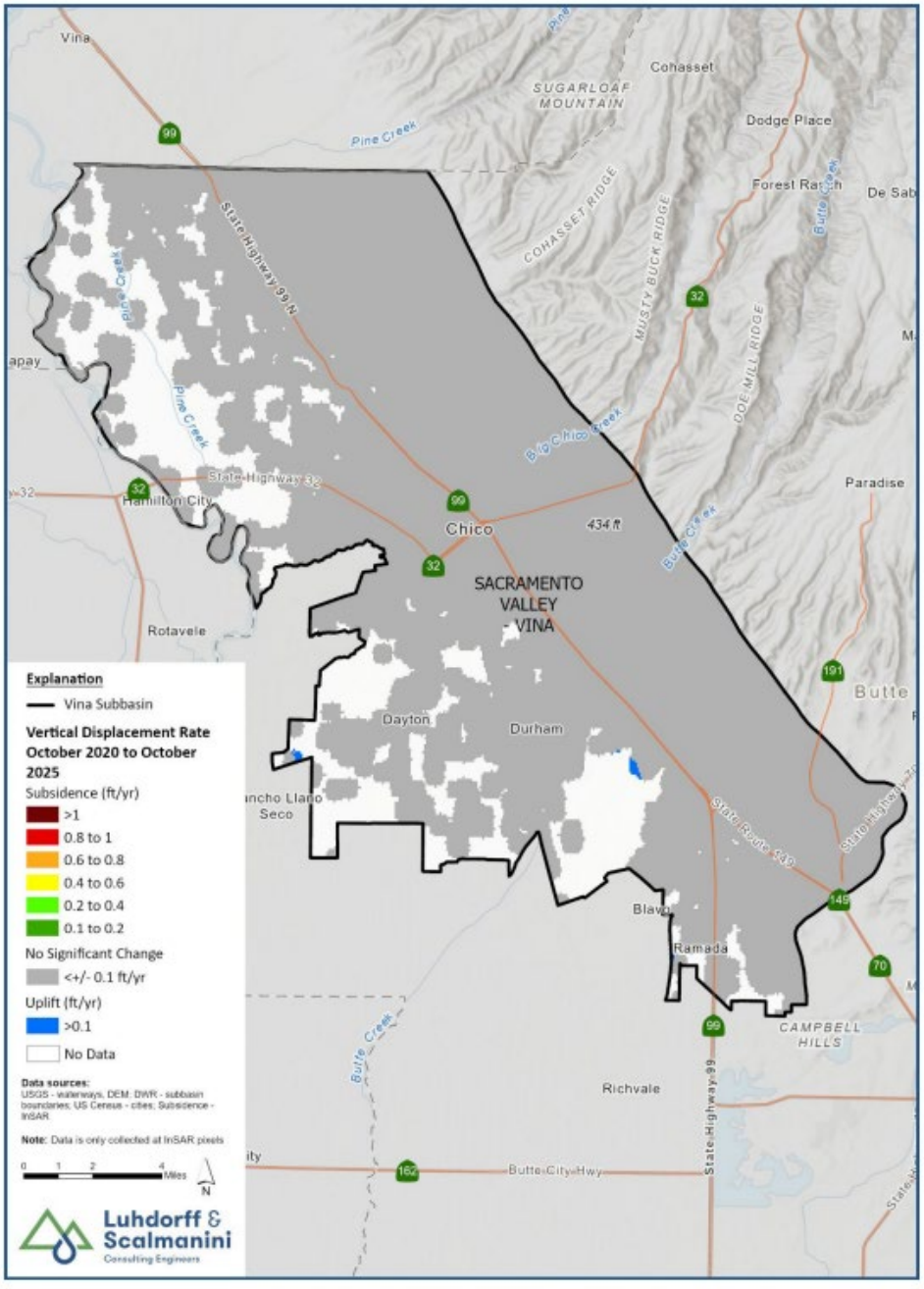



Figure 5-2. Vina Subbasin Vertical Displacement in Ground Surface from 10/2020 to 10/2025

## DWR Recommended Corrective Actions

DWR provided recommended corrective actions (RCAs) in its GSP Determination Letter identifying several areas for improvement with respect to the land subsidence sustainability indicator. It is DWR's expectation that RCAs should be considered by the GSAs in the first periodic evaluation of the GSP (due to be submitted in January 2027). Provided below is Recommended Corrective Action 5, as stated in the Determination Letter:

> *Provide additional information on criteria used to identify undesirable results, and sustainable management criteria for land subsidence, including:*
>
> a. *Provide a clear, quantitative definition of when undesirable results for land subsidence may occur in the Subbasin, as required by the GSP regulations, to support the selection of land subsidence minimum thresholds that demonstrate avoidance of undesirable results.*
> b. *Establish sustainable management criteria for land subsidence for the Subbasin utilizing a monitoring network that directly measures land elevation change such as remote sensing data, survey monuments, or global positioning system stations.*

## Current Approach in the 2022 GSP

The Vina Subbasin Groundwater Sustainability Plan (2022) currently uses groundwater levels as a proxy, using the groundwater level SMC and monitoring network for land subsidence as well. This needs to be addressed since it relies entirely on observed groundwater level conditions and not a direct measurement of land surface changes (as requested in DWR's RCA 5b, above).

## Recently Released DWR Best Management Practices (BMP) on Land Subsidence

In January 2026, DWR released its Best Management Practices (BMP) on Land Subsidence. This document provides guidance to Groundwater Sustainability Agencies on how to monitor, evaluate, and establish Sustainable Management Criteria for land subsidence in a manner that identifies and avoids significant and unreasonable impacts to infrastructure and land use. It describes four different land subsidence management scenarios and suggests different approaches depending on the conditions in the subbasin. The Vina Subbasin falls into **Scenario 2**, which describes conditions where little or no subsidence has been observed to date, but groundwater levels may be allowed to decline below historical lows (based on how Groundwater Levels Minimum Thresholds are set), creating a risk of inelastic subsidence and requiring monitoring and SMC that identify conditions that could lead to significant and unreasonable impacts. Land Subsidence is a sustainability indicator DWR has provided clear guidance on, in addition to the RCAs.

## Neighboring Subbasins

Additionally, the approaches neighboring subbasins have taken regarding land subsidence monitoring and SMC is informative to the Vina Subbasin. This is summarized in Table 5 of the 'Joint GSP Evaluation for the North Sacramento River Corridor' Tech Memo and is included in the materials that were provided to the SHAC (Attachment B).

# SHAC Discussion and Recommendations

At their May 27, 2026 meeting, staff presented the SHAC with the materials described in this memo to support discussion and a potential recommendation to the Vina GSA Board, including: a staff memo outlining background, context, and the approach to addressing DWR's Recommended Corrective Action 5 related to land subsidence; proposed draft amendment language for GSP Sections 3.7, 4.5, and 4.9.3; a comparison of neighboring subbasin approaches; and the results of the public discussion session held on May 7, 2026. Staff requested SHAC discussion and a recommendation regarding whether to support the proposed GSP amendments to the Land Subsidence Sustainable Management Criteria and monitoring network.

## SHAC Discussion

The SHAC engaged in a substantive discussion of the proposed land subsidence amendments, with questions and comments spanning the monitoring network, costs, the scope of DWR's expectations, and the relationship between InSAR data and groundwater level monitoring. Members of the public also provided comment in support of the proposal and approach.

Key themes and perspectives from the discussion included:

A. **Monitoring costs and responsibilities:** SHAC members asked about the cost of acquiring and using InSAR data and who would be responsible for monitoring. Staff clarified that DWR provides InSAR data at no cost to the GSA, that the groundwater level monitoring wells proposed for use as representative monitoring sites are already installed, and that monitoring responsibilities are split between DWR, Butte County Water and Resource Conservation, and the Vina GSA—consistent with the existing budget. Some SHAC members expressed a preference against adding new monitoring wells or data collection points beyond what is necessary or required by DWR.

B. **Monitoring network and the list of representative monitoring wells:** Several SHAC members asked about the basis for the proposed list of 44 representative monitoring well locations included in Table 1 of the proposed amendments (see Attachment B for materials provided to the SHAC), including how the wells were selected and whether the list can be changed. Some members indicated they wanted additional time to review the proposed monitoring network before approving it, while others noted the value of broader spatial coverage to confirm whether any observed subsidence signal is linked to groundwater level changes. Discussion included whether the monitoring well list could be revised without a GSP amendment, and whether it would be appropriate to defer approval of the monitoring network until it can be considered alongside the upcoming groundwater level monitoring network discussion. Staff indicated that the list in Table 1 is a set of wells from the long term DWR/County monitoring network and also a handful of wells monitored by other agencies as part of other monitoring programs (ex. Chico Nitrate monitoring program, or Department of Toxic Substance Control associated with monitoring of plumes in Chico) that have been identified as providing useful data relevant to the groundwater level sustainability indicator. Staff suggested the specific list of wells could be taken up in more detail when the groundwater level sustainability indicator monitoring networks are discussed. Staff and members of the SHAC expressed the perspective that there could be an advantage of using the same set of wells for land subsidence that is used for groundwater levels, rather than having separate lists of wells for the two indicators.

C. **Scope of DWR's expectations:** Some members expressed a preference for responding to DWR's RCA at the minimum necessary level rather than adding requirements beyond what was requested. Others noted the low additional burden of the proposal given the zero cost of InSAR data and the existing monitoring infrastructure, and suggested that broader coverage provides the ability to investigate any future subsidence signal and tie it definitively to groundwater conditions.

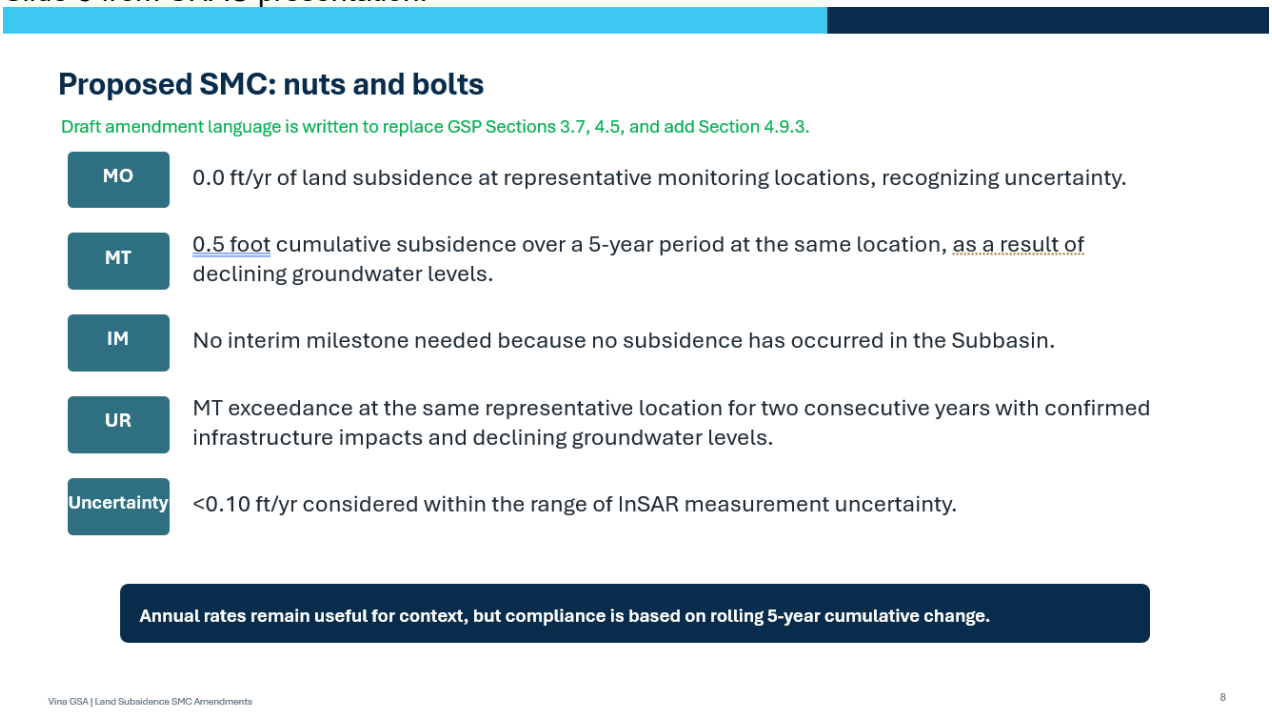
D. **Causation language and linkage to groundwater levels:** A member asked whether the proposed amendment language includes causation provisions to recognize that land subsidence can result from factors other than groundwater pumping. Staff confirmed that the proposed Minimum Threshold and Undesirable Result language ties the Sustainable Management Criteria to declining groundwater levels, and that pairing InSAR data with groundwater level monitoring well data is specifically intended to support that causal linkage.

Public comments were supportive of the proposal. Members of the public noted that there is potential for land subsidence to occur in the future, expressed support for moving away from groundwater level as a proxy for subsidence SMC, and endorsed using InSAR as a direct, no-cost monitoring tool. One commenter noted the proposal does not represent a heavy lift for the GSA and encouraged the GSA to proceed.

## SHAC Recommendations

The SHAC voted unanimously to recommend the proposed Land Subsidence SMC amendments as presented in slide 8 of the presentation to amend the 2022 GSP and to establish the land subsidence RMS network consistent with the groundwater level sustainability indicator monitoring network.

Slide 8 from SHAC presentation:




## Draft Amendments to the Land Subsidence SMC

Provided in attachment A for the Boards' consideration is draft GSP language that would be used to amend the 2022 GSP, specifically sections 3.7, 4.5 and 4.9.3 (new section). The draft proposed amendments incorporate revisions per the SHAC's recommendation to link the land subsidence RMS network to the groundwater level sustainability indicator monitoring network. The changes are shown in tracked changes. The set of wells to be considered for the groundwater level sustainability indicator broad and RMS networks will be made available to the public in the coming weeks. The SHAC and GSA Boards will have an opportunity to provide direction on these networks when the groundwater level topic is included on meeting agendas in the near future. It is anticipated that discussions on this complex topic may begin in June and continue into July and/or August.

## Requested Action

Consider the following action:

Direct staff to incorporate changes to the Land Subsidence Sustainable Management Criteria into the Vina GSP as plan amendments and document the response to DWR's Recommended Corrective Action in the Periodic Evaluation consistent with the approach to amend the GSP.

## Attachments

A. Land Subsidence – Proposed Amended GSP Sections
B. SHAC May 27, 2026 Meeting Materials

# Attachment A: Land Subsidence - Proposed Amended GSP Sections

**The following is proposed for consideration as a Plan amendment to respond to the Department of Water Resources' Recommended Corrective Actions related to the Land Subsidence sustainability indicator. The following sections of the GSP would be amended with the content below replacing Sections 3.7, 4.5 and (new) 4.9.3. This is written as direct language to be used to amend the GSP. Consistent with the SHAC recommendation (May 27, 2026), Table 1 and monitoring network language is revised to reference the groundwater level monitoring network as the basis of the land subsidence RMS network. The table and map would be updated once the GSA Boards make decisions about the Broad and RMS networks for the groundwater level sustainability indicator.**

## Proposed Amendments to Specified Sections of the 2022 GSP:

### 3.7 Land Subsidence Sustainable Management Criteria

Land subsidence in the Subbasin is evaluated using direct measurements of land surface deformation, primarily through Interferometric Synthetic Aperture Radar (InSAR) data, supplemented by available Global Positioning System (GPS) measurements where applicable. These datasets provide spatially distributed estimates of vertical land surface change and are used to assess both the rate and cumulative magnitude of subsidence across the Subbasin.

Consistent with the Department of Water Resources (DWR) Land Subsidence Best Management Practice (BMP), the Subbasin is characterized as having no documented history of significant inelastic land subsidence, but recognizes that subsidence may occur if groundwater elevations decline sufficiently to induce compaction of fine-grained sediments. Accordingly, the Sustainable Management Criteria (SMC) are designed to identify conditions under which subsidence could result in significant and unreasonable impacts to beneficial uses and users, including infrastructure and land use. The locally defined undesirable result, MT, and MO are discussed in the next sections.

**Measurement Uncertainty.** Subsidence rates less than 0.10 feet per year are considered within the range of InSAR measurement uncertainty and are not interpreted as indicative of inelastic land subsidence.

### 3.7.1 Undesirable Result

An undesirable result due to land subsidence is experienced if:

*Subsidence exceeding the Minimum Threshold results in significant and unreasonable impacts to beneficial uses and users, including infrastructure, namely highways, roads, drainage, irrigation, or railroad infrastructure, power transmission lines, or well casings. An undesirable result due to subsidence occurs as a result of declining groundwater levels. Groundwater levels are evaluated alongside InSAR data to assess risk of inelastic compaction and inform management actions.*

*This occurs when:*
*1. The Minimum Threshold is exceeded at the same representative monitoring location for two consecutive years with confirmed associated impacts to infrastructure and declining groundwater levels.*

### 3.7.2 Minimum Threshold (MT)

The minimum threshold for land subsidence is defined as:

*0.5 foot cumulative subsidence over a 5-year period at the same location as a result of declining groundwater levels.*

### 3.7.3 Measurable Objective (MO)

The measurable objective for land subsidence is defined as:

*0.0 feet per year of land subsidence at representative monitoring locations, recognizing that minor variation within measurement uncertainty does not indicate inelastic subsidence.*

Since no subsidence has occurred in the subbasin, no interim milestone is needed.

## 4.5 Land Subsidence (Monitoring Network)

#### 4.5.1 Background

The broad monitoring network for land subsidence includes all available InSAR data and one available GPS monitoring site available within the Vina Subbasin. These datasets will be used for analysis and basin setting understanding.

Therefore, the land subsidence monitoring network consists of:

- DWR-provided InSAR data, evaluated from data pixels distributed throughout the Subbasin;
- Available GPS monument (chco station) used to corroborate InSAR-derived displacement estimates (one site in Vina);

### 4.5.2 Location and Density of Monitoring Sites and Frequency of Measurement

To support evaluation of land subsidence, the Vina Subbasin utilizes InSAR-derived land surface deformation data across the full Subbasin extent. All available InSAR data are reviewed annually in relation to groundwater level changes to evaluate spatial patterns, identify potential areas of deformation, and assess overall subsidence conditions. InSAR data are evaluated with consideration of both annual rates and cumulative deformation trends. SMC compliance is based on a rolling 5-year cumulative change, while annual rates are used as supporting information.

**Measurement Uncertainty.** Subsidence rates less than 0.1 feet per year are considered within the range of InSAR measurement uncertainty and are not interpreted as indicative of inelastic land subsidence.

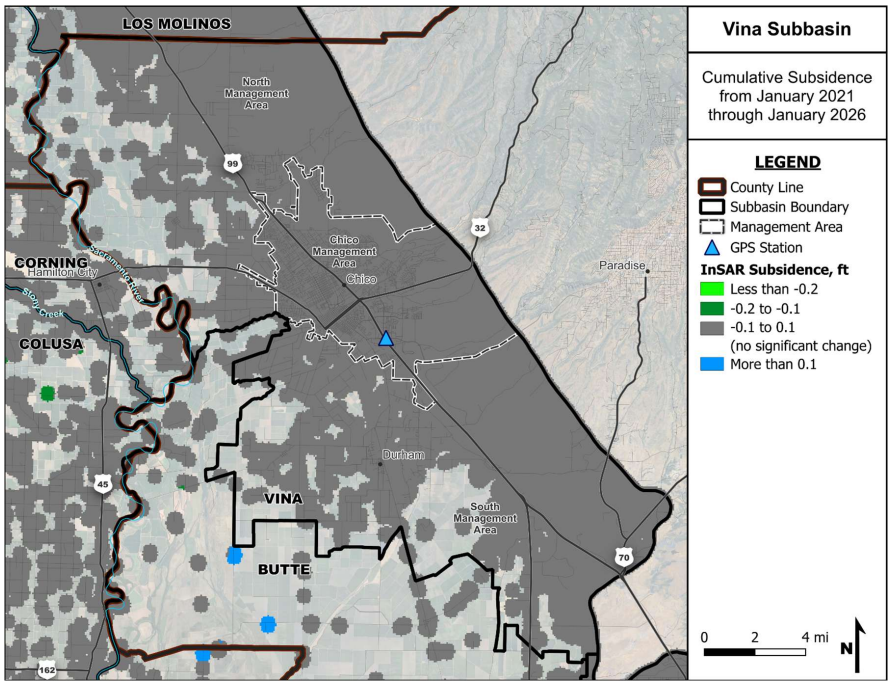



Figure 1. Broad Monitoring Network for Land Subsidence consisting of InSAR and GPS Station Data

## 4.9.3 Land Subsidence [Representative Monitoring Site (RMS) for Sustainability Indicators]

For purposes of Sustainable Management Criteria (SMC) evaluation and long-term tracking, a subset of representative monitoring locations is designated from the full InSAR dataset. These representative locations are not intended to replace the full dataset, but rather to

provide a consistent, stable, and interpretable set of monitoring points for evaluating compliance with SMC over time. Therefore, the sustainability indicator for land subsidence is evaluated by monitoring land surface elevation at select InSAR data pixels near groundwater level monitoring wells and other critical infrastructure. Specifically, each representative monitoring well location consists of one central InSAR pixel and eight adjacent supporting pixels monitored for vertical displacement. Selecting pixels near the groundwater monitoring wells allows the GSAs to study the impact of falling and rising water levels on subsidence in the same location and develop a relationship between water levels and subsidence over time. The pixels and rationale for selection are presented in Table 1 (below).

Representative monitoring locations are defined using the following criteria and considerations:

- **Data Quality and Reliability**
  Selected locations are based on InSAR pixels exhibiting consistently high data quality, including stable coherence and minimal evidence of processing artifacts or anomalous variability over the available time series.

- **Proximity to Critical Infrastructure**
  Representative locations include areas near infrastructure that could be sensitive to land subsidence, such as roads, pipelines, and flood conveyance features, to ensure that monitoring captures conditions relevant to beneficial uses and users. This includes highway 99, highway 32, irrigation and drainage infrastructure, locations throughout the City of Chico and Cal Water Service area, and the community of Durham.

- **Integration with Groundwater Monitoring**
  Representative InSAR locations are selected near existing groundwater level monitoring wells included in the groundwater level sustainability indicator network to support evaluation of the relationship between groundwater elevations and land surface deformation.

- **Spatial Representation of the Subbasin**
  Monitoring locations are distributed across the Subbasin, including each management area, to capture spatial variability in groundwater conditions and potential subsidence response.

A representative monitoring location consists of a central InSAR pixel supported by a group of eight adjacent pixels, allowing for confirmation that observed deformation patterns are spatially consistent and not attributable to localized data artifacts. For SMC compliance, the representative monitoring location will be evaluated using the average vertical displacement of the nine-pixel cluster.

The number and distribution of representative monitoring locations are periodically reviewed and may be refined over time as additional data become available or as

**Deleted:** Where feasible, r

understanding of subsidence conditions evolves. However, changes to representative locations will be made in a manner that maintains continuity in long-term trend evaluation.

This approach is consistent with DWR's monitoring and land subsidence BMP guidance, which emphasizes the use of spatially distributed data to assess basin-wide conditions, while also identifying representative monitoring locations sufficient to detect conditions that could lead to significant and unreasonable impacts.

The RMS network includes XX representative monitoring locations consistent with the groundwater level sustainability indicator network, each consisting of a groundwater monitoring well and associated nine-pixel InSAR cluster.

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**Table 1. Land Subsidence RMS Monitoring Network site locations. All sites are groundwater monitoring wells and associated InSAR pixels (cluster of 9 at each well site)**

Commented [CB1]: To be updated once groundwater level Broad and RMS networks are determined by the GSA Boards.

| Site ID | Site Type[1] | Latitude | Longitude | Selection Criteria |
|---|---|---|---|---|
| **Vina - North Management Area** | | | | |
| | Well/InSAR pixels | | | GW Monitoring Site |
| | Well/InSAR pixels | | | Critical Infrastructure & GW Monitoring Site |
| **Vina - Chico Management Area** | | | | |
| | Well/InSAR pixels | | | GW Monitoring Site |
| | Well/InSAR pixels | | | Critical Infrastructure & GW Monitoring Site |
| **Vina - South Management Area** | | | | |
| | Well/InSAR pixels | | | GW Monitoring Site |
| | Well/InSAR pixels | | | GW Monitoring Site |
| | Well/InSAR pixels | | | Critical Infrastructure & GW Monitoring Site |

1. "Well" site types are wells included in the broad groundwater level monitoring network.
2. Public Water Supply (PWS) locations not published due to confidentiality considerations
3. Identified as Critical Infrastructure site in this table if located within ½ mile of Hwy 99 and Hwy 32

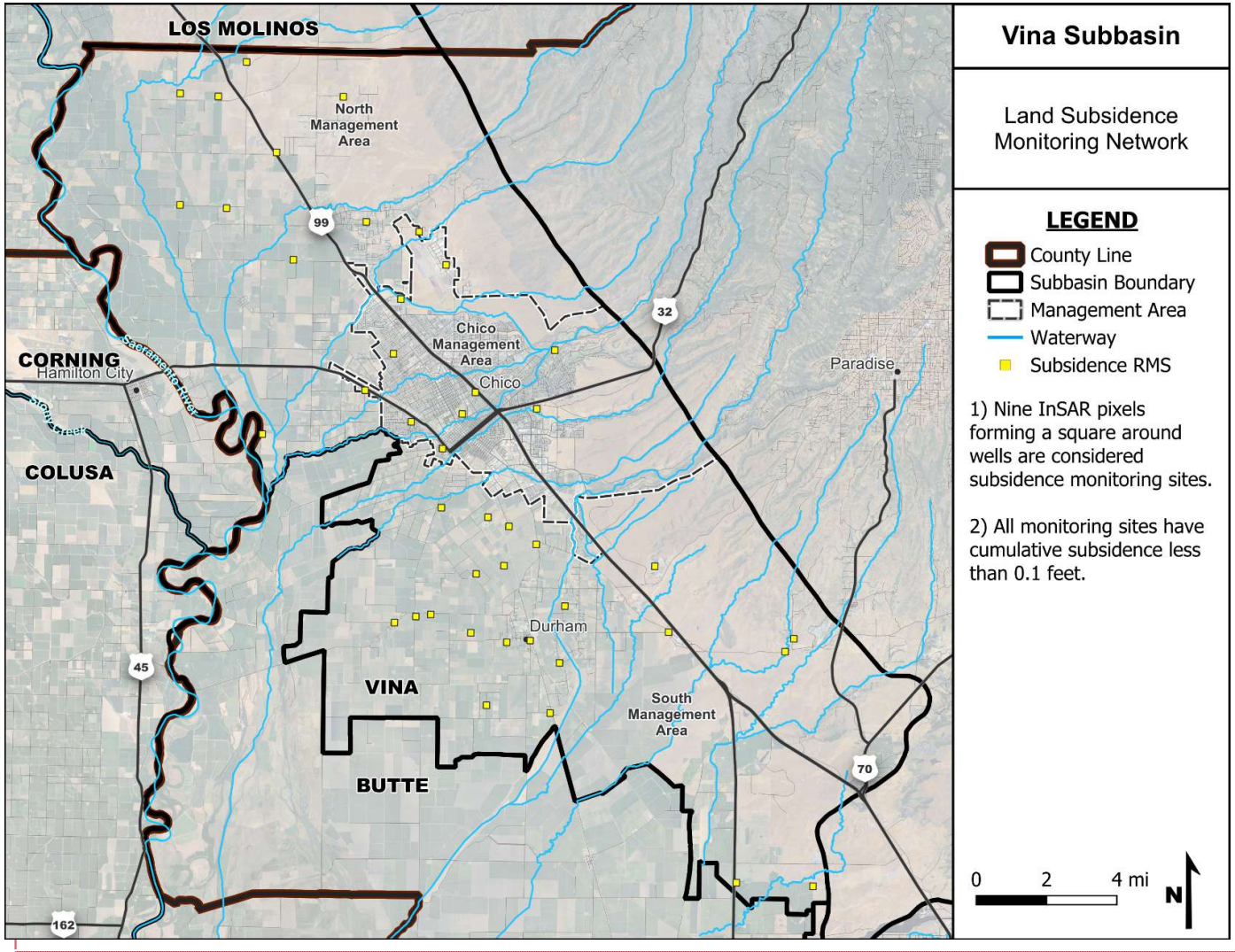



**Figure 2. Land Subsidence Representative Monitoring Site (RMS) network**

**Commented [CB2]:** To be updated once the groundwater level network is determined by the GSA Boards

**Attachment B**
**SHAC Meeting Materials**

**Vina Groundwater Sustainability Agency**
**308 Nelson Avenue, Oroville, CA 95965**
**(530) 552-3592 · VinaGSA@gmail.com**

# MEMORANDUM

**To:** Vina Stakeholder Advisory Committee

**From:** Christina Buck, Asst. Director Butte County Dept. Water and Resource Conservation (providing technical staff support to the GSA)

**Date:** May 20, 2026

**Subject: Consideration of Plan amendments to the Land Subsidence Sustainable Management Criteria in response to Department of Water Resources' Recommended Corrective Actions**

## Background

The Vina Groundwater Sustainability Plan (GSP) was adopted in December 2021 by the Vina Groundwater Sustainability Agency (GSA) and Rock Creek Reclamation District GSA and subsequently reviewed and approved by the California Department of Water Resources (DWR) in July 2023. As part of its review, DWR provided Recommended Corrective Actions (RCAs) in its Determination Letter identifying several areas for improvement with an expectation that the RCAs should be considered by the GSAs in the first periodic evaluation of the GSP or addressed through amendments to the GSP. The Sustainable Groundwater Management Act (SGMA) requires the GSAs to submit the first Periodic Evaluation (PE) by January 2027. The PE is the GSA's written assessment of its GSP implementation. The Vina GSA received funding through the Sustainable Groundwater Management Round 2 grant program to support work to address data gaps identified in the plan and complete the Periodic Evaluation. Larry Walker Associates (LWA) was competitively selected to complete this work. In addition, Butte County staff provide technical staff support to the Vina GSA due to their local expertise and institutional knowledge. Documents and resources related to development of the Periodic Evaluation can be found online: https://www.vinagsa.org/gsp-periodic-evaluation.

## Approach to Addressing Land Subsidence

This memo provides relevant context and information to support the Stakeholder Advisory Committee (SHAC) in making a recommendation to the Vina GSA Board regarding how the GSA will address DWR's RCA related to land subsidence (one of six sustainability indicators). The GSA released a strawman proposal on April 27, 2026 to facilitate discussion and receive public input on whether the SMC for Land Subsidence should be amended in the GSP in response to DWR's RCA. As a result of public input, the strawman has been revised and proposed amendments are provided for SHAC's consideration, Attachment A.

### Development of Proposed Amendments

Staff met with the Rock Creek Reclamation District Board at their Special Meeting on May 4, 2026 and discussed the strawman proposal and received feedback on several aspects. The GSA held a hybrid public discussion at the Chico Library on May 7, 2026 to hear feedback and shape changes to the strawman. A handful of public members attended online and in-person for a productive discussion with staff and there appeared to be general agreement on several changes including:

- Clarification of the measurement uncertainty (change to 0.10 feet per year)
- Adding causation language to Minimum Threshold and Undesirable Result, meaning that land subsidence is an undesirable result when associated with declining groundwater levels
- Simplifying the Minimum Threshold and Undesirable result definitions to only have a cumulative 5 year trigger and not an annual rate. This approach is consistent with other neighboring Sacramento Valley subbasins that do not have observed subsidence and have approved GSPs. This also helps to avoid triggering the threshold due to noise in the measurement InSAR data or due to elastic (i.e. temporary) subsidence.
- The group discussed the monitoring network approach, use of InSAR, and importance of having geographic coverage throughout the subbasin to measure conditions in relation to critical infrastructure (highway 99, highway 32, wells located throughout the subbasin)
- The group also agreed pairing the satellite based InSAR data, that provides estimates of changes in land surface elevation, with monitoring well data providing information on changing groundwater conditions was important for linking the impact to groundwater management.

In addition, staff received written comments from the Agricultural Groundwater Users of Butte County (Attachment B). Staff took all comments and discussions into consideration and revised the strawman accordingly and prepared proposed draft language consistent with sections in the adopted 2022 GSP that could be used to amend the GSP (Attachment A).

## Relevant Context

The following provides important relevant context regarding potential changes to the Land Subsidence SMC in the GSP.

### No Observed Land Subsidence in Vina Subbasin

Under the Sustainable Groundwater Management Act (SGMA), land subsidence is one of six sustainability indicators that is required to be managed in the GSP to avoid "undesirable results," which is defined as significant and unreasonable land sinking caused by excessive groundwater pumping. The 2025 Water Year Annual Report (and previous annual reports) show that no inelastic land subsidence has been recorded in the Vina Subbasin. The 2025 Annual Report's Figure 5-2 (included below for quick reference) shows "no significant change" of vertical displacement over a 5-year period. The entire Annual Report is available online.

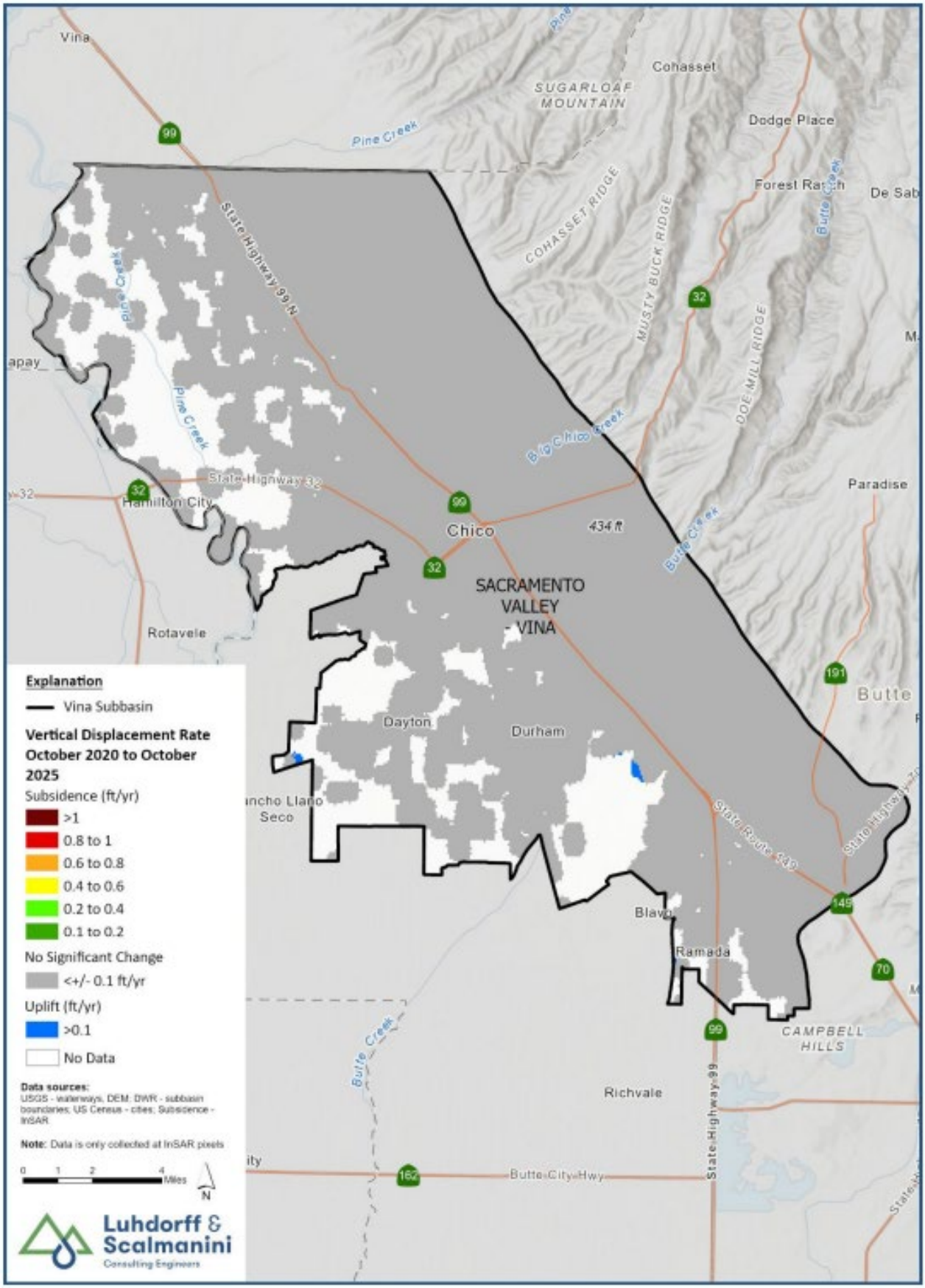



**Figure 5-2. Vina Subbasin Vertical Displacement in Ground Surface from 10/2020 to 10/2025**

## DWR Recommended Corrective Actions

DWR provided recommended corrective actions (RCAs) in its GSP Determination Letter identifying several areas for improvement with respect to the land subsidence sustainability indicator. It is DWR's expectation that RCAs should be considered by the GSAs in the first periodic evaluation of the GSP (due to be submitted in January 2027). Provided below is Recommended Corrective Action 5, as stated in the Determination Letter:

> *Provide additional information on criteria used to identify undesirable results, and sustainable management criteria for land subsidence, including:*
>
> a. *Provide a clear, quantitative definition of when undesirable results for land subsidence may occur in the Subbasin, as required by the GSP regulations, to support the selection of land subsidence minimum thresholds that demonstrate avoidance of undesirable results.*
> b. *Establish sustainable management criteria for land subsidence for the Subbasin utilizing a monitoring network that directly measures land elevation change such as remote sensing data, survey monuments, or global positioning system stations.*

## Current Approach in the 2022 GSP

The Vina Subbasin Groundwater Sustainability Plan (2022) currently uses groundwater levels as a proxy, using the groundwater level SMC and monitoring network for land subsidence as well. This needs to be addressed since it relies entirely on observed groundwater level conditions and not a direct measurement of land surface changes (as requested in DWR's RCA 5b, above).

## Recently Released DWR Best Management Practices (BMP) on Land Subsidence

In January 2026, DWR released its Best Management Practices (BMP) on Land Subsidence. This document provides guidance to Groundwater Sustainability Agencies on how to monitor, evaluate, and establish Sustainable Management Criteria for land subsidence in a manner that identifies and avoids significant and unreasonable impacts to infrastructure and land use. It describes four different land subsidence management scenarios and suggests different approaches depending on the conditions in the subbasin. The Vina Subbasin falls into **Scenario 2**, which describes conditions where little or no subsidence has been observed to date, but groundwater levels may be allowed to decline below historical lows (based on how Groundwater Levels Minimum Thresholds are set), creating a risk of inelastic subsidence and requiring monitoring and SMC that identify conditions that could lead to significant and unreasonable impacts. Land Subsidence is a sustainability indicator DWR has provided clear guidance on, in addition to the RCAs.

## Neighboring Subbasins

Additionally, the approaches neighboring subbasins have taken regarding land subsidence monitoring and SMC is informative to the Vina Subbasin. This is summarized in Table 5 of the 'Joint GSP Evaluation for the North Sacramento River Corridor' Tech Memo, and is included below for easy reference.

## Requested Action

Attached to this memo is potential draft language for amendments to the Vina GSP for sections related to Land Subsidence SMC and monitoring. The SHAC is asked to consider the draft amendment language and make a recommendation to the Vina GSA Board regarding 1. the content itself, and 2. the proposed approach to amend the GSP to address DWR's recommended corrective actions related to land subsidence.

## Attachments

A. Land Subsidence – Proposed Amended GSP Sections
B. Comments from Agricultural Groundwater Users of Butte County

MONTGOMERY & ASSOCIATES

Table 5. Summary of Land Subsidence SMC

| Subbasin | Approved GSP Section Reference | MT | Undesirable Results (UR) | MO | InSAR Network? | Five-Year IM (2027) | Current Conditions* |
|---|---|---|---|---|---|---|---|
| **Vina**** | *Section 3.7. p. 194-195* | *GWL MT Used as Proxy* | *GWL UR Used as Proxy* | *GWL MO Used as Proxy* | Used as Supplement | *GWL IM Used as Proxy* | *On track to meet IM (Section 5.2.3. p. 38)* |
| **Butte**** | *Section 4.3.5. p. 225-226* | 0.5 foot over a five-year period | 25% of monitoring locations fall below MT | 0.25 foot over five-year period | Used as Supplement | No IM identified | No indication of UR *(Section 5.2. p. 41)* |
| **Red Bluff** | *Section 3.2.3. p. 312-314* | 0.5 foot over a five-year period | 0.5 foot over a five-year period – *result of declining GWL* | one foot over 20 years | Yes – eight pixels collocated near WL RMS | -0.25 feet | No indication of UR *(Section 5.2. p. 35)* |
| **Los Molinos** | *Section 3.2.3. p. 306* | 0.5 foot over a five-year period | 0.5 foot over a five-year period – *result of declining GWL* | one foot over 20 years | Yes – nine pixels collocated near WL RMS | -0.25 feet | No indication of UR *(Section 5.2. p. 37)* |
| **Corning** | *Section 6.9. p. 483-491* | 0.5 foot over a five-year period | 0.5 foot over a five-year period – *result of declining GWL* | 0 ft/yr | Yes | < 0.1 ft/yr | No Indication of UR *(Section 5.2. p. 37)* |
| **Colusa** *(only subbasin with current measurable subsidence)* | *Section 5.4.5. p. 388-393* | Cumulative subsidence of two feet (from Jan. 2024) in 1 PLSS section***, *or* >0.1 ft/yr across 10 contiguous PLSS sections for two consecutive years | Cumulative subsidence of >two feet (from Jan. 2024) in one PLSS, *or* >0.1 ft/yr across 10 contiguous PLSS sections for two years | 0 ft/yr | Yes | 0.3 ft/yr | No indication of UR – Measured subsidence (>0.1 feet) occurred in three locations, but were not contiguous PLSS *(Section 6.1.4. p. 47-50)* |

ft/yr = feet per year

*Current Conditions as described in WY 2024 Annual Report. Note that the sections indicated referencing relevant section in the most recent, 2024, Annual Report, which was made public in early spring 2025.
**Vina and Butte Subbasins have an RCA to revise their monitoring network to include InSAR data
***PLSS section: Defined as one square mile, or 640 acres

# Land Subsidence - Proposed Amended GSP Sections

**The following is proposed for consideration as a Plan amendment to respond to the Department of Water Resources' Recommended Corrective Actions related to the Land Subsidence sustainability indicator. The following sections of the GSP would be amended with the content below replacing Sections 3.7, 4.5 and (new) 4.9.3. This is written as direct language to be used to amend the GSP.**

## Proposed Amendments to Specified Sections of the 2022 GSP:

### 3.7 Land Subsidence Sustainable Management Criteria

Land subsidence in the Subbasin is evaluated using direct measurements of land surface deformation, primarily through Interferometric Synthetic Aperture Radar (InSAR) data, supplemented by available Global Positioning System (GPS) measurements where applicable. These datasets provide spatially distributed estimates of vertical land surface change and are used to assess both the rate and cumulative magnitude of subsidence across the Subbasin.

Consistent with the Department of Water Resources (DWR) Land Subsidence Best Management Practice (BMP), the Subbasin is characterized as having no documented history of significant inelastic land subsidence, but recognizes that subsidence may occur if groundwater elevations decline sufficiently to induce compaction of fine-grained sediments. Accordingly, the Sustainable Management Criteria (SMC) are designed to identify conditions under which subsidence could result in significant and unreasonable impacts to beneficial uses and users, including infrastructure and land use. The locally defined undesirable result, MT, and MO are discussed in the next sections.

**Measurement Uncertainty.** Subsidence rates less than 0.10 feet per year are considered within the range of InSAR measurement uncertainty and are not interpreted as indicative of inelastic land subsidence.

### 3.7.1 Undesirable Result

An undesirable result due to land subsidence is experienced if:

*Subsidence exceeding the Minimum Threshold results in significant and unreasonable impacts to beneficial uses and users, including infrastructure, namely highways, roads, drainage, irrigation, or railroad infrastructure, power transmission lines, or well casings. An*

*undesirable result due to subsidence occurs as a result of declining groundwater levels. Groundwater levels are evaluated alongside InSAR data to assess risk of inelastic compaction and inform management actions.*

*This occurs when:*
*1. The Minimum Threshold is exceeded at the same representative monitoring location for two consecutive years with confirmed associated impacts to infrastructure and declining groundwater levels.*

### 3.7.2 Minimum Threshold (MT)

The minimum threshold for land subsidence is defined as:

*0.5 foot cumulative subsidence over a 5-year period at the same location as a result of declining groundwater levels.*

### 3.7.3 Measurable Objective (MO)

The measurable objective for land subsidence is defined as:

*0.0 feet per year of land subsidence at representative monitoring locations, recognizing that minor variation within measurement uncertainty does not indicate inelastic subsidence.*

Since no subsidence has occurred in the subbasin, no interim milestone is needed.

## 4.5 Land Subsidence (Monitoring Network)

#### 4.5.1 Background

The broad monitoring network for land subsidence includes all available InSAR data and one available GPS monitoring site available within the Vina Subbasin. These datasets will be used for analysis and basin setting understanding.

Therefore, the land subsidence monitoring network consists of:

- DWR-provided InSAR data, evaluated from data pixels distributed throughout the Subbasin;
- Available GPS monument (chco station) used to corroborate InSAR-derived displacement estimates (one site in Vina);

#### 4.5.2 Location and Density of Monitoring Sites and Frequency of Measurement

To support evaluation of land subsidence, the Vina Subbasin utilizes InSAR-derived land surface deformation data across the full Subbasin extent. All available InSAR data are reviewed annually in relation to groundwater level changes to evaluate spatial patterns, identify potential areas of deformation, and assess overall subsidence conditions. InSAR data are evaluated with consideration of both annual rates and cumulative deformation

trends. SMC compliance is based on a rolling 5-year cumulative change, while annual rates are used as supporting information.

**Measurement Uncertainty.** Subsidence rates less than 0.1 feet per year are considered within the range of InSAR measurement uncertainty and are not interpreted as indicative of inelastic land subsidence.

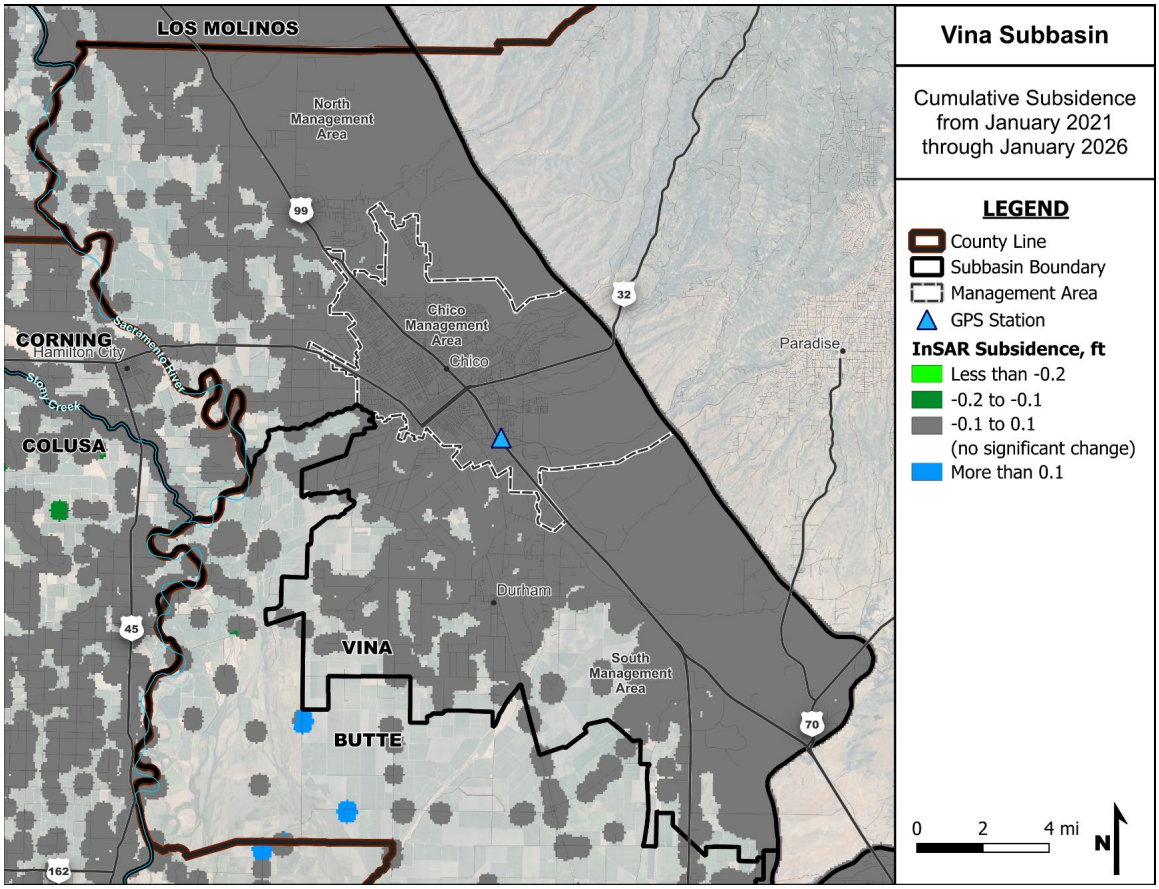



**Figure 1. Broad Monitoring Network for Land Subsidence consisting of InSAR and GPS Station Data**

## 4.9.3 Land Subsidence [Representative Monitoring Site (RMS) for Sustainability Indicators]

For purposes of Sustainable Management Criteria (SMC) evaluation and long-term tracking, a subset of representative monitoring locations is designated from the full InSAR dataset. These representative locations are not intended to replace the full dataset, but rather to provide a consistent, stable, and interpretable set of monitoring points for evaluating compliance with SMC over time. Therefore, the sustainability indicator for land subsidence is evaluated by monitoring land surface elevation at select InSAR data pixels near groundwater level monitoring wells and other critical infrastructure. Specifically, each representative monitoring well location consists of one central InSAR pixel and eight adjacent supporting pixels monitored for vertical displacement. Selecting pixels near the

groundwater monitoring wells allows the GSAs to study the impact of falling and rising water levels on subsidence in the same location and develop a relationship between water levels and subsidence over time. The pixels and rationale for selection are presented in Table 1 (below).

Representative monitoring locations are defined using the following criteria and considerations:

- **Data Quality and Reliability**
  Selected locations are based on InSAR pixels exhibiting consistently high data quality, including stable coherence and minimal evidence of processing artifacts or anomalous variability over the available time series.

- **Proximity to Critical Infrastructure**
  Representative locations include areas near infrastructure that could be sensitive to land subsidence, such as roads, pipelines, and flood conveyance features, to ensure that monitoring captures conditions relevant to beneficial uses and users. This includes highway 99, highway 32, irrigation and drainage infrastructure, locations throughout the City of Chico and Cal Water Service area, and the community of Durham.

- **Integration with Groundwater Monitoring**
  Where feasible, representative InSAR locations are selected near existing groundwater level monitoring wells to support evaluation of the relationship between groundwater elevations and land surface deformation.

- **Spatial Representation of the Subbasin**
  Monitoring locations are distributed across the Subbasin, including each management area, to capture spatial variability in groundwater conditions and potential subsidence response.

A representative monitoring location consists of a central InSAR pixel supported by a group of eight adjacent pixels, allowing for confirmation that observed deformation patterns are spatially consistent and not attributable to localized data artifacts. For SMC compliance, the representative monitoring location will be evaluated using the average vertical displacement of the nine-pixel cluster.

The number and distribution of representative monitoring locations are periodically reviewed and may be refined over time as additional data become available or as understanding of subsidence conditions evolves. However, changes to representative locations will be made in a manner that maintains continuity in long-term trend evaluation.

This approach is consistent with DWR's monitoring and land subsidence BMP guidance, which emphasizes the use of spatially distributed data to assess basin-wide conditions, while also identifying representative monitoring locations sufficient to detect conditions that could lead to significant and unreasonable impacts.

The RMS network includes 44 representative monitoring locations, each consisting of a groundwater monitoring well and associated nine-pixel InSAR cluster.

**Table 1. Land Subsidence RMS Monitoring Network site locations. All sites are groundwater monitoring wells and associated InSAR pixels (cluster of 9 at each well site)**

| Site ID | Site Type[1] | Latitude | Longitude | Selection Criteria |
|---|---|---|---|---|
| **Vina - North Management Area** | | | | |
| 07H001M | Well/InSAR pixels | 39.86482 | -121.9049 | GW Monitoring Site |
| 29P002M | Well/InSAR pixels | 39.81332 | -121.8913 | GW Monitoring Site |
| 33A001M | Well/InSAR pixels | 39.80970 | -121.8631 | GW Monitoring Site |
| 03H002M | Well/InSAR pixels | 39.87822 | -121.9571 | GW Monitoring Site |
| 09E001M | Well/InSAR pixels | 39.86510 | -121.9930 | GW Monitoring Site |
| 10E001M | Well/InSAR pixels | 39.86400 | -121.9724 | GW Monitoring Site |
| 14R002M | Well/InSAR pixels | 39.84105 | -121.9399 | Critical Infrastructure & GW Monitoring Site |
| 27L001M | Well/InSAR pixels | 39.81800 | -121.9669 | GW Monitoring Site |
| 28M002M | Well/InSAR pixels | 39.81877 | -121.9912 | GW Monitoring Site |
| 36P001M | Well/InSAR pixels | 39.79720 | -121.9297 | GW Monitoring Site |
| TNC Well | Well/InSAR pixels | 39.72548 | -121.9449 | GW Monitoring Site |
| **Vina - Chico Management Area** | | | | |
| 09B001M | Well/InSAR pixels | 39.78180 | -121.8718 | GW Monitoring Site |
| 20K001M | Well/InSAR pixels | 39.74450 | -121.8905 | Critical Infrastructure & GW Monitoring Site |
| PWSCH1b | Well/InSAR pixels | ----[2] | ----- | Critical Infrastructure & GW Monitoring Site |
| PWSCH02 | Well/InSAR pixels | ----- | ----- | Critical Infrastructure & GW Monitoring Site |
| PWSCH03 | Well/InSAR pixels | ----- | ----- | Critical Infrastructure & GW Monitoring Site |
| PWSCH07 | Well/InSAR pixels | ----- | ----- | Critical Infrastructure & GW Monitoring Site |
| 18J001M | Well/InSAR pixels | 39.76190 | -121.7891 | GW Monitoring Site |
| 30C002M | Well/InSAR pixels | 39.73827 | -121.7982 | Critical Infrastructure & GW Monitoring Site |
| CMW-102A | Well/InSAR pixels | 39.73537 | -121.8379 | GW Monitoring Site |
| DMW-3 | Well/InSAR pixels | 39.75980 | -121.8752 | GW Monitoring Site |
| GW-4 | Well/InSAR pixels | 39.79651 | -121.8483 | GW Monitoring Site |
| **Vina - South Management Area** | | | | |
| 02H003M | Well/InSAR pixels | 39.61576 | -121.8222 | GW Monitoring Site |
| 06Q001M | Well/InSAR pixels | 39.61270 | -121.7883 | GW Monitoring Site |
| 31M001M | Well/InSAR pixels | 39.54460 | -121.6873 | Critical Infrastructure & GW Monitoring Site |
| 33L001M | Well/InSAR pixels | 39.54357 | -121.6467 | GW Monitoring Site |
| 10B003M | Well/InSAR pixels | 39.69630 | -121.8486 | GW Monitoring Site |

MONTGOMERY & ASSOCIATES

Table 5. Summary of Land Subsidence SMC

| Subbasin | Approved GSP Section Reference | MT | Undesirable Results (UR) | MO | InSAR Network? | Five-Year IM (2027) | Current Conditions* |
|---|---|---|---|---|---|---|---|
| **Vina**** | *Section 3.7. p. 194-195* | *GWL MT Used as Proxy* | *GWL UR Used as Proxy* | *GWL MO Used as Proxy* | Used as Supplement | *GWL IM Used as Proxy* | *On track to meet IM (Section 5.2.3. p. 38)* |
| **Butte**** | *Section 4.3.5. p. 225-226* | 0.5 foot over a five-year period | 25% of monitoring locations fall below MT | 0.25 foot over five-year period | Used as Supplement | No IM identified | No indication of UR (*Section 5.2. p. 41)* |
| **Red Bluff** | *Section 3.2.3. p. 312-314* | 0.5 foot over a five-year period | 0.5 foot over a five-year period – *result of declining GWL* | one foot over 20 years | Yes – eight pixels collocated near WL RMS | -0.25 feet | No indication of UR *(Section 5.2. p. 35)* |
| **Los Molinos** | *Section 3.2.3. p. 306* | 0.5 foot over a five-year period | 0.5 foot over a five-year period – *result of declining GWL* | one foot over 20 years | Yes – nine pixels collocated near WL RMS | -0.25 feet | No indication of UR *(Section 5.2. p. 37)* |
| **Corning** | *Section 6.9. p. 483-491* | 0.5 foot over a five-year period | 0.5 foot over a five-year period – *result of declining GWL* | 0 ft/yr | Yes | < 0.1 ft/yr | No Indication of UR *(Section 5.2. p. 37)* |
| **Colusa** *(only subbasin with current measurable subsidence)* | *Section 5.4.5. p. 388-393* | Cumulative subsidence of two feet (from Jan. 2024) in 1 PLSS section***, *or* >0.1 ft/yr across 10 contiguous PLSS sections for two consecutive years | Cumulative subsidence of >two feet (from Jan. 2024) in one PLSS, *or* >0.1 ft/yr across 10 contiguous PLSS sections for two years | 0 ft/yr | Yes | 0.3 ft/yr | No indication of UR – Measured subsidence (>0.1 feet) occurred in three locations, but were not contiguous PLSS *(Section 6.1.4. p. 47-50)* |

ft/yr = feet per year

*Current Conditions as described in WY 2024 Annual Report. Note that the sections indicated referencing relevant section in the most recent, 2024, Annual Report, which was made public in early spring 2025.

**Vina and Butte Subbasins have an RCA to revise their monitoring network to include InSAR data

***PLSS section: Defined as one square mile, or 640 acres

| Site ID | Site Type[1] | Latitude | Longitude | Selection Criteria |
|---|---|---|---|---|
| 12D001M | Well/InSAR pixels | 39.69322 | -121.8231 | GW Monitoring Site |
| 12K001M | Well/InSAR pixels | 39.68920 | -121.8121 | GW Monitoring Site |
| 13L002M | Well/InSAR pixels | 39.67348 | -121.8144 | GW Monitoring Site |
| 14Q002M | Well/InSAR pixels | 39.66910 | -121.8298 | GW Monitoring Site |
| 25K001M | Well/InSAR pixels | 39.64200 | -121.8128 | GW Monitoring Site |
| 26K001M | Well/InSAR pixels | 39.64540 | -121.8313 | GW Monitoring Site |
| 27B001M | Well/InSAR pixels | 39.65280 | -121.8526 | GW Monitoring Site |
| 27D001M | Well/InSAR pixels | 39.65110 | -121.8607 | GW Monitoring Site |
| 28F001M | Well/InSAR pixels | 39.64900 | -121.8726 | GW Monitoring Site |
| 18C001M | Well/InSAR pixels | 39.68200 | -121.7970 | GW Monitoring Site |
| 20P001M | Well/InSAR pixels | 39.65680 | -121.7818 | GW Monitoring Site |
| 26E003M | Well/InSAR pixels | 39.64680 | -121.7263 | Critical Infrastructure & GW Monitoring Site |
| 30L001M | Well/InSAR pixels | 39.64220 | -121.7994 | GW Monitoring Site |
| 32E001M | Well/InSAR pixels | 39.63383 | -121.7845 | GW Monitoring Site |
| 29J003M | Well/InSAR pixels | 39.64540 | -121.6588 | GW Monitoring Site |
| 32B001M | Well/InSAR pixels | 39.63958 | -121.6634 | GW Monitoring Site |
| MW-6 | Well/InSAR pixels | 39.67358 | -121.7335 | GW Monitoring Site |

1. "Well" site types are wells included in the broad groundwater level monitoring network.
2. Public Water Supply (PWS) locations not published due to confidentiality considerations
3. Identified as Critical Infrastructure site in this table if located within ½ mile of Hwy 99 and Hwy 32

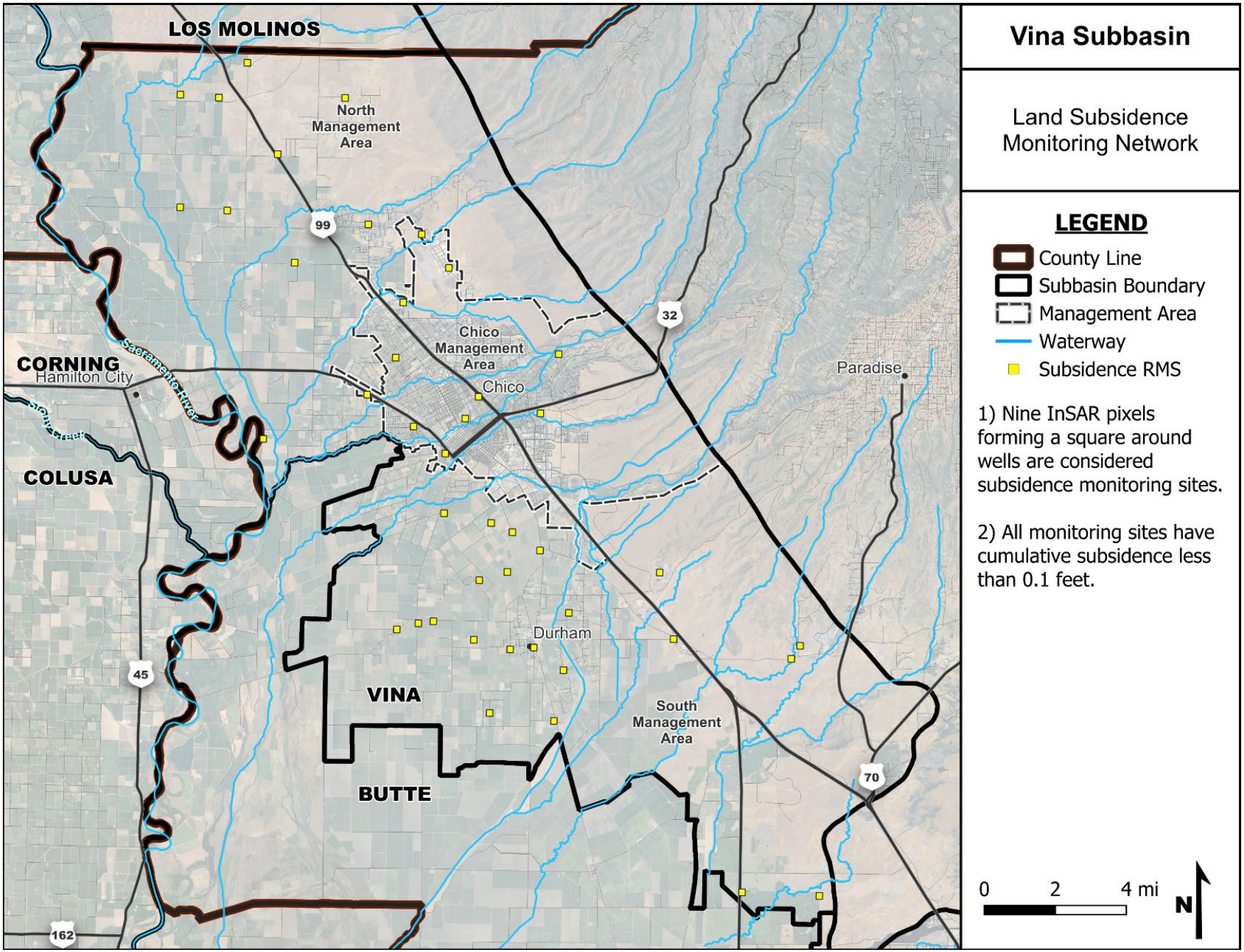



**Figure 2. Land Subsidence Representative Monitoring Site (RMS) network**

# *Proposed Edits and Retained Provisions — Vina GSA Subsidence Strawman Proposal*

*Prepared for the Tuscan Water District Board, Special Meeting — May 14, 2026*

On April 24, 2026, Vina GSA staff and consultants released a strawman proposal for the land subsidence Sustainable Management Criteria (SMC), responding to DWR Recommended Corrective Action 5 in advance of the January 2027 Periodic Evaluation. The strawman correctly establishes an InSAR-driven monitoring framework as RCA 5(b) directs. The table below sets out the Agricultural Groundwater Users of Butte County (AGUBC) landowner position section by section: rows 1–9 are proposed edits where the strawman's discretionary choices diverge from the DWR Land Subsidence BMP, the four DWR-approved Sacramento Valley comparator GSPs (Red Bluff, Los Molinos, Corning, Colusa — all approved February 2025), or the same engineering team's 2027 Periodic Evaluation draft for the neighboring Wyandotte Creek Subbasin. Rows 10–13 are strawman provisions that are accepted as written.

## Landowner Position — Section by Section

| # | Section / Topic | Strawman as Drafted | Landowner Position | Why |
|---|---|---|---|---|
| 1 | **Minimum Threshold (MT)** | 0.2 ft/yr at any RMS, OR 0.5 ft / 5-yr cumulative (stacked triggers) | **PROPOSED EDIT —** 0.5 ft / 5-yr cumulative only, attributable to declining groundwater levels. | No DWR-approved Sacramento Valley basin uses a single-pixel annual-rate MT. Matches Red Bluff, Los Molinos, Corning, Butte, and the same engineer's Wyandotte Creek draft. |
| 2 | **Undesirable Result — Trigger 2** | >0.1 ft/yr across 10 contiguous PLSS sections for 2 consecutive years (Colusa-style) | **PROPOSED EDIT —** Removed. | Colusa adopted this structure for a basin with measured subsidence; Vina has none. Untethers the UR from the land-use-harm requirement of 23 CCR § 354.28(c)(5)(A). |
| 3 | **Undesirable Result — Trigger 1** | MT exceedance (annual-rate) + confirmed infrastructure impact, 2 yrs | **PROPOSED EDIT —** MT exceedance (cumulative) + confirmed infrastructure impact + groundwater-level causation finding, 2 yrs. | Updates the MT reference to the cumulative trigger and adds the Red Bluff / Los Molinos causation gate ("as a result of declining GWL"). |
| 4 | **Relationship to Groundwater Conditions** | Groundwater-level framework abandoned entirely | **PROPOSED EDIT —** Groundwater-level framework retained as leading indicator alongside InSAR; sequencing language added making subsidence-driven PMAs conditional on observed subsidence. | BMP § 6.8 endorses the GWL framework in basins without observed subsidence; BMP § 7.4.2 sequences Scenario 2 PMAs after detection. Parallels the Wyandotte Creek 2027 Periodic Evaluation draft. |
| 5 | **Interim Milestones (IM)** | "0.0 ft/yr maintained" (duplicate of MO) | **PROPOSED EDIT —** No IM established. (or 0.0 ft/yr) | BMP § 6.5: "interim milestones is not necessary" in basins without observed subsidence and with MO at zero. Butte's "No IM identified" already DWR-accepted. |
| 6 | **Measurement Uncertainty** | "Approximately 0.05 to 0.10 ft/yr" range | **PROPOSED EDIT —** "< 0.10 ft/yr" (single value). | Eliminates interpretive disputes near the boundary. Anchored to BMP § 6.3 ("zero or the measurement error of the monitoring equipment"). |
| 7 | **Sustainability Indicator Description** | Geologic-substrate finding omitted; conditional risk pathway only | **PROPOSED EDIT —** Geologic-substrate finding restored, with SVSim specific-yield (Sy ≈ 0.085) quantitative support and the four-year (WY 2022–25) empirical record of no inelastic subsidence. | DWR's 2023 Staff Report accepted "subsurface materials… not susceptible to subsidence." Strongest empirical anchor for the Subbasin's Scenario 2 posture. |

| | | | | |
|---|---|---|---|---|
| **8** | **Monitoring Network — Spatial Criteria** | "Areas of groundwater extraction (west of Highway 99)" leads | **PROPOSED EDIT —** Critical infrastructure leads; mechanism-based criteria (lithology, GWL decline) follow; Management Area coverage added. | 23 CCR § 354.28(c)(5)(A) ties subsidence MTs to identified land uses and property interests, not to pumping geography. |
| **9** | **Monitoring Network — Infrastructure List** | Highway 99, Highway 32, City of Chico, Durham | **PROPOSED EDIT —** Adds irrigation district infrastructure, Cal Water service area, and consultation with infrastructure operators. | BMP § 5.2 calls for GSAs to "broadly encompass any infrastructure, land use, and property interest." |
| **10** | **Measurable Objective (MO)** | 0.0 ft/yr of land subsidence at representative monitoring locations | **RETAIN AS WRITTEN —** 0.0 ft/yr accepted. | BMP-consistent. § 6.4: "In basins that have not experienced land subsidence, the measurable objective should be set at zero." |
| **11** | **InSAR + GPS Monitoring Backbone** | DWR-provided InSAR data, plus one available GPS site in the Vina Subbasin, as the monitoring backbone | **RETAIN AS WRITTEN —** InSAR + 1 GPS site accepted as the monitoring backbone. | RCA 5(b) is disjunctive ("remote sensing data, survey monuments, or GPS stations"); 23 CCR § 354.34(c)(6) is disjunctive. DWR has approved InSAR-driven networks in Red Bluff (8 pixels), Los Molinos (9 pixels), Corning, and Colusa. No record exists of DWR rejecting an InSAR-only network in any California basin. |
| **12** | **Annual InSAR Review Framework** | InSAR data evaluated at least annually, with consideration of both annual rates and cumulative deformation trends | **RETAIN AS WRITTEN —** Annual review with annual-and-cumulative trend evaluation accepted. | Consistent with BMP § 6.1.2's review-cycle framework. The annual review structure is correct; only the MT it is evaluated against is changing per Edit 1. |
| **13** | **Periodic Refinement of Monitoring Locations** | Number and distribution of representative monitoring locations periodically reviewed and refined over time, with long-term trend-evaluation continuity preserved | **RETAIN AS WRITTEN —** Periodic refinement framework accepted. | Consistent with BMP § 6.1's periodic-evaluation framework. Preserves continuity of trend evaluation across future GSP cycles. |

***Defensibility.*** *Taken together, this position fully satisfies DWR Recommended Corrective Action 5: a quantitative undesirable-result definition tied to identified infrastructure and to declining groundwater levels, and a monitoring network that directly measures land elevation change via InSAR. Every provision is anchored in the DWR Land Subsidence BMP, in 23 CCR §§ 354.28(c)(5) and 354.34(c)(6), or in a DWR-approved Sacramento Valley comparator GSP. Full redline, edit-by-edit rationale, and supporting research are in the AGUBC May 3, 2026 Strawman Redline and Research Memo (v2).*

# Item 4: Consideration of Land Subsidence SMC Amendments

**Vina Stakeholder Advisory Committee**

May 27, 2026

**Christina Buck, PhD**
**Assistant Director**
**Butte County Dept. of Water and Resource Conservation**
**Providing technical staff support to the GSA**

**Purpose today**

Frame the proposed GSP amendments and support SHAC discussion and potential recommendation to the Vina GSA Board.



1

## Why this item is before SHAC now

How to respond to DWR's land subsidence RCA in the Periodic Evaluation / amendment process?

### Background

Vina GSP adopted in 2021 and approved by DWR in 2023.

DWR provided Recommended Corrective Actions to be considered in the first Periodic Evaluation.

First Periodic Evaluation is due January 2027.

### Why land subsidence?

The 2022 GSP uses groundwater levels as a proxy for land subsidence. DWR requested a clearer, quantitative approach and direct monitoring of land elevation change.

DWR's 2026 Best Management Practice document provides new guidance for this sustainability indicator.

### What SHAC is asked to do

Review the proposed amended GSP sections.

Discuss whether the approach is appropriate for Vina.

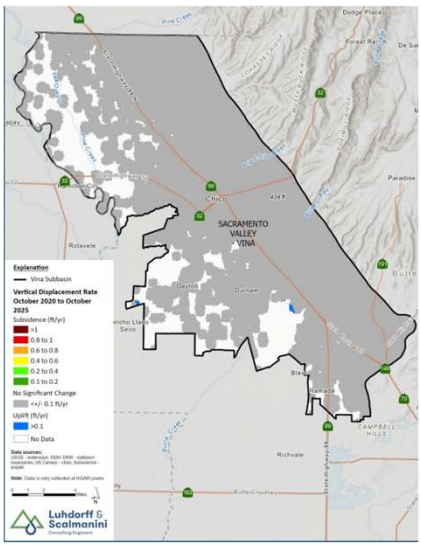
Make a recommendation to the Vina GSA Board.



2

## Current Vina conditions: no observed inelastic subsidence

The issue is not an existing impact; it is whether the GSP should be amended to use direct subsidence SMC going forward.




**0**

recorded inelastic land subsidence in recent annual reporting

**2020–2025**

InSAR period shown as "no significant change" across most of the Subbasin

**<0.10 ft/yr**

treated as within InSAR measurement uncertainty



3

## DWR expectations: RCA 5 and Land Subsidence BMP

**RCA 5 asks the GSAs to:**

**1. Quantitative undesirable result**

*Provide a clear, quantitative definition of when undesirable results for land subsidence may occur in the Subbasin, as required by the GSP regulations, to support the selection of land subsidence minimum thresholds that demonstrate avoidance of undesirable results.*

**2. Direct monitoring of land elevation change**

*Establish sustainable management criteria for land subsidence for the Subbasin utilizing a monitoring network that directly measures land elevation change such as remote sensing data, survey monuments, or global positioning system stations.*

**Best Management Practice (BMP) Scenario 2**

Little or no subsidence has been observed to date.

Groundwater levels may be allowed to decline below historical lows under the 2022 GSP Groundwater Level MT framework.

Monitoring and SMC should identify conditions that could lead to significant and unreasonable impacts.

**SMC= Sustainable Management Criteria**
**RCA= Recommended Corrective Action**
**MT= Minimum Threshold**
**GWL= Groundwater Level**



4

## What has changed since the April strawman proposal?

The proposal was revised based on public discussion and written comments.

April 24, 2026, Land Subsidence Strawman released
May 7, 2026 Discussion Session (hybrid)

**Public input led to several focused changes:**

| | |
|---|---|
| **0.10 ft/yr** | Measurement uncertainty clarified as 0.10 feet per year. |
| **Causation** | MT and Undesirable Result language tied to declining groundwater levels. |
| **5-year cumulative MT** | Annual-rate MT removed to reduce risk of reacting to noise in the data or temporary movement (elastic subsidence) |
| **InSAR + wells** | Representative InSAR locations paired with groundwater monitoring wells where feasible – map provided |

**The current proposal is no longer the April strawman; it is draft amendment language for SHAC consideration.**

**MT= Minimum Threshold**
**UR= Undesirable Result**



5

## Neighboring subbasins informed the revisions

Public feedback encouraged consistency with nearby Sacramento Valley approaches where appropriate.

| Comparison Topic | How it informed Vina proposal |
|---|---|
| **Cumulative MTs** | Red Bluff, Los Molinos, Corning, and Butte use 0.5 ft over a five-year period or similar cumulative framing. |
| **InSAR network** | Nearby basins use InSAR as a direct land-surface monitoring tool, often near groundwater-level RMS wells. |
| **Causation language** | Several approaches tie subsidence to declining groundwater levels rather than unrelated land surface movement. |
| **Colusa distinction** | Colusa includes an areal PLSS trigger, but it has measurable subsidence; Vina does not. |



6

## Current 2022 GSP approach vs. proposed amendment

The proposed amendment changes the basis for evaluating the land subsidence sustainability indicator.

| | 2022 GSP | Proposed amendment |
|---|---|---|
| **Monitoring** | Groundwater level network used as proxy | All InSAR data + one GPS station; RMS InSAR clusters near wells / infrastructure |
| **SMC basis** | Groundwater-level SMC used for subsidence | Direct land-surface deformation SMC |
| **Minimum Threshold** | Groundwater-level MT used as proxy | 0.5 ft cumulative subsidence over 5 years, attributable to declining GWLs |
| **Undesirable Result** | Groundwater-level UR used as proxy | MT exceedance for 2 consecutive years + confirmed infrastructure impacts + declining GWLs |

**Takeaway: the proposal retains groundwater levels as context/causation information, but no longer relies on GWLs as the SMC proxy.**



7

## Proposed SMC: nuts and bolts

Draft amendment language is written to replace GSP Sections 3.7, 4.5, and add Section 4.9.3.

| | |
|---|---|
| MO | 0.0 ft/yr of land subsidence at representative monitoring locations, recognizing uncertainty. |
| MT | 0.5 foot cumulative subsidence over a 5-year period at the same location, as a result of declining groundwater levels. |
| IM | No interim milestone needed because no subsidence has occurred in the Subbasin. |
| UR | MT exceedance at the same representative location for two consecutive years with confirmed infrastructure impacts and declining groundwater levels. |
| Uncertainty | <0.10 ft/yr considered within the range of InSAR measurement uncertainty. |

**Annual rates remain useful for context, but compliance is based on rolling 5-year cumulative change.**



8

## Monitoring approach: Broad network + RMS network

Use all available data for screening; use selected representative locations for SMC compliance.

### Broad monitoring network

All available DWR-provided InSAR data across the Subbasin.

One available GPS station in Vina used to corroborate displacement estimates.

Reviewed annually for spatial patterns and emerging trends.

### Representative monitoring locations

44 representative monitoring locations.

Each location is a groundwater monitoring well plus one central InSAR pixel and eight supporting pixels.

Nine-pixel cluster average used for SMC compliance.

### Why pair with wells?

Supports interpretation of falling/rising groundwater levels and land surface change at the same location.

Helps evaluate whether observed subsidence is linked to groundwater management.

Keeps the network stable and repeatable over time.

**This approach preserves the full InSAR dataset for basin-wide understanding while creating a clear RMS network for reporting and compliance.**



## Representative monitoring site (RMS) network

The proposed RMS network covers each management area and key infrastructure corridors.

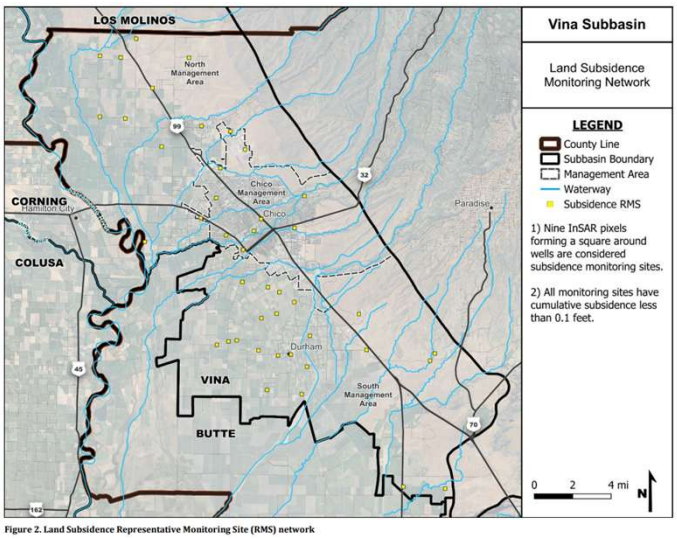



Figure 2. Land Subsidence Representative Monitoring Site (RMS) network

### Network features

**44** representative monitoring locations

**9** InSAR pixels per well location

### Selection emphasis

- Data quality
- Infrastructure
- Groundwater pairing
- Spatial coverage

## Requested SHAC recommendation

SHAC is asked to make a recommendation to the Vina GSA Board on two related items.

**1. Approach to amend the GSP**

Whether the GSP should be amended now to address DWR's land subsidence RCA.

Whether the proposed direct InSAR/GPS monitoring framework is an appropriate path for the Periodic Evaluation.

**2. Content of amendment language**

Any specific edits, additions, or clarifications SHAC recommends before Board consideration.

**Requested action: provide direction and a recommendation for the Vina GSA Board's June consideration.**

# Item 4.4
# Consideration of the Approach to Addressing Interconnected Surface Water (ISW) in the Periodic Evaluation in response to the Department of Water Resources' Recommended Corrective Actions

**Vina and Rock Creek Reclamation District GSA Joint Board Meeting**
**June 10, 2026**

Christina Buck, PhD
Assistant Director
Butte County Dept. of Water and Resource Conservation
Providing technical staff support to the GSA

# Purpose of Today's Discussion

**The Boards are being asked to consider and potentially approve a proposed approach for responding to DWR's ISW Recommended Corrective Action in the Periodic Evaluation**

### What is the regulatory framework for ISW?

DWR focused on estimating the location, timing, and volume of depletions of interconnected surface water caused by groundwater pumping.

### What progress has been made?

The Larry Walker Associates ISW Technical Memo provides new information on where ISW likely occurs and when some streams are connected or disconnected — this information was not available in the 2022 GSP or during its development.

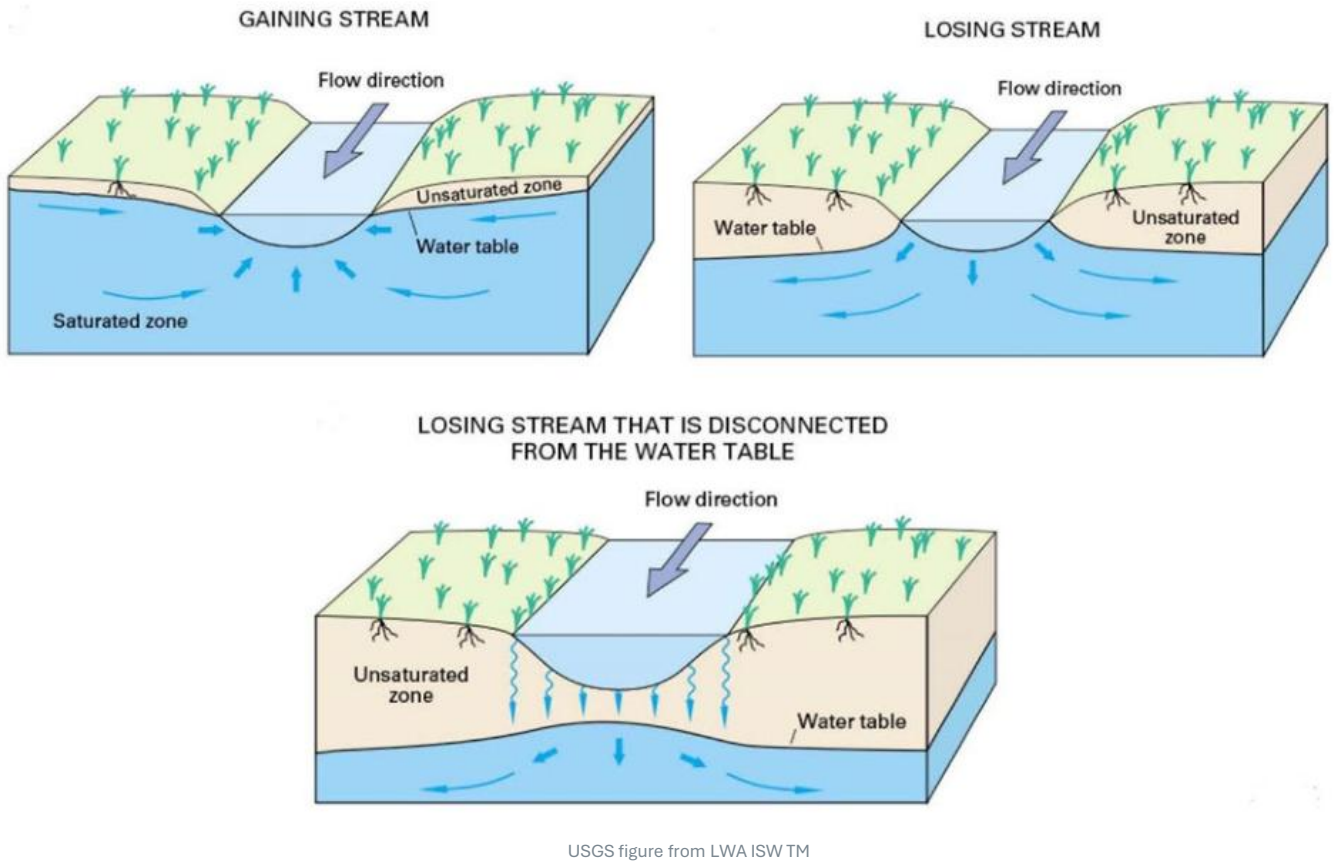
### What remains?

The volume piece is the least resolved and depends most on DWR guidance, regional coordination, and continued monitoring — especially for the Sacramento River.

**Key framing: show meaningful progress now; defer ISW-specific SMC until guidance, regional work, and additional data provide a stronger basis.**

DWR – Department of Water Resources
ISW- Interconnected Surface Water
GSP – Groundwater Sustainability Plan

# Quick Orientation: What Is Interconnected Surface Water (ISW)?




USGS figure from LWA ISW TM

**Interconnected Surface Water (ISW) is where groundwater and rivers or streams are connected and can influence each other**

## Why it matters

Under SGMA, the key question is whether groundwater pumping causes depletions of ISW that significantly and unreasonably affect beneficial uses of surface water.

# DWR Recommended Corrective Action (RCA): Location, Timing, and Volume

**DWR recognized that estimating stream depletion from subbasin-wide pumping is complex, but expects progress by the first Periodic Evaluation.**

### Location

Where are streams connected, losing, gaining, or disconnected? Which monitoring sites evaluate ISW?

### Timing

When are streams connected or disconnected? How does this vary by season and hydrologic conditions?

### Volume

What is the rate and volume of pumping-induced depletion, and when does it occur?

### SMC

How should ISW minimum thresholds, measurable objectives, and management actions be set?

**Current Status: DWR has not yet released the ISW guidance referenced in its RCA.**

Proceed deliberately: show progress on location and timing now; continue work on volume and SMC through guidance, monitoring, and regional coordination in this next implementation period (2027-2032).

# DWR's Recommended Corrective Actions

**Provided below is ISW Recommended Corrective Action 6, as stated in the Determination Letter:**

Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, Subbasin-wide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water.

In addition, the GSAs should work to address the following items by the first periodic evaluation:

a. Consider utilizing the interconnected surface water guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.

b. Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.

c. Prioritize collaborating and coordinating with local, state, and federal regulatory agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion within the GSAs' jurisdictional area.

d. Clarify the groundwater level monitoring sites that will be used for the evaluation of depletions of interconnected surface water and provide site-specific information.

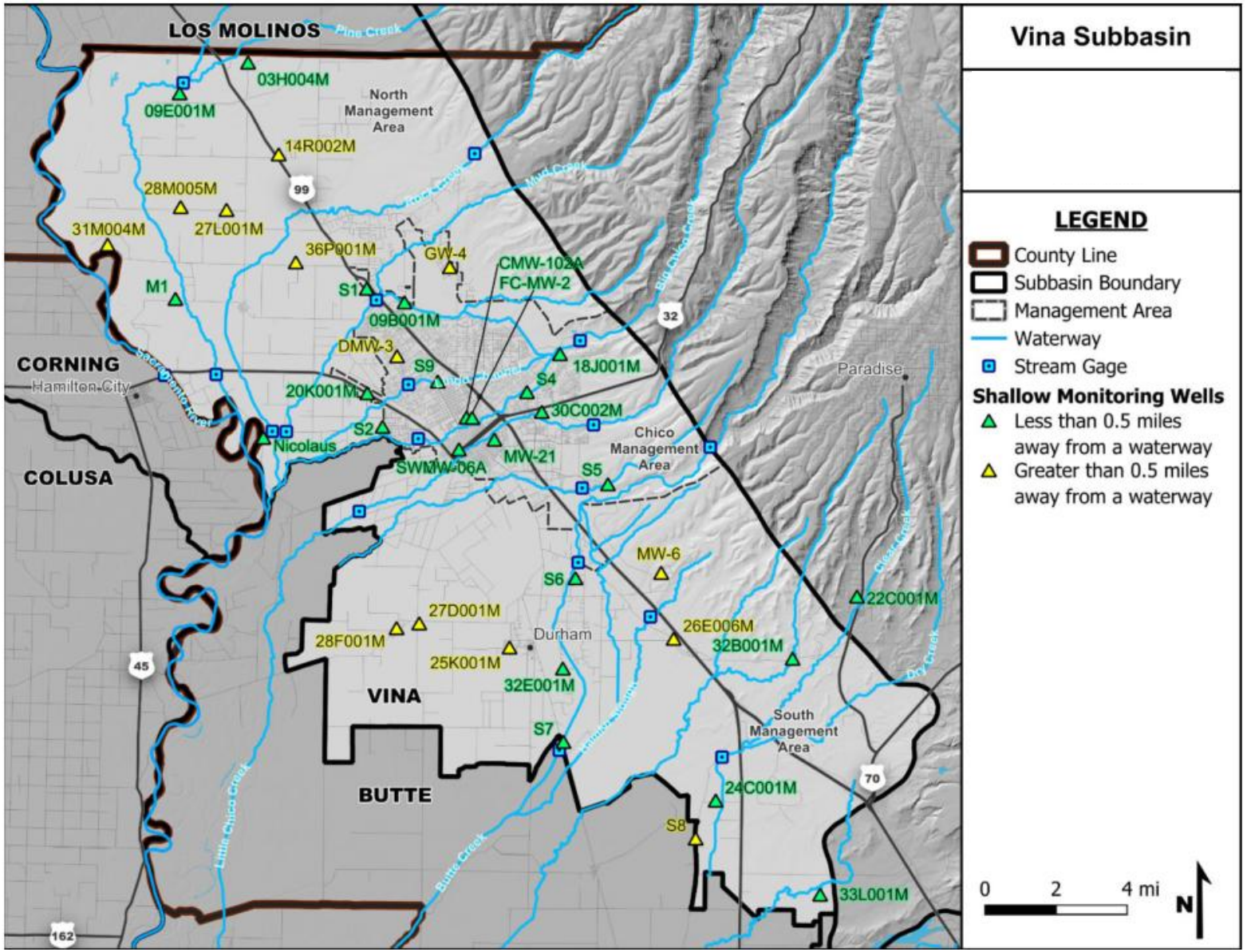
**In addition, DWR included a related corrective action regarding model inputs and outputs for stream gains and losses:**
Review the model inputs/outputs and provide consistent information regarding stream loss and gains throughout the GSP. Clarify whether these values simply represent the overall interaction between the surface water and groundwater system or the quantity of depletion due to groundwater pumping.

# Notable Progress:

# New information from the Larry Walker Associates ISW Technical Memorandum

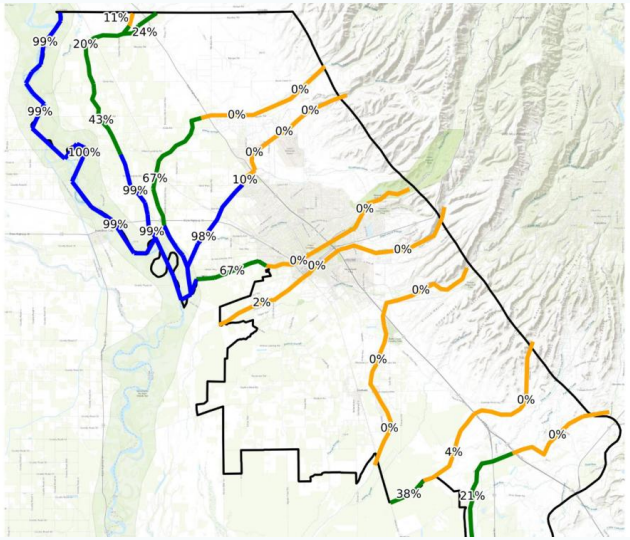
# New Information from the SGM grant Data Gap Project

**Identified existing shallow wells with historical data relevant for defining a broad ISW network**



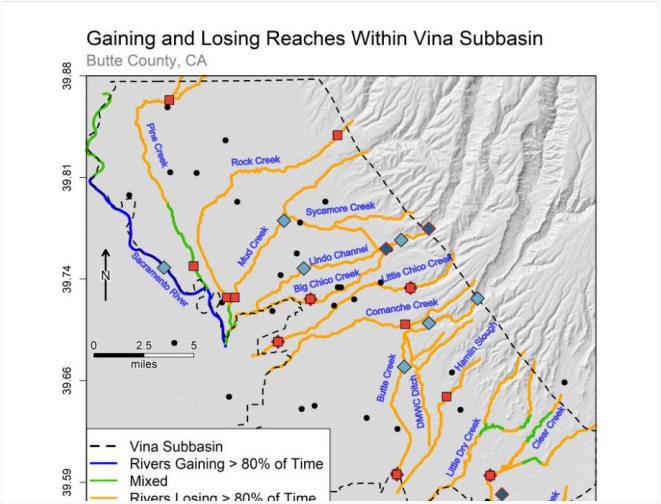
# New Information from the SGM grant Data Gap Project: ISW Tech Memo

## The TM uses multiple lines of evidence to improve understanding of ISW in the Vina Subbasin



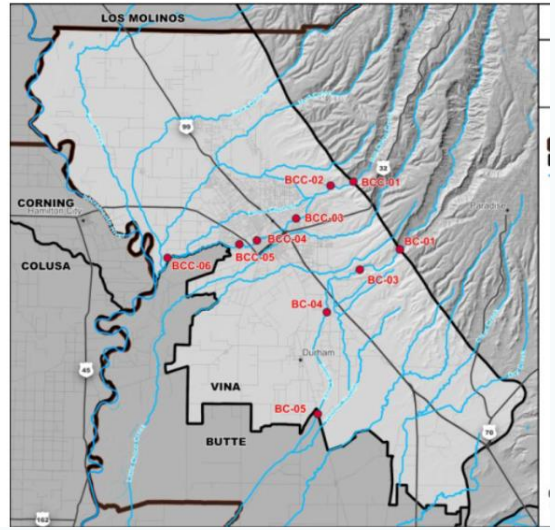

### Butte Basin Groundwater Model

Updated BBGM v1.3 results identify likely connected, losing, gaining, and disconnected reaches.




### Shallow Regional Groundwater

Seasonal groundwater level comparisons to stream bed elevations using LiDAR data help evaluate where connection occurs

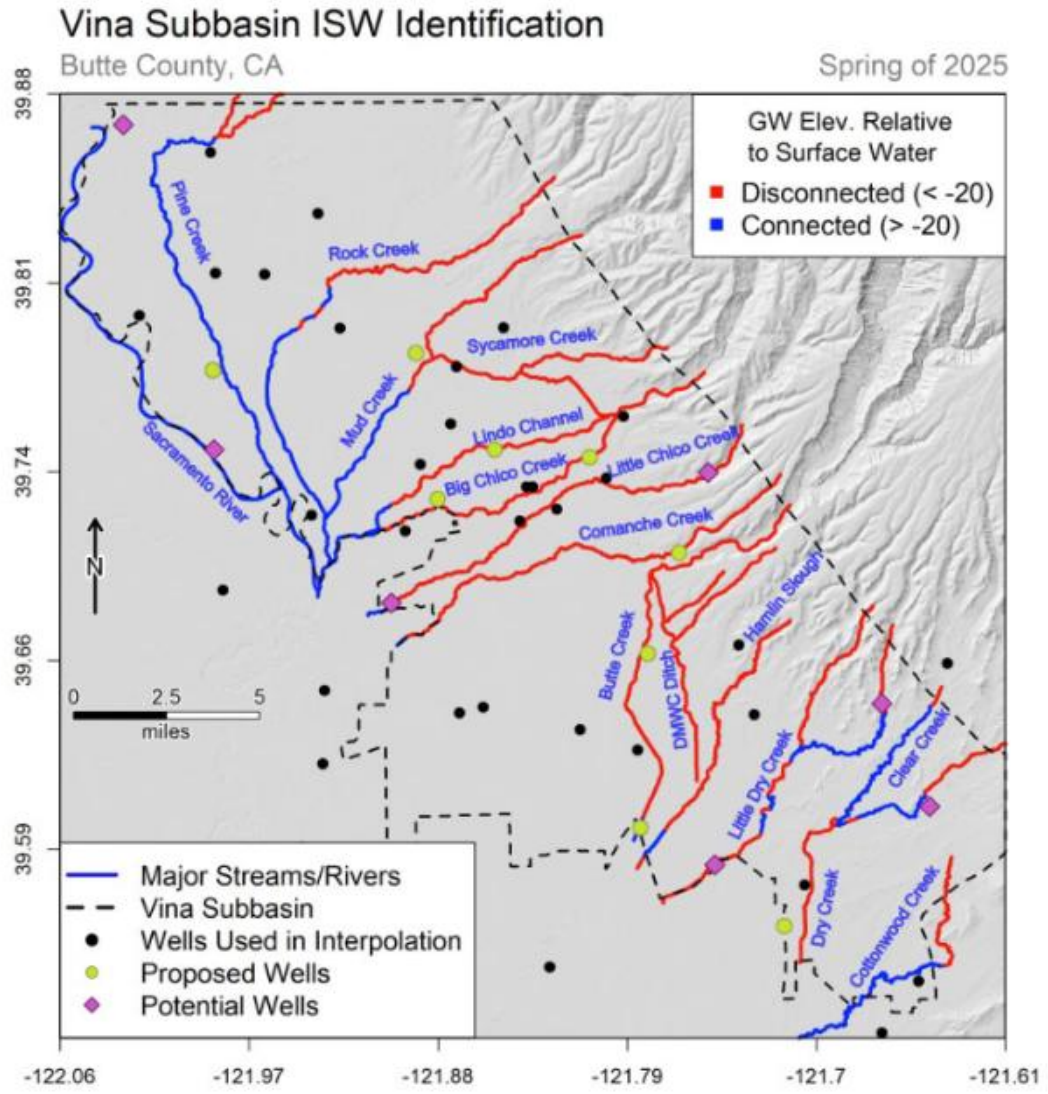



### Isotope Sampling

May–October isotope sampling along Big Chico and Butte Creeks helps evaluate whether groundwater inputs were present during data collection period.

Source: Larry Walker Associates ISW TM, April 2026

# Location: Big Strides in Identifying Where ISW Likely Occurs, and Doesn't




Source: Larry Walker Associates ISW TM

## Preliminary location pattern

- Sacramento River is primarily connected and gaining.
- Lower western reaches of some creeks may be connected or mixed.
- Many central and eastern reaches appear disconnected much or all of the time.
- Connections may shift with hydrology and groundwater levels.

**RCA progress**

This directly addresses the "location" part of DWR's RCA by improving the basis for identifying connected stream segments and selecting monitoring locations.

# Timing: What We Learned So Far

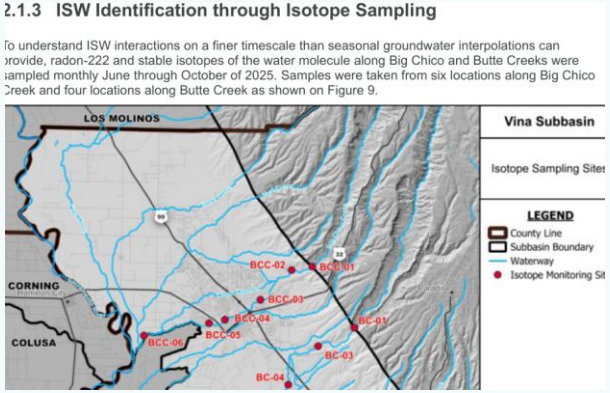
## Sacramento River

Primarily connected and gaining across the analysis period. This makes it the main surface water feature for continued ISW depletion evaluation.

Important for both timing and volume because it borders multiple subbasins.

## Big Chico + Butte Creeks

May–October isotope results indicate these streams did not show a groundwater-input signal and were disconnected from groundwater during the time sampled.




## Ephemeral Streams

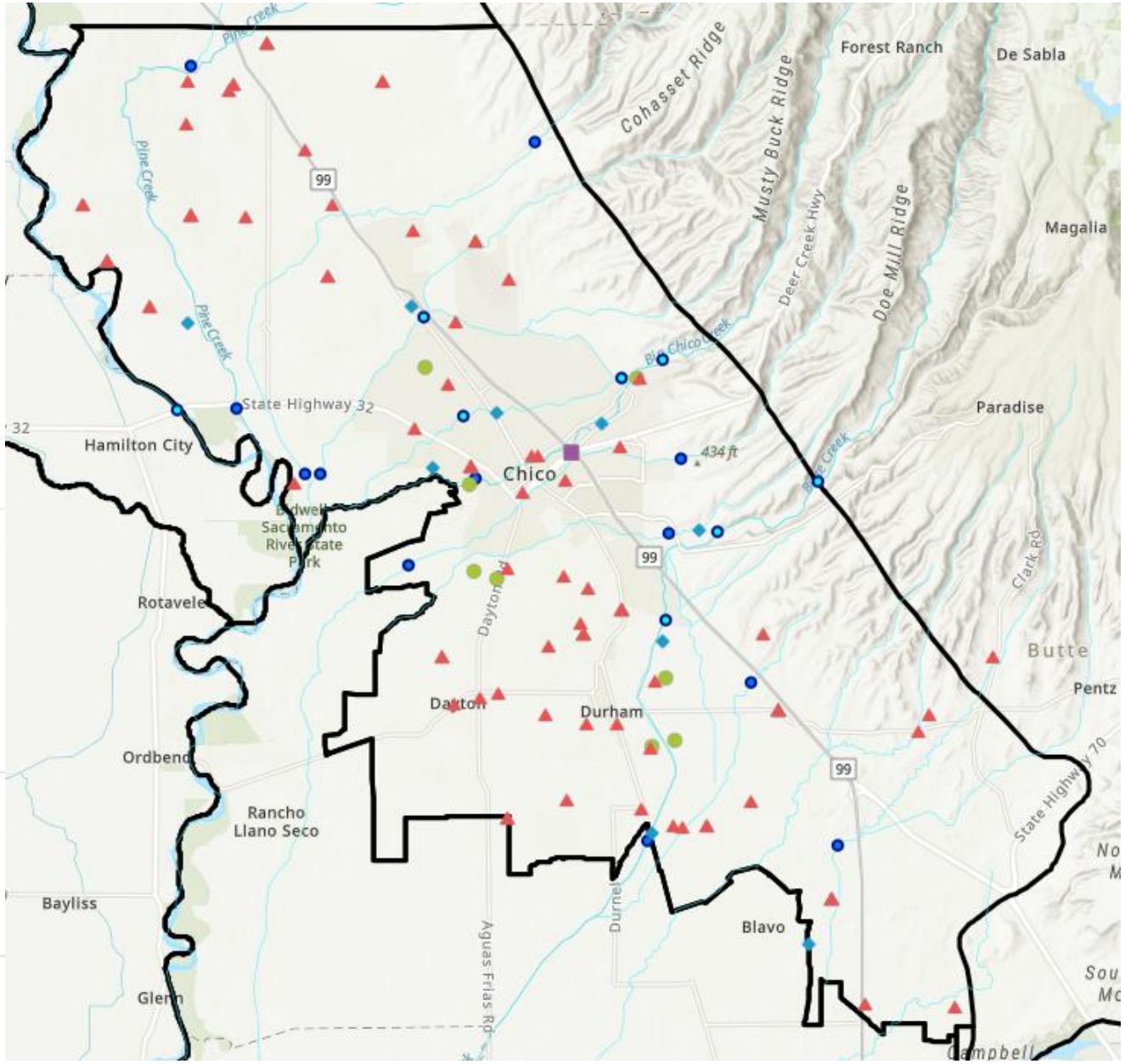
Potential depletions are limited to periods when streams are flowing and groundwater levels are high, making them connected to the aquifer. Streamflows typically end by June.

New continuous shallow groundwater data and stream gages will help characterize timing more clearly over the next implementation period.

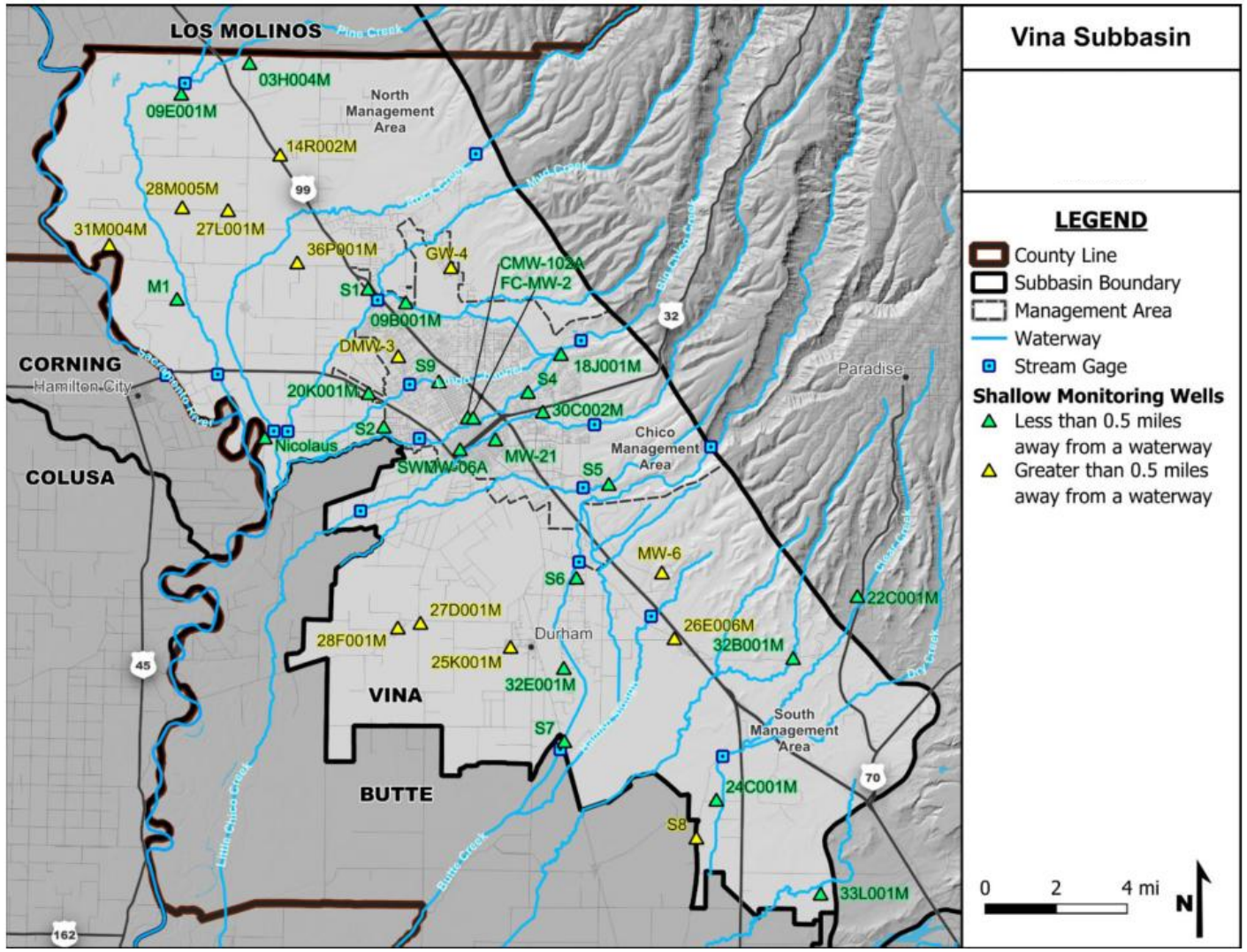
# Upcoming New Data: shallow wells and stream gages

**New monitoring will provide 'continuous' data – very helpful for location and timing question**

**Important for further understanding ephemeral streams**



# Volume: The Remaining Challenge




Source: LWA ISW TM

**The volume piece is least resolved and most dependent on DWR guidance and regional coordination.**

The Sacramento River is the primary connected feature of concern and is relevant to multiple subbasins.

Volume estimates and ISW SMC will need DWR guidance, regional coordination, improved modeling tools, and methods to distinguish pumping-induced depletion from broader hydrologic and surface water management influences.

The TM provides a preliminary estimate of pumping-related reduction from June–December of about 38 cfs / 16 TAF per year across Vina and adjacent subbasins.

# Proposed RCA Response Strategy:

# Demonstrate meaningful progress now; develop robust ISW SMC later

# Range of Options for Responding to DWR's ISW RCA

## Minimal wait-and-see

### What it would do

Describe uncertainty and defer most ISW decisions.

### Consideration

Avoids premature decisions but may not show enough progress on DWR's location / timing / volume framework.

Strawman/SHAC Recommendation

## Incremental approach

### What it would do

Document progress on characterizing location and timing; define broad ISW monitoring network; wait on volume and SMC.

### Consideration

Recommended approach: demonstrates RCA progress while preserving flexibility for more robust development of thresholds in the future.

## More immediate SMC

### What it would do

Select ISW RMS sites and set preliminary Sustainable Management Criteria now (MT/MO).

### Consideration

Proactive, but risks premature thresholds before DWR guidance, regional coordination, and sufficient monitoring data.

# SHAC Discussion and Recommendation

**SHAC recommended an approach consistent with combining "Show progress" and "Proceed carefully"**

**Most proactive** — **Middle path** — **Most cautious**

### Move faster toward SMC

- Set ISW-specific SMC sooner.
- Raise thresholds to protect GDEs and ISWs.
- Use ecological indicators, such as valley oaks, urban canopy, and rooting depths to set thresholds
- Include early-warning triggers before thresholds are reached.

### Show progress

- Define a broader ISW monitoring network now.
- Use new analysis to document location and timing progress.
- Improve visuals and explanations of stream connectivity, model outputs, and uncertainty.
- Collect new data - shallow groundwater and stream gage monitoring.

### Proceed carefully

- Proceed cautiously given data gaps.
- Wait for DWR guidance
- Maintain flexibility; avoid locking in premature thresholds.
- Coordinate with neighboring subbasins on ISW and model calibration.
- Revisit SMC when DWR guidance, regional work, and new data are available.

One dissenting vote due to concern of GSAs making new commitments absent state guidance.

# SHAC Discussion

Key themes and perspectives from the discussion included:

- **Support for the combined middle path**
- **Agreement that Sustainable Management Criteria (SMC) should not be set yet-** All SHAC members agreed on this point
- **Caution regarding the monitoring network-** One member expressed hesitancy about committing to establishing the monitoring network before DWR guidance is available, and was not comfortable moving forward with new commitments without state guidance.
- **Technical concern regarding Big Chico Creek:** One member expressed disagreement with the ISW Technical Memorandum's characterization of Big Chico Creek as likely disconnected, expressing the view that it is likely connected to a shallow aquifer. More data is needed.

# SHAC Recommendation and Requested Board Action

### SHAC Recommendation
**(majority, one dissenting)**

SHAC recommended the Boards support a combined “Show Progress / Proceed Carefully” approach.

### Potential Board Action

Approve the approach to document the Interconnected Surface Water (ISW) response to Department of Water Resources (DWR) Recommended Corrective Actions in the Periodic Evaluation consistent with the combined “Show Progress / Proceed Carefully” path:

1. Describe progress in characterizing ISW location and timing using the Larry Walker Associates ISW Technical Memorandum
2. Define a broader ISW monitoring network using established monitoring wells, and
3. Defer ISW-specific Sustainable Management Criteria until DWR guidance, additional monitoring data, and regional coordination provide a stronger basis for threshold development.

**Vina Groundwater Sustainability Agency**
**308 Nelson Avenue, Oroville, CA 95965**
**(530) 552-3592 · VinaGSA@gmail.com**

# MEMORANDUM

**To:** Vina and Rock Creek Reclamation District Groundwater Sustainability Agency Boards

**From:** Christina Buck, Assistant Director, Butte County Department of Water and Resource Conservation (providing technical staff support to the Vina GSA)

**Date:** June 4, 2026

**Subject: Consideration of an Approach to Addressing Interconnected Surface Water in the Periodic Evaluation in response to DWR Recommended Corrective Actions**

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## Background

The Vina Groundwater Sustainability Plan (GSP) was adopted in December 2021 by the Vina Groundwater Sustainability Agency (GSA) and Rock Creek Reclamation District GSA and subsequently reviewed and approved by the California Department of Water Resources (DWR) in July 2023. As part of its review, DWR provided Recommended Corrective Actions (RCAs) in its Determination Letter identifying several areas for improvement with an expectation that the RCAs should be considered by the GSAs in the first Periodic Evaluation of the GSP or addressed through amendments to the GSP. The Sustainable Groundwater Management Act (SGMA) requires the GSAs to submit the first Periodic Evaluation (PE) by January 2027. The PE is the GSA's written assessment of its GSP implementation. The Vina GSA received funding through the Sustainable Groundwater Management (SGM) Round 2 grant program to support work to address data gaps identified in the plan and complete the Periodic Evaluation. Larry Walker and Associates (LWA) was competitively selected to complete this work. Butte County staff provide technical staff support to the Vina GSA due to their local expertise and institutional knowledge.

## Purpose of this Memo

The following memo provides relevant background and a proposed approach for how the Vina and Rock Creek Reclamation District Groundwater Sustainability Agencies (GSAs) could address the Department of Water Resources' (DWR's) RCAs related to depletion of interconnected surface water (ISW) in the Vina Subbasin. A 'strawman proposal' describing a potential ISW approach was released by the Vina GSA for public and stakeholder consideration and input on May 18, 2026. A "strawman" proposal is an initial draft created to jump-start discussion and identify potential weaknesses or areas for improvement, serving as a starting point for collaborative refinement. The GSA is using this approach with the different topics of the RCAs. A public discussion on the strawman was held virtually on May 21, 2026 where a handful of public members attended a Zoom meeting and Christina Buck provided an overview of the Larry Walker and Associates ISW Technical Memo and the ISW strawman. Participants were able to ask questions in an informal setting. The strawman materials were then provided to the Stakeholder Advisory Committee (SHAC) for their input and potential recommendation at their meeting on May 27, 2026. The following presents a refined proposal for the GSA Boards' consideration based on discussion,

received input, and the SHAC's recommendation.

## Relevant Documents and Resources

The following materials provide background for this discussion and should be considered together. Several documents are draft work products intended to support discussion of the Vina Subbasin Periodic Evaluation.

- Draft Technical Memorandum: Vina Subbasin Interconnected Surface Water (Larry Walker Associates, April 2026) ** This is a key document for this topic.
- Groundwater Monitoring Network Enhancements Technical Memorandum (Larry Walker Associates, November 2024)
- Airborne Electromagnetic (AEM)-Based Evaluation of Vina Monitoring Wells (Greene, October 2024)
- Joint GSP Evaluation – North Sacramento River Corridor Technical Memorandum (Montgomery and Associates, Jan 2026)
- North Sacramento River Corridor Inter-Basin Coordination / Meeting Materials
- DWR Vina Subbasin GSP Determination Letter and Staff Report (DWR, July 2023)
- Vina Subbasin GSP (2022)

## Relevant Context

### What Interconnected Surface Water Means Under SGMA

Under SGMA, depletion of interconnected surface water is one of the six sustainability indicators that must be considered in a GSP. DWR defines interconnected surface water as surface water that is hydrologically connected to the underlying aquifer by a continuous saturated zone and is not completely depleted. In practical terms, ISW refers to locations where groundwater and surface water systems directly influence one another.

Under SGMA, depletions of ISW are specifically related to depletions caused by groundwater use. Groundwater pumping may reduce groundwater inflow to a stream or river, or increase streamflow losses to groundwater, in a way that could affect beneficial uses of surface water. The key management challenge is distinguishing general stream-aquifer interaction from the portion of that interaction caused by groundwater pumping.

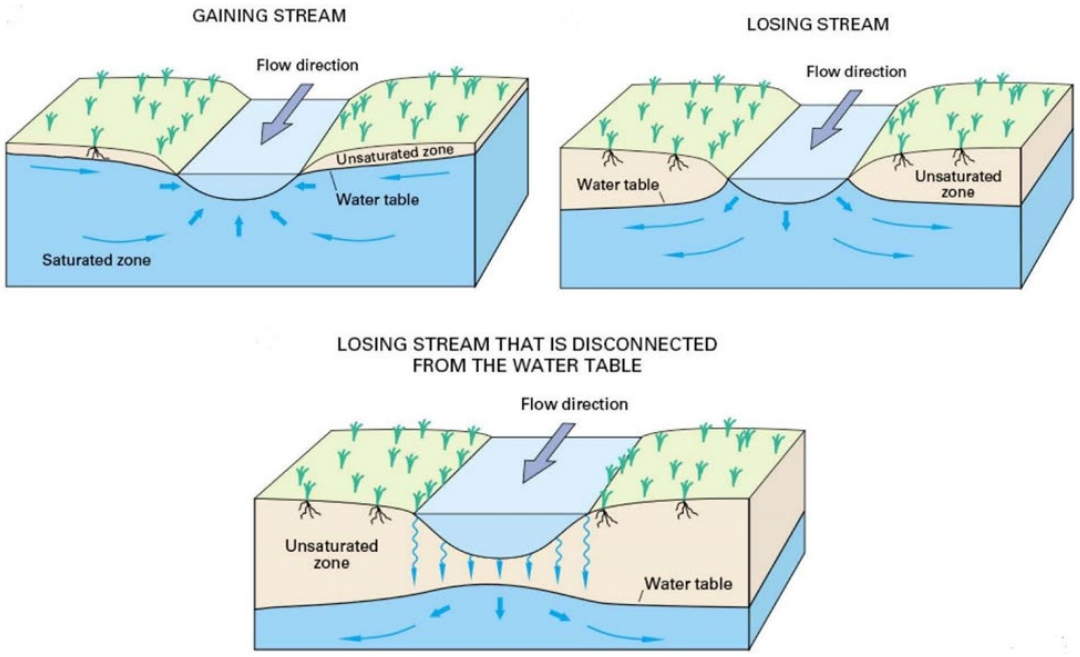


*Figure 1. Conceptual illustration of gaining, losing, and disconnected stream conditions. Source: USGS*

## Current 2022 GSP Approach

The 2022 Vina GSP acknowledged the need to better characterize and monitor ISW. Because shallow groundwater data were limited at the time of GSP development, the GSP did not establish SMC specific to ISW depletion. Instead, Groundwater Level sustainability indicator SMC and the Groundwater Level Representative Monitoring Site (RMS) network were used for ISW. The GSP also identified a need for additional wells and other monitoring to analyze the interaction of streams and groundwater pumping. The plan identified ISW monitoring as a data gap to be addressed during implementation.

The new information developed since GSP adoption as part of the SGM grant funded Data Gap project provides an opportunity to move beyond relying solely on the Groundwater Level RMS network as the primary proxy for ISW. At the same time, the available data is still relatively new and additional monitoring and a longer period of record is needed before the GSAs can confidently identify ISW RMS sites or establish durable ISW-specific SMC.

## DWR Recommended Corrective Actions Related to ISW

DWR approved the Vina Subbasin GSP in July 2023 and identified Recommended Corrective Actions (RCAs) to be considered as part of the first Periodic Evaluation.

Provided below is RCA 6, as stated in the Determination Letter:

> *Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, Subbasin-wide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water.*
>
> *In addition, the GSAs should work to address the following items by the first periodic evaluation:*
>
> *a. Consider utilizing the interconnected surface water guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.*
>
> *b. Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.*
>
> *c. Prioritize collaborating and coordinating with local, state, and federal regulatory agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion within the GSAs' jurisdictional area.*
>
> *d. Clarify the groundwater level monitoring sites that will be used for the evaluation of depletions of interconnected surface water and provide site-specific information.*

In addition, DWR included a related corrective action regarding model inputs and outputs for stream gains and losses:

> *Review the model inputs/outputs and provide consistent information regarding stream loss and gains throughout the GSP. Clarify whether these values simply represent the overall interaction between the surface water and groundwater system or the quantity of depletion due to groundwater pumping*.

DWR has not yet released the ISW guidance referenced in its corrective action. This would be a key reason to proceed incrementally and avoid setting ISW-specific SMC before state guidance, regional coordination, and additional local monitoring data are available.

## New Information Available Since the 2022 GSP

Since adoption of the 2022 GSP, the GSAs and partner agencies have developed substantial new information to improve the characterization of ISW in the Vina Subbasin. The draft ISW Technical Memorandum by Larry Walker Associates and work done through the grant funded Data Gap project (see other previously linked relevant documents) identify the following major lines of new information:

1. **Shallow groundwater monitoring network identification and development**. Existing groundwater level monitoring wells have been evaluated and classified based on screen intervals, AEM information, and other well construction data to identify wells more representative of shallow water table conditions.
2. **Additional monitoring wells and stream gages.** SGM Implementation Grant Program funding supported design and installation of new monitoring wells and stream gages (currently being installed, spring 2026).
3. **Updated Butte Basin Groundwater Model (BBGM).** BBGM version 1.3 has been extended through Water Year 2024 and provides updated model-based estimates relevant to understanding and estimating stream-aquifer interaction.
4. **AEM-based evaluation.** DWR's AEM data have been used to improve understanding of subsurface conditions and support classification of monitoring wells by aquifer zone.
5. **Isotope study.** Isotope data were collected along Big Chico Creek and Butte Creek to help identify gaining and losing stream reaches.
6. **Topographic surveys and LiDAR comparisons.** Streambed and water surface elevation information has been used with shallow groundwater elevations to help assess stream-aquifer connectivity.

Together, these data provide an improved foundation for ISW characterization. They also highlight the complexity of the issue and the importance of continuing to collect shallow groundwater and surface water data before selecting compliance monitoring sites or setting ISW thresholds. The newly installed wells and stream gages will provide valuable information over the next 5-year implementation period.

## Regional Context

A regional approach is also warranted because several major surface water systems associated with the Vina Subbasin are regional in nature. The Sacramento River forms a boundary with multiple subbasins, and major tributaries and stream systems cross or influence more than one SGMA planning area, namely Butte Creek. The Vina GSP anticipated inter-basin coordination through the North Sacramento River Corridor (NSRC), including information sharing, joint analysis and evaluation of GSPs, coordination on mutually beneficial activities, and coordinated communication. Collaboration regarding ISW is one of those “mutually beneficial activities” that have been identified by GSA managers from the NSRC group. Meeting summaries are available from GSA coordination meetings so that individual GSAs and members of the public can stay informed of the NSRC inter-basin coordination discussions.

Regional discussions are in initial stages regarding ISW through the NSRC group. This memo focuses on the new information available to the Vina Subbasin; however, regional coordination where surface water systems, beneficial uses, and modeling tools extend beyond a single subbasin will be important. More information on the regional discussions will be available later in June.

## Recent Public Input Regarding ISW

Stakeholder feedback received from a series of stakeholder meetings held in the fall of 2025 generally supported continued refinement of the ISW monitoring network, but groups differed on

how quickly the GSA should move toward setting ISW-specific Sustainable Management Criteria (SMC). Environmental representatives encouraged stronger protection of groundwater dependent ecosystems (GDEs), interconnected surface waters (ISWs), urban forests, valley oaks, and other groundwater-dependent vegetation. Technical experts emphasized the need for better visual explanations of stream connectivity, disconnection thresholds, and model outputs. Agricultural representatives urged caution, flexibility, and continued coordination with neighboring subbasins before locking in ISW SMC. Across groups, there was recognition that data gaps remain related to ISW, GDEs, shallow wells, stream connectivity, and modeling. Attachment A includes more details on input received during the series of stakeholder meetings.

## Spectrum of Potential Approaches – ISW Matrix of Options and Considerations

The GSAs have a range of potential approaches for addressing ISW in the Periodic Evaluation. The proposed approach leans toward a wait-and-see approach, but not an inactive one. It would document progress, define the monitoring network, and establish a clear path for future SMC development while avoiding premature thresholds before DWR guidance and regional coordination are further developed.

| Approach Option | What it would do | Advantages | Limitations / Concerns |
|---|---|---|---|
| Meaningful but measured approach **(Proposed Approach, see below)** | Define a broad ISW monitoring network; document new data and data gaps; wait to set ISW-specific SMC and RMS network selection. | Demonstrates progress in the Periodic Evaluation while preserving flexibility. Allows the GSAs to use new monitoring data, DWR guidance, and regional coordination before adopting thresholds. | Requires clear explanation to DWR and stakeholders that deferral is intentional and based on technical and policy reasons, not inaction. |
| More immediate SMC approach | Identify ISW RMS sites and establish preliminary ISW-specific Minimum Thresholds and Measurable Objectives in 2027 GSP amendments. | Shows a proactive response to DWR's RCA and creates a compliance framework now. | Would prematurely set thresholds before DWR guidance (as promised in its RCA), regional coordination, and sufficient local shallow monitoring data are available; would require later revision and additional amendments. |
| Minimal wait-and-see approach | Describe uncertainty and defer most ISW decisions until future guidance and data are available. | Avoids premature decisions. | May not demonstrate sufficient progress toward addressing DWR's RCA and may be viewed as too limited for the 2027 Periodic Evaluation. |

## SHAC Discussion and Recommendation

At their May 27, 2026 meeting, staff presented the SHAC with information described in this memo, including a strawman proposal, highlights from the LWA ISW Technical Memorandum, and a spectrum of potential approaches ranging from more immediate SMC development to a minimal wait-and-see approach. Staff requested SHAC discussion and a potential recommendation to the Vina GSA Board regarding an approach to addressing DWR's ISW RCA in the Periodic Evaluation. Materials provided to the SHAC are included in Attachment A.

### SHAC Discussion

The SHAC engaged in substantive discussion of the proposed ISW approach. Discussion recognized that DWR expects the GSA to show progress in the Periodic Evaluation, and that the strawman proposal — which includes defining the broad ISW monitoring network and documenting what has been learned about ISW location and timing — directly addresses that expectation. The

majority of SHAC (all but one member) supported the middle-of-the-road path reflected in the strawman.

Key themes and perspectives from the discussion included:

- **Support for the combined middle path:** The majority of SHAC members supported combining the "Show Progress" and "Proceed Carefully" approaches presented in the stakeholder feedback spectrum (see slide 18 in Attachment A). This combined path would: define a broader ISW monitoring network, use new analysis to document progress in characterizing location and timing aspects of ISW, and improve visuals and explanations of stream connectivity, while also proceeding cautiously given data gaps, waiting for DWR guidance, maintaining flexibility, coordinating with neighboring subbasins, and deferring ISW-specific SMC until guidance, regional work, and new data are available. Members expressed that this approach allows the GSA to demonstrate meaningful progress in the Periodic Evaluation without locking in premature commitments.
- **Agreement that SMC should not be set yet:** All SHAC members agreed that ISW-specific SMC should not be developed at this time. The consensus was to proceed cautiously, wait for DWR guidance, maintain flexibility, and avoid locking in premature thresholds.
- **Caution regarding the monitoring network:** One member expressed hesitancy about committing to establishing the monitoring network before DWR guidance is available, and was not comfortable moving forward at all without state guidance.
- **Technical concern regarding Big Chico Creek:** One member raised a technical disagreement with the ISW Technical Memorandum's characterization of Big Chico Creek, expressing the view that it is likely connected to a shallow aquifer — contrary to the Tech Memo's preliminary findings.

A member of the public provided comment in support of the combined middle path / strawman approach, expressing agreement with the measured, progress-oriented direction. The public commenter also agreed with the SHAC member's technical concern regarding Big Chico Creek, sharing the view that it is connected to a shallow aquifer and disagreeing with the ISW Technical Memorandum's preliminary characterization of that stream reach.

### SHAC Recommendation

By majority vote (all members except one), the SHAC recommended that the GSA Boards support a combined "Show Progress / Proceed Carefully" approach to addressing DWR's ISW RCA in the Periodic Evaluation. The SHAC recommendation reflects the following elements:

- Define a broader ISW monitoring network using established monitoring wells and use new analysis to document location and timing progress in the Periodic Evaluation.
- Improve visuals and explanations of stream connectivity, model outputs, and data uncertainty.
- Continue collecting new shallow groundwater and stream gage monitoring data.
- Proceed cautiously given existing data gaps; avoid locking in premature thresholds.
- Do not develop ISW-specific SMC at this time; wait for DWR guidance before establishing minimum thresholds, measurable objectives, or ISW RMS sites.
- Coordinate with neighboring subbasins on ISW monitoring and model calibration, and revisit SMC development when DWR guidance, regional work, and new monitoring data are available.

The one dissenting member was not comfortable moving forward with any commitments related to the monitoring network or ISW approach without DWR guidance in hand first.

## Proposed Approach for Board Consideration

Based on SHAC's recommendation and feedback received since the May 27 meeting, the proposed approach is to take a meaningful step forward in the 2027 Periodic Evaluation by documenting the new information now available (see above section for an overview of new information), defining a broad ISW monitoring network focused on shallow groundwater and stream

gages, and waiting to establish ISW-specific sustainable management criteria (SMC), minimum thresholds (MTs), measurable objectives (MOs), or ISW RMS sites. Instead, those decisions would be deferred until: (1) additional monitoring data are collected, (2) DWR releases the ISW guidance referenced in its RCA, and (3) ongoing regional coordination provides a more consistent framework for shared surface water systems (ex. Sacramento River).

Description in the Periodic Evaluation would build off of the following key points:

- The 2022 GSP's groundwater level proxy approach was appropriate as an initial implementation step given limited available data, but implementation work since 2022 now supports a transition toward defining a separate ISW monitoring framework. This transition is underway by defining the ISW broad network.
- The Periodic Evaluation would clearly identify which existing and newly installed monitoring sites are considered part of the ISW monitoring network, explain the basis for including them, and identify remaining geographic or technical data gaps.
- An ISW RMS network would be selected later after sufficient monitoring data are available to evaluate which sites are reliable, representative, and appropriate for long-term compliance purposes.
- The approach would be to defer establishing ISW-specific MTs, MOs, or undesirable result criteria. Instead, the Periodic Evaluation would explain why deferral is appropriate at this time based on the following reasons:
    - DWR has not yet released the ISW guidance referenced in its RCA;
    - Regional coordination is ongoing and important because major surface water systems cross or border multiple subbasins (ex. Sacramento River, Butte Creek);
    - New shallow groundwater and stream gage data are only beginning to be collected and need time to establish a meaningful period of record;
    - Modeling tools are improving but still have uncertainty related to calibration and representation of shallow groundwater-surface water interaction
    - Additional work is needed to distinguish general stream gains/losses from pumping-induced depletion; and,
    - Current subbasin conditions (i.e. observed groundwater levels are above historical lows) and no increasing trend in groundwater extraction compared to historical amounts suggest that a significant increase in depletion of interconnected surface waters is unlikely to occur over the next five-year implementation period.
- The Periodic Evaluation would state that ISW SMC development is expected to be revisited after additional local data collection, regional coordination, and the release of DWR's ISW guidance.
- The Periodic Evaluation would describe the progress that has been made in characterizing the location and timing of ISW in the Vina subbasin using multiple lines of evidence, described previously (i.e. the BBGM, isotope sampling, evaluation of shallow groundwater level data in relation to stream bed elevations). This would allow the GSAs to show clear progress while acknowledging remaining uncertainty.
- The Periodic Evaluation would recognize that a subbasin-only approach may not fully address ISW policy and technical issues where rivers or creeks form boundaries or cross subbasins. The GSAs would continue participating in regional discussions, including the North Sacramento River Corridor inter-basin coordination effort and related Sacramento Valley ISW discussions.
- The Periodic Evaluation would include a concise response to each ISW-related RCA, see framing below. The GSP would not be amended with respect to ISW.

| DWR RCA Topic | Proposed Periodic Evaluation Response | Further Work / Deferred Decision |
|---|---|---|
| Use DWR ISW guidance when issued | State that DWR has not yet released ISW guidance. The GSAs will review and incorporate applicable guidance when available over the next implementation period. | Defer ISW-specific SMC until guidance is available and can be considered alongside local data. |
| Fill data gaps and define segments of interconnectivity and timing | Document the identification of interconnected streams in the subbasin based on the new shallow groundwater monitoring, stream gages, isotope study, BBGM update, AEM-based well classification, and topographic survey information. | Continue data collection through the next implementation period and use annual reports to summarize new information. |
| Coordinate with agencies and interested parties | Describe stakeholder outreach and regional coordination, including the North Sacramento River Corridor and related regional ISW efforts. | Continue coordination during the next implementation period (2027-2032) with resource agencies, neighboring subbasins, and interested stakeholders before SMC are set. |
| Clarify monitoring sites used for ISW evaluation | Identify a broader ISW monitoring network and explain why shallow groundwater and stream gage data are the appropriate next step. | Do not designate final ISW RMS sites until the network has a sufficient monitoring record. |
| Review model inputs/outputs for stream gains and losses | Describe what has been learned - use updated BBGM results and clearly distinguish overall stream-aquifer interaction from pumping-induced depletion where possible. | Continue model refinement and regional analysis to better support future SMC development and quantification of depletion due to groundwater pumping. |

**Regarding composition of the ISW Broad Network.** Staff suggests refining the set of wells that was listed in the strawman to include only established monitoring wells (wells for which the GSA or County has consistent, ongoing monitoring access) and newly installed SGM grant funded wells in the ISW Broad Network at this time. Wells identified through other monitoring programs (such as the Chico Nitrate monitoring program or monitoring wells associated with Chico plume sites) that were identified in the Data Gap project as informative of shallow groundwater conditions near streams could be described in the Periodic Evaluation as potential future additions, but would not be formally included in the Broad Network until monitoring access and coordination with those programs is established. The GSAs would consider the inclusion of these or other additional wells during the next implementation period in light of DWR guidance, once available. This approach could partly address the concerns expressed by the SHAC member regarding premature new commitments by the GSA.

## Potential Board Action

Consider the following action:

- Approve the approach to document the Interconnected Surface Water (ISW) response to Department of Water Resources (DWR) Recommended Corrective Actions in the Periodic Evaluation consistent with the combined “Show Progress / Proceed Carefully” path: describe progress in characterizing ISW location and timing using the Larry Walker Associates ISW Technical Memorandum, define a broader ISW monitoring network using established monitoring wells, and defer ISW-specific Sustainable Management Criteria until DWR guidance, additional monitoring data, and regional coordination provide a stronger basis for threshold development.

## Attachments

A. SHAC May 27, 2026 Meeting Materials

**Vina Groundwater Sustainability Agency**
**308 Nelson Avenue, Oroville, CA 95965**
**(530) 552-3592 · VinaGSA@gmail.com**

# MEMORANDUM

**To:** All Stakeholders

**From:** Christina Buck, Assistant Director, Butte County Department of Water and Resource Conservation and Laura Foglia and Ryan Fulton, Larry Walker and Associates

**Date:** May 18, 2026

**Subject: Consideration of a Strawman Proposal: Approach to Addressing Interconnected Surface Water in the Periodic Evaluation in response to DWR Recommended Corrective Actions**

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## Background

The Vina Groundwater Sustainability Plan (GSP) was adopted in December 2021 by the Vina Groundwater Sustainability Agency (GSA) and Rock Creek Reclamation District GSA and subsequently reviewed and approved by the California Department of Water Resources (DWR) in July 2023. As part of its review, DWR provided recommended corrective actions (RCAs) in its Determination Letter identifying several areas for improvement with an expectation that the RCAs should be considered by the GSAs in the first periodic evaluation of the GSP or addressed through amendments to the GSP. The Sustainable Groundwater Management Act (SGMA) requires the GSAs to submit the first Periodic Evaluation (PE) by January 2027. The PE is the GSA's written assessment of its GSP implementation. The Vina GSA received funding through the Sustainable Groundwater Management Round 2 grant program to support work to address data gaps identified in the plan and complete the Periodic Evaluation. Larry Walker and Associates (LWA) was competitively selected to complete this work. Butte County staff provide technical staff support to the Vina GSA due to their local expertise and institutional knowledge.

## Purpose of this Memo

This memo is intended to inform stakeholders and solicit input on a preliminary approach for how the Vina and Rock Creek Reclamation District Groundwater Sustainability Agencies (GSAs) could address the Department of Water Resources' (DWR's) Recommended Corrective Actions related to depletion of interconnected surface water (ISW) in the Vina Subbasin. The proposal is framed as a strawman for further discussion, not as a final staff recommendation.

The proposed approach is to take a meaningful step forward in the 2027 Periodic Evaluation by documenting the new information now available, defining a broader ISW monitoring network focused on shallow groundwater and stream gages, and clarifying that the existing groundwater level Representative Monitoring Site (RMS) network should no longer be relied upon as the primary proxy for ISW. However, the approach would not yet establish ISW-specific sustainable management criteria (SMC), minimum thresholds (MTs), measurable objectives (MOs), or ISW RMS sites. Instead, those decisions would be deferred until: (1) additional monitoring data are collected, (2) DWR releases the ISW guidance referenced in its Recommended Corrective Action, and (3) ongoing regional coordination provides a more consistent framework for shared surface water systems. Again, this memo and strawman proposal are intended to support

discussion and solicit input regarding a potential path forward for consideration by the GSAs, recognizing the ultimate decision rests with the Boards.

# Relevant Documents and Resources

The following materials provide background for this discussion and should be considered together. Several documents are draft work products intended to support discussion of the Vina Subbasin Periodic Evaluation.

- Draft Technical Memorandum: Vina Subbasin Interconnected Surface Water (April 2026)
- Groundwater Monitoring Network Enhancements Technical Memorandum (November 2024)
- AEM-Based Evaluation of Vina Monitoring Wells (Greene, October 2024)
- Joint GSP Evaluation – North Sacramento River Corridor TM (Jan 2026)
- North Sacramento River Corridor Inter-Basin Coordination / Meeting Materials
- DWR Vina Subbasin GSP Determination Letter and Staff Report (July 27, 2023)
- Vina Subbasin Groundwater Sustainability Plan (2022)

# Relevant Context

## What Interconnected Surface Water Means Under SGMA

Under SGMA, depletion of interconnected surface water is one of the six sustainability indicators that must be considered in a GSP. DWR defines interconnected surface water as surface water that is hydrologically connected to the underlying aquifer by a continuous saturated zone and is not completely depleted. In practical terms, ISW refers to locations where groundwater and surface water systems directly influence one another.

Under SGMA, depletions of ISW are specifically related to depletions caused by groundwater use. Groundwater pumping may reduce groundwater inflow to a stream or river, or increase streamflow losses to groundwater, in a way that could affect beneficial uses of surface water. The key management challenge is distinguishing general stream-aquifer interaction from the portion of that interaction caused by groundwater pumping.

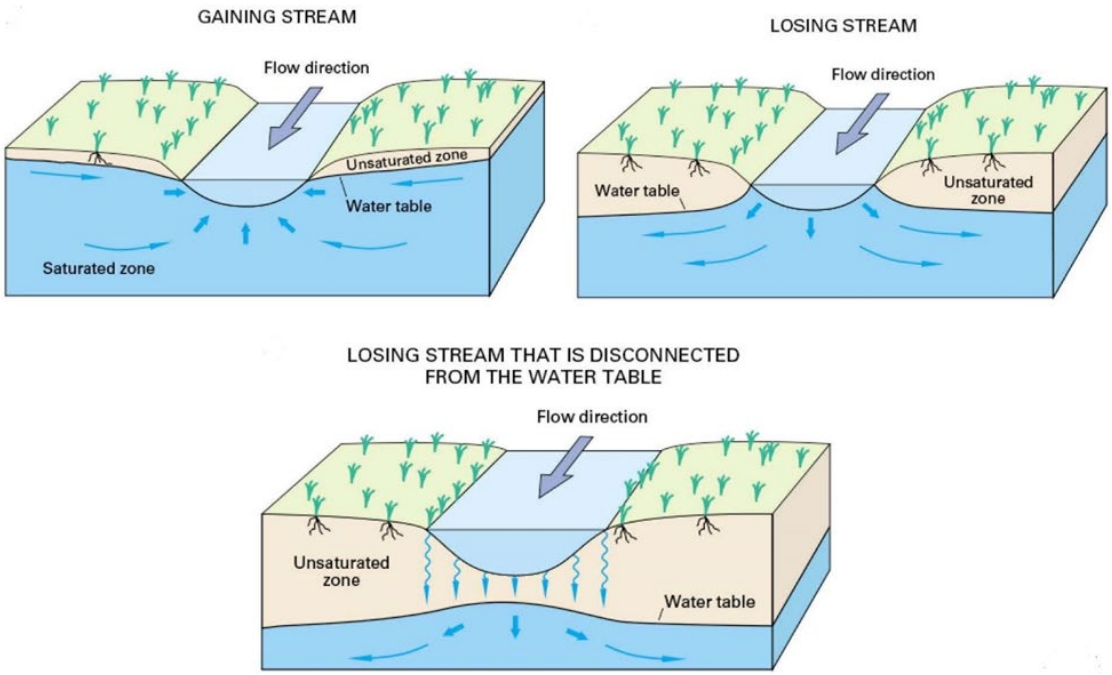



*Figure 1. Conceptual illustration of gaining, losing, and disconnected stream conditions. Source: USGS*

## Current 2022 GSP Approach

The 2022 Vina GSP acknowledged the need to better characterize and monitor ISW. Because shallow groundwater data were limited at the time of GSP development, the GSP did not establish SMC specific to ISW depletion. Instead, groundwater level SMC and the groundwater level RMS network were used as a proxy for ISW. The GSP also identified a need for additional wells and other monitoring to analyze the interaction of streams and groundwater pumping. The plan identified ISW monitoring as a data gap to be addressed during implementation.

The new information developed since GSP adoption as part of the SGM grant funded Data Gap project provides an opportunity to move beyond relying on the groundwater level RMS network as the primary proxy for ISW. At the same time, the available data is still relatively new and additional monitoring and a longer period of record is needed before the GSAs can confidently identify ISW RMS sites or establish durable ISW-specific SMC.

## DWR Recommended Corrective Actions Related to ISW

DWR approved the Vina Subbasin GSP in July 2023 and identified Recommended Corrective Actions to be considered as part of the first Periodic Evaluation.

Provided below is Recommended Corrective Action 6, as stated in the Determination Letter:

*Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, Subbasin-wide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water.*

*In addition, the GSAs should work to address the following items by the first periodic evaluation:*

*a. Consider utilizing the interconnected surface water guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.*

*b. Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.*

*c. Prioritize collaborating and coordinating with local, state, and federal regulatory agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion within the GSAs' jurisdictional area.*

*d. Clarify the groundwater level monitoring sites that will be used for the evaluation of depletions of interconnected surface water and provide site-specific information.*

DWR has not yet released the ISW guidance referenced in its corrective action. This would be a key reason to proceed incrementally and avoid setting ISW-specific SMC before state guidance, regional coordination, and additional local monitoring data are available.

## New Information Available Since the 2022 GSP

Since adoption of the 2022 GSP, the GSAs and partner agencies have developed substantial new information to improve the characterization of ISW in the Vina Subbasin. The draft ISW Technical Memorandum by Larry Walker Associates and work done through the grant funded Data Gap project (see other previously linked relevant documents) identify the following major lines of new information:

1. **Shallow groundwater monitoring network identification and development**. Existing groundwater level monitoring wells have been evaluated and classified based on screen intervals, AEM information, and other well construction data to identify wells more representative of shallow water table conditions.
2. **Additional monitoring wells and stream gages.** SGM Implementation Grant Program funding supported design and installation of new monitoring wells and stream gages (currently being installed, spring 2026).
3. **Updated Butte Basin Groundwater Model (BBGM).** BBGM version 1.3 has been extended through Water Year 2024 and provides updated model-based estimates relevant to stream-aquifer interaction.
4. **AEM-based evaluation.** DWR's AEM data have been used to improve understanding of subsurface conditions and support classification of monitoring wells by aquifer zone.
5. **Isotope study.** Isotope data have been collected along Big Chico Creek and Butte Creek to help identify gaining and losing stream reaches.
6. **Topographic surveys and LiDAR comparisons.** Streambed and water surface elevation information has been used with shallow groundwater elevations to help assess stream-aquifer connectivity.

Together, these data provide an improved foundation for ISW characterization. They also highlight the complexity of the issue and the importance of continuing to collect shallow groundwater and surface water data before selecting compliance monitoring sites or setting ISW thresholds. The newly installed wells and stream gages will provide valuable information over the next 5-year implementation period.

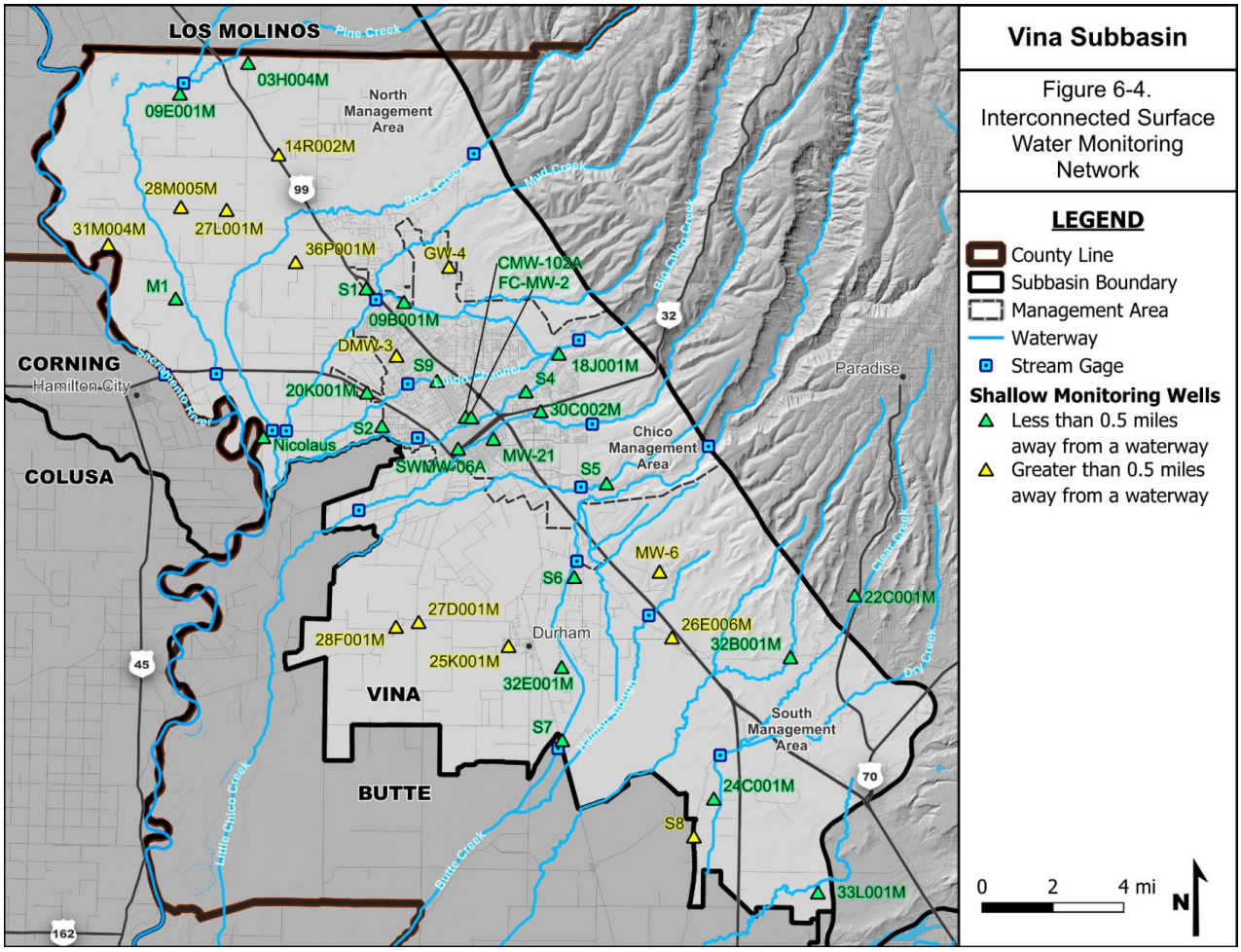



*Figure 2. Draft Vina Subbasin interconnected surface water monitoring network, showing shallow monitoring wells and stream gages.*

### Regional Context

A regional approach is also warranted because several major surface water systems associated with the Vina Subbasin are regional in nature. The Sacramento River forms a boundary with multiple subbasins, and major tributaries and stream systems cross or influence more than one SGMA planning area, namely Butte Creek. The Vina GSP anticipated inter-basin coordination through the North Sacramento River Corridor (NSRC), including information sharing, joint analysis and evaluation of GSPs, coordination on mutually beneficial activities, and coordinated communication. Collaboration regarding ISW is one of those "mutually beneficial activities" that have been identified by GSA managers from the NSRC group. Meeting summaries are available from GSA coordination meetings so that individual GSAs and members of the public can stay informed of the NSRC IBC discussions.

Regional discussions are in initial stages regarding ISW through the NSRC group. This memo focuses on the new information available to the Vina Subbasin; however, regional coordination where surface water systems, beneficial uses, and modeling tools extend beyond a single subbasin will be important. More information on the regional discussions will be available in June.

### Recent Public Input Regarding ISW

Attachment B includes input received during the series of stakeholder meetings the Vina GSA held in the Fall of 2025.

## Spectrum of Potential Approaches – ISW Matrix of Options and Considerations

The GSAs have a range of potential approaches for addressing ISW in the Periodic Evaluation. The attached strawman proposal (Attachment A) leans toward a wait-and-see approach, but not an inactive one. It would document progress, define the monitoring network, and establish a clear path for future SMC development while avoiding premature thresholds before DWR guidance and regional coordination are further developed.

| Approach Option | What it would do | Advantages | Limitations / Concerns |
|---|---|---|---|
| Meaningful but measured approach **(Strawman Proposal, see Attachment A)** | Define a broader ISW monitoring network; stop relying on the existing groundwater level RMS network as the primary proxy; document new data and data gaps; wait to set ISW-specific SMC and RMS network selection. | Demonstrates progress in the Periodic Evaluation while preserving flexibility. Allows the GSAs to use new monitoring data, DWR guidance, and regional coordination before adopting thresholds. | Requires clear explanation to DWR and stakeholders that deferral is intentional and based on technical and policy reasons, not inaction. |
| More immediate SMC approach | Identify ISW RMS sites and establish preliminary ISW-specific MTs and MOs in 2027 GSP amendments. | Shows a proactive response to DWR's RCA and creates a compliance framework now. | Would prematurely set thresholds before DWR guidance (as promised in its RCA), regional coordination, and sufficient local shallow monitoring data are available; would require later revision and additional amendments. |
| Minimal wait-and-see approach | Describe uncertainty and defer most ISW decisions until future guidance and data are available. | Avoids premature decisions. | May not demonstrate sufficient progress toward addressing DWR's RCA and may be viewed as too limited for the 2027 Periodic Evaluation. |

The strawman proposal is the more measured approach, taking a meaningful step forward in the Periodic Evaluation but deferring adoption of ISW-specific SMC until additional data and technical information is available and policy direction is provided by DWR.

## Requested Input and Next Steps

This memo and strawman proposal are provided to support discussion and receive stakeholder input before the GSAs finalize the ISW approach for the Periodic Evaluation and any associated GSP amendments. The proposed approach is to make clear progress by documenting new information, defining the ISW monitoring network, and laying out a path for future SMC development, while deferring ISW-specific SMC decisions until DWR guidance, additional monitoring data, and regional coordination provide a stronger basis for those decisions.

It is anticipated that the Vina Stakeholder Advisory Committee will discuss this strawman proposal at their meeting on May 27, 2026. The Vina GSA and Rock Creek Reclamation District GSA Boards are anticipated to consider this topic at their joint meeting on June 10, 2026. However, the expected timeline is subject to change.

Comments and questions may be directed to cbuck@buttecounty.ca.gov.

## Attachments

A. Strawman Proposal: Approach to ISW in the Periodic Evaluation
B. Stakeholder Input regarding ISW from Fall 2025 Stakeholder Meetings

**Attachment A**

# Approach to Interconnected Surface Water – Strawman Proposal for Discussion

**The following strawman proposal is intended to frame discussion and solicit stakeholder input. It is written as a proposed approach for the 2027 Periodic Evaluation and any associated GSP amendments, rather than as final GSP language.**

## 1. Recognize ISW as a distinct sustainability indicator that requires a distinct monitoring approach.

The Periodic Evaluation would acknowledge that groundwater level RMS wells developed primarily for the chronic lowering of groundwater levels sustainability indicator are not sufficient, by themselves, to evaluate depletions of interconnected surface water. Groundwater levels remain important, but ISW evaluation requires shallow groundwater data near streams, stream stage or streamflow data, and other supporting lines of evidence.

The GSAs would state that the 2022 GSP's groundwater level proxy approach was appropriate as an initial implementation step given limited available data, but that implementation work since 2022 now supports a transition toward a separate ISW monitoring framework.

## 2. Define a broader ISW monitoring network now; identify RMS sites later.

The key near-term action would be to define and document a broader approach for an ISW monitoring network. This network would include shallow groundwater monitoring wells, stream gages, and other relevant data collection locations that can be used to evaluate the timing, location, and direction of stream-aquifer interaction.

At this stage, the network would be considered an ISW monitoring network, not necessarily an ISW RMS compliance network. RMS sites would be selected later after sufficient monitoring data are available to evaluate which sites are reliable, representative, and appropriate for long-term compliance purposes.

This approach recognizes that shallow groundwater monitoring is the key next step. The Periodic Evaluation would clearly identify which existing and newly installed monitoring sites are considered part of the ISW monitoring network (see tables and map below), explain the basis for including them, and identify remaining geographic or technical data gaps.

## 3. Do not set ISW-specific SMC in the 2027 Periodic Evaluation

At this time, the approach would be to not yet establish ISW-specific MTs, MOs, or undesirable result criteria. Instead, the Periodic Evaluation would explain why deferral is appropriate at this time based on the following reasons:

- DWR has not yet released the ISW guidance referenced in its Recommended Corrective Action;
- Regional coordination is ongoing and important because major surface water systems cross or border multiple subbasins (ex. Sacramento River, Butte Creek);
- New shallow groundwater and stream gage data are only beginning to be collected and need time to establish a meaningful period of record;
- Modeling tools are improving but still have uncertainty related to calibration and representation of shallow groundwater-surface water interaction
- Additional work is needed to distinguish general stream gains/losses from pumping-induced depletion; and,
- Current subbasin conditions (i.e. observed groundwater levels are above historical lows) and no increasing trend in groundwater extraction compared to historical amounts suggest that a significant increase in depletion of interconnected surface waters is unlikely to occur over the next five-year implementation period.

The Periodic Evaluation would state that ISW SMC development is expected to be revisited after additional local data collection, regional coordination, and the release of DWR's ISW guidance.

## 4. Use multiple lines of evidence to characterize ISW.

The Periodic Evaluation would describe ISW conditions using multiple lines of evidence rather than relying on a single dataset or model output (as documented in the ISW TM). These lines of evidence include, at a high level:

- Shallow groundwater levels and hydrographs;
- Stream stage and streamflow data from existing and newly installed stream gages;
- Updated BBGM results, with explanation of what model outputs represent;
- Isotope results from Big Chico Creek and Butte Creek sampling;
- Topographic survey and LiDAR-based comparisons of streambed elevations and groundwater elevations;
- AEM-based understanding of subsurface conditions and monitoring well classification; and

This framework would allow the GSAs to show clear progress while acknowledging remaining uncertainty.

## 5. Continue regional coordination before setting ISW SMC.

The Periodic Evaluation would recognize that a subbasin-only approach may not fully address ISW policy and technical issues where rivers or creeks form boundaries or cross subbasins. The GSAs would continue participating in regional discussions, including the North Sacramento River Corridor inter-basin coordination effort and related Sacramento Valley ISW discussions.

## 6. Address DWR's RCA in the Periodic Evaluation

The Periodic Evaluation would include a concise response to each ISW-related RCA. Potential framing is provided below. The GSP would not be amended with respect to ISW.

| DWR RCA Topic | Proposed Periodic Evaluation Response | Further Work / Deferred Decision |
|---|---|---|
| Use DWR ISW guidance when issued | State that DWR has not yet released ISW guidance. The GSAs will review and incorporate applicable guidance when available over the next implementation period. | Defer ISW-specific SMC until guidance is available and can be considered alongside local data. |
| Fill data gaps and define segments of interconnectivity and timing | Document the identification of interconnected streams in the subbasin based on the new shallow groundwater monitoring, stream gages, isotope study, BBGM update, AEM-based well classification, and topographic survey information. | Continue data collection through the next implementation period and use annual reports to summarize new information. |
| Coordinate with agencies and interested parties | Describe stakeholder outreach and regional coordination, including the North Sacramento River Corridor and related regional ISW efforts. | Continue coordination during the next implementation period (2027-2032) with resource agencies, neighboring subbasins, and interested stakeholders before SMC are set. |
| Clarify monitoring sites used for ISW evaluation | Identify a broader ISW monitoring network and explain why shallow groundwater and stream gage data are the appropriate next step. | Do not designate final ISW RMS sites until the network has a sufficient monitoring record. |
| Review model inputs/outputs for stream gains and losses | Use updated BBGM results and clearly distinguish overall stream-aquifer interaction from pumping-induced depletion where possible. | Continue model refinement and regional analysis to better support future SMC development and quantification of depletion due to groundwater pumping. |

## 7. ISW Broad Monitoring Network

Four (4) stream gages were installed using SGM grant funds and eight (8) gages were installed using funding from the California Stream Gage Improvement Program (CalSIP) for a total of nineteen (19) stream gages across the Subbasin, as listed in **Table 1**

**Table 1. Vina Subbasin Active Surface Water Stream Gauges (to be finalized once installation of new stream gages is completed in 2026)**

| Stream Monitored | Gage ID | Gage Network | Measurement Frequency | Status | Start Date |
|---|---|---|---|---|---|
| **Vina - North Management Area** | | | | | |
| Sacramento River | VIN | CDEC | Hourly | Active | 1/1/1984 |
| Sacramento River | HMC | CDEC | Hourly | Active | 6/19/1991 |
| Mud Creek | CS4 Mud/Rock (lower) | CDEC | | Proposed | |
| Pine Creek | C22 Pine (lower) | CDEC | | Proposed | |
| Pine Creek | CS1 Pine (upper) | CDEC | | Proposed | |
| Rock Creek | NEW_ROCK | CDEC | | Proposed | |
| Rock Creek | Rock Creek and West Sacramento | CDEC | | Proposed | |
| **Vina - Chico Management Area** | | | | | |
| Big Chico Creek | BIC | CDEC | Hourly | Active | 7/21/1997 |
| Lindo Channel | LCH | CDEC | Hourly | Active | 1/25/2027 |
| Mud Creek | MUC | CDEC | Hourly | Active | 1/25/2007 |
| Butte Creek | BCD | CDEC | Hourly | Active | 4/7/1997 |
| Butte Creek | 11390000 | USGS | Hourly | Active | 3/14/1997 |
| Big Chico Creek | NEW_BCC | GSA | | Proposed | |
| Comanche Creek | NEW_COMANCHE | CDEC | | Proposed | |
| Little Chico Creek | NEW_LCC_US | GSA | | Proposed | |
| **Vina - South Management Area** | | | | | |
| Butte Creek | NEW_BUTTE | GSA | | Proposed | |
| Dry Creek | NEW_DRY | CDEC | | Proposed | |
| Hamlin Slough | NEW_HAM | CDEC | | Proposed | |
| Little Chico Creek | NEW_LCC_DS | GSA | | Proposed | |

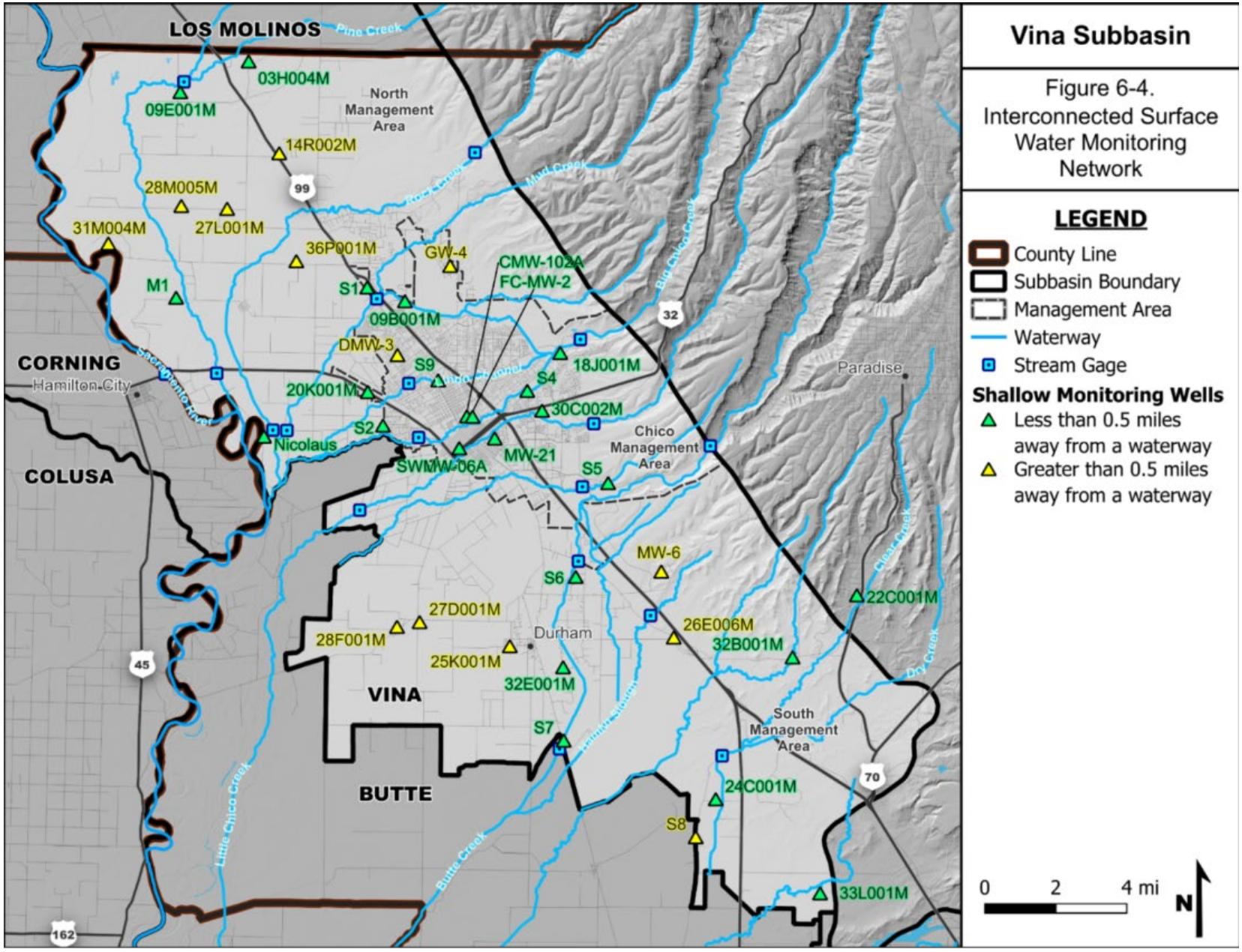
Shallow monitoring wells throughout the Subbasin have been preliminarily selected as representative of shallow groundwater and conditions near streams. This includes newly installed wells currently being drilled (spring 2026). See Table 2 for list of wells.

**Table 2. Vina Subbasin ISW Broad Monitoring Network**

| Well ID | State Well Number | MCW[1] | Well Type | Total Depth | Date of First Meas. | Monitoring Frequency | Nearby Stream | Distance to Nearest Waterway (mi) |
|---|---|---|---|---|---|---|---|---|
| 03H004M | 23N01W03H004M | Yes | Observation | 115 | 3/30/2012 | Monthly | Pine Creek | 0.40 |
| 09E001M | 23N01W09E001M | No | Irrigation | 110 | 2/7/1947 | Quarterly | Pine Creek | 0.20 |
| 14R002M | 23N01W14R002M | No | Irrigation | 183 | 11/13/1985 | Quarterly | Rock Creek | 1.65 |
| 27L001M | 23N01W27L001M | No | Residential | 102 | 3/10/1976 | Quarterly | Rock Creek | 1.72 |
| 28M005M | 23N01W28M005M | Yes | Observation | 72 | 1/15/2009 | Hourly | Pine Creek | 0.82 |
| 31M004M | 23N01W31M004M | Yes | Observation | 106 | 7/4/2008 | Hourly | Sacramento River | 0.75 |
| 36P001M | 23N01W36P001M | No | Residential | 165 | 8/20/1959 | Monthly | Rock Creek | 0.71 |
| TNC Well | TBD | No | Observation | 70 | | Biannually | Sacramento River | 0.35 |
| M1* | TBD | Yes | Observation | TBD | | Quarterly | Pine Creek | 0.26 |
| S2* | TBD | No | Observation | TBD | | Quarterly | Big Chico Creek | 0.15 |
| 09B001M | 22N01E09B001M | No | Residential | 156 | 5/9/2001 | Quarterly | Sycamore Creek | 0.10 |
| 20K001M | 22N01E20K001M | No | Residential | 110 | 5/10/1961 | Quarterly | Lindo Channel | 0.34 |
| 30C002M | 22N02E30C002M | No | Observation | 203 | 12/19/2001 | Hourly | Little Chico Creek | 0.12 |
| 18J001M | 22N02E18J001M | No | Residential | 180 | 4/6/2001 | Quarterly | Big Chico Creek | 0.13 |
| CMW-102A | | No | Observation | 36.5 | | Biannually | Big Chico Creek | 0.50 |
| DMW-3 | | No | Observation | 55 | | Biannually | Lindo Channel | 0.82 |
| FC-MW-2 | | No | Observation | 40 | | Biannually | Big Chico Creek | 0.50 |
| GW-4 | | No | Observation | 115 | | Biannually | Mud Creek | 0.50 |
| MW-21 | | No | Observation | 25 | 6/28/2004 | Biannually | Little Chico Creek | 0.19 |
| SWMW-06A | | No | Observation | 35 | 8/29/2005 | Biannually | Little Chico Creek | 0.143 |
| S1* | TBD | No | Observation | TBD | | Quarterly | Mud Creek | 0.33 |

| Well ID | State Well Number | MCW[1] | Well Type | Total Depth | Date of First Meas. | Monitoring Frequency | Nearby Stream | Distance to Nearest Waterway (mi) |
|---|---|---|---|---|---|---|---|---|
| S4* | TBD | No | Observation | TBD | | Quarterly | Big Chico Creek | 0.08 |
| S5* | TBD | No | Observation | TBD | | Quarterly | Comanche Creek | 0.06 |
| S9* | TBD | No | Observation | TBD | | Quarterly | Lindo Channel | 0.05 |
| 25K001M | 21N01E25K001M | No | Residential | 93 | 4/8/1993 | Quarterly | Butte Creek | 1.35 |
| 27D001M | 21N01E27D001M | No | Observation | 112 | 10/9/1946 | Quarterly | - | - |
| 28F001M | 21N01E28F001M | No | Irrigation | 173 | 8/20/1998 | Quarterly | - | - |
| 32E001M | 21N02E32E001M | No | Irrigation | 184 | 3/26/2009 | Quarterly | Butte Creek | 0.33 |
| 22C001M | 21N03E22C001M | No | Residential | 143 | 3/19/2001 | Quarterly | Clear Creek | 0.15 |
| 33L001M | 20N03E33L001M | No | Observation | 101 | 8/12/1999 | Hourly | Cottonwood Creek | 0.21 |
| 24C001M | 20N02E24C001M | Yes | Observation | 155 | 12/29/1999 | Hourly | Dry Creek | 0.20 |
| 32B001M | 21N03E32B001M | No | Observation | 57 | 10/15/1999 | Quarterly | Little Dry Creek | 0.01 |
| 26E006M | 21N02E26E006M | Yes | Observation | 179 | 9/13/2007 | Hourly | Hamlin Slough | 0.88 |
| MW-6 | | No | Observation | | | Biannually | Hamlin Slough | 0.52 |
| S* | | No | Observation | TBD | | Quarterly | Butte Creek | 0.13 |
| S7* | | No | Observation | TBD | | Quarterly | Butte Creek | 0.04 |
| S8* | | No | Observation | TBD | | Quarterly | Dry Creek | 0.51 |

1. Multi-Completion Well - single drilled borehole for a monitoring well used to monitor multiple, discrete depths of an aquifer
*S# - New wells currently being constructed.


LOS MOLINOS
Pine Creek
03H004M
09E001M
North Management Area
14R002M
28M005M
27L001M
99
31M004M
36P001M
GW-4
CMW-102A
FC-MW-2
M1
S1
09B001M
Mud Creek
Big Chico Creek
32
DMW-3
S9
18J001M
S4
CORNING
Hamilton City
Sacramento River
20K001M
30C002M
Paradise
S2
Nicolaus
Chico Management Area
MW-21
SWMW-06A
S5
COLUSA
MW-6
S6
22C001M
27D001M
28F001M
Durham
26E006M
32B001M
45
25K001M
32E001M
VINA
Dry Creek
South Management Area
S7
Little Chico Creek
Butte Creek
70
24C001M
BUTTE
S8
33L001M
162
Vina Subbasin
Figure 6-4. Interconnected Surface Water Monitoring Network
LEGEND
County Line
Subbasin Boundary
Management Area
Waterway
Stream Gage
Shallow Monitoring Wells
Less than 0.5 miles away from a waterway
Greater than 0.5 miles away from a waterway
0
2
4 mi
N

# ISW-Related Stakeholder Feedback Summary

*Vina Subbasin Fall 2025 Stakeholder Meetings*

As part of its preparation of the 2027 Periodic Evaluation, the Vina GSA hosted a series of stakeholder meetings in the Fall of 2025 to gather preliminary feedback on potential technical approaches for Groundwater Levels Sustainable Management Criteria and Interconnected Surface Waters (ISW) Sustainable Management Criteria. Members of the Butte County Local Expert Group (LEG), and individuals and organizations representing environmental users, domestic well owners, and agricultural groundwater users were each invited to meet with GSA staff and technical consultants in small group venues on October 14, October 27, and November 13, 2025. The following summary is a combination of input/comments relevant to the ISW topic received from all of these discussions and have been pulled from the Meeting Summaries produced from each of the individual meetings and the staff memo prepared for the GSA Boards. The complete meeting summaries are included in the Vina GSA Board packet from the December 10, 2025 joint board meeting.

Participants were asked to weigh in on the following questions:

- What reactions or questions do you have about the proposed ISW RMS Network?
- Any recommended adjustments to the network? Other considerations for the LWA team?
- Reactions or thoughts to the proposed approach and timeline of setting ISW SMC?

## Summary of Key ISW-Related Stakeholder Input Received

Stakeholder feedback generally supported continued refinement of the ISW monitoring network, but groups differed on how quickly the GSA should move toward setting ISW-specific Sustainable Management Criteria (SMC). Environmental representatives encouraged stronger protection of groundwater dependent ecosystems (GDEs), interconnected surface waters (ISWs), urban forests, valley oaks, and other groundwater-dependent vegetation. Technical experts emphasized the need for better visual explanations of stream connectivity, disconnection thresholds, and model outputs. Agricultural representatives urged caution, flexibility, and continued coordination with neighboring subbasins before locking in ISW SMC. Across groups, there was recognition that data gaps remain related to ISW, GDEs, shallow wells, stream connectivity, and modeling.

The stakeholder meetings were structured around the proposed groundwater level and ISW Representative Monitoring Site (RMS) networks, potential SMC approaches, and DWR's corrective actions for surface water depletions. Participants were specifically asked for reactions to the proposed ISW RMS network, recommended adjustments or additional considerations for that network, and thoughts on the proposed approach and timeline for developing ISW SMC.

## Verbatim ISW-Related Comments/Input from Meeting Summaries

The bullets below are pulled verbatim from the meeting summaries and related summary materials

### Local Expert Group

- Include discussion of stream conditions and connectivity when presenting water balance information.
- Recognize that ISW/GDE monitoring may not capture effects on the urban canopy.
- Incorporate cross-section graphics to visually demonstrate where and when stream disconnection occurs.

### Additional ISW-related discussion from the Local Expert Group meeting summary

- Laura presented the proposed approach for developing an Interconnected Surface Water monitoring network (noting that the original GSP did not include an ISW specific RMS network) and potential changes to the SMC.
- A participant noted that Big Chico Creek receives significant attention, but the one well in the area is problematic, and the downtown well is too new to be considered reliable, so how will this area be monitored?
- In response to a question from Jim about using GWL as a proxy for flux, Laura noted that without streamflows, they can't calculate flux. Stream gages are planned to be installed in the next year, though.
- Todd elevated a concern he has heard in other regions related to protecting Groundwater Dependent Ecosystems (GDE) that aren't strictly riparian. He noted that ISW RMS wells would not be able to help track conditions in areas that are more distant from streams and creeks.
- There was a question about why transects couldn't be used like other GSPs. Laura responded that streams in this region are more dynamic and require assessments of where streams are losing and gaining which then inform locations of stream gauges and new wells.

### Additional modeling-related ISW comments from the Local Expert Group meeting summary

- There was discussion about the model showing equilibrium primarily impacted by groundwater that used to flow into streams but is now being intercepted by pumping.
- Christina highlighted that in the Vina Subbasin, water balance is not only about groundwater levels, but stream conditions also need to be considered.
- It was suggested that future discussions include this context and focus on other indicators that are relevant such as stream connectivity.
- Todd noted that since the model assumes streams will not go dry, it raises the question of what the threshold is for when streams become disconnected.
- Kamie Loeser suggested including a cross-section diagram to visually show when disconnection occurs for ISWs.
- Laura noted the model is currently overestimating certain conditions and suggested that a budgeted diagram approach might be more effective in communicating with the public.

## Environmental Representatives

Discussion and comments centered on GDEs, Valley Oaks, and MTs related to GWL SMC. However, the following feedback notes are relevant to ISW:

- Raise Minimum Thresholds to provide stronger protection for GDEs and ISWs.

### Additional environmental meeting discussion related to ISW/GDEs

- Is it possible for the GSA to use the new wells that were installed to track ISWs to also inform the GWL monitoring network? In particular, were any of those new wells installed in areas near Groundwater Dependent Ecosystems (GDE)? Response: Laura clarified that under SGMA, RMS networks for different sustainability indicators need to be kept separate, but they could interact depending on what the data looks like. In any case, newly drilled wells cannot be used as an RMS until the 2032 GSP evaluation.
- Participants highlighted that valley oaks are not limited to riparian areas, and expressed concern that the ISW RMS network would not be protective of valley oaks. There was a suggestion to assess water levels and soil health, since suitable conditions allow valley oaks to thrive.

## Domestic Well Users

Because the meeting participants prioritized discussion on the GWL SMC, there was very little time to share information or discuss the ISW SMC.

## Agricultural Representatives

- For ISW, several participants expressed concern about moving forward given existing data gaps, recommending the GSA proceed carefully and ensure decisions can be revisited as monitoring improves.
- Proceed cautiously with ISW SMC development given existing data gaps; ensure decisions can be adjusted in future evaluations as new data may warrant adjustments.
- Continue coordination with neighboring subbasins, especially regarding ISW connectivity and model calibration.

### Additional agricultural meeting discussion related to ISW/GDEs

- Purpose and Methodology
    - Isn't the criteria for ISW measured in volume? Why is the GSA proposing an SMC related to groundwater levels?

LWA explained that eventually the goal is for the GSA to calculate stream depletion volumes, but more data is needed and the model (which serves as the current starting point) requires more calibration. Laura noted that this is in line with what other basins are doing.

    - Participants asked about the benefits of ISW monitoring. Laura explained that it helps inform SMCs to prevent shifts in stream conditions (where streams are gaining versus losing) and avoid further disconnection from the aquifer. It also informs whether features like urban forests rely on perched aquifers or ISWs.
    - Questions arose about whether ISW data would benefit neighboring subbasins. Laura noted that coordination is underway to develop a reasonable ISW approach across basins. For the 2027 Periodic Evaluation, most data will come from groundwater levels while ISW data improves and is used to improve models.
- RMS Selection and Data Gaps
    - How are stream depletion percentages calculated? How were the new shallow well sites selected? Christina explained that the model calculates these daily, but more data is needed to validate results. The model can be used to inform where new wells should be installed.

According to the model, streams east of the 99 freeway are less likely to be interconnected with the groundwater, but the GSA plans to place one well in the area to observe conditions and help characterize the connection (or lack thereof).

    - Participants noted that there appears to be an overlap between the ISW and GWL monitoring wells. Laura acknowledged there are two overlapping wells, and Christina added that when the Butte Subbasin has overlapping wells, so the one with the more limiting metric becomes the limiting factor. A participant requested flexibility in ISW MTs to account for this overlap.
    - Several participants expressed concern about moving forward given the existing data gaps, suggesting it would be better to wait until the next Periodic Evaluation. Some felt there was insufficient data and worried MTs would be "locked in" at a restrictive level.
    - Participants noted we all want a plentiful water supply. We just do not want to make a decision that we cannot change in the future.

# Item 5.
## Consideration of the Approach to Addressing Interconnected Surface Water (ISW) in the Periodic Evaluation in response to the Department of Water Resources' Recommended Corrective Actions

Vina Stakeholder Advisory Committee
May 27, 2026

Christina Buck, PhD
Assistant Director
Butte County Dept. of Water and Resource Conservation
Providing technical staff support to the GSA

1

# Purpose of Today's Discussion

**SHAC is being asked to consider a strawman proposal released by the GSA (5/18/26) for responding to DWR's ISW Recommended Corrective Action and provide input — potentially a recommendation — to the GSA Boards.**

**What is the regulatory framework?**

DWR focused on estimating the location, timing, and volume of depletions of interconnected surface water caused by groundwater pumping.

**What progress has been made?**

The Larry Walker Associates ISW Technical Memo provides new information on where ISW likely occurs and when some streams are connected or disconnected — this information was not available in the 2022 GSP or during its development.

**What remains?**

The volume (quantity) piece is the least resolved and depends most on DWR guidance, regional coordination, and continued monitoring — especially for the Sacramento River.

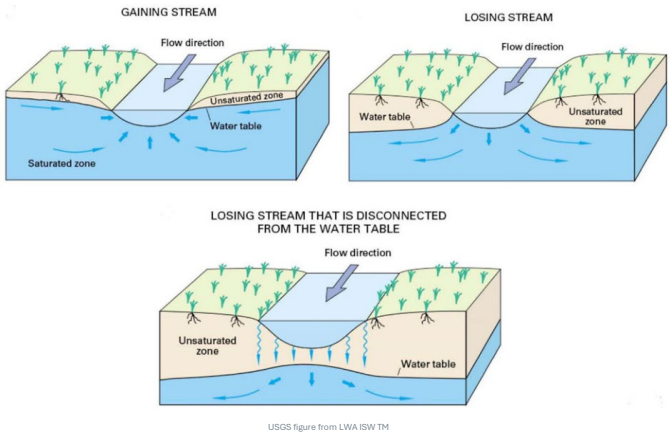
**Key framing: demonstrate progress while avoiding premature ISW SMC decisions**

The strawman proposal approach document's location and timing progress now, defines the monitoring path, and defers ISW-specific thresholds until the technical and policy foundation is stronger.



2

# Quick Orientation: What Is Interconnected Surface Water (ISW)?




USGS figure from LWA ISW TM

**Interconnected Surface Water (ISW) is where groundwater and rivers or streams are connected.**

**Why it matters**

Under SGMA, the key question is whether groundwater pumping causes depletions of ISW that significantly and unreasonably affect beneficial uses of surface water.



# DWR's ISW RCA: Location, Timing, and Volume

**DWR recognized that estimating stream depletion from subbasin-wide pumping is complex, but expects progress by the first Periodic Evaluation.**

**Location**

Where are streams connected, losing, gaining, or disconnected? Which monitoring sites evaluate ISW?

→

**Timing**

When are streams connected or disconnected? How does this vary by season and hydrologic conditions?

→

**Volume**

What is the rate and volume of pumping-induced depletion, and when does it occur?

**SMC**

How should ISW minimum thresholds, measurable objectives, and management actions be set?

**Current Status:** **DWR has not yet released the ISW guidance referenced in its RCA.**

Proceed deliberately: show progress on location and timing now; continue work on volume and SMC through guidance, monitoring, and regional coordination in this next implementation period (2027-2032).

# DWR's Recommended Corrective Action 6

**Provided below is Recommended Corrective Action 6, as stated in the Determination Letter:**

Department staff understand that estimating the location, quantity, and timing of stream depletion due to ongoing, Subbasin-wide pumping is a complex task and that developing suitable tools may take additional time; however, it is critical for the Department's ongoing and future evaluations of whether GSP implementation is on track to achieve sustainable groundwater management. The Department plans to provide guidance on methods and approaches to evaluate the rate, timing, and volume of depletions of interconnected surface water and support for establishing specific sustainable management criteria in the near future. This guidance is intended to assist GSAs to sustainably manage depletions of interconnected surface water.

In addition, the GSAs should work to address the following items by the first periodic evaluation:

a. Consider utilizing the interconnected surface water guidance, as appropriate, when issued by the Department to establish quantifiable minimum thresholds, measurable objectives, and management actions.

b. Continue to fill data gaps, collect additional monitoring data, and implement the current strategy to manage depletions of interconnected surface water and define segments of interconnectivity and timing.

c. Prioritize collaborating and coordinating with local, state, and federal regulatory agencies as well as interested parties to better understand the full suite of beneficial uses and users that may be impacted by pumping induced surface water depletion within the GSAs' jurisdictional area.

d. Clarify the groundwater level monitoring sites that will be used for the evaluation of depletions of interconnected surface water and provide site-specific information.

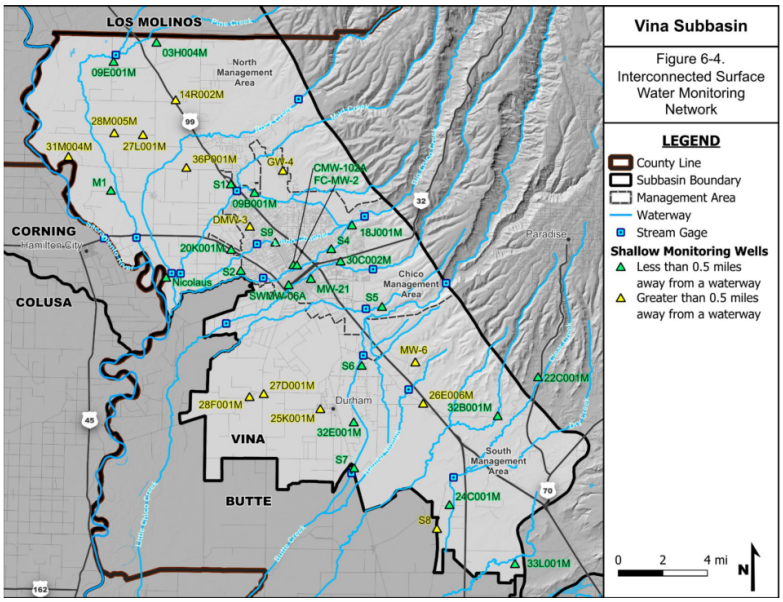


# Notable Progress:

# New information from the LWA ISW Technical Memorandum

# New Information from the SGM grant Data Gap Project

**Identify network of shallow wells for broad ISW network, and stream gages**

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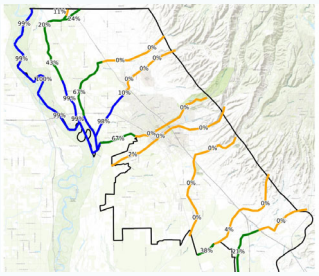
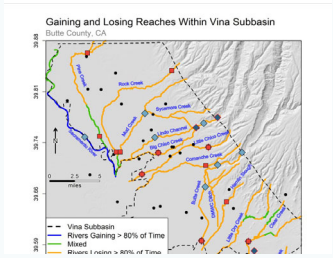
# New Information from the SGM grant Data Gap Project: LWA ISW Tech Memo

**The TM uses <u>multiple lines</u> of evidence to improve understanding of ISW in the Vina Subbasin**



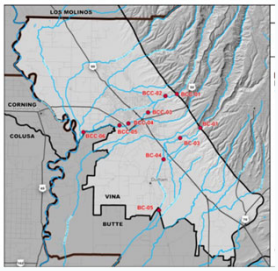
**Butte Basin Groundwater Model**

Updated BBGM v1.3 results identify likely connected, losing, gaining, and disconnected reaches.




**Shallow Regional Groundwater**

Seasonal groundwater level comparisons to stream bed elevations using LiDAR data help evaluate where connection occurs




**Isotope Sampling**

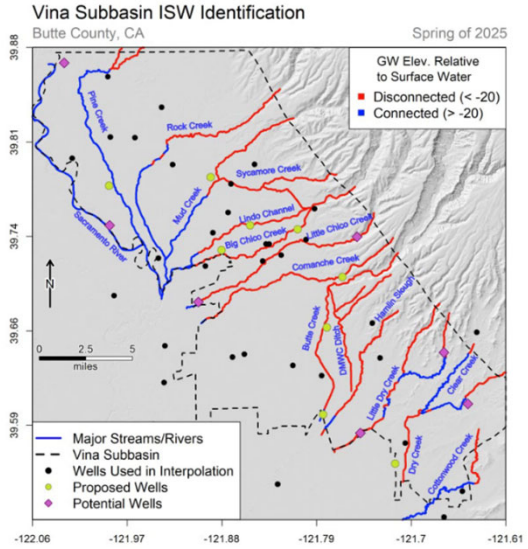
Seasonal groundwater comparisons and May–October isotope sampling help evaluate when stream-aquifer connections occur or are absent.

Source: LWA ISW TM, April 2026

Vina GSA | Responding to DWR's ISW Recommended Corrective Action

8

# Location: Big Strides in Identifying Where ISW Likely Occurs, and Doesn't




Source: LWA ISW TM, Fig. 7

## Preliminary location pattern

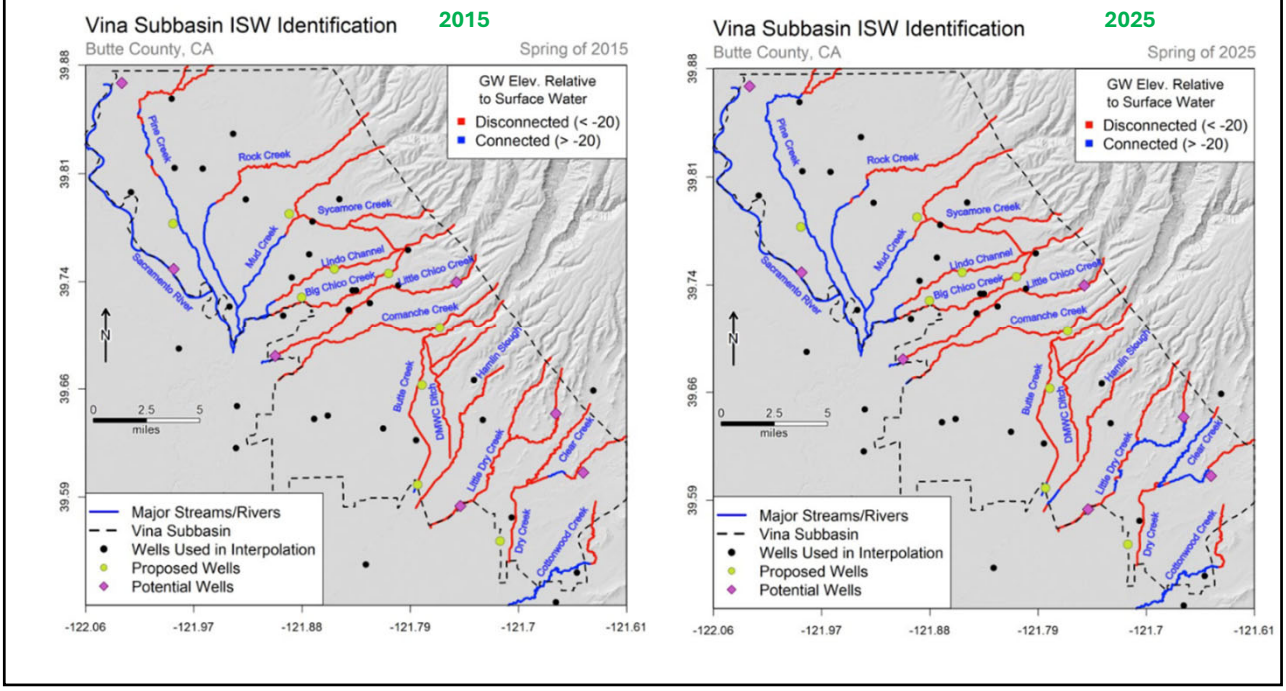
- Sacramento River is primarily connected and gaining.
- Lower western reaches of some creeks may be connected or mixed.
- Many central and eastern reaches appear disconnected much or all of the time.
- Connections may shift with hydrology and groundwater levels.

**RCA progress**

This directly addresses the "location" part of DWR's RCA by improving the basis for identifying connected stream segments and selecting monitoring locations.



9

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# Location: Preliminary Status by Stream Reach

**The TM summarizes preliminary stream connectivity status based on the current multiple-lines-of-evidence analysis.**

| Stream | Preliminary status | Approx. length |
|---|---|---|
| Sacramento River | Connected – gaining | 23.4 mi |
| Pine Creek | Disconnected except lower ~5 mi | 12.6 mi |
| Rock Creek | Disconnected except lower ~1 mi | 13.4 mi |
| Mud Creek | Disconnected except lower ~2 mi | 13.2 mi |
| Big Chico Creek | Disconnected except lower ~2 mi | 10.7 mi |
| Little Chico Creek | Disconnected | 11.9 mi |
| Butte Creek | Disconnected | 11.8 mi |
| Little Dry / Dry Creek | Disconnected | 10.8 mi |

These findings provide a stronger foundation than the 2022 GSP but should be revisited as new shallow well and stream gage data are collected.

Source: LWA ISW TM, Table 3



# Timing: What We Learned So Far

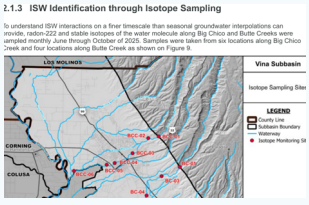
### Sacramento River

Primarily connected and gaining across the analysis period. This makes it the main surface water feature for continued ISW depletion evaluation.

Important for both timing and volume because it borders multiple subbasins.

### Big Chico + Butte Creeks

May–October isotope results indicate these streams did not show a groundwater-input signal and were disconnected from groundwater during the time sampled.




### Ephemeral Streams

Potential depletions are limited to periods when streams are flowing and groundwater levels are high, making them connected to the aquifer. Streamflows typically end by June.

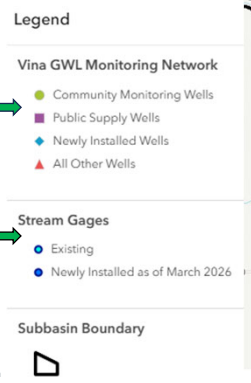
New continuous shallow groundwater data and stream gages will help characterize timing more clearly over the next implementation period.

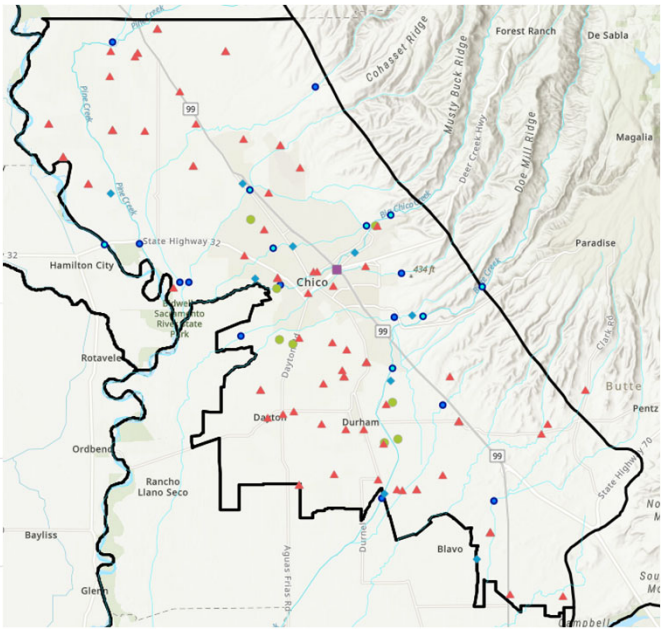
Source: LWA ISW TM, Summary & Conclusions

# Upcoming New Data: shallow wells and stream gages

**New monitoring will provide 'continuous' data – very helpful for location and timing question**

**Important for further understanding ephemeral streams**

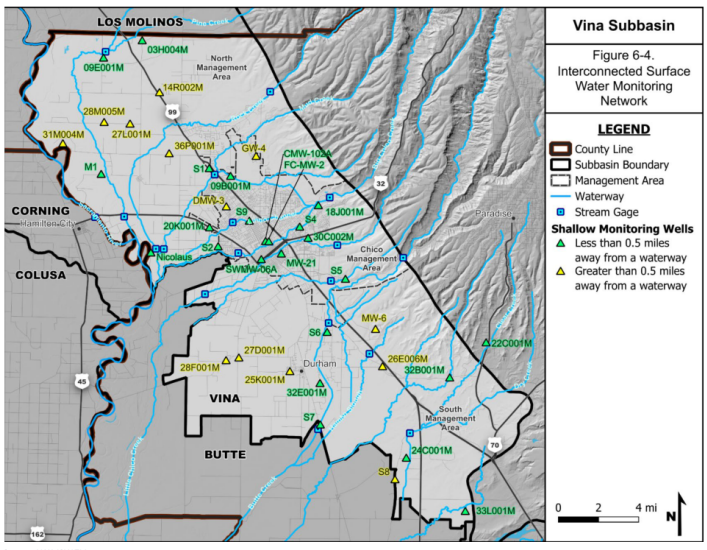





13

# Volume: The Remaining Challenge




Source: LWA ISW TM

**The volume piece is least resolved and most dependent on DWR guidance and regional coordination.**

The Sacramento River is the primary connected feature of concern and is relevant to multiple subbasins.

Volume estimates and ISW SMC will need DWR guidance, regional coordination, improved modeling tools, and methods to distinguish pumping-induced depletion from broader hydrologic and surface water management influences.

The TM provides a preliminary estimate of pumping-related reduction from June–December of about 38 cfs / 16 TAF per year across Vina and adjacent subbasins.



14

# Proposed RCA Response Strategy:

# Demonstrate meaningful progress now; develop robust ISW SMC later

15

## Range of Options for Responding to DWR's ISW RCA

Strawman

### Minimal wait-and-see

**What it would do**

Describe uncertainty and defer most ISW decisions.

**Consideration**

Avoids premature decisions but may not show enough progress on DWR's location / timing / volume framework.

### Incremental approach

**What it would do**

Document location and timing progress; define ISW monitoring network; wait on volume and SMC.

**Consideration**

Recommended strawman: demonstrates RCA progress while preserving flexibility for more robust development of thresholds in the future.

### More immediate SMC

**What it would do**

Select ISW RMS sites and set preliminary MTs/MOs now.

**Consideration**

Proactive, but risks premature thresholds before DWR guidance, regional coordination, and sufficient monitoring data.

**The strawman is not "no action." It is a documented RCA response: location progress, timing progress, monitoring network definition, and a clear path for volume/SMC work.**

Vina GSA | Responding to DWR's ISW Recommended Corrective Action

16

# Strawman Proposal: What Would Be Done in the PE

| | | |
|---|---|---|
| 1 | **Document location progress** | Use the LWA TM to characterize where ISW likely occurs and where streams appear disconnected. |
| 2 | **Document timing progress** | Describe seasonal/isotope findings and describe that new continuous data from newly installed wells in 2026 will help improve timing analysis in the future. |
| 3 | **Define ISW monitoring network** | Identify shallow wells, stream gages, and supporting data sources for continued evaluation – this is a big step forward from what was available previously |
| 4 | **Defer ISW-specific SMC** | Do not set MTs, MOs, undesirable results, or ISW RMS sites until DWR guidance/data/regional work support development of thresholds. |
| 5 | **Coordinate regionally on volume aspect** | Focus regional work on the Sacramento River and shared methods for depletion volume estimates. |

**Intent: clearly respond to DWR's RCA by showing progress on location and timing while explaining why volume/SMC decisions will come in the next implementation period.**



# Stakeholder Feedback Along a Response Spectrum

**Feedback received to date can be viewed along a spectrum: from moving quickly to set ISW protections, to an incremental approach, to a more cautious approach that preserves flexibility while data gaps remain.**

Most proactive → Middle path → Most cautious

### Move faster toward SMC

- Set ISW-specific SMC sooner.
- Raise thresholds to protect GDEs and ISWs.
- Use ecological indicators, such as valley oaks, urban canopy, and rooting depths to set thresholds
- Include early-warning triggers before thresholds are reached.

### Show Progress

- Define a broader ISW monitoring network now.
- Use new analysis to document location and timing progress.
- Improve visuals and explanations of stream connectivity, model outputs, and uncertainty.
- Collect new data - shallow groundwater and stream gage monitoring.

### Proceed carefully

- Proceed cautiously given data gaps.
- Wait for DWR guidance
- Maintain flexibility; avoid locking in premature thresholds.
- Coordinate with neighboring subbasins on ISW and model calibration.
- Revisit SMC when DWR guidance, regional work, and new data are available.

**Common thread: refine the monitoring network, be transparent about assumptions, and acknowledge remaining data gaps**

# SHAC Discussion and Potential Action

## Potential recommendation to the GSA Boards:

Support the strawman approach as a measured response to DWR's ISW Recommended Corrective Action: document the new location and timing information developed through the LWA ISW TM, define a broader ISW monitoring network, stop relying on the existing groundwater level RMS network as the primary proxy, and defer ISW-specific SMC until additional monitoring data, DWR guidance, and regional coordination provide a stronger basis for volume estimates and development of SMC

### Next steps

1. SHAC discussion and potential recommendation
2. GSA Boards consider ISW approach for the PE and any amendments
3. Continue coordination with North Sacramento River Corridor Inter-basin Coordination group to pursue monitoring and regional coordination, especially for the Sacramento River

Vina Groundwater Sustainability Agency
308 Nelson Avenue, Oroville, CA 95965
(530) 552-3592
VinaGSA@gmail.com



# Vina Groundwater Sustainability Agency

## Regular Board Meeting Minutes

May 13, 2026

**1. Vina Groundwater Sustainability Agency (GSA) Regular Board Meeting**

**1.1.** Call to Order: 3:40 p.m.

**1.2.** Roll Call

**BOARD MEMBERS PRESENT:**

Katie Hawley – City of Chico
Steven Koehnen – Agricultural Groundwater User (Alternate)
Jim Graydon – Domestic Well Users Representative
Tod Kimmelshue – Butte County (Vice Chair)

**BOARD MEMBERS ABSENT:**
Derek Sohnrey, Durham Irrigation District

**2. CONSENT AGENDA:**

**2.1. *Approval of the 4-8-26 Vina GSA Board Meeting Minutes.**

**Requested Action**: Approve the 4-8-26 Vina GSA Board meetings minutes.

**2.2. *Consideration of Contract No. 26-01 with Hansford Economic Consulting LLC for Fiscal Year 2026/27 Tax Roll Services.**

The Board considered approval of Contract No. 26-01 with Hansford Economic Consulting LLC to prepare and submit the Vina Groundwater Sustainability Agency (GSA) groundwater sustainability fee for placement on the Fiscal Year 2026/27 Butte County tax roll, and to provide the data needed to bill parcels not collected through the tax roll, such as State and County-owned parcels. ***(Report – Dillon McGregor, GSA Program Manager)***

**Requested Action**: Approve Contract No. 26-01 with Hansford Economic Consulting LLC for Fiscal Year 2026/27 tax roll services.

**ACTION:**

A motion to approve the Consent Agenda was made by Board Member Hawley. That motion was seconded by Board Member Graydon. The motion passed with the following vote:

AYES: Board Members Hawley, Koehnen, Graydon, and Kimmelshue
NOES: <NONE>
ABSENT: Board Member Sohnrey
ABSTAIN: <NONE>

**3. Items Removed from Consent**
**<NONE>**

## 4. Public Comments

Members of the public were invited to address the Board at this time on any matter not already listed on the agenda.

**PUBLIC COMMENTERS:**

<NONE>

## 5. Regular Agenda

### 5.1. *Update on the Status and Anticipated Timeline for the Vina Groundwater Sustainability Plan (GSP) Periodic Evaluation

Staff provided an update on the anticipated topics and timelines over the next several months related to the Periodic Evaluation. ***(Verbal Report – Christina Buck, Asst. Director Butte County Water and Resource Conservation)***

**Requested Action**: Accept as information.

**PUBLIC COMMENTERS:**

<NONE>

**ACTION:**

Board Member Hawley requested the name be changed to GSP Periodic Evaluation and Amendment. Board Member Graydon Requested a timeline be provided.

### 5.2. *Consideration of a Well Mitigation Program in the Vina Subbasin

The Board received a presentation on well mitigations programs from across the state and options and considerations for developing a Well Mitigation Program in the Vina Subbasin, informed by recent Stakeholder Advisory Committee (SHAC) recommendations. ***(Report – Christina Buck, Assistant Director, Butte County Water & Resources Conservation.)***

**Requested Action**: Provide direction to staff on the approach and timing for a Well Mitigation Program including how it is described in the Periodic Evaluation, and whether to include funds in the Fiscal Year 2026/27 budget to support initiation of development of a mitigation program in 2027.

**PUBLIC COMMENTERS:**

Susan Schrader

**ACTION:**

Comments given by Board Member Graydon indicated the analysis is incomplete until all options from the 2022 GSP area are analyzed. Board Member Hawley stated she would like to include California Water Service service area in any well mitigation program alternatives.

A motion to include a statement in the Vina Subbasin Periodic Evaluation that the GSA intends to develop a Domestic Well Mitigation Program during the next implementation period (2027-2032), tailored to the specific conditions and needs of the subbasin was made by Board Member Hawley. That motion was seconded by Board Member Graydon. The motion passed with the following vote:

AYES: Board Members Hawley, Koehnen, Graydon, and Kimmelshue
NOES: <NONE>
ABSENT: Board Member Sohnrey
ABSTAIN: <NONE>

**5.3. *Financial and Administrative Systems Ad Hoc Committee Update**

Staff provided an update on the work of the Financial and Administrative Systems Ad Hoc Committee. Topics covered at recent Committee meetings include the proposed Fiscal Year 2026/27 budget, financial services through the Butte County Auditor-Controller's office, member agency contributions, and the potential development of a reserve policy and procurement policy. ***(Report – Dillon McGregor, GSA Program Manager)***

**Requested Action**: Accept as information.

**PUBLIC COMMENTERS:**

<NONE>

**ACTION:**

Direction was given to consider including monthly/quarterly financial reporting with future board packets as well as to communicate the implications for rate payers when the GSA incurs legal costs.

**5.4. * Fiscal Year 2026/27 Annual Operations Budget Discussion**

Staff presented two draft Fiscal Year 2026/27 Annual Operations Budget scenarios for the Vina Groundwater Sustainability Agency (GSA): one included funding for a Well Mitigation Program and one that did not. Each scenario outlined anticipated revenues and expenditures and supports the GSA's administrative functions and groundwater sustainability activities for the upcoming fiscal year. ***(Report – Dillon McGregor, GSA Program Manager)***

**Requested Action**: Provide direction to staff on the Fiscal Year 2026/27 Annual Operations Budget scenario to bring back for Board adoption in June 2026.

**PUBLIC COMMENTERS:**

<NONE>

**ACTION:**

Direction was given to proceed with the proposed budget which included funding for a Well Mitigation Program.

**6. Program Manager Report – (Information Only - Dillon McGregor, GSA Program Manager)**

- Updates on events: Land Subsidence Strawman Proposal Discussion Session, Legal Implications of Recharge Brown Bag Webinar, Groundwater Dependent Ecosystem Discussion, Interbasin Coordination Public Meeting
- Update on Outreach and the GSA Website
- SGM Grant Update & Proposed Budget Reallocation
- Well and Wastewater Ordinances Update – Butte County Assistant Director, Christina Buck provided information regarding the County's initiation of updates to the County's Water Well and Wastewater Ordinances.

**7. Communications And Reports**

**7.1.** Update on Interbasin Coordination **(Information Only)**

**8. Board Member Requests for Future Items**

Board Member Graydon requested an agenda item covering the determination of consistency process that will be applied to projects proposed by others within the Vina Subbasin

**9. Adjournment:**

The Vina GSA Board meeting adjourned at 5:06 p.m. to a Vina GSA Regular Board Meeting on June 10, 2026, at 3:30 p.m. at the Chico City Council Chamber Building at 421 Main Street, Chico, CA and online via Zoom for viewing only.

# Vina Groundwater Sustainability Agency
# Agenda Transmittal

**Subject:** Consideration of Approval of SGM Grant Amendment 3

| | | | |
|---|---|---|---|
| **Contact:** Becky Fairbanks | **Phone:** (530) 552-3587 | **Meeting Date:** June 10, 2026 | **Agenda Item:** 2.5 |


**Summary**

The Board will consider approval of Amendment No. 3 to Sustainable Groundwater Management (SGM) Grant Agreement No. 4600015664 with the California Department of Water Resources (DWR). The proposed amendment reallocates $88,944 in unspent grant funds from completed project components to remaining active components to support completion of ongoing grant-funded work.

Components 3 (Demand Reduction Strategies), 4 (Surface Water Supplies Feasibility Analysis), and 6 (Inter-basin Coordination, Modeling, and Reporting) have been completed and closed out, resulting in remaining consultant and contingency balances available for reallocation. The proposed amendment would transfer these funds to Component 1 (Grant Administration), Component 2 (GSP Periodic Evaluation and GSP Amendments), Component 5 (Recharge Feasibility Analysis and Legal Implications of Recharge Analysis), and Component 7 (Outreach and Education Program) to support continued implementation through the remainder of the grant period. The amendment does not increase the total grant award, modify the scope of work, or change the project schedule.


**Fiscal Impact**

The amendment reallocates existing grant funds and does not increase the total grant award. No additional local funding is required.

**Requested Board Action**

Approve Amendment No. 3 to Sustainable Groundwater Management Grant Agreement No. 4600015664 between the Vina Groundwater Sustainability Agency and the California Department of Water Resources and authorize the Chair to sign all documents necessary to execute the amendment.

# Vina Groundwater Sustainability Agency

308 Nelson Avenue, Oroville, California 95965
(530) 786-3303 • VinaGSA@gmail.com


June 1, 2026

Mr. Michael Parker
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236

**Re: Request for Amendment No. 3 to Grant Agreement No. 4600015664**

Dear Mr. Parker:

Please find attached the redlined version of Grant Agreement No. 4600015664, reflecting the requested Amendment No. 3 to the Vina Sustainable Groundwater Management Act (SGMA) Implementation Grant. This request pertains to budget adjustments within several components of the grant. These adjustments involve reallocating funds within existing budget categories and do not require additional funding, nor do they affect the overall project timeline or total budget amount.

Components 3, 4, and 6 have been officially closed out and all work under these components is complete. The following remaining balances are therefore available for reallocation ($88,944 total):

- Component 3: Reallocation of $76,110.10 from consultant/contingency budget.
- Component 4: Reallocation of $11,210.01 from consultant/contingency budget.
- Component 6: Reallocation of $1,623.94 from consultant/contingency budget.

Reallocated funds will be applied to department staff time as follows:

- Component 1(a) – Grant Administration: +$23,798 for continued grant administration and reporting through December 2026.
- Component 2(d) – Monitoring/Assessment: +$33,294 to support continued work on the GSP Periodic Evaluation and GSP amendments through December 2026.
- Component 5(a) – Component Administration: +$5,238 for continued project administration for the Recharge Analysis Feasibility task and the Legal Implications of Recharge Analysis task through September 2026.
- Component 7(e) – Outreach and Education Program: +$26,614 for continued outreach and stakeholder engagement through December 2026.

Please let us know if you require any clarification regarding these amendments. Thank you for your continued support in advancing these projects through SGMA grant funding.

Regards,

**Kamie Loeser, Director**
Vina Groundwater Sustainability Agency

Attachments:

- 4600015664_AMD_3_vina_redlined.docx

**GRANT AGREEMENT BETWEEN THE STATE OF CALIFORNIA**

**(DEPARTMENT OF WATER RESOURCES) AND**

**VINA GROUNDWATER SUSTAINABILITY AGENCY**

**AGREEMENT NUMBER 4600015664**

**SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA) IMPLEMENTATION GRANT**

THIS GRANT AGREEMENT is entered into by and between the Department of Water Resources of the State of California, herein referred to as the "State" or “DWR,” and the Vina Groundwater Sustainability Agency, a public agency in the State of California, duly organized, existing, and acting pursuant to the laws thereof, herein referred to as the "Grantee," which parties do hereby agree as follows:

1. PURPOSE. The State shall provide funding from the Budget Acts of 2021 and 2022 (Stats. 2021, ch. 240, § 80; Stats. 2022, ch. 43, § 2), and Public Resources Code section 80146 et seq. (Proposition 68) to the Grantee to assist in financing the Vina Subbasin GSP Projects and Management Actions Implementation (Project). By executing this Agreement, the Grantee certifies that the purpose of the Project is to implement SGMA as outlined in the Grantee’s Groundwater Sustainability Plan (GSP) or Alternative to a GSP. The provision of State funds pursuant to this Agreement shall not be construed or interpreted to mean that the GSP or Alternative to GSP, or any components of the GSP, implemented in accordance with the Work Plan as set forth in Exhibit A will be: adopted by the applicable Groundwater Sustainability Agency (GSA); obtain the necessary desirable results of Sustainable Management Criteria; or, meet all of the evaluation and assessment criteria when submitted to DWR as required by the SGMA and implementing regulations.
2. TERM OF GRANT AGREEMENT. The term of this Grant Agreement begins on JANUARY 1, 2024, and ends three (3) years following the final payment unless otherwise terminated or amended as provided in this Agreement. However, all work shall be completed by JANUARY 31, 2027, and no funds may be requested after FEBRUARY 28, 2027.
3. GRANT AMOUNT. The maximum amount payable by the State under this Agreement shall not exceed $5,535,000. Any additional costs are the responsibility of the Grantee.
4. BASIC CONDITIONS. The State shall have no obligation to disburse money for the Project under this Grant Agreement until the Grantee has satisfied the following conditions:
    A. The Grantee must demonstrate compliance with all eligibility criteria set forth on Pages 7 through 13 of the *SGM Grant Program 2021 Guidelines, amended April 2023* (2021 Guidelines).
    B. For the term of this Grant Agreement, the Grantee submits Quarterly Progress Reports, associated quarterly invoices, and all invoice backup documentation no later than sixty (60) days following the end of the calendar quarter (e.g., submitted by May 30th, August 29th, November 29th, and February 28th) and all other deliverables as required by Paragraph 11, “Submission of Reports” and Exhibit A, “Work Plan.”
    C. Prior to the commencement of construction or implementation activities, if applicable, the Grantee shall submit the following to the State:
        i. Final plans and specifications certified by a California Registered Civil Engineer (or equivalent registered professional as appropriate) to certify compliance for each approved project as listed in Exhibit A, “Work Plan” of this Grant Agreement.
        ii. Work that is subject to the California Environmental Quality Act (CEQA) process and/or environmental permitting shall not proceed under this Grant Agreement until the following actions are performed:
            a. The Grantee submits to the State all applicable environmental permits as indicated on the Environmental Information Form (EIF) to the State,
            b. Documents that satisfy the CEQA process are received by the State,
            c. The State has completed its CEQA compliance review as a Responsible Agency, and
            d. The Grantee receives written concurrence from the State of Lead Agency’s CEQA document(s) and State notice of verification of environmental permit submittal.

The State's concurrence of the Lead Agency's CEQA documents is fully discretionary and shall constitute a condition precedent to any work (i.e., construction or implementation activities) for which it is required. Once CEQA documentation has been completed, the State will consider the environmental documents and decide whether to continue to fund the project or to require changes, alterations, or other mitigation. The Grantee must also demonstrate that it has complied with all applicable requirements of the National Environmental Policy Act (NEPA) by submitting copies of any environmental documents, including environmental impact statements, Finding of No Significant Impact, mitigation monitoring programs, and environmental permits as may be required prior to beginning construction/implementation.

iii. A monitoring plan as required by Paragraph 13, "Project Monitoring Plan Requirements."

5. DISBURSEMENT OF FUNDS. The State will disburse to the Grantee the amount approved, subject to the availability of funds through normal State processes. Notwithstanding any other provision of this Grant Agreement, no disbursement shall be required at any time or in any manner which is in violation of, or in conflict with, federal or state laws, rules, or regulations, or which may require any rebates to the federal government, or any loss of tax-free status on state bonds, pursuant to any federal statute or regulation. Any and all money disbursed to the Grantee under this Grant Agreement shall be deposited in a non-interest-bearing account and shall be used solely to pay Eligible Project Costs.

6. ELIGIBLE PROJECT COST. The Grantee shall apply State funds received only to Eligible Project Costs in accordance with applicable provisions of the law and Exhibit B, "Budget." Eligible Project Costs include the reasonable costs of studies, engineering, design, land and easement acquisition and associated legal fees, preparation of environmental documentation, environmental mitigations, monitoring, and project construction. Reimbursable administrative expenses are the necessary costs incidental but directly related to the Project included in this Agreement. Work performed on the Project after OCTOBER 4, 2022, shall be eligible for reimbursement.

   Costs that are not eligible for reimbursement include, but are not limited to, the following items:

   A. Costs for preparing and filing a grant application and/or spending plan.
   B. Costs associated with the formation of a GSA(s) or other board formation that is responsible for implementing SGMA.
   C. Operation and maintenance costs, including post-construction performance and monitoring costs.
   D. Purchase of equipment that is not an integral part of a project.
   E. Establishing a reserve fund.
   F. Purchase of water supplies.
   G. Replacement of existing funding sources.
   H. Travel and per diem costs, except for mileage.
   I. Support of existing agency requirements and mandates.
   J. Purchase of land in excess of the minimum required acreage necessary to operate as an integral part of a project, as set forth and detailed by engineering and feasibility studies, or acquisition of land by eminent domain.
   K. Meals, food items, or refreshments.
   L. Costs incurred as part of any necessary response and cleanup activities required under the Comprehensive Environmental Response, Compensation, and Liability Act; Resource Conservation and Recovery Act; Hazardous Substances Account Act; or other applicable law.
   M. Overhead and indirect costs: "Indirect Costs" means those costs that are incurred for a common or joint purpose benefiting more than one cost objective and are not readily assignable to the funded project (i.e., costs that are not directly related to the funded project). Examples of Indirect Costs include but are

not limited to: central service costs; general administration of the Grantee; non-project-specific accounting and personnel services performed within the Grantee's organization; depreciation or use allowances on buildings and equipment; the costs of operating and maintaining non-project-specific facilities; tuition and conference fees; forums, training, and seminars; and, generic overhead or markup. This prohibition applies to the Grantee and any subcontract or sub-agreement for work on the Project that will be reimbursed pursuant to this Agreement.

7. METHOD OF PAYMENT. After the disbursement requirements in Paragraph 4, "Basic Conditions," are met, the State will disburse the whole or portions of State funding to the Grantee, following receipt from the Grantee via US mail or Express mail delivery of a "wet signature" invoice or an electronic invoice certified and transmitted via DocuSign for costs incurred and timely Quarterly Progress Reports as required by Paragraph 11, "Submission of Reports." Payment will be made no more frequently than quarterly, in arrears, upon receipt of an invoice bearing the Grant Agreement number. Invoices must accompany a Quarterly Progress Report and shall be submitted within no later than sixty (60) days following the end of the calendar quarter (e.g., submitted by May 30th, August 29th, November 29th, and February 28th). The State will notify the Grantee, in a timely manner, whenever, upon review of an Invoice, the State determines that any portion or portions of the costs claimed are not eligible costs or are not supported by documentation or receipts acceptable to the State. The Grantee may, within thirty (30) calendar days of the date of receipt of such notice, submit additional documentation to the State to cure such deficiency(ies). If the Grantee fails to submit adequate documentation curing the deficiency(ies), the State will adjust the pending invoice by the amount of ineligible or unapproved costs.

   Invoices submitted by the Grantee shall include the following information:

   A. Costs incurred for work performed in implementing the Project during the period identified in the particular invoice. If backup documentation provided is outside of the period identified in the particular invoice, the Grantee must provide justification within the associated Quarterly Progress Report and note the discrepancy on the Invoice Submittal Summary Sheet.

   B. Costs incurred for any interests in real property (land or easements) that have been necessarily acquired for a project during the period identified in the particular invoice for the implementation of a project.

   C. Invoices shall be submitted on forms provided by the State and shall meet the following format requirements:

      i. Invoices must contain the date of the invoice, either the time period covered by the invoice or the invoice date received within the time period covered and the total amount due.

      ii. Invoices must be itemized based on the categories (i.e., tasks) specified in Exhibit B, "Budget." The amount claimed for salaries/wages/consultant fees must include a calculation formula (i.e., hours or days worked times the hourly or daily rate = the total amount claimed).

      iii. One set of sufficient evidence (i.e., receipts, copies of checks, time sheets) must be provided for all costs included in the invoice.

      iv. Each invoice shall clearly delineate those costs claimed for reimbursement from the State's funding amount, as depicted in Paragraph 3, "Grant Amount."

   Original signature and date (in ink) of the Grantee's Project Representative. Submit the original "wet signature" copy of the invoice form to the following address: Michael Parker at P.O. Box 942836, Sacramento, CA 94236-0001 or an electronic signature certified and transmitted via DocuSign from authorized representative to michael.parker@water.ca.gov.
   All invoices submitted shall be accurate and signed under penalty of law. Any and all costs submitted pursuant to this Agreement shall only be for the tasks set forth herein. The Grantee shall not submit any invoice containing costs that are ineligible or have been reimbursed from other funding sources unless required and specifically noted as such (i.e., match costs/cost share). Any eligible costs for which the Grantee is seeking reimbursement shall not be reimbursed from any other source. Double or multiple billing

for time, services, or any other eligible cost is illegal and constitutes fraud. Any suspected occurrences of fraud, forgery, embezzlement, theft, or any other misuse of public funds may result in suspension of disbursements of grant funds and/or termination of this Agreement requiring the repayment of all funds disbursed hereunder plus interest. Additionally, the State may request an audit pursuant to Paragraph D.5 and refer the matter to the Attorney General's Office or the appropriate district attorney's office for criminal prosecution or the imposition of civil liability. (Civ. Code, §§ 1572-1573; Pen. Code, §§ 470, 487-489.)

8. WITHHOLDING OF DISBURSEMENTS BY THE STATE. If the State determines that a project is not being implemented in accordance with the provisions of this Grant Agreement, or that the Grantee has failed in any other respect to comply with the provisions of this Grant Agreement, and if the Grantee does not remedy any such failure to the State's satisfaction, the State may withhold from the Grantee all or any portion of the State funding and take any other action that it deems necessary to protect its interests. Where a portion of the State funding has been disbursed to the Grantee and the State notifies the Grantee of its decision not to release funds that have been withheld pursuant to Paragraph 9, "Default Provisions," the portion that has been disbursed shall thereafter be repaid immediately at the time the State notifies the Grantee, as directed by the State. The State may consider the Grantee's refusal to repay the requested disbursed amount a contract breach subject to the default provisions in Paragraph 9. If the State notifies the Grantee of its decision to withhold the entire funding amount from the Grantee pursuant to this Paragraph, this Grant Agreement shall terminate upon receipt of such notice by the Grantee, and the State shall no longer be required to provide funds under this Grant Agreement and the Grant Agreement shall no longer be binding on either party.
9. DEFAULT PROVISIONS. The Grantee will be in default under this Grant Agreement if any of the following occur:
   A. Substantial breaches of this Grant Agreement, or any supplement or amendment to it, or any other agreement between the Grantee and the State evidencing or securing the Grantee's obligations;
      i. Making any false warranty, representation, or statement with respect to this Grant Agreement or the application filed to obtain this Grant Agreement;
      ii. Failure to operate or maintain the Project in accordance with this Grant Agreement.
      iii. Failure to make any remittance required by this Grant Agreement, including any remittance recommended as the result of an audit conducted pursuant to Paragraph D.5.
      iv. Failure to submit quarterly progress reports pursuant to Paragraph 4.
      v. Failure to routinely invoice the State pursuant to Paragraph 7.
      vi. Failure to meet any of the requirements set forth in Paragraph 10, "Continuing Eligibility."
      vii. A determination pursuant to Government Code section 11137 that the Grantee has violated any of the following: Government Code sections 11135 or 12960 et seq.; Civil Code sections 51-54.2, inclusive; or any regulations adopted to implement these sections.
   B. Should an event of default occur, the State shall provide a notice of default to the Grantee and shall give the Grantee at least ten (10) calendar days to cure the default from the date the notice is sent via first-class mail to the Grantee. If the Grantee fails to cure the default within the time prescribed by the State, the State may do any of the following:
      i. Declare the funding be immediately repaid, with interest, which shall be equal to the State of California general obligation bond interest rate in effect at the time of default.
      ii. Terminate any obligation to make future payments to the Grantee.
      iii. Terminate the Grant Agreement.
      iv. Take any other action that it deems necessary to protect its interests.

In the event the State finds it necessary to enforce this provision of this Grant Agreement in the manner provided by law, the Grantee agrees to pay all costs incurred by the State, including, but not limited to, reasonable attorneys' fees, legal expenses, and costs.

10. CONTINUING ELIGIBILITY. The Grantee must meet the following ongoing requirement(s) and all eligibility criteria outlined in the 2021 Guidelines, amended April 2023, to remain eligible to receive State funds:

    A. The Grantee must continue to demonstrate eligibility and the groundwater basin must continue to be an eligible basin as outlined in the 2021 Guidelines, amended April 2023, and 2021 PSP.

    B. Grantee must adhere to the protocols developed pursuant to The Open and Transparent Water Data Act (Wat. Code, § 12406) for data sharing, transparency, documentation, and quality control.

    C. If the Grantee diverts surface water, the Grantee must maintain compliance with diversion reporting requirements as outlined in Water Code section 5100 et seq.

    D. If applicable, maintain compliance with the Urban Water Management Planning Act (Wat. Code, § 10610 et seq.).

    E. If applicable, maintain compliance with Sustainable Water Use and Demand Reduction requirements outlined in Water Code Section 10608, et seq.

    F. On March 4, 2022, the Governor issued Executive Order N-6-22 (the EO) regarding Economic Sanctions against Russia and Russian entities and individuals. The EO may be found at: https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf. "Economic Sanctions" refers to sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under State law. The EO directs DWR to terminate funding agreements with and to refrain from entering any new agreements with individuals or entities that are determined to be a target of Economic Sanctions. Accordingly, should the State determine that the Grantee is a target of Economic Sanctions or is conducting prohibited transactions with sanctioned individuals or entities, that shall be grounds for termination of this Agreement. The State shall provide the Grantee advance written notice of such termination, allowing the Grantee at least 30 calendar days to provide a written response. Termination shall be at the sole discretion of the State.

11. SUBMISSION OF REPORTS. The submittal and approval of all reports is a requirement for the successful completion of this Grant Agreement. Reports shall meet generally accepted professional standards for technical reporting and shall be proofread for content, numerical accuracy, spelling, and grammar prior to submittal to the State. All reports shall be submitted to the State's Grant Manager and shall be submitted via DWR's "Grant Review and Tracking System" (GRanTS) or an equivalent online submittal tool. If requested, the Grantee shall promptly provide any additional information deemed necessary by the State for the approval of reports. Reports shall be presented in the formats described in the applicable portion of Exhibit F, "Report Formats and Requirements." The timely submittal of reports is a requirement for initial and continued disbursement of State funds. Submittal and subsequent approval by the State, of a Project Completion Report is a requirement for the release of any funds retained for such project.

    A. Quarterly Progress Reports: The Grantee shall submit Quarterly Progress Reports to meet the State's requirement for disbursement of funds. Quarterly Progress Reports shall be uploaded via GRanTS or an equivalent online submittal tool, and the State's Grant Manager will be notified of the upload. Quarterly Progress Reports shall, in part, provide a brief description of the work performed, the Grantee's activities, milestones achieved, any accomplishments, and any problems encountered in the performance of the work under this Grant Agreement during the reporting period. The first Quarterly Progress Report should be submitted to the State no later than APRIL 30, 2024, with future reports then due on successive three-month increments based on the invoicing schedule and this date. The DWR Grant Manager will provide a Quarterly Progress Report template that shall be used for the duration of the Agreement.

B. Groundwater Sustainability Plan or Alternative: The Grantee shall ensure that any updates to the GSP or Alternative shall be formatted, drafted, prepared, and completed as required by the GSP Regulations, and in accordance with any other regulations or requirements that are stipulated through SGMA.

C. Component Completion Report(s): The Grantee shall prepare and submit to the State a separate Component Completion Report for each component included in Exhibit A, "Work Plan." The Grantee shall submit a Component Completion Report within ninety (90) calendar days of component completion. Each Component Completion Report shall include, in part, a description of actual work done, any changes or amendments to each component, and a final schedule showing actual progress versus planned progress, copies of any final documents or reports generated or utilized during a project. The Component Completion Report shall also include, if applicable, certification of the final component by a California Registered Civil Engineer (or equivalent registered professional as appropriate), consistent with Standard Condition D.18, "Final Inspections and Certification of Registered Civil Engineer." A DWR "Certification of Project Completion" form will be provided by the State.

D. Grant Completion Report: Upon completion of the Project included in Exhibit A, "Work Plan" the Grantee shall submit to the State a Grant Completion Report. The draft Grant Completion Report shall be submitted to the DWR Grant Manager for comment and review 90 days before the work completion date outlined on Page 1, Paragraph 2. The final Grant Completion Report shall address the DWR Grant Manager's comments prior to the work completion date. The report shall be prepared and presented in accordance with the provisions of Exhibit F, "Report Formats and Requirements". Retention for the project to be completed as part of this Grant Agreement will not be disbursed until the Grant Completion Report is submitted and approved by the State.

E. Post Performance Reports: The Grantee shall submit Post Performance Reports. Post Performance Reports shall be submitted to the State within ninety (90) calendar days after the first operational year of a project has elapsed. This record-keeping and reporting process shall be repeated annually for a total of three (3) years after the completed project begins operation.

F. Deliverable Due Date Schedule: The Grantee shall submit a Deliverable Due Date Schedule within 30 days of the execution date of the Grant Agreement. No invoices will be reviewed or processed until the Deliverable Due Date Schedule has been received by the DWR Grant Manager. Any edits to the schedule must be approved by the DWR Grant Manager, and the revised schedule saved in the appropriate project files.

G. Environmental Information Form (EIF): Prepare and submit the EIF within 30 days of the execution date of the Grant Agreement. No invoices will be reviewed or processed until the EIF has been received by the DWR Grant Manager.

12. OPERATION AND MAINTENANCE OF PROJECT. For the useful life of construction and implementation projects and in consideration of the funding made by the State, the Grantee agrees to ensure or cause to be performed the commencement and continued operation of the project, and shall ensure or cause the project to be operated in an efficient and economical manner; shall ensure all repairs, renewals, and replacements necessary to the efficient operation of the same are provided; and shall ensure or cause the same to be maintained in as good and efficient condition as upon its construction, ordinary and reasonable wear and depreciation excepted. The State shall not be liable for any cost of such maintenance, management, or operation. The Grantee or their successors may, with the written approval of the State, transfer this responsibility to use, manage, and maintain the property. For purposes of this Grant Agreement, "useful life" means period during which an asset, property, or activity is expected to be usable for the purpose it was acquired or implemented; "operation costs" include direct costs incurred for material and labor needed for operations, utilities, insurance, and similar expenses, and "maintenance costs" include ordinary repairs and replacements of a recurring nature necessary for capital assets and basic structures and the expenditure of funds necessary to replace or reconstruct capital assets or basic structures. Refusal of the Grantee to ensure operation and maintenance of the projects in accordance with

this provision may, at the option of the State, be considered a breach of this Grant Agreement and may be treated as default under Paragraph 9, “Default Provisions.”

13. PROJECT MONITORING PLAN REQUIREMENTS. As required in Exhibit A, “Work Plan,” a Monitoring Plan shall be submitted to the State prior to the disbursement of State funds for construction or monitoring activities. The Monitoring Plan should incorporate Post Performance Monitoring Report requirements as defined and listed in Exhibit J, “Monitoring and Maintenance Plan Components”. The SGM Grant Program has developed post construction monitoring methodologies that shall be used for the Post Performance Reporting.

14. NOTIFICATION OF STATE. The Grantee shall promptly notify the State, in writing, of the following items:

    A. Events or proposed changes that could affect the scope, budget, or work performed under this Grant Agreement. The Grantee agrees that no substantial change in the scope of a project will be undertaken until written notice of the proposed change has been provided to the State and the State has given written approval for such change. Substantial changes generally include changes to the scope of work, schedule or term, and budget.

    B. Any public or media event publicizing the accomplishments and/or results of this Grant Agreement and provide the opportunity for attendance and participation by the State’s representatives. The Grantee shall make such notification at least fourteen (14) calendar days prior to the event.

    C. Discovery of any potential archaeological or historical resource. Should a potential archaeological or historical resource be discovered during construction, the Grantee agrees that all work in the area of the find will cease until a qualified archaeologist has evaluated the situation and made recommendations regarding the preservation of the resource and the State has determined what actions should be taken to protect and preserve the resource. The Grantee agrees to implement appropriate actions as directed by the State.

    D. The initiation of any litigation or the threat of litigation against the Grantee regarding the Project or that may affect the Project in any way.

    E. For implementation/construction Projects, final inspection of the completed work on a project by a Registered Civil Engineer, in accordance with Standard Condition D.18, “Final Inspections and Certification of Registered Civil Engineer.” The Grantee shall notify the State’s Grant Manager of the inspection date at least fourteen (14) calendar days prior to the inspection in order to provide the State the opportunity to participate in the inspection.

15. NOTICES. Any notice, demand, request, consent, or approval that either party desires or is required to give to the other party under this Grant Agreement shall be in writing. Notices may be transmitted by any of the following means:

    A. By delivery in person.

    B. By certified U.S. mail, return receipt requested, postage prepaid.

    C. By “overnight” delivery service; provided that next-business-day delivery is requested by the sender.

    D. By electronic means.

    E. Notices delivered in person will be deemed effective immediately on receipt (or refusal of delivery or receipt). Notices sent by certified mail will be deemed effective given ten (10) calendar days after the date deposited with the U. S. Postal Service. Notices sent by overnight delivery service will be deemed effective one business day after the date deposited with the delivery service. Notices sent electronically will be effective on the date of transmission, which is documented in writing. Notices shall be sent to the below addresses. Either party may, by written notice to the other, designate a different address that shall be substituted for the one below.

16. PERFORMANCE EVALUATION. Upon completion of this Grant Agreement, the Grantee's performance will be evaluated by the State and a copy of the evaluation will be placed in the State file and a copy sent to the Grantee.

17. PROJECT REPRESENTATIVES. The Project Representatives during the term of this Grant Agreement are as follows:

| Department of Water Resources | Vina Groundwater Sustainability Agency |
|---|---|
| Arthur Hinojosa<br>Manager, Division of Regional Assistance<br>P.O. Box 942836<br>Sacramento, CA 94236-0001<br>Phone: (916) 902-6713<br>Email: Arthur.Hinojosa@water.ca.gov | Kamie Loeser<br>Director, Butte County<br>308 Nelson Ave.<br>Oroville, CA 95965<br>Phone: (530) 552-3595<br>Email: kloeser@buttecounty.net |

Direct all inquiries to the Grant Manager:

| Department of Water Resources | Vina Groundwater Sustainability Agency |
|---|---|
| Michael Parker<br>Engineering Geologist<br>2440 Main Street<br>Red Bluff, CA 96080<br>Phone: (530) 317-8551<br>Email: michael.parker@water.ca.gov | Christina Buck<br>Assistant Director, Butte County<br>308 Nelson Ave.<br>Oroville, CA 95965<br>Phone: (530) 552-3593<br>Email: cbuck@buttecounty.net |

Either party may change its Grant Manager, Project Representative, or Project Manager upon written notice to the other party.

18. STANDARD PROVISIONS AND INTEGRATION. This Grant Agreement is complete and is the final Agreement between the parties. The following Exhibits are attached and made a part of this Grant Agreement by this reference:

Exhibit A– Work Plan

Exhibit B– Budget

Exhibit C– Schedule

Exhibit D– Standard Conditions

Exhibit E– Authorizing Resolution Accepting Funds

Exhibit F– Report Formats and Requirements

Exhibit G– Requirements for Data Submittal

Exhibit H– State Audit Document Requirements

Exhibit I– Project Location

Exhibit J– Monitoring and Maintenance Plan Components

Exhibit K– Appraisal Specifications

Exhibit L– Information Needed for Escrow Process and Closure

Exhibit M– Invoice Guidance for Administrative and Overhead Charges

IN WITNESS WHEREOF, the parties hereto have executed this Grant Agreement.

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

_____

Arthur Hinojosa
Manager, Division of Regional Assistance

Date_____

VINA GROUNDWATER SUSTAINABILITY AGENCY

_____

Kamie Loeser, Director

Date_____

Approved as to Legal Form and Sufficiency

_____for

Robin Brewer
Assistant General Counsel,
Office of the General Counsel

Date_____

**Exhibit A**

**WORK PLAN**

**Project Title:** Vina Subbasin GSP Projects and Management Actions Implementation (Project)

**Project Description:** This Work Plan will make progress on GSP implementation actions that advance groundwater sustainability in the Vina Subbasin. This proposal includes three categories of activities that will work toward monitoring and eliminating the 10,000 acre-feet (AF) of estimated overdraft per year. Activities include: 1) required GSP implementation tasks such as reporting, responding to DWR GSP determination, continued stakeholder outreach, groundwater model updates, financing strategies, and filling data gaps; 2) improving the monitoring network and developing a domestic well inventory; and 3) implementation of pilot projects for recharge, agricultural irrigation efficiency, and reduced groundwater demand. The Work Plan includes seven Components:

Component 1: Grant Agreement Administration
Component 2: GSP Updates, Data Gaps, and Outreach
Component 3: Demand Reduction Strategies in the Vina Subbasin
Component 4: Lindo Channel Surface Water Recharge
Component 5: Surface Water Supply and Recharge Feasibility Study
Component 6: Inter-basin Coordination, Modeling and Reporting
Component 7: Outreach Program

**COMPONENT 1: GRANT ADMINISTRATION**

**Category (a): Grant Agreement Administration**
Prepare reports detailing work completed during the reporting period as outlined in Exhibit F, “Report Formats and Requirements” of this Agreement. Progress Reports will include sufficient information for the DWR Grant Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Quarterly Progress Reports and should be submitted to the DWR Grant Manager for review to receive reimbursement of Eligible Project Costs. Collect and organize backup documentation by component, budget category, and task and prepare a summary Excel document detailing the contents of the backup documentation organized by component, budget category, and task.

Prepare and submit the Environmental Information Form (EIF) within 30 days of the execution date of the Grant Agreement. No invoices will be reviewed or processed until the EIF has been received by the DWR Grant Manager. Submit a deliverable due date schedule within 30 days of the execution date of the Grant Agreement to be reviewed and approved by the DWR Grant Manager. Any edits to the schedule must be approved by the DWR Grant Manager, and the revised schedule saved in the appropriate project files.

Prepare the Draft Grant Completion Report and submit to the DWR Grant Manager for comment and review 90 days before the work completion date. DWR’s Grant Manager will review the Draft Grant Completion Report and provide comments and edits within 30 days of receipt, when possible. Submit a Final Grant Completion Report addressing the DWR Grant Manager’s comments prior to the work completion date. The report shall be prepared and presented in accordance with the provisions of Exhibit F, “Report Formats and Requirements” and approved by the DWR Grant Manager within 30 days after the work completion date. All deliverables listed within the Work Plan shall be submitted with the Final Grant Completion Report unless a new deliverable due date was approved by the DWR Grant Manager.

<u>Deliverables:</u>

- EIF
- Deliverable due date schedule
- Quarterly Progress Reports, Quarterly Invoices, and all required backup documentation

- Draft and Final Grant Completion Reports

## COMPONENT 2: GSP UPDATES, DATA GAPS, AND OUTREACH

Component 2 consists of the installation of monitoring sites and dedicated monitoring equipment, to expand the understanding of basin conditions in the Vina subbasin and address data gaps as identified in the Groundwater Sustainability Plan (GSP). In aggregate, project tasks will help expand the understanding of the hydrogeology and hydrology in the Subbasin to support updates to the GSP and successful management of the subbasin.

Additionally, the project focuses on improving the understanding of the domestic well conditions in the Subbasin by performing an in-depth review of the domestic wells in the Subbasin and by creating a Community Monitoring Program with dry well tracking. In aggregate, project tasks will help expand the understanding of the domestic well conditions in the Subbasin.

The project includes preparation of the five-year GSP Periodic Evaluation and tasks to address recommended corrective actions identified by DWR in the Determination Letter for the Vina GSP.

The public and interested parties will be informed of the activities associated with this project through regular Stakeholder Advisory Committee Meetings, meetings of the GSA Boards, public workshops, and regular email correspondence to the interested parties list, similar to the approach taken during GSP development. In addition, targeted outreach will be conducted to stakeholders near and around the monitoring sites.

### Category (a): Component Administration

Prepare reports detailing component work completed during the reporting period as outlined in Exhibit F, “Report Formats and Requirements” of this Agreement, for inclusion in Component 1 Quarterly Progress Reports. Quarterly Progress Reports will include sufficient information for the DWR Grant Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Quarterly Progress Reports. Collect and organize backup documentation by the Component 2 budget category and task and prepare a summary Excel document detailing the contents of the backup documentation organized by task.

Prepare the Draft Component Completion Report and submit it to the DWR Grant Manager for comment and review 90 days before the work completion date for the component. DWR’s Grant Manager will review the Draft Component Completion Report and provide comments and edits within 30 days of receipt, when possible. Submit a Final Component Completion Report addressing the DWR Grant Manager’s comments within 30 days before the work completion date. The report shall be prepared and presented in accordance with the provisions of Exhibit F, “Report Formats and Requirements” and approved by the DWR Grant Manager within 30 days after the work completion date. All deliverables listed within the Work Plan shall be submitted with the Final Component Completion Report unless a new deliverable due date was approved by the DWR Grant Manager.

Deliverables:

- Component reporting to be included in Quarterly Progress Reports and Invoices
- Draft and Final Component Completion Reports

### Category (b): Environmental / Engineering / Design

Task 1: Landowner Access Agreement/Site Access

Acquire landowner access agreement(s) required to install monitoring wells, piezometers, and stream gages if applicable. Any access agreements obtained pursuant to this Agreement shall allow for adequate long-term, access for construction and maintenance of the well, piezometer, or stream gage.

Deliverables:

- Landowner access agreement(s)

Task 2: Multi-Completion Monitoring Wells, Shallow Wells, and Stream Gages Planning
Conduct planning and design activities associated with the multi-completion monitoring well installation, shallow well or piezometer and stream gage installation/maintenance within the Subbasin. Perform a technical assessment of potential monitoring well locations, associated costs, and landowner participation to determine the final number and location of monitoring wells to be installed, and the final number of completions to be included in each monitoring well. Acquire the necessary permits required for the installation of the wells, piezometers, and gages.

Prepare the environmental documentation, as required, under CEQA with the County Clerk's Office and State Clearinghouse. Submit the CEQA document(s) to the DWR Grant Manager for review and concurrence prior to beginning construction.

Construction may not begin, and no costs for Category (c) may be incurred until an exemption from CEQA is granted, or the State has reviewed the CEQA document(s), completed its CEQA responsible agency obligations and given its environmental clearance in accordance with Paragraphs 4 and D.8 of this Agreement. Any costs incurred for Category (c) prior to an exemption from CEQA is granted, or DWR gives its environmental clearance shall not be reimbursed, and any such amounts shall be deducted from the total Grant Amount in Paragraph 3.

Obtain any additional permits, as required.

Deliverables:

- Map of approved locations for monitoring wells, piezometers, and gages.
- 100% Design, plans, and specifications, if applicable
- Awarded contracts, if applicable
- Required environmental documentation for CEQA compliance, if applicable
- Copies of required permits, if applicable

**Category (c): Implementation / Construction**

Task 3: Multi-Completion Monitoring Wells, Shallow Wells, and Stream Gages Installation
Install a minimum of one (2) multi-completion monitoring wells. Install a minimum of two (2) vertical zones per well. Assess the HCM to decide the number of screen intervals, water conditions, well locations, water trends and conditions, and access agreements. Install a minimum of three (3) new surface water flow monitoring sites. Install a minimum of ten (10) new shallow monitoring wells. Assess the hydrogeologic conceptual model (HCM) to decide the final well design, including the depth and distance of the wells from stream gages, water conditions, data gaps, water trends and conditions, and access agreements. New shallow monitoring wells will be near stream gages or other areas of interested such as near Groundwater Dependent Ecosystems.

Publicly advertise bids in accordance with the requirements for public bidding for construction and prepare an engineer's estimate. Received bids will be reviewed, and a recommendation for award will be made. Send a Notice of Intent to Award to the selected bidder(s). Submit a Notice(s) to Award and Notice(s) to Proceed.

This task must comply with Standard Condition D.11 – Competitive Bidding and Procurements. Activities necessary (as applicable) to secure a contractor and award the contract, including developing bid documents, preparing advertisement and contract documents for construction contract bidding, conducting pre-bid meetings, bid opening and evaluation, selection of the contractor, award of contract, and issuance of notice to proceed.

Deliverables:

- Well completion reports
- Bid documents
- Notice of award
- Notice to proceed
- Photos of completed wells
- Well permits, if applicable
- Surface and groundwater monitoring site summary report

**Category (d): Monitoring / Assessment**

Task 4: Response to DWR GSP Determination
Modify the GSP, as required, in response to DWR's determination letter received in July 2023. Draft Amended GSP will be made available for public review and comment.

Deliverables:
- Draft Amended GSP

Task 5: Draft Periodic Evaluation of the GSP
Develop the Periodic Evaluation to accompany the amended GSP for submittal to DWR before January 2027 as part of the required 5-year Periodic Evaluation. The draft Periodic Evaluation will be made available for public review and comment.

Deliverables:
- Draft GSP Periodic Evaluation
- Board meeting presentations on GSP evaluations

Task 6: Gather, Evaluate Data, and Develop Approach for Interconnected Surface Water Sustainable Management Criteria
Refine the sustainable management criteria for Interconnected Surface Water to address expected DWR comments on the Vina GSP related to the technical approach for the use of groundwater levels as proxies for measurable objectives and minimum thresholds in GSP. Use new data to fill initial data and develop a refined approach to set the Interconnected Surface Water SMC for the updated GSP.

Deliverables:
- Technical Memo or Updated Chapter in GSP

Task 7: Domestic Well Survey
Perform a desktop survey of existing domestic well datasets to identify wells with poor construction information and wells with a high potential to go dry. Conduct a field visit to the wells identified and confirm use status. Perform well video surveys on wells in use with poor construction information. Update the current dataset of domestic wells with the results of the survey, including active domestic wells and their construction information.

Deliverables:
- Technical Memo

Task 8: Create Community Monitoring Plan and Equip Volunteer Wells with Monitoring Equipment
Create a monitoring program plan for domestic well owners that will include methods for outreach and engagement, identifying and meeting education needs, identifying methods for data management, and how the plan will be implemented. Purchase necessary monitoring equipment to track water levels in 8 domestic wells.

Engage with domestic well owners who have volunteered to participate and install equipment necessary for monitoring.

Deliverables:

- Map of installed equipment
- Summary of well characteristics

Task 9: Community Monitoring and Dry Well Data and Visualization

Enhance the existing Data management System (DMS) to house the water levels collected as part of the community monitoring program and to track dry wells. Include the capability for the DMS to report on the status of subbasin sustainability for interested parties. Develop a system for verifiably reporting and tracking dry wells. Create a user interface with new or existing front-end software needed to visually communicate the water levels and dry wells.

Deliverables:

- Screenshot of updated DMS

**Category (e): Engagement / Outreach**

Task 10: Community Monitoring Program Engagement and Education

Perform public engagement through workshops designed to educate participants in the community monitoring program and how to use the installed monitoring equipment including how to upload the data to the DMS. Inform interested parties about implementation progress through continued GSP-related outreach, relevant reports, and data. Develop public information materials to be distributed informing the public of the program and how they can participate. Hold workshops to discuss the program and hear the suggestions, questions, and concerns of the community.

Deliverables:

- Workshop agenda and information materials

**COMPONENT 3: DEMAND REDUCTION STRATEGIES IN THE VINA SUBBASIN**

Component 3 will improve subbasin sustainability related to groundwater levels and groundwater storage by decreasing non-beneficial consumptive use (*i.e.*, evaporation and transpiration or ET) by applying ET-based water management principles of precision irrigation and ET monitoring. This component will leverage education and outreach, a feasibility study involving the piloting of innovative irrigation technologies, and the development of a precision irrigation implementation plan to improve ET-based water management at a broader scale in the Vina Subbasin. Additionally, a program for demand-side intervention aimed at extending the fallowing period of an orchard from one to two years or more during orchard replacement will reduce consumptive use (i.e., evapotranspiration or ET) of groundwater. This demand-side management approach reduces the number of active, high-ET crop acres in the subbasin during a time when trees would otherwise be reestablished, thereby directly lowering consumptive use.

**Category (a): Component Administration**

Prepare reports detailing component work completed during the reporting period as outlined in Exhibit F, "Report Formats and Requirements" of this Agreement, for inclusion in Component 1 Quarterly Progress Reports. Quarterly Progress Reports will include sufficient information for the DWR Grant Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Quarterly Progress Reports. Collect and organize backup documentation by the Component 3 budget category and task and prepare a summary Excel document detailing the contents of the backup documentation organized by task.

Prepare the Draft Component Completion Report and submit it to the DWR Grant Manager for comment and review 90 days before the work completion date for the component. DWR's Grant Manager will review the Draft Component Completion Report and provide comments and edits within 30 days of receipt, when possible. Submit a Final Component Completion Report addressing the DWR Grant Manager's comments within 30 days before the work completion date. The report shall be prepared and presented in accordance with the provisions of Exhibit F, "Report Formats and Requirements" and approved by the DWR Grant Manager within 30 days after the work completion date. All deliverables listed within the Work Plan shall be submitted with the Final Component Completion Report unless a new deliverable due date was approved by the DWR Grant Manager

Deliverables:

- Component reporting to be included in Quarterly Progress Reports and Invoices
- Draft and Final Component Completion Reports

**Category (b): Environmental / Engineering / Design**

Task 1: Develop Extend Orchard Replacement Pilot Program
Quantify potential water savings and required costs for implementing the Extend Orchard Replacement Program. Develop a pilot project plan after costs and benefits are known.

Deliverables:

- Technical Memo

Task 2: Precision Irrigation Pilot Program Design
Perform comprehensive field-scale satellite and/or ground-based inventory of irrigation methods, crops, and water sources in the Vina Subbasin. Review the state-of-the-art precision irrigation technology. Select the most appropriate precision irrigation technology. Develop a precision irrigation piloting program for the Vina Subbasin, including a summary of ground-based inventory.

Deliverables:

- Technical Memo

**Category (c): Implementation / Construction**

Task 3: Implement Extend Orchard Replacement Pilot Program
Implement a one-year pilot project based on the pilot project plan. Identify willing growers and lands for pilot implementation. Participants will include parcels with orchards previously pulled out for replacement.

Deliverables:

- Summary of Participants, i.e., Case Studies

Task 4: Implement Precision Irrigation Pilot Program
Implement precision irrigation pilot program together with agricultural and academic partners. Disseminate remotely sensed ET data to Vina Subbasin agricultural interested parties within the Vina Subbasin.

Deliverables:

- Summary of Participants, i.e., Case Studies

**Category (d): Monitoring / Assessment**

Task 5: Monitor and Assess Extend Orchard Replacement Program
Monitor fallowed fields to quantify reductions in ET across different fallowing treatments (e.g., bare soil, cover crops, native grasses). Analyze the results of the extended orchard replacement pilot program. Quantify subbasin-wide opportunities for reductions in ET from the program. Add monitoring data to the DMS.

Deliverables:

- Technical Memo

Task 6: Monitor and Assess Precision Irrigation Pilot Program
Analyze results of precision irrigation pilot programs from both a technical and interested party perspective. Quantify subbasin-wide opportunities for reductions in ET from precision irrigation. Make recommendations for future applications.

Deliverables:

- Precision Irrigation Results and Opportunities Technical Memo

**Category (e): Engagement / Outreach**

Task 7: Outreach Program
Facilitate interested party kick-off meeting to describe the program. Develop education and outreach materials, including videos on the Extended Orchard Replacement Program and Precision Irrigation Pilot Program. Plan and implement education and outreach events related to the program targeting growers, URCs, SDACs, and youth.

Deliverables:

- Outreach materials
- Meeting agendas

**COMPONENT 4: FEASIBILITY OF ENHANCED RECHARGE IN THE LINDO CHANNEL**
Component 4 will assess the feasibility of a preferred project alternative to enhancing recharge in the Lindo Channel. Recharge from Lindo Channel provides multiple benefits to the area in the City of Chico that is experiencing groundwater level declines. Recharging excess flows from Big Chico Creek via the unlined, natural Lindo Channel will help improve groundwater levels for domestic well users and support Big Chico Creek groundwater-dependent ecosystems. Monitoring wells near the Lindo Channel will be used to assess changes in water levels during and after a stormwater recharge event to continue to better understand and define these benefits.

**Category (a): Component Administration**

Prepare reports detailing component work completed during the reporting period as outlined in Exhibit F, "Report Formats and Requirements" of this Agreement, for inclusion in Component 1 Quarterly Progress Reports. Quarterly Progress Reports will include sufficient information for the DWR Grant Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Quarterly Progress Reports. Collect and organize backup documentation by the Component 4 budget category and task and prepare a summary Excel document detailing the contents of the backup documentation organized by task.

Prepare the Draft Component Completion Report and submit it to the DWR Grant Manager for comment and review 90 days before the work completion date for the component. DWR's Grant Manager will review the Draft Component Completion Report and provide comments and edits within 30 days of receipt, when possible. Submit a Final Component Completion Report addressing the DWR Grant Manager's comments within 30 days before the work completion date. The report shall be prepared and presented in accordance with the provisions of Exhibit F, "Report Formats and Requirements" and approved by the DWR Grant Manager within 30 days after the work completion date. All deliverables listed within the Work Plan shall be submitted with the Final Component Completion Report unless a new deliverable due date was approved by the DWR Grant Manager

Deliverables:

- Component reporting to be included in Quarterly Progress Reports and Invoices
- Draft and Final Component Completion Reports

**Category (b): Environmental / Engineering / Design**

Task 1: Project Feasibility and Alternatives Analysis
Project feasibility assessment will include development of the flow threshold for diversion, based on water rights, habitat, and downstream beneficial users. Compute expected recharge yield, and evaluate if there are any infrastructure or stream improvement needs related to the current diversion or channel. Test percolation rates. Assess environmental permitting needs.

Coordination with the City of Chico, DWR, Department of Fish and Wildlife and/or other pertinent agencies as well as public stakeholders and interested parties will occur to develop project alternatives to enhance recharge in the Lindo Channel based on initial feasibility analysis. Priority project alternative(s) will be identified based on cost considerations and in consultation with the GSA and stakeholders. Project Feasibility and Alternatives Analysis Report will describe an estimate of annual recharge, cost estimates, funding alternatives, permitting requirements, and operations and maintenance of the preferred alternative.

Deliverables:

- Project Feasibility and Alternatives Report

Task 2: Monitoring
Install monitoring equipment in wells and conduct infiltration and stream gaging activities to quantify project benefits and assess potential impacts.

Deliverables:

- Installation Report

**Category (c): Implementation / Construction**

**Category (d): Monitoring / Assessment**
Not applicable to this Component

**Category (e): Engagement / Outreach**
Conduct public meetings and prepare documentation for outreach to stakeholders and interested parties, including Chico area residents, the City of Chico, Butte County, Cal Water, selected State and federal resource agency representatives and downstream water users.

Deliverables:

- Meeting agenda and presentation materials

**COMPONENT 5: SURFACE WATER SUPPLY AND RECHARGE FEASIBILITY STUDY**
Component 5, Agricultural Surface Water Supplies Feasibility Analysis, focuses on assessing the feasibility of potential water sources and required infrastructure to expand the use of surface water use for irrigation in the Vina Subbasin.

Component 5 also consists of the performance of a feasibility analysis to design and implement a phased groundwater recharge plan that considers previous studies and efforts to determine the most efficient and effective path forward to increase recharge in the Vina subbasin. This component will build upon previous studies and pilot projects for groundwater recharge in the area. Key considerations for groundwater recharge projects will include site feasibility, water availability, water rights, water supply cost, and certainty, legal implications of recharge, opportunities for partnership, funding sources, optimal methods of recharge, multi-benefits, and consistency with achieving the sustainability goals for the Subbasin. The data collected will help interested parties throughout the subbasin to determine the feasibility for groundwater recharge and support future project design. The results of this analysis will be used to identify potential areas for recharge and/or recharge projects for implementation.

**Category (a): Component Administration**
Prepare reports detailing component work completed during the reporting period as outlined in Exhibit F, "Report Formats and Requirements" of this Agreement, for inclusion in Component 1 Quarterly Progress Reports. Quarterly Progress Reports will include sufficient information for the DWR Grant Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Quarterly Progress Reports. Collect and organize backup documentation by the Component 5 budget category and task and prepare a summary Excel document detailing the contents of the backup documentation organized by task.

Prepare the Draft Component Completion Report and submit it to the DWR Grant Manager for comment and review 90 days before the work completion date for the component. DWR's Grant Manager will review the Draft Component Completion Report and provide comments and edits within 30 days of receipt, when possible. Submit a Final Component Completion Report addressing the DWR Grant Manager's comments within 30 days before the work completion date. The report shall be prepared and presented in accordance with the provisions of Exhibit F, "Report Formats and Requirements" and approved by the DWR Grant Manager within 30 days after the work completion date. All deliverables listed within the Work Plan shall be submitted with the Final Component Completion Report unless a new deliverable due date was approved by the DWR Grant Manager

Deliverables:

- Component reporting to be included in Quarterly Progress Reports and Invoices
- Draft and Final Component Completion Reports

**Category (b): Environmental / Engineering / Design**

Task 1: Water Supply Project Feasibility Analysis

Develop a conceptual water supply project list and perform an initial screening by conducting a fatal flaws analysis. Select the two most promising projects in consultation with interested parties and GSAs. Identify and evaluate water conveyance and place of use options, environmental concerns, financing options, and water rights concerns. Develop reconnaissance-level project designs and cost estimates. Quantify the cost-benefit ratio of projects in terms of dollars per acre-foot ($/AF). Develop feasibility report for two projects analyzed.

Deliverables:

- Summary of all projects considered
- Feasibility Analysis report

Task 2: Recharge Project Identification
Obtain information from stakeholders regarding potential recharge projects that could be completed within the short term. Review proposed projects within the Vina Subbasin GSP and existing studies. Review the results of the airborne electromagnetic (AEM) survey conducted in the Subbasin. Conduct site visits and outreach with project proponents, landowners, and relevant water purveyors to gather additional details and discuss the feasibility of conducting recharge.

Deliverables:

- Technical Memo

Task 3: Groundwater Recharge Investigation and Preliminary Project Design
Investigate groundwater recharge performance to quantify the groundwater recharge potential at selected sites from the project identification task (Task 2). Perform field tests that may include a towed electromagnetic system (tTEM) or equivalent geophysical method survey, cone penetrating tests (CPT), exploratory borings or shallow wells, and collection of groundwater and soil samples for physical and chemical testing. Implement groundwater recharge pilot project, if feasible. Final report will describe a proposed recharge project including such aspects as an assessment of access to water supplies, conveyance needs, permitting requirements, monitoring plan, operations and maintenance costs, and funding options for construction and ongoing operation with an estimate of cost per acre-foot of recharged water.

Deliverables:

- Groundwater Recharge Investigation Report
- Pilot Project Implementation Report

Task 4: Legal Implications of Recharge Analysis
Assess and address the legal implications associated with actively managing recharge water in the Vina subbasin. Identify the beneficial use(s) of the water, limitations of subsequent recovery and use, “leave behind” requirements, appropriate water right permit, terms of recharge or storage, water availability for overlying groundwater users, in-lieu recharge assumptions, CEQA requirements, and monitoring and reporting requirements.

Deliverables:

- Legal Implications of Recharge Analysis Summary
- Adopted Policy or Ordinance for recharge projects, if necessary

**Category (c): Implementation / Construction**
Not applicable to this Component

**Category (d): Monitoring / Assessment**
Not applicable to this Component

**Category (e): Engagement / Outreach**

Task 5: Project Outreach and Coordination

Plan and facilitate project feasibility meetings for identified recharge and water supply projects. Develop education and outreach materials to educate regional and county decision-makers and the public about the objectives, progress, and results of the groundwater recharge assessments and designs and water supply projects.

Deliverables:

- Outreach materials
- Meeting agendas

**COMPONENT 6: INTER-BASIN COORDINATION, MODELING AND REPORTING**

Component 6 includes the development of a funding plan, the preparation of annual reports, and technical analysis of GSPs along the Sacramento River Corridor to support Inter-basin Coordination and integrated groundwater-surface water modeling work. The public and interested parties will be informed of this project's development and progress through regular Stakeholder Advisory Committee Meetings, meetings of the GSA Boards, public workshops, and regular email correspondence to the interested parties list.

**Category (a): Component Administration**

Prepare reports detailing component work completed during the reporting period as outlined in Exhibit F, "Report Formats and Requirements" of this Agreement, for inclusion in Component 1 Quarterly Progress Reports. Quarterly Progress Reports will include sufficient information for the DWR Grant Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Quarterly Progress Reports. Collect and organize backup documentation by the Component 6 budget category and task and prepare a summary Excel document detailing the contents of the backup documentation organized by task.

Prepare the Draft Component Completion Report and submit it to the DWR Grant Manager for comment and review 90 days before the work completion date for the component. DWR's Grant Manager will review the Draft Component Completion Report and provide comments and edits within 30 days of receipt, when possible. Submit a Final Component Completion Report addressing the DWR Grant Manager's comments within 30 days before the work completion date. The report shall be prepared and presented in accordance with the provisions of Exhibit F, "Report Formats and Requirements" and approved by the DWR Grant Manager within 30 days after the work completion date. All deliverables listed within the Work Plan shall be submitted with the Final Component Completion Report unless a new deliverable due date was approved by the DWR Grant Manager

Deliverables:

- Component reporting to be included in Quarterly Progress Reports and Invoices
- Draft and Final Component Completion Reports

**Category (b): Environmental / Engineering / Design**

Task 1: Conduct a Fee Study for Long-term Financing of the Vina GSA

Conduct a long-term financing options study for funding the Vina GSA for GSP implementation activities. This will include an Engineers Report and/or Fee Study resulting in a selected funding mechanism for the Vina GSA. Vina GSA will evaluate a variety of funding mechanisms, including Proposition 218 or Proposition 26, to support ongoing operational costs and to fund agency operations.

Deliverables:

Fee Study

**Category (c): Implementation / Construction**
Not applicable to this Component

**Category (d): Monitoring / Assessment**

Task 2: Prepare Annual Reports
Prepare four (4) annual reports, as required by DWR, during the life of the grant, consisting of the following sections: Executive Summary, Introduction, Updated Groundwater Conditions, Water Supply and Use, and Plan Implementation Status.

Deliverables:

- Annual Reports for Water Years 2022, 2023, 2024, and 2025

Task 3: Inter-basin Coordination - Conducting Joint Analysis and Evaluation of GSPs
Evaluate and compare the contents of GSPs in the North Sacramento River Corridor region with a focus on establishing a common understanding of basin conditions at boundaries. Identify significant differences, uncertainties, and potential issues of concern related to groundwater interaction at the boundaries. Engage in analysis and evaluation of SMCs between GSPs to identify significant differences and possible impacts between subbasins that could potentially lead to undesirable results.

Deliverables:

- Technical Memo

Task 4: Integrated Groundwater-Surface Water Modeling to support GSP Amendments and PMA implementation
Activities may include updating the Butte Basin Groundwater Model (BBGM) aquifer parameter values and refine the calibration using new data to better represent the aquifer's water budget, to improve understanding of the hydrogeology, inform future refinements to the hydrogeologic conceptual model, help identify potential areas for recharge, or quantify benefits of potential implementation projects. Plan to incorporate data from DWR's Airborne Electromagnetic surveys to integrate basin-specific and cross-basin geophysical data. Improve model boundary conditions. Address potential model limitations identified in the GSP including the need for additional hydrogeological conceptualization and incorporating future data into model calibration. Use of other existing modeling tools may also be warranted, such as C2VSIM-FG or SVSIM.

Deliverables:

- Technical Memo

**Category (e): Engagement / Outreach**
Not applicable to this Component

**COMPONENT 7: OUTREACH PROGRAM**
Component 7 will support an Outreach Program by the GSA to communicate subbasin conditions, GSP development and implementation, and to create education and outreach materials that support and encourage public engagement in all other Components.

**Category (a): Component Administration**

Prepare reports detailing component work completed during the reporting period as outlined in Exhibit F, "Report Formats and Requirements" of this Agreement, for inclusion in Component 1 Quarterly Progress Reports. Quarterly Progress Reports will include sufficient information for the DWR Grant Manager to understand and review backup documentation submitted with invoices. Quarterly invoices will accompany the Quarterly Progress Reports. Collect and organize backup documentation by the Component 7 budget category and task and prepare a summary Excel document detailing the contents of the backup documentation organized by task.

Prepare the Draft Component Completion Report and submit it to the DWR Grant Manager for comment and review 90 days before the work completion date for the component. DWR's Grant Manager will review the Draft Component Completion Report and provide comments and edits within 30 days of receipt, when possible. Submit a Final Component Completion Report addressing the DWR Grant Manager's comments within 30 days before the work completion date. The report shall be prepared and presented in accordance with the provisions of Exhibit F, "Report Formats and Requirements" and approved by the DWR Grant Manager within 30 days after the work completion date. All deliverables listed within the Work Plan shall be submitted with the Final Component Completion Report unless a new deliverable due date was approved by the DWR Grant Manager

Deliverables:

- Component reporting to be included in Quarterly Progress Reports and Invoices
- Draft and Final Component Completion Reports

**Category (b): Environmental / Engineering / Design**
Not applicable to this Component

**Category (c): Implementation / Construction**
Not applicable to this Component

**Category (d): Monitoring / Assessment**
Not applicable to this Component

**Category (e): Engagement / Outreach**

Outreach and Education Program
Perform stakeholder outreach and engagement through the development of hard copy and virtual materials to communicate efforts to amend the GSP, fill data gaps, and develop projects and management actions. Conduct workshops and working group meetings to gain public input. This may include meetings of the Vina Stakeholder Advisory Committee, the GSA Board, public workshops and dissemination of information electronically or in hard copy form, as appropriate.

Deliverables:

- Meeting agendas
- Outreach materials

**Exhibit B**

**BUDGET**

**Grant Title: Vina Subbasin GSP Projects and Management Actions Implementation**

**Grantee: Vina Groundwater Sustainability Agency**

| **Components** | **Grant Amount** |
|---|---|
| Component 1: Grant Administration | $ ~~200,000~~ 223,798 |
| Component 2: GSP Updates, Data Gaps, and Outreach | $ ~~1,465,000~~ 1,498,294 |
| Component 3: Demand Reduction Strategies in the Vina Subbasin | $ ~~1,245,000~~ 1,168,889.90 |
| Component 4: Lindo Channel Surface Water Recharge Implementation | $ ~~330,000~~ 318,789.99 |
| Component 5: Surface Water Supply and Recharge Feasibility Study | $ ~~1,650,000~~ 1,655,238 |
| Component 6: Inter-basin Coordination, Modeling and Reporting | $ ~~480,000~~ 478,376.06 |
| Component 7: Outreach Program | $ ~~165,000~~ 191,614 |
| **Total:** | **$ 5,535,000** |

**Component 1: Grant Administration**

Component 1 serves a need of a DAC, SDAC, Tribe and/or Underrepresented Community? (check all that apply): ☒DAC, ☒SDAC, ☒Tribe, and/or ☒Underrepresented Community

| Budget Categories | Grant Amount |
|---|---|
| (a) Grant Agreement Administration | $ ~~200,000~~ 223,798 |
| **Total:** | **$ ~~200,000~~ 223,798** |

**Component 2: GSP Updates, Data Gaps, and Outreach**

Component 2 serves a need of a DAC, SDAC, Tribe and/or Underrepresented Community? (check all that apply): ☒DAC, ☒SDAC, ☒Tribe, and/or ☒Underrepresented Community

| Budget Categories | Grant Amount |
|---|---|
| (a) Component Administration | $20,000 |
| (b) Environmental / Engineering / Design | $ 73,328 |
| (c) Implementation / Construction | $628,000 |
| (d) Monitoring / Assessment | $ ~~736,172~~ 769,466 |
| (e) Engagement / Outreach | $7,500 |
| **Total:** | **$~~1,465,000~~ 1,498,294** |

**Component 3: Demand Reduction Strategies in the Vina Subbasin**

Component 3 serves a need of a DAC, SDAC, Tribe and/or Underrepresented Community? (check all that apply): ☒DAC, ☒SDAC, ☒Tribe, and/or ☒Underrepresented Community

| Budget Categories | Grant Amount |
|---|---|
| (a) Component Administration | $~~100,000~~ 97,603.12 |
| (b) Environmental / Engineering / Design | $~~300,000~~ 274,386.30 |
| (c) Implementation / Construction | $~~390,000~~ |

| | |
|---|---|
| | 374,384.87 |
| (d) Monitoring / Assessment | $~~315,000~~<br>283,592.56 |
| (e) Engagement / Outreach | $~~140,000~~<br>138,923.05 |
| **Total:** | **$~~1,245,000~~**<br>**1,168,889.90** |

**Component 4: Lindo Channel Surface Water Recharge Implementation**

Component 4 serves a need of a DAC, SDAC, Tribe and/or Underrepresented Community? (check all that apply): ☒DAC, ☒SDAC, ☒Tribe, and/or ☒Underrepresented Community

| Budget Categories | Grant Amount |
|---|---|
| (a) Component Administration | $0 |
| (b) Environmental / Engineering / Design | $ ~~287,408~~<br>279,280.74 |
| (c) Implementation / Construction | $ 12,591.05~~2~~ |
| (d) Monitoring / Assessment | $0 |
| (e) Engagement / Outreach | $~~30,000~~<br>26,918.20 |
| **Total:** | **$~~330,000~~**<br>**318,789.99** |

**Component 5: Surface Water Supply and Recharge Feasibility Study**

Component 5 serves a need of a DAC, SDAC, Tribe and/or Underrepresented Community? (check all that apply): ☒DAC, ☒SDAC, ☒Tribe, and/or ☒Underrepresented Community

| Budget Categories | Grant Amount |
|---|---|
| (a) Component Administration | $~~40,000~~<br>45,238 |
| (b) Environmental / Engineering / Design | $1,540,000 |
| (c) Implementation / Construction | $0 |
| (d) Monitoring / Assessment | $0 |

| | |
|---|---|
| (e) Engagement / Outreach | $70,000 |
| **Total:** | **$~~1,650,000~~**<br>**1,655,238** |

**Component 6: Inter-basin Coordination, Modeling and Reporting**

Component 6 serves a need of a DAC, SDAC, Tribe and/or Underrepresented Community? (check all that apply): ☒DAC, ☒SDAC, ☒Tribe, and/or ☒Underrepresented Community

| **Budget Categories** | **Grant Amount** |
|---|---|
| (a) Component Administration | $0 |
| (b) Environmental / Engineering / Design | $80,000 |
| (c) Implementation / Construction | $0 |
| (d) Monitoring / Assessment | $~~400,000~~<br>398,376.06 |
| (e) Engagement / Outreach | $000,000 |
| **Total:** | **$~~480,000~~**<br>**478,376.06** |

**Component 7: Outreach Program**

Component 7 serves a need of a DAC, SDAC, Tribe and/or Underrepresented Community? (check all that apply): ☒DAC, ☒SDAC, ☒Tribe, and/or ☒Underrepresented Community

| **Budget Categories** | **Grant Amount** |
|---|---|
| (a) Component Administration | $0 |
| (b) Environmental / Engineering / Design | $0 |
| (c) Implementation / Construction | $0 |
| (d) Monitoring / Assessment | $0 |
| (e) Engagement / Outreach | $~~165,000~~<br>191,614 |
| **Total:** | **$~~165,000~~**<br>**191,614** |

## Exhibit C

## SCHEDULE

**Grant Title: Vina Subbasin GSP Projects and Management Actions Implementation**

| Categories | Start Date[1] | End Date[1] |
|---|---|---|
| **Component 1: Grant Administration** | **05/01/2023** | **01/31/2027** |
| (a) Grant Agreement Administration | 05/01/2023 | **01/31/2027** |
| **Component 2: GSP Updates, Data Gaps, and Outreach** | **10/4/2022** | **1/31/2027** |
| (a) Grant Agreement Administration | 10/04/2022 | **1/31/2027** |
| (b) Environmental / Engineering / Design | 10/04/2022 | **12/31/2026** |
| (c) Implementation / Construction | 10/04/2022 | **12/31/2026** |
| (d) Monitoring / Assessment | 10/04/2022 | **12/31/2026** |
| (e) Education / Outreach | 10/04/2022 | **12/31/2026** |
| **Component 3: Demand Reduction Strategies in the Vina Subbasin** | **10/4/2022** | **4/15/2026** |
| (a) Grant Agreement Administration | 10/04/2022 | 4/15/2026 |
| (b) Environmental / Engineering / Design | 10/04/2022 | 4/15/2026 |
| (c) Implementation / Construction | 06/01/2024 | 4/15/2026 |
| (d) Monitoring / Assessment | 10/05/2022 | 4/15/2026 |
| (e) Education / Outreach | 10/05/2022 | 4/15/2026 |
| **Component 4: Lindo Channel Surface Water Recharge** | **10/04/2022** | 4/15/2026 |
| (a) Grant Agreement Administration | 10/04/2022 | 4/15/2026 |
| (b) Environmental / Engineering / Design | 01/01/2024 | 12/01/2025 |
| (c) Implementation / Construction | 06/01/2024 | 4/15/2026 |
| (d) Monitoring / Assessment | N/A | N/A |
| (e) Education / Outreach | 10/04/2022 | 4/15/2026 |
| **Component 5: Surface Water Supply and Recharge Feasibility Study** | **10/04/2022** | **1/31/2027** |
| (a) Grant Agreement Administration | 10/04/2022 | **1/31/2027** |
| (b) Environmental / Engineering / Design | 10/04/2022 | **12/31/2026** |
| (c) Implementation / Construction | N/A | N/A |
| (d) Monitoring / Assessment | N/A | N/A |
| (e) Education / Outreach | 10/04/2022 | **12/31/2026** |
| **Component 6: Inter-basin Coordination, Modeling and Reporting** | **10/4/2022** | **4/15/2026** |

| Categories | Start Date[1] | End Date[1] |
|---|---|---|
| (a) Grant Agreement Administration | 10/04/2022 | 4/15/2026 |
| (b) Environmental / Engineering / Design | 10/04/2022 | 4/15/2026 |
| (c) Implementation / Construction | N/A | N/A |
| (d) Monitoring / Assessment | 10/04/2022 | 4/15/2026 |
| (e) Education / Outreach | N/A | N/A |
| **Component 7: Outreach Program** | **10/04/2022** | **1/31/2027** |
| (a) Grant Agreement Administration | 10/04/2022 | 1/31//2027 |
| (b) Environmental / Engineering / Design | N/A | N/A |
| (c) Implementation / Construction | N/A | N/A |
| (d) Monitoring / Assessment | N/A | N/A |
| (e) Education / Outreach | 10/04/2022 | 12/31/2026 |

*NOTES:*

*[1]Exhibit C Schedule only dictates the work start date and the work end date for the Budget Category listed. The Grantee must adhere to the Deliverable Due Date Schedule that has been approved by the DWR Grant Manager. The dates listed in Exhibit C Schedule are date ranges that correlate to the Deliverable Due Date Schedule. Eligible costs for each line item will only be approved if the work completed falls within the date ranges listed in Exhibit C.*

## Exhibit D

## STANDARD CONDITIONS

D.1. ACCOUNTING AND DEPOSIT OF FUNDING DISBURSEMENT:

A. Separate Accounting of Funding Disbursements: the Grantee shall account for the money disbursed pursuant to this Grant Agreement separately from all other Grantee funds. The Grantee shall maintain audit and accounting procedures that are in accordance with generally accepted accounting principles and practices, consistently applied. The Grantee shall keep complete and accurate records of all receipts and disbursements on expenditures of such funds. The Grantee shall require its contractors or subcontractors to maintain books, records, and other documents pertinent to their work in accordance with generally accepted accounting principles and practices. Records are subject to inspection by the State at any and all reasonable times.

B. Disposition of Money Disbursed: All money disbursed pursuant to this Grant Agreement shall be deposited in a non-interest-bearing account, administered, and accounted for pursuant to the provisions of applicable law.

C. Remittance of Unexpended Funds: The Grantee shall remit to the State any unexpended funds that were disbursed to the Grantee under this Grant Agreement and were not used to pay Eligible Project Costs within a period of sixty (60) calendar days from the final disbursement from the State to the Grantee of funds or, within thirty (30) calendar days of the expiration of the Grant Agreement, whichever comes first.

D.2. ACKNOWLEDGEMENT OF CREDIT AND SIGNAGE: The Grantee shall include appropriate acknowledgement of credit to the State for its support when promoting the Project or using any data and/or information developed under this Grant Agreement. Signage shall be posted in a prominent location at the Project site(s) (if applicable) or at the Grantee's headquarters and shall include the Department of Water Resources color logo and the following disclosure statement: "Funding for this project has been provided in full or in part from The California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 and through an agreement with the State Department of Water Resources." The Grantee shall also include in each of its contracts for work under this Agreement a provision that incorporates the requirements stated within this paragraph.

D.3. AMENDMENT: This Grant Agreement may be amended at any time by mutual agreement of the Parties, except insofar as any proposed amendments are in any way contrary to applicable law. Requests by the Grantee for amendments must be in writing, stating the amendment request and the reason for the request. Requests solely for a time extension must be submitted at least 90 days prior to the work completion date set forth in Paragraph 2, "Term of Grant Agreement." Any other request for an amendment must be submitted at least 180 days prior to the work completion date set forth in Paragraph 2, "Term of Grant Agreement." The State shall have no obligation to agree to an amendment.

D.4. AMERICANS WITH DISABILITIES ACT: By signing this Grant Agreement, the Grantee assures the State that it complies with the Americans with Disabilities Act (ADA) of 1990, (42 U.S.C. § 12101 et seq.), which prohibits discrimination on the basis of disability, as well as all applicable regulations and guidelines issued pursuant to the ADA.

D.5. AUDITS: The State reserves the right to conduct an audit at any time between the execution of this Grant Agreement and the completion of the Project, with the costs of such audit borne by the State. After completion of the Project, the State may require the Grantee to conduct a final audit to the State's specifications, at the Grantee's expense; such audit is to be conducted by a report prepared by an independent Certified Public Accountant. Failure or refusal by the Grantee to comply with this provision shall be considered a breach of this Grant Agreement, and the State may elect to pursue any remedies provided in Paragraph 9, "Default Provisions," or take any other action it deems necessary to protect its interests. The Grantee agrees it shall return any audit disallowances to the State.

Pursuant to Government Code section 8546.7, the Grantee shall be subject to the examination and audit by the State for a period of three (3) years after final payment under this Grant Agreement with respect of all matters connected with this Grant Agreement, including but not limited to, the cost of administering this Grant Agreement. All records of the Grantee or its contractor or subcontractors shall be preserved for this purpose for at least three (3) years after receipt of the final disbursement under this Agreement. If an audit reveals any impropriety, the Bureau of State Audits or the State Controller's Office may conduct a full audit of any or all of the Grantee's activities. (Pub. Resources Code, § 80012, subd. (b).)

D.6. BUDGET CONTINGENCY: If the Budget Act of the current year covered under this Grant Agreement does not appropriate sufficient funds for this program, this Grant Agreement shall be of no force and effect. This provision shall be construed as a condition precedent to the obligation of the State to make any payments under this Grant Agreement. In this event, the State shall have no liability to pay any funds whatsoever to the Grantee or to furnish any other considerations under this Grant Agreement, and the Grantee shall not be obligated to perform any provisions of this Grant Agreement. Nothing in this Grant Agreement shall be construed to provide the Grantee with a right of priority for payment over any other Grantee. If funding for any fiscal year after the current year covered by this Grant Agreement is reduced or deleted by the Budget Act, by Executive Order, or by order of the Department of Finance, the State shall have the option to either cancel this Grant Agreement with no liability occurring to the State or offer a Grant Agreement amendment to the Grantee to reflect the reduced amount.

D.7. CALIFORNIA CONSERVATION CORPS: The Grantee may use the services of the California Conservation Corps or other community conservation corps as defined in Public Resources Code section 14507.5.

D.8. CEQA: Activities funded under this Grant Agreement, regardless of funding source, must be in compliance with the California Environmental Quality Act (CEQA). (Pub. Resources Code, § 21000 et seq.) Any work that is subject to CEQA and funded under this Agreement shall not proceed until documents that satisfy the CEQA process are received by the DWR Grant Manager, and the State has completed its CEQA compliance. Work funded under this Agreement that is subject to a CEQA document shall not proceed until and unless approved by the Department of Water Resources. Such approval is fully discretionary and shall constitute a condition precedent to any work for which it is required. If CEQA compliance by the Grantee is not complete at the time the State signs this Agreement, once the State has considered the environmental documents, it may decide to require changes, alterations, or other mitigation to the Project; or to not fund the Project. Should the State decide not to fund the Project, this Agreement shall be terminated in accordance with Paragraph 9, "Default Provisions."

D.9. CHILD SUPPORT COMPLIANCE ACT: The Grantee acknowledges, in accordance with Public Contract Code section 7110, that:

A. The Grantee recognizes the importance of child and family support obligations and shall fully comply with all applicable state and federal laws relating to child and family support enforcement, including, but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Family Code section 5200 et seq.; and

B. The Grantee, to the best of its knowledge is fully complying with the earnings assignment orders of all employees and is providing the names of all new employees to the New Hire Registry maintained by the California Employment Development Department.

D.10. CLAIMS DISPUTE: Any claim that the Grantee may have regarding the performance of this Agreement including, but not limited to, claims for additional compensation or extension of time, shall be submitted to the DWR Project Representative within thirty (30) days of the Grantee's knowledge of the claim. The State and the Grantee shall then attempt to negotiate a resolution of such claim and process an amendment to this Agreement to implement the terms of any such resolution.

D.11. COMPETITIVE BIDDING AND PROCUREMENTS: The Grantee's contracts with other entities for the acquisition of goods and services and construction of public works with funds provided by the State under this Grant Agreement must be in writing and shall comply with all applicable laws and regulations regarding the securing of competitive bids and undertaking competitive negotiations. If the Grantee does not have a written policy to award contracts through a competitive bidding or sole source process, the Department of General Services' *State Contracting Manual* rules must be followed and are available at: https://www.dgs.ca.gov/OLS/Resources/Page-Content/Office-of-Legal-Services-Resources-List-Folder/State-Contracting.

D.12. COMPUTER SOFTWARE: The Grantee certifies that it has appropriate systems and controls in place to ensure that state funds will not be used in the performance of this Grant Agreement for the acquisition, operation, or maintenance of computer software in violation of copyright laws.

D.13. CONFLICT OF INTEREST: All participants are subject to State and Federal conflict of interest laws. Failure to comply with these laws, including business and financial disclosure provisions, will result in the application being rejected and any subsequent contract being declared void. Other legal action may also be taken. Applicable statutes include, but are not limited to, Government Code section 1090 and Public Contract Code sections 10410 and 10411, for State conflict of interest requirements.

A. Current State Employees: No State officer or employee shall engage in any employment, activity, or enterprise from which the officer or employee receives compensation or has a financial interest and which is sponsored or funded by any State agency unless the employment, activity, or enterprise is required as a condition of regular State employment. No State officer or employee shall contract on his or her own behalf as an independent contractor with any State agency to provide goods or services.

B. Former State Employees: For the two-year period from the date, he or she left State employment, no former State officer or employee may enter into a contract in which he or she engaged in any of the negotiations, transactions, planning, arrangements, or any part of the decision-making process relevant to the contract while employed in any capacity by any State agency. For the twelve-month period from the date, he or she left State employment, no former State officer or employee may enter into a contract with any State agency if he or she was employed by that State agency in a policy-making position in the same general subject area as the proposed contract within the twelve-month period prior to his or her leaving State service.

C. Employees of the Grantee: Employees of the Grantee shall comply with all applicable provisions of law pertaining to conflicts of interest, including but not limited to any applicable conflict of interest provisions of the California Political Reform Act. (Gov. Code, § 87100 et seq.)

D. Employees and Consultants to the Grantee: Individuals working on behalf of a Grantee may be required by the Department to file a Statement of Economic Interests (Fair Political Practices Commission Form 700) if it is determined that an individual is a consultant for Political Reform Act purposes.

D.14. DELIVERY OF INFORMATION, REPORTS, AND DATA: The Grantee agrees to expeditiously provide, throughout the term of this Grant Agreement, such reports, data, information, and certifications as may be reasonably required by the State.

D.15. DISPOSITION OF EQUIPMENT: The Grantee shall provide to the State, not less than 30 calendar days prior to submission of the final invoice, an itemized inventory of equipment purchased with funds provided by the State. The inventory shall include all items with a current estimated fair market value of more than $5,000.00 per item. Within 60 calendar days of receipt of such inventory the State shall provide the Grantee with a list of the items on the inventory that the State will take title to. All other items shall become the property of the Grantee. The State shall arrange for delivery from the Grantee of items that it takes title to. The cost of transportation, if any, shall be borne by the State.

D.16. DRUG-FREE WORKPLACE CERTIFICATION: Certification of Compliance: By signing this Grant Agreement, the Grantee, its contractors, or subcontractors hereby certify, under penalty of perjury

under the laws of the State of California, compliance with the requirements of the Drug-Free Workplace Act of 1990 (Gov. Code, § 8350 et seq.) and have or will provide a drug-free workplace by taking the following actions:

A. Publish a statement notifying employees, contractors, and subcontractors that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees, contractors, or subcontractors for violations, as required by Government Code section 8355.

B. Establish a Drug-Free Awareness Program, as required by Government Code section 8355, to inform employees, contractors, or subcontractors about all of the following:

   i. The dangers of drug abuse in the workplace,

   ii. The Grantee's policy of maintaining a drug-free workplace,

   iii. Any available counseling, rehabilitation, and employee assistance programs, and

   iv. Penalties that may be imposed upon employees, contractors, and subcontractors for drug abuse violations.

C. Provide, as required by Government Code section 8355, that every employee, contractor, and/or subcontractor who works under this Grant Agreement:

   i. Will receive a copy of the Grantee's drug-free policy statement, and

   ii. Will agree to abide by terms of the Grantee's condition of employment, contract, or subcontract.

D.17. EASEMENTS: Where the Grantee acquires property in fee title or funds improvements to real property already owned in fee by the Grantee using State funds provided through this Grant Agreement, an appropriate easement or other title restriction shall be provided and approved by the State. The easement or other title restriction must be in first position ahead of any recorded mortgage or lien on the property unless this requirement is waived by the State.

Where the Grantee acquires an easement under this Agreement, the Grantee agrees to monitor and enforce the terms of the easement, unless the easement is subsequently transferred to another land management or conservation organization or entity with State permission, at which time monitoring and enforcement responsibilities will transfer to the new easement owner.

Failure to provide an easement or other title restriction acceptable to the State may result in termination of this Agreement.

D.18. FINAL INSPECTIONS AND CERTIFICATION OF REGISTERED CIVIL ENGINEER: Upon completion of the Project, the Grantee shall provide for a final inspection and certification by a California Registered Civil Engineer that the Project has been completed in accordance with submitted final plans and specifications and any modifications thereto and in accordance with this Grant Agreement.

D.19. GRANTEE'S RESPONSIBILITIES: The Grantee and its representatives shall:

A. Faithfully and expeditiously perform or cause to be performed all project work as described in Exhibit A, "Work Plan," and in accordance with Project Exhibit B, "Budget," and Exhibit C, "Schedule."

B. Must maintain eligibility requirements as outlined in the 2021 Guidelines, amended April 2023, and 2021 PSP and pursuant to Paragraph 10.

C. Accept and agree to comply with all terms, provisions, conditions, and written commitments of this Grant Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and statements made by the Grantee in the application, documents, amendments, and communications filed in support of its request for funding.

D. Comply with all applicable California, federal, and local laws and regulations.

E. Implement the Project in accordance with applicable provisions of the law.

F. Fulfill its obligations under the Grant Agreement and be responsible for the performance of the Project.

G. Obtain any and all permits, licenses, and approvals required for performing any work under this Grant Agreement, including those necessary to perform design, construction, or operation and maintenance of the Project. The Grantee shall provide copies of permits and approvals to the State.

H. Be solely responsible for the design, construction, operation, and maintenance of projects within the work plan. Review or approval of plans, specifications, bid documents, or other construction documents by the State is solely for the purpose of proper administration of funds by the State and shall not be deemed to relieve or restrict the responsibilities of the Grantee under this Agreement.

I. Be solely responsible for all work and for persons or entities engaged in work performed pursuant to this Agreement, including, but not limited to, contractors, subcontractors, suppliers, and providers of services. The Grantee shall be responsible for any and all disputes arising out of its contracts for work on the Project, including but not limited to payment disputes with contractors and subcontractors. The State will not mediate disputes between the Grantee and any other entity concerning responsibility for the performance of work.

D.20. GOVERNING LAW: This Grant Agreement is governed by and shall be interpreted in accordance with the laws of the State of California.

D.21. INCOME RESTRICTIONS: The Grantee agrees that any refunds, rebates, credits, or other amounts (including any interest thereon) accruing to or received by the Grantee under this Agreement shall be paid by the Grantee to the State, to the extent that they are properly allocable to costs for which the Grantee has been reimbursed by the State under this Agreement. The Grantee shall also include in each of its contracts for work under this Agreement a provision that incorporates the requirements stated within this paragraph.

D.22. INDEMNIFICATION: The Grantee shall indemnify and hold and save the State, its officers, agents, and employees, free and harmless from any and all liabilities for any claims and damages (including inverse condemnation) that may arise out of the Project and this Agreement, and any breach of this Agreement. The Grantee shall require its contractors or subcontractors to name the State, its officers, agents, and employees as additional insureds on their liability insurance for activities undertaken pursuant to this Agreement.

D.23. INDEPENDENT CAPACITY: The Grantee, and the agents and employees of the Grantees, in the performance of the Grant Agreement, shall act in an independent capacity and not as officers, employees, or agents of the State.

D.24. INSPECTION OF BOOKS, RECORDS, AND REPORTS: During regular office hours, each of the parties hereto and their duly authorized representatives shall have the right to inspect and make copies of any books, records, or reports of either party pertaining to this Grant Agreement or matters related hereto. Each of the parties hereto shall maintain and shall make available at all times for such inspection accurate records of all its costs, disbursements, and receipts with respect to its activities under this Grant Agreement. Failure or refusal by the Grantee to comply with this provision shall be considered a breach of this Grant Agreement, and the State may withhold disbursements to the Grantee or take any other action it deems necessary to protect its interests.

D.25. INSPECTIONS OF PROJECT BY STATE: The State shall have the right to inspect the work being performed at any and all reasonable times during the term of the Grant Agreement. This right shall extend to any subcontracts, and the Grantee shall include provisions ensuring such access in all its contracts or subcontracts entered into pursuant to its Grant Agreement with the State.

D.26. LABOR CODE COMPLIANCE: The Grantee agrees to be bound by all the provisions of the Labor Code regarding prevailing wages and shall monitor all contracts subject to reimbursement from this Agreement to assure that the prevailing wage provisions of the Labor Code are being met. Current

Department of Industrial Relations (DIR) requirements may be found at: http://www.dir.ca.gov/ lcp.asp. For more information, please refer to DIR's *Public Works Manual* at: http://www.dir.ca.gov/ dlse/PWManualCombined.pdf. The Grantee affirms that it is aware of the provisions of section 3700 of the Labor Code, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance, and the Grantee affirms that it will comply with such provisions before commencing the performance of the work under this Agreement and will make its contractors and subcontractors aware of this provision.

D.27. MODIFICATION OF OVERALL WORK PLAN: At the request of the Funding Recipient, the State may at its sole discretion approve non-material changes to the portions of Exhibits A, B, and C which concern the budget and schedule without formally amending this Funding Agreement. Non-material changes with respect to the work plan are changes that help clarify the original language, the addition of tasks without deleting others, and minor edits that will not result in a change to the original scope. Non-material changes with respect to the budget are changes that only result in the reallocation of the budget and will not result in an increase in the amount of the State Funding Agreement. Non-material changes with respect to the Project schedule are changes that will not extend the term of this Funding Agreement. Requests for non-material changes to the budget and schedule must be submitted by the Funding Recipient to the State in writing and are not effective unless and until specifically approved by the State's Program Manager in writing.

D.28. NONDISCRIMINATION: During the performance of this Grant Agreement, the Grantee and its contractors or subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex (gender), sexual orientation, race, color, ancestry, religion, creed, national origin (including language use restriction), pregnancy, physical disability (including HIV and AIDS), mental disability, medical condition (cancer/genetic characteristics), age (over 40), marital status, and denial of medical and family care leave or pregnancy disability leave. The Grantee and its contractors or subcontractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. The Grantee and its contractors or subcontractors shall comply with the provisions of the California Fair Employment and Housing Act (Gov. Code, § 12990) and the applicable regulations promulgated there under (Cal. Code Regs., tit. 2, § 11000 et seq.). The applicable regulations of the Fair Employment and Housing are incorporated into this Agreement by reference. The Grantee and its contractors or subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

The Grantee shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Grant Agreement.

D.29. OPINIONS AND DETERMINATIONS: Where the terms of this Grant Agreement provide for action to be based upon, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

D.30. PERFORMANCE BOND: Where contractors are used, the Grantee shall not authorize construction to begin until each contractor has furnished a performance bond in favor of the Grantee in the following amounts: faithful performance (100%) of the contract value and labor and materials (100%) of the contract value. This requirement shall not apply to any contract for less than $25,000.00. Any bond issued pursuant to this paragraph must be issued by a California-admitted surety. (Pub. Contract Code, § 7103; Code Civ. Proc., § 995.311.)

D.31. PRIORITY HIRING CONSIDERATIONS: If this Grant Agreement includes services in excess of $200,000, the Grantee shall give priority consideration in filling vacancies in positions funded by the Grant Agreement to qualified recipients of aid under Welfare and Institutions Code section 11200 in accordance with Public Contract Code section 10353.

D.32. PROHIBITION AGAINST DISPOSAL OF PROJECT WITHOUT STATE PERMISSION: The Grantee shall not sell, abandon, lease, transfer, exchange, mortgage, hypothecate, or encumber in any manner whatsoever all or any portion of any real or other property necessarily connected or used in conjunction with the Project, or with the Grantee's service of water, without prior permission of the State. The Grantee shall not take any action, including but not limited to actions relating to user fees, charges, and assessments that could adversely affect the ability of the Grantee to meet its obligations under this Grant Agreement, without prior written permission of the State. The State may require that the proceeds from the disposition of any real or personal property be remitted to the State.

D.33. PROJECT ACCESS: The Grantee shall ensure that the State, the Governor of the State, or any authorized representative of the foregoing, will have safe and suitable access to the Project site at all reasonable times during Project construction and thereafter for the term of this Agreement.

D.34. REMAINING BALANCE: In the event the Grantee does not submit invoices requesting all of the funds encumbered under this Grant Agreement, any remaining funds revert to the State. The State will notify the Grantee stating that the Project file is closed and any remaining balance will be disencumbered and unavailable for further use under this Grant Agreement.

D.35. REMEDIES NOT EXCLUSIVE: The use by either party of any remedy specified herein for the enforcement of this Grant Agreement is not exclusive and shall not deprive the party using such remedy of, or limit the application of, any other remedy provided by law.

D.36. RETENTION: The State shall withhold ten percent (10%) of the funds requested by the Grantee for reimbursement of Eligible Project Costs until the Project is completed and the Final Report is approved. Any retained amounts due to the Grantee will be promptly disbursed to the Grantee, without interest, upon completion of the Project.

D.37. RIGHTS IN DATA: The Grantee agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, notes, and other written or graphic work produced in the performance of this Grant Agreement shall be made available to the State and shall be in the public domain to the extent to which release of such materials is required under the California Public Records Act. (Gov. Code, § 6250 et seq.) The Grantee may disclose, disseminate and use in whole or in part any final form data and information received, collected, and developed under this Grant Agreement, subject to appropriate acknowledgement of credit to the State for financial support. The Grantee shall not utilize the materials for any profit-making venture or sell or grant rights to a third party who intends to do so. The State shall have the right to use any data described in this paragraph for any public purpose.

D.38. SEVERABILITY: Should any portion of this Grant Agreement be determined to be void or unenforceable, such shall be severed from the whole, and the Grant Agreement shall continue as modified.

D.39. SUSPENSION OF PAYMENTS: This Grant Agreement may be subject to suspension of payments or termination, or both if the State determines that:

A. The Grantee, its contractors, or subcontractors have made a false certification, or

B. The Grantee, its contractors, or subcontractors violate the certification by failing to carry out the requirements noted in this Grant Agreement.

D.40. SUCCESSORS AND ASSIGNS: This Grant Agreement and all of its provisions shall apply to and bind the successors and assigns of the parties. No assignment or transfer of this Grant Agreement or any part thereof, rights hereunder, or interest herein by the Grantee shall be valid unless and until it is approved by the State and made subject to such reasonable terms and conditions as the State may impose.

D.41. TERMINATION BY THE GRANTEE: Subject to State approval which may be reasonably withheld, the Grantee may terminate this Agreement and be relieved of contractual obligations. In doing so, the Grantee must provide a reason(s) for termination. The Grantee must submit all progress reports summarizing accomplishments up until the termination date.

D.42. TERMINATION FOR CAUSE: Subject to the right to cure under Paragraph 9, “Default Provisions,” the State may terminate this Grant Agreement and be relieved of any payments should the Grantee fail to perform the requirements of this Grant Agreement at the time and in the manner herein, provided including but not limited to reasons of default under Paragraph 9, “Default Provisions.”

D.43. TERMINATION WITHOUT CAUSE: The State may terminate this Agreement without cause on 30 days’ advance written notice. The Grantee shall be reimbursed for all reasonable expenses incurred up to the date of termination.

D.44. THIRD PARTY BENEFICIARIES: The parties to this Agreement do not intend to create rights in, or grant remedies to, any third party as a beneficiary of this Agreement or any duty, covenant, obligation, or understanding established herein.

D.45. TIMELINESS: Time is of the essence in this Grant Agreement.

D.46. UNION ORGANIZING: The Grantee, by signing this Grant Agreement, hereby acknowledges the applicability of Government Code sections 16645 through 16649 to this Grant Agreement. Furthermore, the Grantee, by signing this Grant Agreement, hereby certifies that:

A. No State funds disbursed by this Grant Agreement will be used to assist, promote, or deter union organizing.

B. The Grantee shall account for State funds disbursed for a specific expenditure by this Grant Agreement to show those funds were allocated to that expenditure.

C. The Grantee shall, where State funds are not designated as described in (b) above, allocate, on a pro-rata basis, all disbursements that support the program.

D. If the Grantee makes expenditures to assist, promote, or deter union organizing, the Grantee will maintain records sufficient to show that no State funds were used for those expenditures and that the Grantee shall provide those records to the Attorney General upon request.

D.47. VENUE: The State and the Grantee hereby agree that any action arising out of this Agreement shall be filed and maintained in the Superior Court in and for the County of Sacramento, California, or in the United States District Court in and for the Eastern District of California. The Grantee hereby waives any existing sovereign immunity for the purposes of this Agreement.

D.48. WAIVER OF RIGHTS: None of the provisions of this Grant Agreement shall be deemed waived unless expressly waived in writing. It is the intention of the parties here to, that from time to time either party may waive any of its rights under this Grant Agreement unless contrary to law. Any waiver by either party of rights arising in connection with the Grant Agreement shall not be deemed to be a waiver with respect to any other rights or matters, and such provisions shall continue in full force and effect.

# Exhibit E

## AUTHORIZING RESOLUTION ACCEPTING FUNDS

**Resolution No.**

**RESOLUTION BY THE VINA GROUNDWATER SUSTAINABILITY AGENCY THAT AN APPLICATION BE MADE TO THE DEPARTMENT OF WATER RESOURCES TO OBTAIN A GRANT UNDER THE 2021 SUSTAINABLE GROUNDWATER MANAGEMENT GRANT PROGRAM SGMA IMPLEMENTATION GRANT.**

**WHEREAS,** the Vina Groundwater Sustainability Agency ("Vina GSA") is a GSA in the Vina Groundwater Subbasin ("Vina Subbasin"); and

**WHEREAS,** there are three Member Agencies that comprise the Vina GSA - City of Chico, Durham Irrigation District, and County of Butte; and

**WHEREAS,** there are two GSAs in the Vina Subbasin - Vina GSA and Rock Creek Reclamation District GSA ("RCRD GSA"); and

**WHEREAS,** the two GSAs have adopted one Groundwater Sustainability Plan for the subbasin pursuant to the Sustainable Groundwater Management Act ("SGMA") and pursuant to a Joint Powers Agreement agreed to and executed by the Vina GSA Member Agencies; and

**WHEREAS,** the Vina GSA is preparing an application to the California Department of Water Resources ("DWR") to obtain a grant under the Sustainable Groundwater Management (SGM) Grant Program SGMA Implementation Grant pursuant to the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 (Pub. Resources Code, § 80000, et seq.) and the Budget Acts of 2021 and 2022; and

**WHEREAS,** DWR will accept one application per subbasin during the SGM Grant Program's SGMA Implementation Round 2; and

**WHEREAS,** the Vina GSA desires to work cooperatively with the RCRD GSA in the submission of one application to DWR and in developing and undertaking projects and other activities pursuant to the Vina Subbasin's application to DWR; and

**WHEREAS,** it is the intention of the Vina GSA to submit one grant application on behalf of the entire Vina Subbasin for the SGM Grant Program SGMA Implementation Grant Round 2 solicitation; and

**WHEREAS,** the Vina GSA is preparing an application that includes proposed projects submitted by the GSA's Member Agencies, RCRD GSA and other eligible entities consistent with the Vina Subbasin Groundwater Sustainability Plan for the SGM Grant Program's SGMA Implementation Grant Round 2; and

**WHEREAS,** the Vina GSA's application includes projects that are of interest and of benefit to the Vina Subbasin; and

**WHEREAS,** the SGM Grant Program SGMA Implementation Grant Proposal Solicitation Package requires that the Vina GSA, as the entity acting as the applicant, must adopt a resolution that designates an authorized representative to submit the application and execute an agreement with the State of California for the SGMA Implementation Grant application.

**NOW, THEREFORE BE IT RESOLVED** by the Vina GSA, that an application be made to the Department of Water Resources to obtain a grant under the 2021 Sustainable Groundwater Management (SGM) Grant Program SGMA Implementation Grant pursuant to the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 (Pub. Resources Code, § 80000, et seq.) and the Budget Acts of 2021 and 2022.

**BE IT FURTHER RESOLVED** that the Vina GSA has the authority and shall enter into a funding agreement with the Department of Water Resources to receive a grant for the: Vina Subbasin GSP Projects and Management Actions Implementation – Round 2 Grant Application.

**BE IT FURTHER RESOLVED** that the Butte County Director of Water and Resource Conservation, administrator of the Vina GSA, or designee, is hereby authorized and directed to prepare the necessary data, conduct investigations, file such application, execute a funding agreement and any future amendments thereto, submit invoices, and submit any reporting requirements with the Department of Water Resources.

**PASSED AND ADOPTED** by the Vina Board of Directors, the governing body for the Vina GSA this 9th day of November 2022, by the following vote:

**AYES:**
**NOES:**
**ABSENT:**
**ABSTAIN**:

**Evan Tuchinsky,** Chair
Vina GSA Board of Directors

**CERTIFICATION**

I do hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the Vina GSA held on the 9th day of November, 2022.

**ATTEST**:

By: Kamie Loeser
Kamie Loeser, Administrator, Vina GSA

**Exhibit F**

**REPORT FORMATS AND REQUIREMENTS**

The following reporting formats should be utilized. Please obtain State approval prior to submitting a report in an alternative format.

## 1. QUARTERLY PROGRESS REPORTS

A Quarterly Progress Report template will be provided by the DWR Grant Manager. Grantees must use the template provided for all Quarterly Progress Reports to obtain reimbursement reported. The Quarterly Progress Report must accompany an Invoice and be numbered the same for ease of reference for auditing purposes. In addition, the reporting period for the Quarterly Progress Report must also align with the corresponding quarterly Invoice.

## 2. COMPONENT COMPLETION REPORT

Component Completion Reports shall generally use the following format. This report should summarize all work completed as part of this grant. This is a standalone document and should not reference other documents or websites. Web links are edited or removed over time. These grants can be audited several years after they are closed. Therefore, links are not appropriate to include in the close-out reports.

EXECUTIVE SUMMARY – Should include a brief summary of project information and include the following items:

- Brief description of work proposed to be done in the original application
- Description of actual work completed and any deviations from the work plan identified in the Grant Agreement

REPORTS AND/OR PRODUCTS – The following items should be provided

- Final Evaluation report
- Electronic copies of any data collected, not previously submitted
- As-built drawings
- Final geodetic survey information
- Self-Certification that the Project meets the stated goal of the Grant Agreement (e.g., 100-year level of flood protection, HMP standard, PI-84-99, etc.)
- Project photos
- Discussion of problems that occurred during the work and how those problems were resolved
- A final project schedule showing actual progress versus planned progress

COSTS AND DISPOSITION OF FUNDS – A list of showing:

- The date each invoice was submitted to the State
- The amount of the invoice
- The date the check was received
- The amount of the check (If a check has not been received for the final invoice, then state this in this section.)
- A summary of the payments made by the Grantee for meeting its cost sharing obligations under this Grant Agreement.
- A summary of final funds disbursement including:
    - Labor cost of personnel of agency/ major consultant /sub-consultants. Indicate personnel, hours, rates, type of profession and reason for consultant, i.e., design, CEQA work, etc.
    - Evaluation cost information, shown by material, equipment, labor costs, and any change orders

- Any other incurred cost detail
- A statement verifying separate accounting of funding disbursements

- Summary of project cost, including the following items:
  - Accounting of the cost of project expenditure;
  - Include all internal and external costs not previously disclosed; and
  - A discussion of factors that positively or negatively affected the project cost and any deviation from the original project cost estimate.

ADDITIONAL INFORMATION – Any relevant additional Information should be included.

**3. GRANT COMPLETION REPORT**

The Grant Completion Report shall generally use the following format. This report should summarize all work completed as part of this grant. This is a standalone document and should not reference other documents or websites. Web links are edited or removed over time. These grants can be audited several years after they are closed. Therefore, links are not appropriate to include in the close-out reports.

- Executive Summary: consisting of a maximum of ten (10) pages summarizing information for the grant as well as the individual projects.
- Brief discussion of whether the level, type, or magnitude of benefits of each project are comparable to the original project proposal; any remaining work to be completed and mechanism for their implementation; and a summary of final funds disbursement for each project.

**Additional Information:** Summary of the submittal schedule for the Post Performance Reports applicable for the projects in this Grant Agreement.

**4. POST-PERFORMANCE REPORT**

The Post Performance Report (PPR) should be concise and focus on how each project is performing compared to its expected performance. The PPR should follow the Methodology Report for the specific project type(s) provided by the DWR Grant Manager. The PPR should identify whether the project is being operated and maintained. DWR requirements for all funded projects should be maintained and operated for a minimum of 15 years. If the project is not being maintained and operated, justification must be provided. A PPR template may be provided by the assigned DWR Grant Manager upon request. The PPR should follow the general format of the template and provide requested information as applicable. The following information, at a minimum, shall be provided:

**Reports and/or products**

- Header including the following:
  - Grantee Name
  - Implementing Agency (if different from Grantee)
  - Grant Agreement Number
  - Project Name
  - Funding grant source
  - Report number
- Post Performance Report schedule
- Time period of the annual report (e.g., January 2018 through December 2018)
- Project Description Summary
- Discussion of the project benefits
- An assessment of any differences between the expected versus actual project benefits as stated in the original application. Where applicable, the reporting should include quantitative metrics (e.g., new acre-feet of water produced that year, etc.).

- Summary of any additional costs and/or benefits deriving from the project since its completion, if applicable.
- Any additional information relevant to or generated by the continued operation of the project.

## Exhibit G

## REQUIREMENTS FOR DATA SUBMITTAL

### Surface and Groundwater Quality Data:

Groundwater quality and ambient surface water quality monitoring data that include chemical, physical, or biological data shall be submitted to the State as described below, with a narrative description of data submittal activities included in project reports, as described in Exhibit G, “Requirements for Data Submittal.”

Surface water quality monitoring data shall be prepared for submission to the California Environmental Data Exchange Network (CEDEN). The CEDEN data templates are available on the CEDEN website. The inclusion of additional data elements described on the data templates is desirable. Data ready for submission should be uploaded to your CEDEN Regional Data Center via the CEDEN website. CEDEN website: http://www.ceden.org.

If a project’s Work Plan contains a groundwater ambient monitoring element, groundwater quality monitoring data shall be submitted to the State for inclusion in the State Water Resources Control Board’s Groundwater Ambient Monitoring and Assessment (GAMA) Program Information on the GAMA Program can be obtained at: https://www.waterboards.ca.gov/water_issues/programs/gama/. If further information is required, the Grantee can contact the State Water Resources Control Board (SWRCB) GAMA Program. A listing of SWRCB staff involved in the GAMA program can be found at: https://www.waterboards.ca.gov/water_issues/programs/gama/contact.shtml.

### Groundwater Level Data

For each project that collects groundwater level data, the Grantee will need to submit this data to DWR’s Water Data Library (WDL), with a narrative description of data submittal activities included in project reports, as described in Exhibit F, “Report Formats and Requirements.” Information regarding the WDL and in what format to submit data can be found at: http://www.water.ca.gov/waterdatalibrary/.

**Exhibit H**

**STATE AUDIT DOCUMENT REQUIREMENTS**

The following provides a list of documents typically required by State Auditors and general guidelines for Grantees. List of documents pertaining to both State funding and the Grantee's Local Cost Share and details of the documents/records that State Auditors would need to review in the event that this Grant Agreement is audited. Grantees should ensure that such records are maintained for each funded project.

**State Audit Document Requirements**

Internal Controls

1. Organization chart (e.g., Agency's overall organization chart and organization chart for the State funded Program/Project).
2. Written internal procedures and flowcharts for the following:
   a) Receipts and deposits
   b) Disbursements
   c) State reimbursement requests
   d) Expenditure tracking of State funds
   e) Guidelines, policies, and procedures on State-funded Programs/Projects
3. Audit reports of the Agency's internal control structure and/or financial statements within the last two years.
4. Prior audit reports on the State-funded Program/Project.

State Funding:

1. Original Grant Agreement, any amendment(s) and budget modification documents.
2. A listing of all bond-funded grants, loans, or subventions received from the State.
3. A listing of all other funding sources for each Program/Project.

Contracts:

1. All subcontractor and consultant contracts and related or partners' documents, if applicable.
2. Contracts between the Agency and member agencies as related to the State funded Program/Project.

Invoices:

1. Invoices from vendors and subcontractors for expenditures submitted to the State for payments under the Grant Agreement.
2. Documentation linking subcontractor invoices to State reimbursement, requests, and related Grant Agreement budget line items.
3. Reimbursement requests submitted to the State for the Grant Agreement.

Cash Documents:

1. Receipts (copies of warrants) showing payments received from the State.
2. Deposit slips (or bank statements) showing deposit of the payments received from the State.
3. Cancelled checks or disbursement documents showing payments made to vendors, subcontractors, consultants, and/or agents under the grants or loans.
4. Bank statements showing the deposit of the receipts.

Accounting Records:

1. Ledgers showing entries for funding receipts and cash disbursements.
2. Ledgers showing receipts and cash disbursement entries of other funding sources.
3. Bridging documents that tie the general ledger to requests for Grant Agreement reimbursement.

Administration Costs:

1. Supporting documents showing the calculation of administration costs.

Personnel:

1. List of all contractors and Agency staff that worked on the State funded Program/Project.
2. Payroll records including timesheets for contractor staff and the Agency personnel who provided services charged to the program.

Project Files:

1. All supporting documentation maintained in the project files.
2. All Grant Agreement related correspondence.

**Exhibit I**

**PROJECT LOCATION**

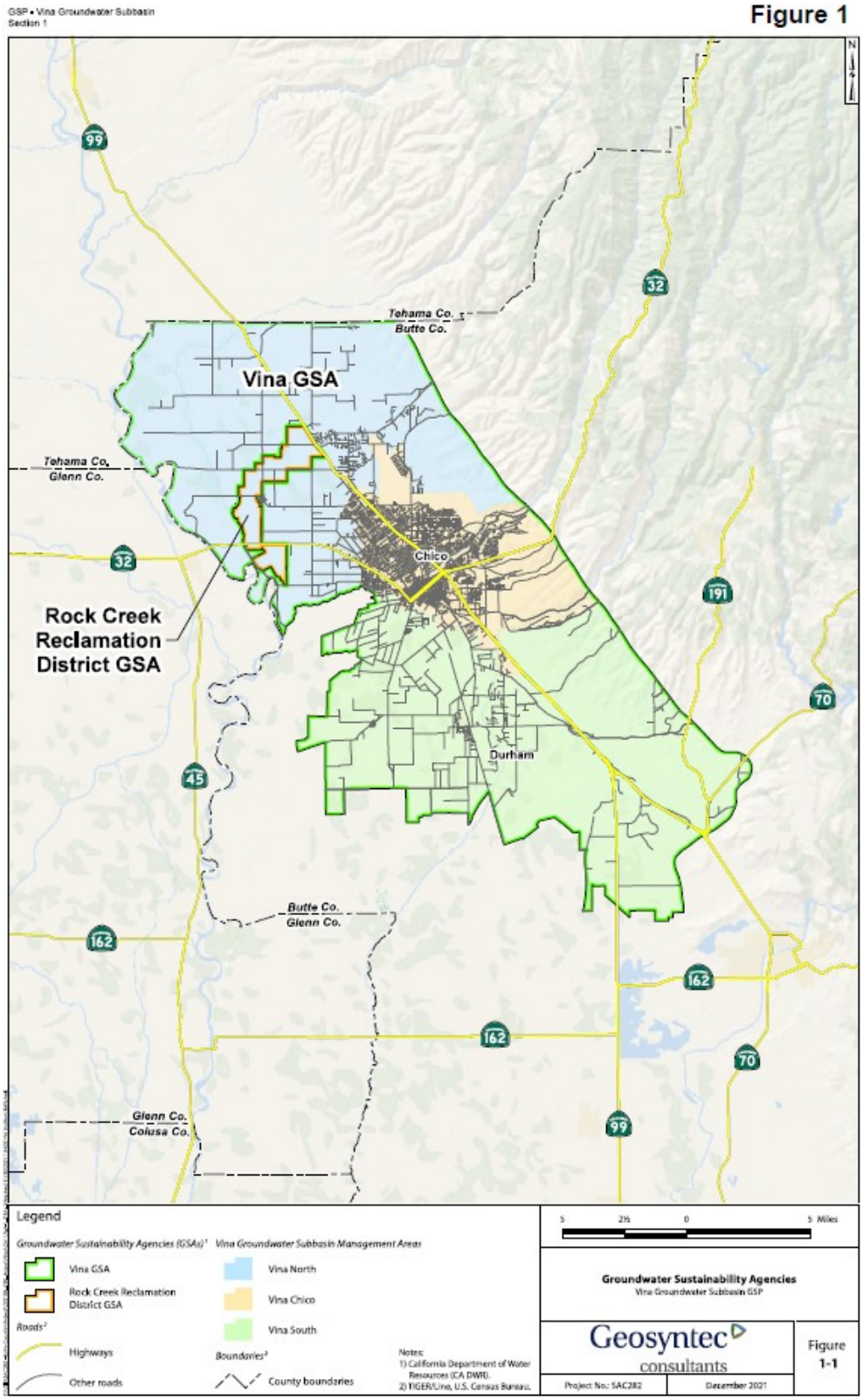


**Exhibit J**

**MONITORING AND MAINTENANCE PLAN COMPONENTS AND GUIDANCE**

Introduction

- Goals and objectives of the project
- Site location and history
- Improvements implemented
- Monitoring and Reporting Plan

For each construction Component or Project contained in Exhibit A, a post-performance monitoring and reporting plan shall be submitted according to the Monitoring Method(s) developed by DWR. The Monitoring Methods are designed to provide the necessary steps needed to monitor Components or Projects within the grant to DWR's monitoring standards. The detailed Monitoring Methods and protocols specific to the Components or Project listed in Exhibit A will be provided by the Grant Manager. The full monitoring method report is available on the SGM Grant Program website at: www.water.ca.gov/sgmgrants.

**Exhibit K**

**APPRAISAL SPECIFICATIONS**

*NOT APPLICABLE*

For property acquisitions funded in this Grant Agreement, the Grantee must submit an appraisal for review and approval by the Department of General Services or DWR's Real Estate Branch prior to reimbursement or depositing State funds into an escrow account. All appraisal reports, regardless of report format, must include all applicable Appraisal Specifications below. Appraisals for a total compensation of $150,000 or more shall be reported as a Self-Contained Appraisal Report. Appraisals for a total compensation of less than $150,000 may be reported as a Summary Appraisal Report, which includes all information necessary to arrive at the appraiser's conclusion. Appraisal Specifications 14, 16, 21, 23-25, and 28 shall be narrative analysis regardless of the reporting format.

1. Title page with sufficient identification of appraisal assignment.
2. Letter of transmittal summarizing important assumptions and conclusions, value estimate, date of value, and date of report.
3. Table of contents.
4. Assumptions and Limiting Conditions, Extraordinary Assumptions, and Hypothetical Conditions as needed.
5. Description of the scope of work, including the extent of data collection and limitations, if any, in obtaining relevant data.
6. Definition of Fair Market Value, as defined by Code of Civil Procedure, section 1263.320.
7. Photographs of subject property and comparable data, including significant physical features and the interior of structural improvements, if applicable.
8. Copies of the Tax Assessor's plat map with the subject marked along with all contiguous assessor's parcels that depict the ownership.
9. A legal description of the subject property, if available.
10. For large, remote, or inaccessible parcels, provide aerial photographs or topographical maps depicting the subject boundaries.
11. Three-year subject property history, including sales, listings, leases, options, zoning, applications for permits, or other documents or facts that might indicate or affect use or value.
12. Discussion of any current Agreement of Sale, option, or listing of subject property. This issue required increased diligence since state agencies often utilize non-profit organizations to quickly acquire sensitive-habitat parcels using Option Agreements. However, due to confidentiality clauses, the terms of the Option are often not disclosed to the State. If the appraiser discovers evidence of an Option or the possible existence of an Option, and the terms cannot be disclosed due to a confidentiality clause, then the appraiser is to cease work and contact the client.
13. Regional, area, and neighborhood analyses. This information may be presented in a summary format.
14. Market conditions and trends, including identification of the relevant market area, a discussion of supply and demand within the relevant market area, and a discussion of the relevant market factors impacting demand for site acquisition and leasing within the relevant market area. This information may be presented in a summary format.
15. Discussion of subject land/site characteristics (size, topography, current use, elevations, zoning and land use issues, development entitlements, General Plan designation, utilities, offsite improvements, access, land features such as levees and creeks, offsite improvements, easements and encumbrances, covenants,

conditions and restrictions, flood and earthquake information, toxic hazards, water rights, mineral rights, toxic hazards, taxes and assessments, etc.).

16. Description of subject improvements, including all structures, square footage, physical age, type of construction, quality of construction, condition of improvements, and/or identification of any permanent plantings. Discussion of construction cost methodology, costs included and excluded, accrued depreciation from all causes, remaining economic life, items of deferred maintenance and cost to cure, and incurable items. Construction cost data must include cost data source, date of estimate or date of publication of cost manual, section and page reference of cost manual, copies of cost estimate if provided from another source, replacement or reproduction cost method used, and supporting calculations including worksheets or spreadsheets.
17. Subject property leasing and operating cost history, including all items of income and expense.
18. Analysis and conclusion of the larger parcel for partial taking appraisals. For partial taking appraisals, Appraisal Specifications generally apply to the larger parcel rather than an ownership where, the larger parcel is not the entire ownership.
19. Include a copy of a recent preliminary title report (within the past year) as an appraisal exhibit. Discuss the title exceptions and analyze the effect of title exceptions on fair market value.
20. For appraisals of partial takings or easements, a detailed description of the taking or easement area, including surface features and topography, easements, encumbrances or improvements, including levees within the subject partial take or easement, and whether the take area is characteristic of the larger parcel. Any characteristics of the taking area, including existing pre-project levees that render the take area different from the larger parcel, must be addressed in the valuation.
21. Opinion of highest and best use for the subject property, based on an in-depth analysis supporting the concluded use, which includes the detail required by the complexity of the analysis. Such support typically requires a discussion of the four criteria of tests utilized to determine the highest and best use of a property. If alternative feasible uses exist, explain and support market, development, cash flow, and risk factors leading to an ultimate highest and best use decision.
22. All approaches to market value applicable to the property type and in the subject market. Explain and support the exclusion of any usual approaches to value.
23. Map(s) showing all comparable properties in relation to the subject property.
24. Photographs and plat maps of comparable properties.
25. In-depth discussion of comparable properties, similarities and differences compared to the subject, adjustments to the comparable data, and discussion of the reliability and credibility of the data as it relates to the indicated subject property value. Improved comparable sales, which are used to compare to vacant land subject properties, must include an allocation between land and improvements, using a methodology similar to the methodology used in item 16 above to estimate improvement value, when possible, with an explanation of the methodology used.
26. Comparable data sheets.
    a) For sales, include information on grantor/Grantee, sale/recordation dates, listed or asking price as of the date of sale, highest and best use, financing, conditions of sale, buyer motivation, sufficient location information (street address, post mile, and/or distance from local landmarks such as bridges, road intersections, structures, etc.), land/site characteristics, improvements, source of any allocation of sale price between land and improvements, and confirming source.
    b) For listings, also include marketing time from the list date to the effective date of the appraisal, original list price, changes in list price, and broker feedback, if available.
    c) For leases, include significant information such as lessor/lessee, lease date and term, type of lease, rent and escalation, expenses, size of space leased, tenant improvement allowance, concessions, use

restrictions, options, and confirming source. When comparing improved sales to a vacant land subject, the contributory value of the improvements must be segregated from the land value.

27. For appraisals of easements, a before and after analysis of the burden of the easement on the fee, with attention to how the easement affects the highest and best use in the after condition. An Easement Valuation Matrix or generalized easement valuation references may be used ONLY as a reference for a secondary basis of value.
28. For partial taking and easement appraisals, valuation of the remainder in the after condition and analysis and identification of any change in highest and best use or other characteristics in the after condition, to establish severance damages to the remainder in the after condition, and a discussion of special and general benefits, and cost to cure damages or construction contract work.
29. There are occasions where properties involve water rights, minerals, or salable timber that require separate valuations. If an appraisal assignment includes water rights, minerals, or merchantable timber that requires separate valuation, the valuation of the water rights, minerals, or merchantable timber must be completed by a credentialed subject matter specialist.
30. For partial taking and easement appraisals, presentation of the valuation in California partial taking acquisition required format.
31. Implied dedication statement.
32. Reconciliation and final value estimate. Include analysis and comparison of the comparable sales to the subject and explain and support conclusions reached.
33. Discussion of any departures taken in the development of the appraisal.
34. Signed Certification consistent with the language found in Uniform Standards of Professional Appraisal Practice.
35. If applicable, in addition to the above, appraisals of telecommunication sites must also provide:
    a) A discussion of market conditions and trends, including identification of the relevant market, a discussion of supply and demand within the relevant market area, and a discussion of the relevant market factors impacting demand for site acquisition and leasing within the relevant market area.

An analysis of other (ground and vault) leases comparable to the subject property. Factors to be discussed in the analysis include the latitude, longitude, type of tower, tower height, number of rack spaces, number of racks occupied, placement of racks, power source and adequacy, backup power, vault and site improvements description and location on site, other utilities; access, and road maintenance costs.

**Exhibit L**

**INFORMATION NEEDED FOR ESCROW PROCESSING AND CLOSURE**

*NOT APPLICABLE*

The Grantee must provide the following documents to the State Project Representative during the escrow process. Property acquisition escrow documents must be submitted within the term of this Grant Agreement and after a qualified appraisal has been approved.

- Name and Address of the Title Company Handling the Escrow
- Escrow Number
- Name of Escrow Officer
- Escrow Officer's Phone Number
- Dollar Amount Needed to Close Escrow
- Legal Description of Property Being Acquired
- Assessor's Parcel Number(s) of Property Being Acquired
- Copy of Title Insurance Report
- Entity Taking Title as Named Insured on Title Insurance Policy
- Copy of Escrow Instructions in Draft Form Prior to Recording for Review Purposes
- Copy of Final Escrow Instructions
- Verification that all Encumbrances (Liens, Back Taxes, and Similar Obligations) have been Cleared Prior to Recording the Deed to Transfer Title
- Copy of Deed for Review Purposes Prior to Recording
- Copy of Deed as Recorded in County Recorder's Office
- Copy of Escrow Closure Notice

**EXHIBIT M**

**INVOICE GUIDANCE FOR ADMINISTRATIVE AND OVERHEAD CHARGES**

The funds provided pursuant to this Agreement may only be used for costs that are directly related to the funded Project. The following provides a list of typical requirements for invoicing, specifically providing guidance on the appropriate methods for invoicing administrative and direct overhead charges.

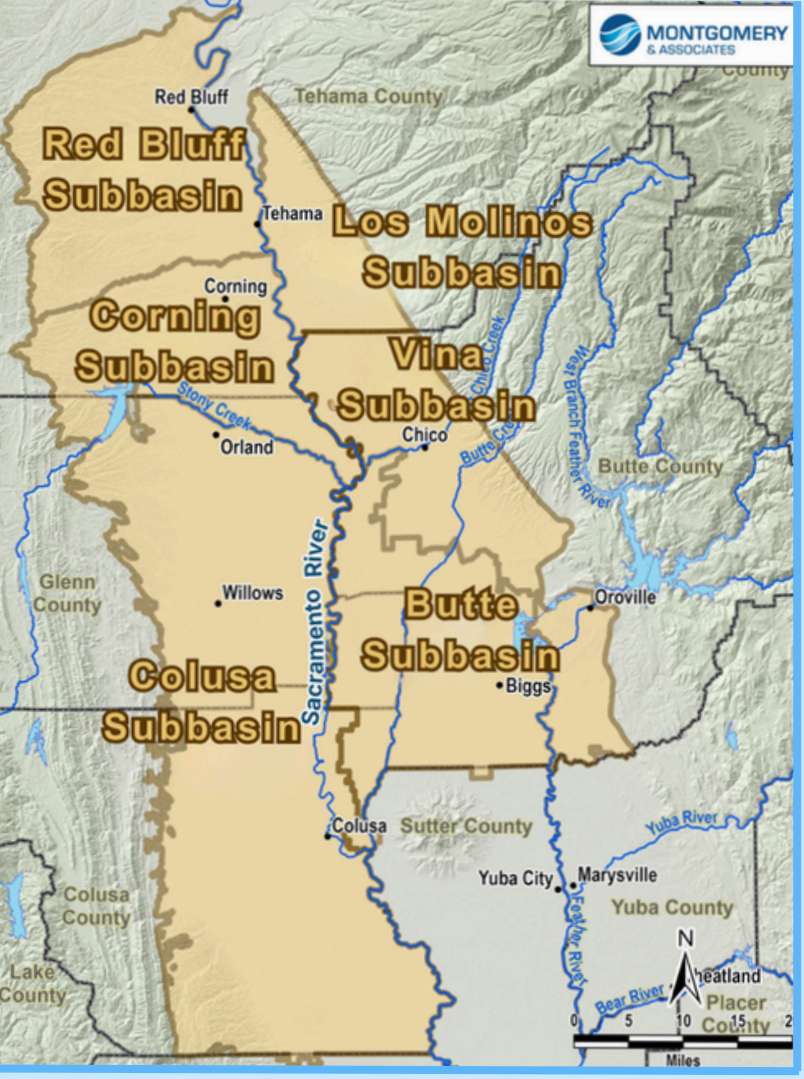
**Administration Charges**

Indirect and General Overhead (i.e., indirect overhead) charges are not an allowable expense for reimbursement. However, administrative expenses that are apportioned directly to the project are eligible for reimbursement. Costs such as rent, office supplies, fringe benefits, etc., can be "Direct Costs" and are eligible expenses as long as:

- There is a consistent, articulated method for how the costs are allocated that is submitted and approved by the Grant Manager. The allocation method must be fully documented for auditors.
- A "fully-burdened labor rate" can be used to capture allowable administrative costs.
- The administrative/overhead costs can never include:
    - Non-project specific personnel and accounting services performed within the Grantee or an LPS' organization
    - Generic markup
    - Tuition
    - Conference fees
    - Building and equipment depreciation or use allowances
- Using a general overhead percentage is never allowed

**Labor Rates**

The Grantee must provide DWR with supporting documentation for personnel hours (see personnel billing rates letter in example invoice packet). The personnel rate letter should be submitted to the DWR Grant Manager prior to submittal of the first invoice. The supporting documentation must include, at a minimum, employee classifications that will be reimbursed by grant funds and the corresponding hourly rate range. These rates should be "burdened"; the burdened rate must be consistent with the Grantee's/Local Project Sponsors standardized allocation methodology. The supporting documentation should also provide an explanation of what costs make up the burdened rate and how those costs were determined. This information will be used to compare against personnel hours summary table invoice back up documentation. Periodic updates may be needed during the life of the grant which would be handled through a revised billing rate letter.




**About This Webinar**

Join us for a continuing discussion following the first webinar in January 2026 about groundwater sustainability coordination across the North Sacramento River Corridor.

**June 16, 2026**
5:30 - 7:00 PM

[Click Here to Learn More]

**YOU'RE INVITED**

# NORTH SACRAMENTO RIVER CORRIDOR GROUNDWATER SUBBASINS

# INTERBASIN COORDINATION WEBINAR

**JUNE 16, 2026 • 5:30-7:00P**

## Agenda Topics

- **Regional Coordination Framework**
  Learn about the Framework's 5-Year Implementation Update that will guide interbasin coordination in this corridor through 2032
- **Regional Coordination Priorities**
  Overview of priority activities underway or forthcoming (e.g., interconnected surface waters technical work)
- **Public Q&A and Staying Involved**
  Opportunities for questions and ways to stay connected with local agencies

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**Antelope • Butte • Colusa • Corning • Los Molinos • Red Bluff • Vina**

**Butte County Public Health Department**

**Environmental Health Division**

# Well Permit Summary

## Quarter 2 (January 1 – March 31, 2026) of Water Year 2026

# Table of Contents

# Definitions

**Permits Issued** – Number of new water well permits issued as new construction. This excludes repairs, destructions, abandonments.

**Permits Finaled** – Number of water well permits that have been finaled (i.e. final construction completed and well is operational). This excludes repairs, destructions, abandonments.

**Small Diameter Wells -** A well with an eight-inch or smaller diameter well casing.

**Large Diameter Wells -** A well with larger than eight-inch diameter well casing.

**Repair –** Well repair; this includes but is not limited to casing replacement, re-lining or perforation.

**Deepening –** Well deepening; increasing the depth of an existing well.

**Well Destruction –** Well is destroyed (sealed off) by an approved method.

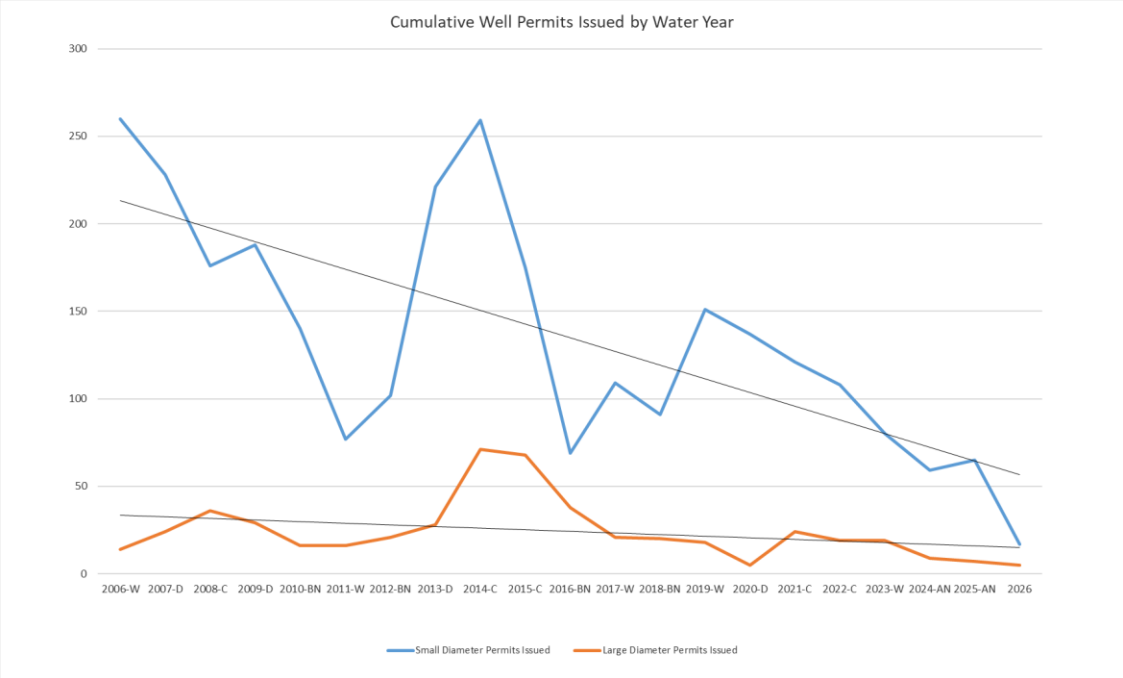
**Dry Well** – Well that is no longer producing water or has reduced production to a point where it can no longer sustain a residence (< 1 gpm).

**Water Year -** A water year is a 12-month period that extends from October 1st to September 30th. Water year can be classified into Wet (W), Above Normal (AN), Below Normal (BN), Dry (D) or Critical (C).

**Executive Order N-7-22 –** Effective March 28, 2022 and impacting permits that have not been issued to date. Implements increased drought response and established requirements for water well permit reviews to include Groundwater Sustainability Agencies (GSAs) and ground water impact considerations prior to permit issuance.

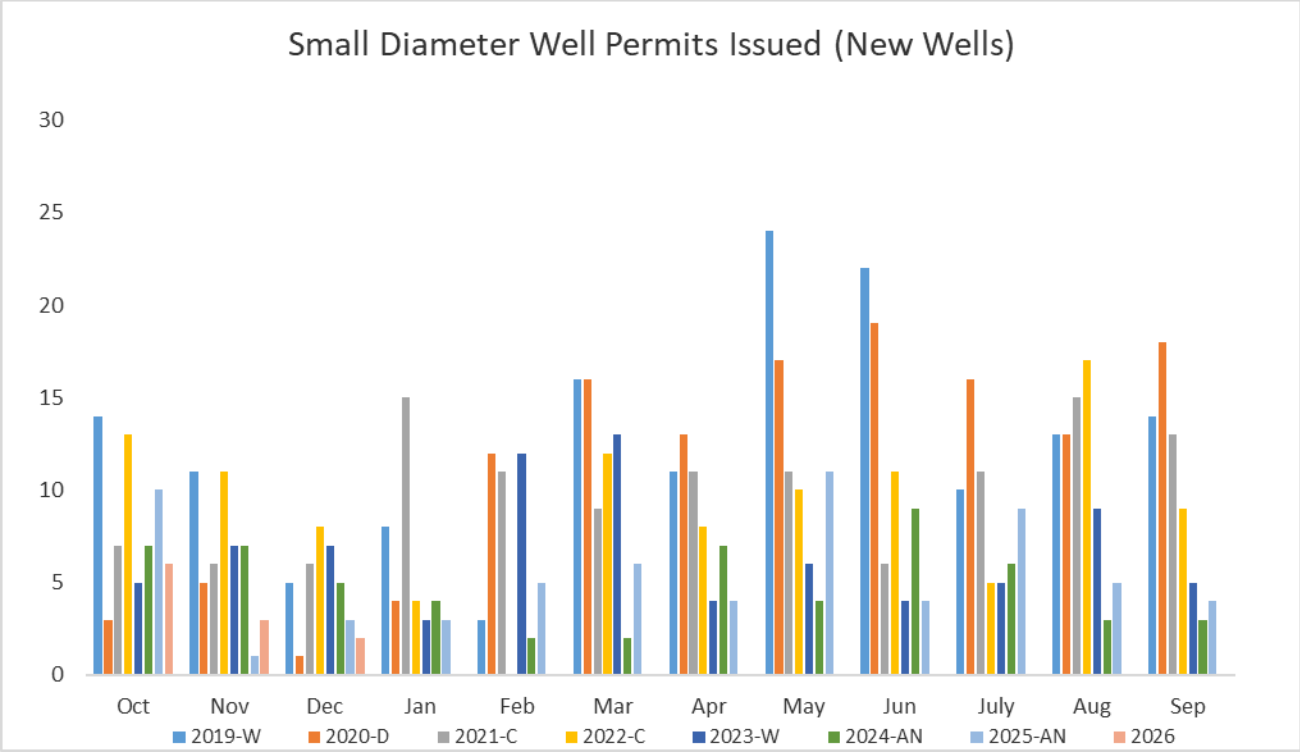
# Cumulative Well Permit Data

| Cumulative (WY) Well Permits Issued | | |
|---|---|---|
| **Water Year** | **Small Diameter Permits Issued** | **Large Diameter Permits Issued** |
| **2006-W** | 260 | 14 |
| **2007-D** | 228 | 24 |
| **2008-C** | 176 | 36 |
| **2009-D** | 188 | 29 |
| **2010-BN** | 140 | 16 |
| **2011-W** | 77 | 16 |
| **2012-BN** | 102 | 21 |
| **2013-D** | 221 | 28 |
| **2014-C** | 259 | 71 |
| **2015-C** | 175 | 68 |
| **2016-BN** | 69 | 38 |
| **2017-W** | 109 | 21 |
| **2018-BN** | 91 | 20 |
| **2019-W** | 151 | 18 |
| **2020-D** | 137 | 5 |
| **2021-C** | 121 | 24 |
| **2022-C** | 108 | 19 |
| **2023-W** | 80 | 19 |
| **2024-AN** | 59 | 9 |
| **2025-AN** | 65 | 7 |
| **2026** | 17 | 5 |



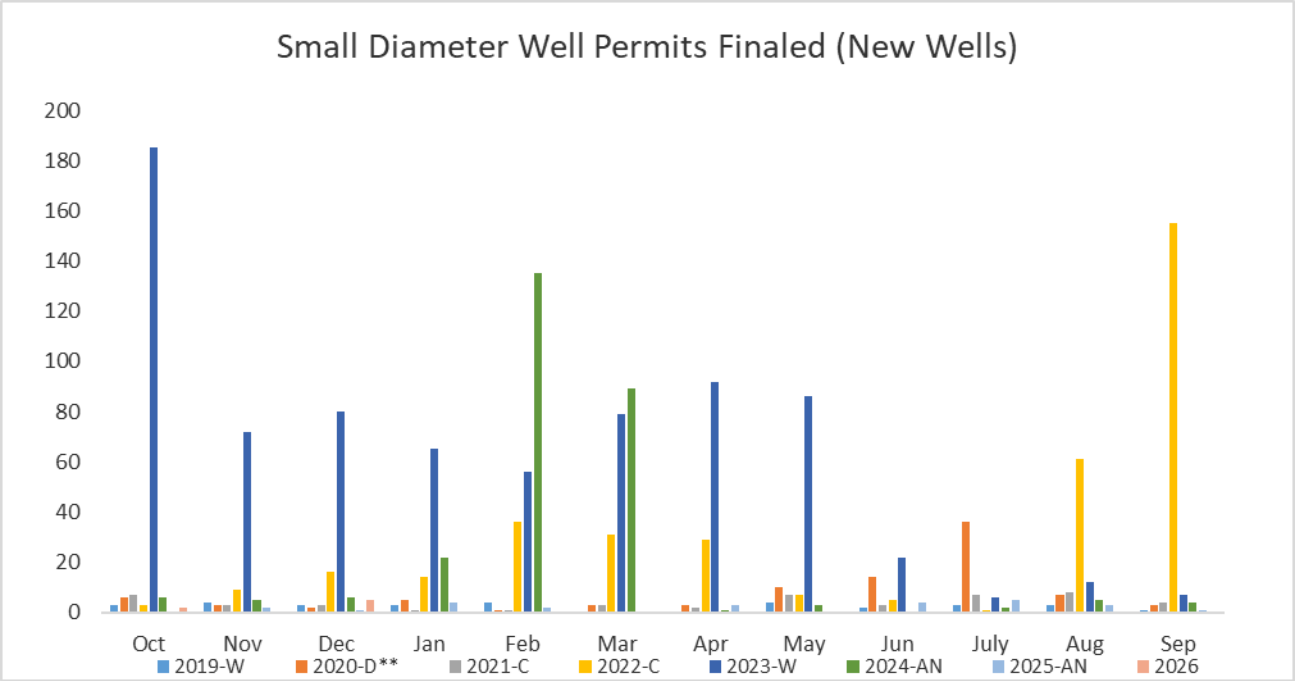
# Small Diameter Well Permit Data - Issued

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2015-C** | 18 | 7 | 6 | 15 | 11 | 22 | 27 | 15 | 13 | 18 | 17 | 6 | 175 |
| **2016-BN** | 4 | 5 | 7 | 6 | 8 | 17 | 9 | 12 | 16 | 14 | 12 | 3 | 113 |
| **2017-W** | 7 | 7 | 5 | 2 | 8 | 19 | 19 | 17 | 17 | 5 | 2 | 1 | 109 |
| **2018-BN** | 6 | 3 | 2 | 3 | 6 | 4 | 10 | 13 | 12 | 10 | 13 | 9 | 91 |
| **2019-W** | 14 | 11 | 5 | 8 | 3 | 16 | 11 | 24 | 22 | 10 | 13 | 14 | 151 |
| **2020-D** | 3 | 5 | 1 | 4 | 12 | 16 | 13 | 17 | 19 | 16 | 13 | 18 | 137 |
| **2021-C** | 7 | 6 | 6 | 15 | 11 | 9 | 11 | 11 | 6 | 11 | 15 | 13 | 121 |
| **2022-C** | 13 | 11 | 8 | 4 | 0 | 12 | 8 | 10 | 11 | 5 | 17 | 9 | 108 |
| **2023-W** | 5 | 7 | 7 | 3 | 12 | 13 | 4 | 6 | 4 | 5 | 9 | 5 | 80 |
| **2024-AN** | 7 | 7 | 5 | 4 | 2 | 2 | 7 | 4 | 9 | 6 | 3 | 3 | 59 |
| **2025-AN** | 10 | 1 | 3 | 3 | 5 | 6 | 4 | 11 | 4 | 9 | 5 | 4 | 65 |
| **2026** | 6 | 3 | 2 | 2 | 1 | 3 | | | | | | | 17 |



# Small Diameter Well Permit Data - Finaled

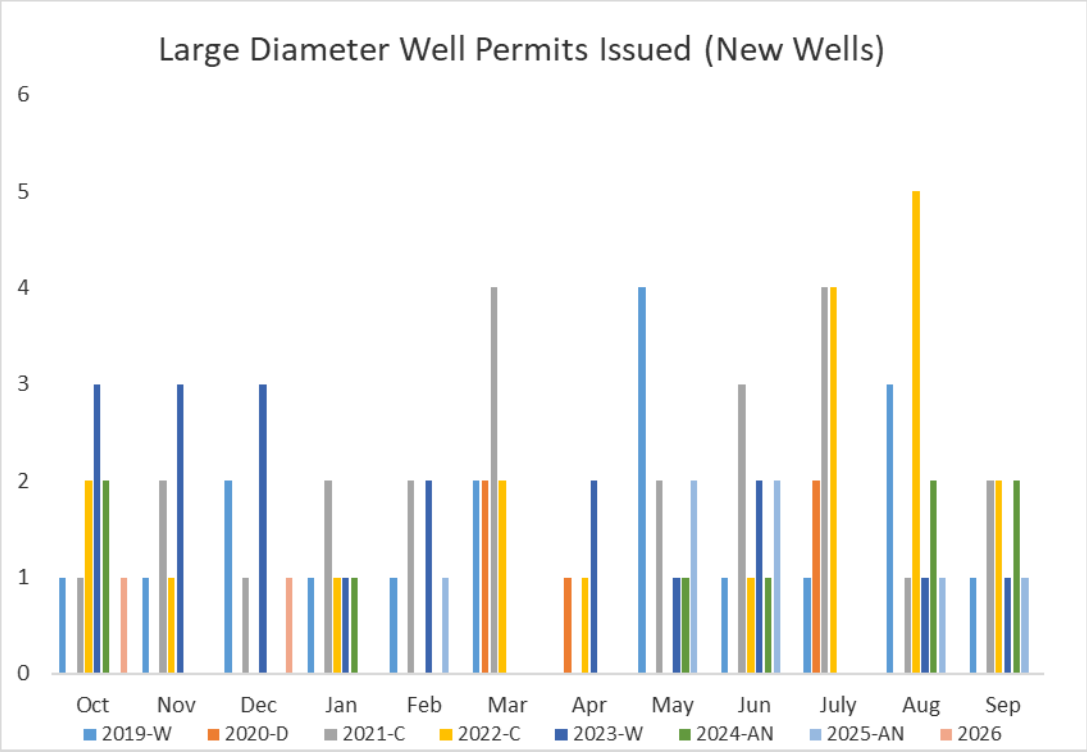
| Water Year | Small Diameter Well Permits Finaled (New Wells) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | Total |
| 2016-BN | 7 | 4 | 3 | 4 | 3 | 1 | 1 | 4 | 5 | 1 | 3 | 0 | 36 |
| 2017-W | 3 | 2 | 2 | 3 | 3 | 3 | 1 | 1 | 1 | 0 | 5 | 0 | 24 |
| 2018-BN | 1 | 4 | 3 | 1 | 1 | 4 | 2 | 4 | 6 | 1 | 5 | 3 | 35 |
| 2019-W | 3 | 4 | 3 | 3 | 4 | 0 | 0 | 4 | 2 | 3 | 3 | 1 | 30 |
| 2020-D** | 6 | 3 | 2 | 5 | 1 | 3 | 3 | 10 | 14 | 36 | 7 | 3 | 93 |
| 2021-C | 7 | 3 | 3 | 1 | 1 | 3 | 2 | 7 | 3 | 7 | 8 | 4 | 49 |
| 2022-C | 3 | 9 | 16 | 14 | 36 | 31 | 29 | 7 | 5 | 1 | 61 | 155 | 367 |
| 2023-W | 185 | 72 | 80 | 65 | 56 | 79 | 92 | 86 | 22 | 6 | 12 | 7 | 762 |
| 2024-AN | 6 | 5 | 6 | 22 | 135 | 89 | 1 | 3 | 0 | 2 | 5 | 4 | 278 |
| 2025-AN | 0 | 2 | 1 | 4 | 2 | 0 | 3 | 0 | 4 | 5 | 3 | 1 | 25 |
| 2026 | 2 | 0 | 5 | 4 | 3 | 1 | | | | | | | 15 |




**Water Year 2020 and forward - Implemented improvements to the well permit process and working on backlog status updates. Backlog project completed in 2024.

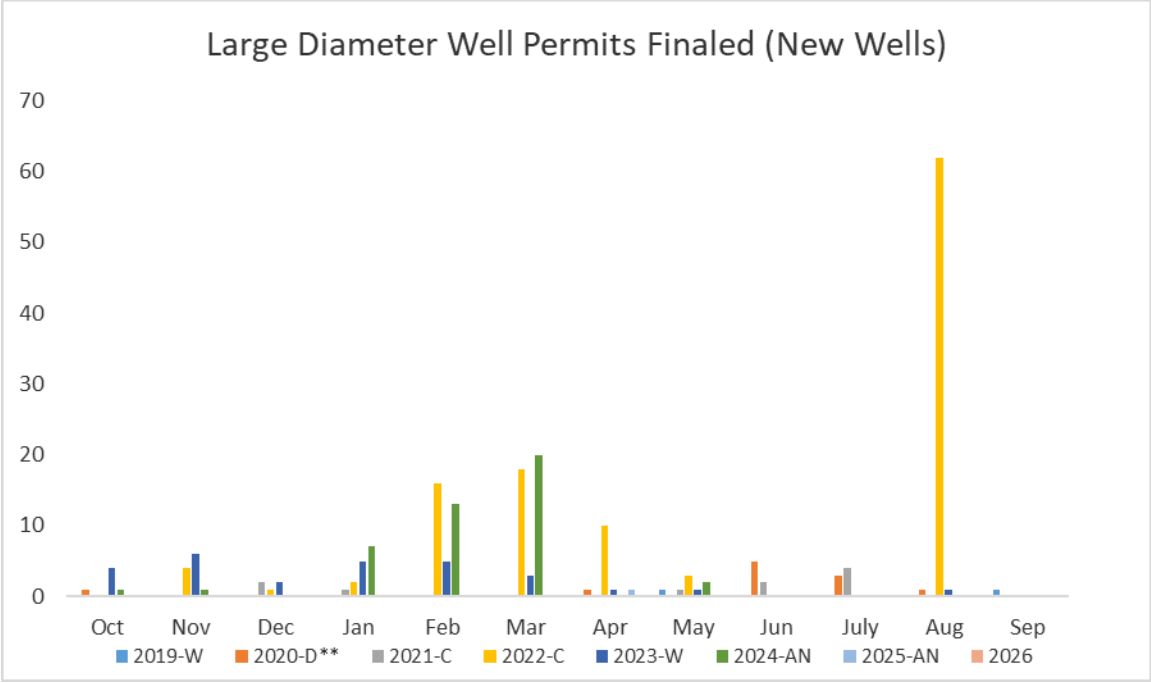
# Large Diameter Well Permit Data - Issued

| Water Year | Large Diameter Well Permits Issued (New Wells) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | Total |
| 2015-C | 5 | 7 | 4 | 1 | 4 | 7 | 6 | 1 | 5 | 14 | 11 | 3 | 68 |
| 2016-BN | 5 | 5 | 5 | 5 | 4 | 2 | 2 | 3 | 1 | 1 | 2 | 3 | 38 |
| 2017-W | 1 | 0 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | 0 | 5 | 0 | 21 |
| 2018-BN | 1 | 3 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 4 | 2 | 3 | 20 |
| 2019-W | 1 | 1 | 2 | 1 | 1 | 2 | 0 | 4 | 1 | 1 | 3 | 1 | 18 |
| 2020-D | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 5 |
| 2021-C | 1 | 2 | 1 | 2 | 2 | 4 | 0 | 2 | 3 | 4 | 1 | 2 | 24 |
| 2022-C | 2 | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 4 | 5 | 2 | 19 |
| 2023-W | 3 | 3 | 3 | 1 | 2 | 0 | 2 | 1 | 2 | 0 | 1 | 1 | 19 |
| 2024-AN | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 | 2 | 9 |
| 2025-AN | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 0 | 1 | 1 | 7 |
| 2026 | 1 | 0 | 1 | 1 | 1 | 1 | | | | | | | 5 |



# Large Diameter Well Permit Data – Finaled

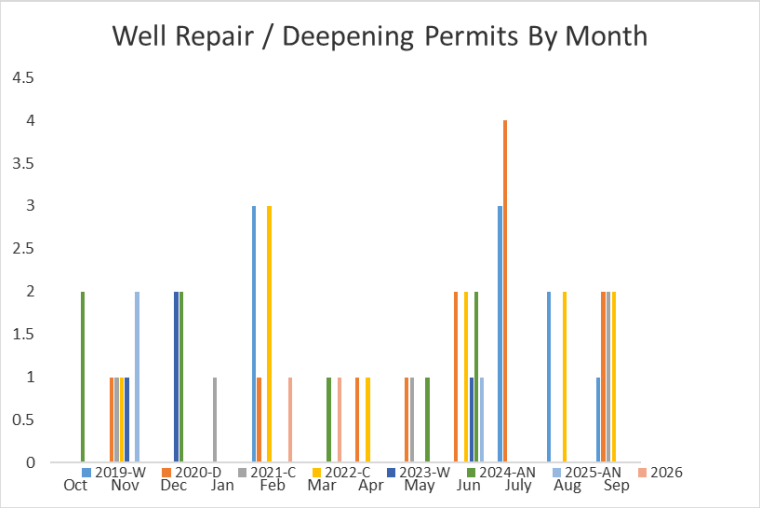
| Water Year | Large Diameter Well Permits Finaled (New Wells) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | Total |
| 2016-BN | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| 2017-W | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 2018-BN | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 4 | 0 | 7 |
| 2019-W | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 2020-D** | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 3 | 1 | 0 | 11 |
| 2021-C | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 4 | 0 | 0 | 10 |
| 2022-C | 0 | 4 | 1 | 2 | 16 | 18 | 10 | 3 | 0 | 0 | 62 | 0 | 116 |
| 2023-W | 4 | 6 | 2 | 5 | 5 | 3 | 1 | 1 | 0 | 0 | 1 | 0 | 28 |
| 2024-AN | 1 | 1 | 0 | 7 | 13 | 20 | 0 | 2 | 0 | 0 | 0 | 0 | 44 |
| 2025-AN | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2026 | 0 | 0 | 0 | 1 | 0 | 1 | | | | | | | 2 |

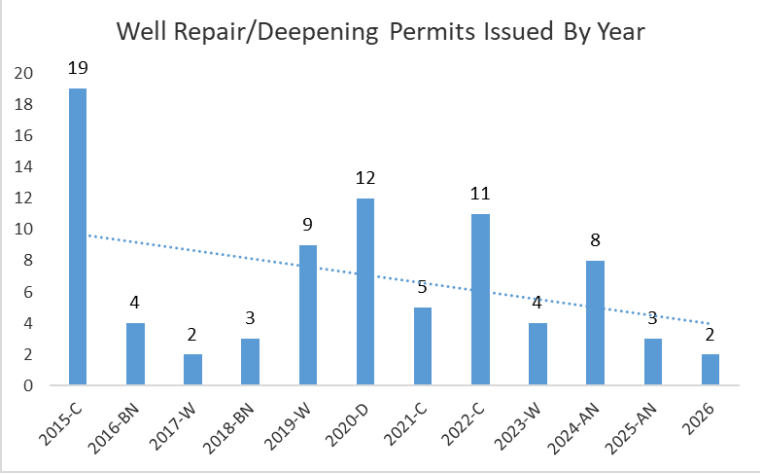



**Water Year 2020 and forward - Implemented improvements to the well permit process and working on backlog status updates. Backlog project completed in 2024.

# Well Repair and Deepening Data

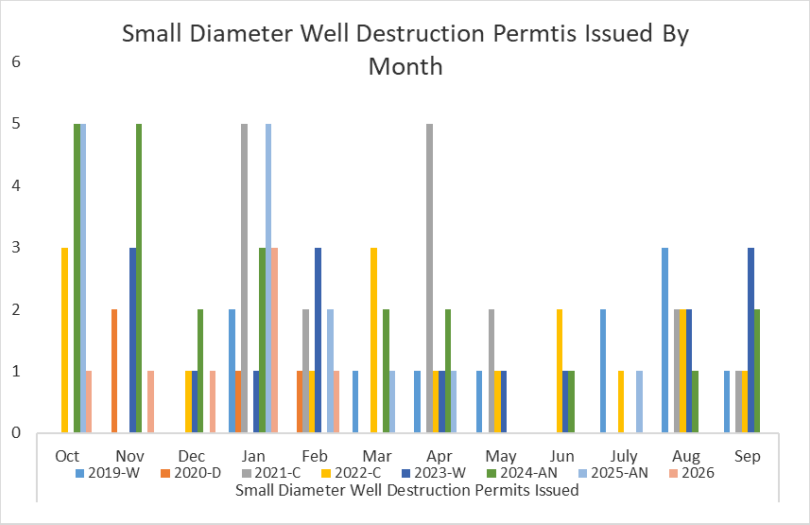
| Water Year | Well Repair/Deepening Permits Issued | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | Total |
| 2015-C | 1 | 0 | 1 | 0 | 1 | 3 | 2 | 1 | 1 | 3 | 4 | 2 | 19 |
| 2016-BN | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 4 |
| 2017-W | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 2018-BN | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 |
| 2019-W | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 2 | 1 | 9 |
| 2020-D | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 4 | 0 | 2 | 12 |
| 2021-C | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 5 |
| 2022-C | 0 | 1 | 0 | 0 | 3 | 0 | 1 | 0 | 2 | 0 | 2 | 2 | 11 |
| 2023-W | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 |
| 2024-AN | 2 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 8 |
| 2025-AN | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| 2026 | 0 | 0 | 0 | 0 | 1 | 1 | | | | | | | 2 |

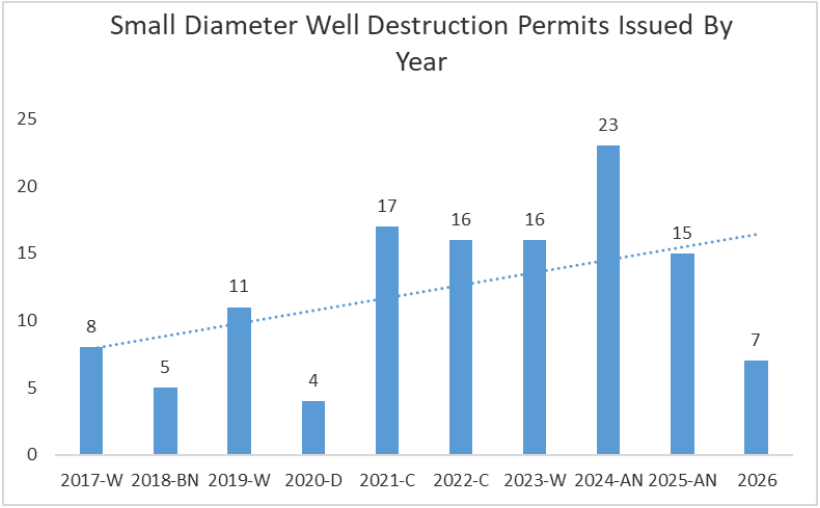


# Well Destruction Data – Small Diameter Wells

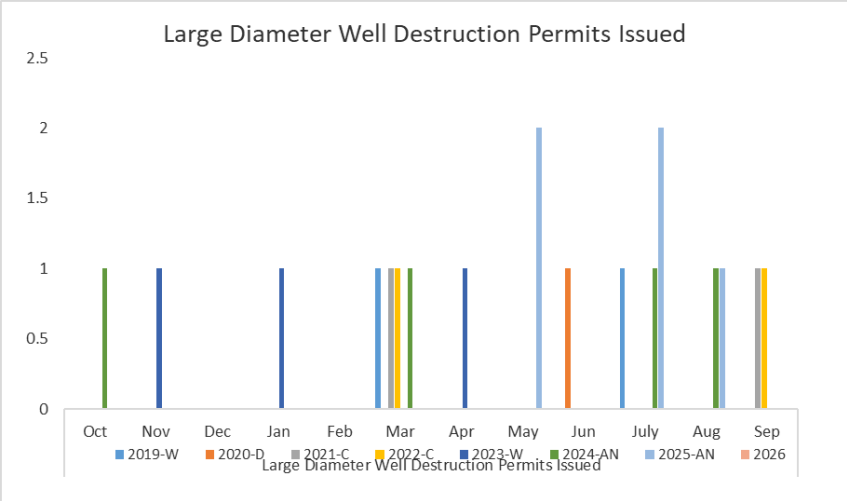
| Water Year | Small Diameter Well Destruction Permits Issued | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | **Total** |
| **2017-W** | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 1 | 0 | 8 |
| **2018-BN** | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 5 |
| **2019-W** | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 0 | 2 | 3 | 1 | 11 |
| **2020-D** | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| **2021-C** | 0 | 0 | 0 | 5 | 2 | 0 | 5 | 2 | 0 | 0 | 2 | 1 | 17 |
| **2022-C** | 3 | 0 | 1 | 0 | 1 | 3 | 1 | 1 | 2 | 1 | 2 | 1 | 16 |
| **2023-W** | 0 | 3 | 1 | 1 | 3 | 0 | 1 | 1 | 1 | 0 | 2 | 3 | 16 |
| **2024-AN** | 5 | 5 | 2 | 3 | 0 | 2 | 2 | 0 | 1 | 0 | 1 | 2 | 23 |
| **2025-AN** | 5 | 0 | 0 | 5 | 2 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 15 |
| **2026** | 1 | 1 | 1 | 3 | 1 | 0 | | | | | | | 7 |

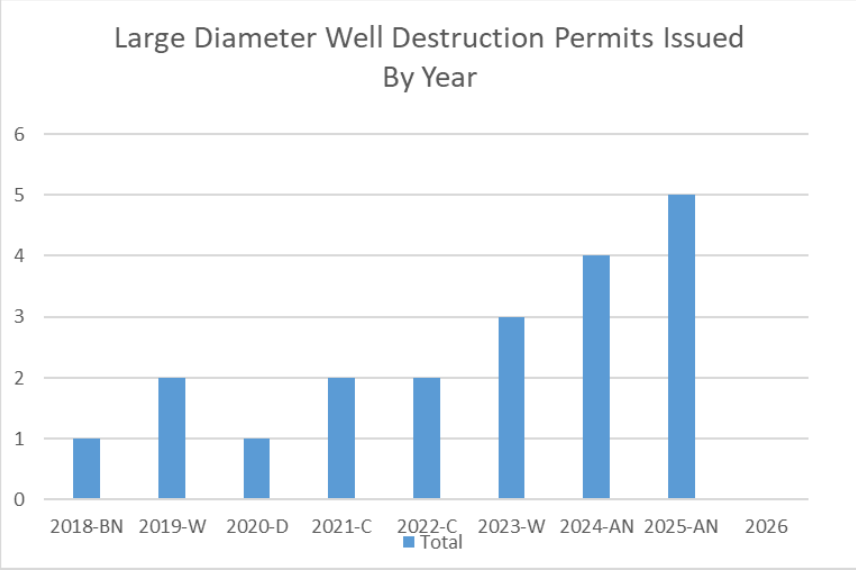


# Well Destruction Data – Large Diameter Wells

| Water Year | Large Diameter Well Destruction Permits Issued | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | Total |
| 2017-W | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 4 |
| 2018-BN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 2019-W | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 2020-D | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 2021-C | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 2022-C | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 2023-W | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 2024-AN | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 4 |
| 2025-AN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 5 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 |



# Dry Well Data

| Water Year | Dry Small Diameter Wells | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | **Total** |
| **2021-C** | | | | | | | | | | | 11 | 7 | 18 |
| **2022-C** | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 3 | 4 | 2 | 14 |
| **2023-W** | 2 | 2 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 2 | 1 | 1 | 12 |
| **2024-AN** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2025-AN** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2026** | 0 | 0 | 0 | 0 | 1 | 0 | | | | | | | 1 |

Dry well data started being collected August 2021.

| Water Year | Dry Large Diameter Wells | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | **Total** |
| **2021-C** | | | | | | | | | | | 1 | 0 | 1 |
| **2022-C** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2023-W** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2024-AN** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2025-AN** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2026** | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | 0 |

Dry well data started being collected August 2021.

| **Dry Well Reports to the Butte County Division of Environmental Health by Community** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Water Year** | | | | | | **Total** | **Average Depth of dry wells (feet)** |
| | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | | |
| Chico | 15 | 5 | 3 | 0 | 0 | 1 | **24** | 109 |
| Durham | 4 | 6 | 1 | 0 | 0 | 0 | **11** | -- |
| Cohasset | 1 | 0 | 1 | 0 | 0 | 0 | **2** | 121 |
| Berry Creek | 0 | 1 | 0 | 0 | 0 | 0 | **1** | -- |
| Oroville | 0 | 1 | 3 | 0 | 0 | 0 | **4** | 95 |
| Bangor | 0 | 1 | 0 | 0 | 0 | 0 | **1** | -- |
| Forest Ranch | 0 | 2 | 0 | 0 | 0 | 0 | **2** | 520 |
| Palermo | 0 | 1 | 0 | 0 | 0 | 0 | **1** | -- |
| **Total** | **20** | **17** | **8** | **0** | **0** | **0** | **46** | |

# Executive Order N-7-22 Data

| Cumulative Number of Wells Under Executive Oder N-7-22 | | | |
|---|---|---|---|
| **By Subbasin** | **Small Diameter** | **Large Diameter** | **Totals** |
| BUTTE | 0 | 22 | 22 |
| VINA | 5 | 10 | 15 |
| WYANDOTTE | 1 | 11 | 12 |
| | | | **49** |
| | | | |
| **By GSA** | **Small Diameter** | **Large Diameter** | **Totals** |
| Biggs-West Gridley Water District | 0 | 6 | 6 |
| Butte County | 0 | 6 | 6 |
| Butte Water District | 0 | 4 | 4 |
| Richvale Irrigation District | 0 | 2 | 2 |
| Reclamation District No. 2106 | 0 | 2 | 2 |
| Rock Creek Reclamation District | 0 | 1 | 1 |
| Vina | 5 | 10 | 15 |
| Western Canal | 0 | 1 | 1 |
| Wyandotte Creek | 1 | 11 | 12 |
| | | | **49** |