THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
BOARD ACTION SUMMARY

DEPT: Environmental Resources

BOARD AGENDA:5.B.9
AGENDA DATE: October 1, 2024

SUBJECT:
Approval to Set a Public Hearing on October 29, 2024, at the 9:00 A.M. Meeting to Consider Adoption of the Northern Delta-Mendota Region Pumping Reduction Plan and Stanislaus County Groundwater Well Metering, Monitoring and Reporting Guidelines

BOARD ACTION AS FOLLOWS: **RESOLUTION NO. 2024-0536**

On motion of Supervisor B. Condit **Seconded by Supervisor** Chiesa
and approved by the following vote,
Ayes: Supervisors: B. Condit, Chiesa, Withrow, C. Condit, and Chairman Grewal
Noes: Supervisors: None
Excused or Absent: Supervisors: None
Abstaining: Supervisor: None

1) X **Approved as recommended**
2) _____ **Denied**
3) _____ **Approved as amended**
4) _____ **Other:**

MOTION:

ATTEST: ELIZABETH A. KING, Clerk of the Board of Supervisors

File No. GSA-3-12

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
AGENDA ITEM

DEPT: Environmental Resources BOARD AGENDA:5.B.9
AGENDA DATE: October 1, 2024

CONSENT: ☑

CEO CONCURRENCE: YES 4/5 Vote Required: No

SUBJECT:

Approval to Set a Public Hearing on October 29, 2024, at the 9:00 A.M. Meeting to Consider Adoption of the Northern Delta-Mendota Region Pumping Reduction Plan and Stanislaus County Groundwater Well Metering, Monitoring and Reporting Guidelines

STAFF RECOMMENDATION:

1. Approval to Set a Public Hearing on October 29, 2024, at the 9:00 a.m. meeting to consider adoption of the Northern Delta-Mendota Region Pumping Reduction Plan and Stanislaus County Groundwater Well Metering, Monitoring and Reporting Program Guidelines.

DISCUSSION:

In September of 2014, Governor Edmund G. Brown signed into law the Sustainable Groundwater Management Act of 2014 (SGMA), which changed the landscape of groundwater management in California. SGMA is a comprehensive package of legislation that sets the framework for statewide sustainable groundwater management and declares that such authority be given to local public agencies that have either water supply or land use authority, or both.

SGMA requires, among many other items, the formation of Groundwater Sustainability Agencies (GSAs) made up of local public agencies. SGMA empowers these GSAs to use various management tools to achieve “sustainability” in the affected groundwater basins, including authorities required to manage groundwater in a sustainable manner. GSAs are the local agencies responsible for the development and implementation of the Groundwater Sustainability Plans (GSPs), ultimately aimed at ensuring groundwater sustainability over a 20-year implementation period. GSPs are focused on the development and implementation of long-term groundwater sustainability programs, plans and practices over a 50-year planning horizon.

There are four groundwater subbasins underlying Stanislaus County, in whole or in part. These basins include the following:

1. Eastern San Joaquin Groundwater Subbasin
2. Modesto Groundwater Subbasin
3. Turlock Groundwater Subbasin
4. Delta-Mendota Groundwater Subbasin

The Delta-Mendota Groundwater Subbasin has been designated by the California Department of Water Resources to be in a condition of "critical overdraft." Pursuant to SGMA, groundwater subbasins in this category were required to develop and adopt GSPs by January 31, 2020.

On February 14, 2017, the Board of Supervisors approved the adoption of a Memorandum of Understanding creating the Northwestern Delta-Mendota Groundwater Sustainability Agency (Northwestern D-M GSA), a partnership consisting of Stanislaus County and Merced County.

On March 28, 2017, the Board of Supervisors approved the adoption of the SGMA Services Memorandum of Agreement (SS-MOA) with the San Luis and Delta-Mendota Water Authority (SLDMWA) consisting of Patterson Irrigation District, Del Puerto Water District and West Stanislaus Irrigation District. The SS-MOA, and associated Activity Agreement executed by already existing member agencies of the SLDMWA, established the Management Committee for the Northern Delta-Mendota Group of GSAs within the Delta-Mendota Groundwater Subbasin and established the formula for how costs would be shared. The GSAs of the Northern Delta-Mendota Group include the following:

1. West Stanislaus Irrigation District
2. DM-II (Del Puerto Water District-Oak Flat Water District)
3. Patterson Irrigation District (Patterson Irrigation District and Twin Oaks Irrigation District)
4. City of Patterson
5. Northwestern Delta-Mendota (Stanislaus and Merced counties)

SGMA regulations allow for the following scenarios, insofar as the creation of a groundwater basin GSP is concerned:

1. A single GSA may create a single GSP, or
2. Multiple GSAs may create a single GSP, or
3. Multiple GSAs may create multiple GSPs. In this case a formal Coordination Agreement is required among the parties creating the various GSPs to ensure that coordination is achieved.

On October 9, 2018, the Board of Supervisors approved entering into the formal Coordination Agreement which established, among other things, the 6-GSP Coordination Committee (Coordination Committee) and Cost-Share formulae among the GSP-GSA member agencies related to common and shared activities.

The GSAs (23 separate parties) within the Delta-Mendota Groundwater Subbasin developed and adopted six separate but coordinated GSPs for the subbasin. These GSPs include the following:

1. Northern & Central Delta-Mendota Region
2. San Joaquin River Exchange Contractors
3. Aliso Water District
4. Farmers Water District

5. Grassland Water District
6. Fresno County Management Areas A & B

After a two-year review, the Delta-Mendota Groundwater Subbasin GSAs received notification from the Department of Water Resources (DWR) that the Delta-Mendota Groundwater Subbasin GSPs were "incomplete." The GSPs were amended as required to address certain deficiencies and resubmitted to DWR by the July 20, 2022, deadline. On March 2, 2023, the revised Delta-Mendota Groundwater GSPs were deemed to be "inadequate" by the DWR. The GSAs decided to adopt a single GSP for the subbasin to improve coordination among the many GSAs and increase efficiency.

The Memorandum of Agreement among the Delta-Mendota Subbasin Groundwater Sustainability Agencies (DMS-MOA) was approved by the Coordination Committee on November 13, 2023, and the Board of Supervisors on January 23, 2024, and replaced the Coordination Agreement when it became effective upon adoption of the single GSP on August 13, 2024. The DMS-MOA governs and clarifies the responsibilities of the GSAs under SGMA and the single GSP and coordinates the work and management of the subbasin.

The Delta-Mendota Groundwater Subbasin faces a probationary hearing by the State Water Resources Control Board (SWRCB) in the first quarter of 2025, based on the June 21, 2023, meeting between Delta-Mendota Subbasin Groundwater representatives and the SWRCB. The GSAs in the Delta-Mendota Groundwater Subbasin would like to continue to manage the subbasin locally in lieu of SWRCB Intervention.

A proposal (Attachment 2) from EKI Environment and Water (EKI) was approved July 3, 2024, by the Northern Delta-Mendota GSA Group to provide technical support for the development of the group's Pumping Reduction Plan, required pursuant to Section 16.1.1 of the GSP. Section 16.1.1 requires the Pumping Reduction Plan to include certain plan components, and to be adopted by each GSA and/or GSA Group by October 2024. Table 1 of the EKI proposal was approved, excluding Task 1, (which included a monitoring and data collection component that would be completed separately by each GSA), with an option to move to Table 2 tasks, and budget by October 2024. As part of the Pumping Reduction Plan, each GSA is required to commit to adopting a policy for mandatory metering and groundwater pumping measurement and reporting at all production wells by October 2024, with implementation beginning January 2025 and complete implementation of meters no later than January 2026, and to adopt a policy by October 2024 for the development and maintenance of a well registration program.

Stanislaus County, as a member of the Northwestern D-M GSA, is responsible for implementing the GSP in the out-of-district areas within its boundaries. Stanislaus County is responsible for developing regulations to be adopted by the Board of Supervisors that are reasonably necessary to monitor and manage the existing condition of groundwater resources within the County, to determine trends, or to develop effective sustainable groundwater management plans and policies that are consistent with Chapter 9.37 of the Stanislaus County Ordinance Code, (Groundwater Ordinance), adopted Programmatic Environmental Impact Report and Discretionary Well Permitting and Management Program. The regulations must also be compatible with the Delta-Mendota GSP and the Adaptive Management Framework for the Subbasin outlined in the DMS-MOA. These regulations will include, without limitation,

the establishment of required frequency and timing of reports, and the required information to be monitored, including, water level and pumping data, or other data necessary for any other method to determine groundwater production to ensure the sustainable management of groundwater resources.

The Draft Stanislaus County Groundwater Well Metering Monitoring and Reporting Program Guidelines, (Program Guidelines) will be reviewed by the Stanislaus County Water Advisory Committee during the September 25, 2024, meeting and any recommendations will be considered and incorporated into the final Program Guidelines for consideration at the October 29, 2024 public hearing (Attachment 3). Approval of the Program Guidelines will demonstrate compliance with the Groundwater Ordinance, the DMS-MOA and the minimum monitoring and data collection requirements specified in Section 16.1.1. of the GSP.

Due to the structure of the MOU governing the administration of the Northwestern D-M GSA both Stanislaus and Merced Counties must approve the Pumping Reduction Plan and adopt policies for mandatory metering, well registration and groundwater pumping and reporting requirements that will be consistent with each county's exercise of its land-use authority and any existing groundwater ordinance.

POLICY ISSUE:

This proposed action complies with State legislation known as the "Sustainable Groundwater Management Act" which mandates the adoption and implementation of a Groundwater Sustainability Plan (GSP) for groundwater basins such as the Delta-Mendota Groundwater Subbasin which is categorized as being in a condition of critical overdraft.

FISCAL IMPACT:

Total costs for the Pumping Reduction Plan Table 1 tasks were approved by the Northern GSA group in the amount of $131,000, of which Stanislaus Counties portion is approximately $42,000 pursuant to the existing cost sharing formula used between the Northern Delta-Mendota Group agencies. There are no current additional fiscal impacts associated with the development of the Program Guidelines because existing staff is currently undertaking this work.

Costs for development of Department of Environmental Resources procedures to be used for addressing and mitigating groundwater level minimum threshold exceedances under the DMS-MOA had previously been estimated at $21,000. The scope of work has expanded to include the additional components of the GSP Pumping Reduction Framework with the progression of the development and adoption of the single GSP and sufficient funds have been included in the 2025 Adopted Budget for this purpose. There will be additional costs associated with implementing the GSP and for future GSP Plan updates over the coming decades. These costs, once determined, will be subject to future County budget considerations and Board of Supervisors approval.

BOARD OF SUPERVISORS' PRIORITY:

The recommended actions are consistent with the Board's priority of *Enhancing Community Infrastructure* by committing to the responsible management of community infrastructure and sustainable groundwater resources.

STAFFING IMPACT:

Existing staff will continue to oversee the work associated with this item. Once the Pumping Reduction Plan and Program Guidelines are implemented additional staff will be needed to effectively support the increased workload associated with this initiative to maintain quality, meet deadlines and ensure execution of a successful program. Over the upcoming months, the Department of Environmental Resources will gather additional information and assess program demands to refine our staffing plan so that it is adequate for future financial planning purposes.

CONTACT PERSON:

Robert Kostlivy, Director, Department of Environmental Resources	209-525-6768
Christy McKinnon, Water Resources Manager	209-525-6818

ATTACHMENT(S):

1. Notice of Public Hearing
2. EKI Pumping Reduction Plan Consultant Proposal
3. Draft Stanislaus County Well Metering Monitoring and Reporting Program Guidelines

STANISLAUS COUNTY NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that on October 29, 2024 at 9:00 a.m., or as soon thereafter as the matter may be heard, the Stanislaus County Board of Supervisors will meet in the Basement Chambers, 1010 10th Street, Modesto, CA, pursuant to California Water Code Section 10728.4, to consider approval and adoption of the Northern Delta-Mendota Region Pumping Reduction Plan and Stanislaus County Groundwater Well Metering, Monitoring, and Reporting Program Guidelines.

NOTICE IS FURTHER GIVEN that at the said time and place, interested persons will be given the opportunity to be heard. Written comments may be submitted to Stanislaus County at Attn: Christy McKinnon, Water Resources Manager, 3800 Cornucopia Way, Suite C, Modesto CA, or at cmckinnon@envres.org.

Corporate Office
2001 Junipero Serra Boulevard, Suite 300
Daly City, CA 94014
(650) 292-9100
ekiconsult.co

14 June 2024

John Brodie
San Luis Delta Mendota Water Authority
842 6th Street, PO Box 2157
Los Banos, CA 93635

Subject: Proposal to Provide Technical Support for the Development of the Northern Delta-Mendota Groundwater Sustainability Agency (NDM GSA) Group's Pumping Reduction Plan (PRP)
(EKI C00041.13)

Dear Mr. Brodie:

EKI Environment & Water, Inc. (EKI) is pleased to submit this proposal to support the NDM GSA Group in developing a GSA-Group specific PRP pursuant to the PRP Framework outlined in the Delta-Mendota Groundwater Sustainability Plan (GSP) and the Memorandum of Agreement (MOA) signed by the Groundwater Sustainability Agencies (GSAs). This proposal is submitted in response to San Luis & Delta-Mendota Water Authority's (SLDMWA's) request on 6 June 2024.

BACKGROUND

Information presented by EKI at the Delta-Mendota Subbasin (Basin) Coordination Committee (CC) meeting on 11 March 2024 indicates that the Basin will need to achieve a pumping reduction volume of approximately 42,000 acre-feet per year (AFY), primarily from the Lower Aquifer, based on the Projected 2030 Central Tendency Climate Change Scenario and assuming successful implementation of all of the other Projects and Management Actions (PMAs). The modeling conducted by EKI also indicates that several Representative Monitoring Wells (RMWs) are projected to exceed their Minimum Thresholds (MTs) for Chronic Lowering of Groundwater Levels and Land Subsidence by 2040.

Based on direction from the CC, the GSA Groups presented proposed PRPs at the CC meeting on 11 March 2024 to address their respective overdraft and avoid MT exceedances. EKI supported the NDM GSA Group in developing its recommendation for a PRP in a memorandum dated 8 March 2024 (NDM Proposed Plan).

Following the discussion at the CC meeting, EKI synthesized the various GSA's PRPs into a Basin-wide PRP Framework, which the CC recommended for inclusion in the GSP. The PRP Framework is comprised of the following six components that when collectively implemented, are designed to support compliance with the GSP's Sustainable Management Criteria (SMCs) and pumping within the Sustainable Yield: (1) Monitoring and Data Collection Plan; (2) Overdraft Mitigation Plan; (3) Groundwater Level Minimum Threshold (GWL-MT) Avoidance Plan; (4) Water Quality Minimum Threshold (WQ-MT) Exceedance Plan; (5) Subsidence Mitigation Plan; (6) Groundwater Allocation Backstop.

The implementation plan for the PRP Framework requires that the Basin GSAs develop and adopt a GSA/GSA Group-specific PRP by October 2024. The Basin GSAs are also required to implement and

develop the needed monitoring, administrative, and technical tools, and to conduct the necessary education and outreach so full PRP implementation can occur starting January 2025.

EKI understands that the GSAs in the NDM GSA Group wish to develop a single PRP, which will be adopted and implemented by all GSAs in the NDM GSA Group. This PRP will build upon the NDM Proposed Plan and comply with the requirements of the PRP Framework and MOA. The following Overall Approach and Scope of Work are proposed to support the NDM GSA Group's efforts to develop and implement a PRP.

OVERALL APPROACH

As outlined above, the PRP consists of six components for which the GSAs must develop specific technical approaches and triggers.

Component 1 aims to ensure sufficient monitoring and measurement for assessing and identifying problems, planning and implementing solutions, measuring impacts, and facilitating adaptiveness and enforcement. Given the varying levels of progress and methodologies among the GSAs, and per direction provided by SLDMWA, this component is assumed to be planned and implemented largely by GSAs. As an optional task, EKI proposes to provide technical support to ensure consistency and adequacy in these efforts, contributing to the successful and equitable achievement of the PRP's goals.

For components 2 through 6, EKI proposes to follow the overall approach below while modifying it for each component to achieve the level of detail required:

- Develop the technical approach in accordance with the GSAs' monitoring networks and available tools and models (i.e., make sure that approaches align with the GSA's ability to conduct timely identification of triggers, continuous assessment of conditions, successful design and implementation of the investigation/pumping reduction approach, and adequate monitoring to measure impacts, adapt and adjust, and conduct enforcement).
- Develop the technical approach for setting and identifying specific triggers for Representative Monitoring Sites (RMS) to initiate GSA action.
- Establish monitoring and measurement protocols and methodologies for evaluating groundwater conditions relative to the established triggers.
- Develop a technical method by which the GSAs will determine the rate and extent of pumping reduction or other actions necessary to address identified triggers.
- Establish measurement protocols and criteria to determine whether there is a need for additional corrective action (enforcement of allocations) or an opportunity for relief.

Collective support and endorsement from all GSAs are needed for the successful execution of each step of this approach. Therefore, EKI proposes a combination of GSA interviews and ad-hoc committee meetings to discuss each step, gather feedback, evaluate the feasibility of the proposed approach based on each GSA's local policies and capabilities, and determine if revisions are warranted.

EKI will present the findings of each task at appropriate NDM GSA Group meetings and will summarize policy recommendations under all tasks in a single Technical Memorandum (PRP TM). Respective subsections of the PRP TM may be delivered at the conclusion of each task for review. EKI assumes that

the technical aspects of the PRP developed by EKI will be converted by the GSA's legal counsel into a resolution for adoption by the GSAs in October 2024.

SCOPE OF WORK

Task 1 *(Optional)* – Support Implementation of the NDM Monitoring and Data Collection Plan

Per the PRP Framework, the Basin GSAs must execute a minimum level of monitoring and data collection to facilitate the decision-making, investigations, policy implementation, and enforcement under the PRP. Under Task 1, EKI will provide as-needed technical services to support the implementation of the NDM GSA Group's Monitoring and Data Collection Plan, as follows:

1) Conduct an assessment of the monitoring network and pumping well locations for each GSA within the NDM GSA Group and provide recommendations for density and frequency of monitoring considering the PRP requirements and pumping distributions within each GSA.
2) Review existing well metering policies and implementation status of the GSAs and provide a comparison summary along with recommendations for consideration of NDM GSA Group;
3) Review existing well registration policies and implementation status of the GSAs and provide a comparison summary along with recommendations for consideration of NDM GSA Group;
4) Recommend a scientifically sound approach for the designation of pumping between aquifers at composite wells; and,
5) Review NDM GSA Group's proposed RMWs and provide a summary of data gaps and implementation steps and timing to achieve the PRP's requirements.

EKI will publish a request for information (RFI) at the onset of the project to request corresponding policies and data. EKI will meet with each GSA (1-hr virtual meeting) to discuss the RFI and receive feedback. Findings and recommendations will be presented at an appropriate NDM GSA Group meeting and summarized in the PRP TM.

Deliverables: Presentation to the NDM GSA Group, respective sections of the PRP TM.

Key Assumptions: Meetings will be held remotely. EKI assumes that the GSAs will respond to the RFI in a timely manner. EKI will not take part in any sampling or measurement fieldwork. EKI will not adjust/modify/update Basin's data management system (DMS). In the case that the NDM GSA Group elects to opt out of this task, EKI assumes timely development of the required information by the GSAs for provision to EKI to support our efforts on Tasks 2 through 6.

Task 2 – Development of the NDM Overdraft Mitigation Plan

Per the PRP Framework, the NDM GSA Group must develop a plan to collectively reduce pumping by approximately 9,000 AFY, primarily from the Lower Aquifer. Starting in January 2025 and for each year over the subsequent five years, the NDM GSA Group will accomplish at least 20% of its apportioned pumping reduction to accomplish the total required reduction by 2030.

Under Task 2, EKI will develop a draft Overdraft Mitigation Policy (OMP) that details the technical approach, criteria, and tools that will be used to meet the minimum pumping reduction requirements.

The OMP will detail the required level of measurement, monitoring and reporting by GSAs, and recommend a technical methodology to determine the rate and extent of pumping reduction to satisfy the PRP Framework criteria, including the application of the methodology to track overdraft mitigation and make necessary adjustments and adaptations.

The technical methodology will include an assessment of groundwater pumping within each GSA using the Basin's Integrated Hydrological Model (Model) or an equivalent tool and the corresponding rate and extent of pumping reductions. This modeling work needs to be done prior to the October 2024 adoption.

If agreed by GSAs, EKI will attempt to coordinate the proposed pumping reductions with those that are most likely to be required to meet the Groundwater Level MT Avoidance, Water Quality MT Avoidance, and Subsidence Mitigation Plans (Tasks 3 through 5). The coordinated approach and its modeling and analytical work may be conducted in conjunction with Tasks 3 through 5 and can be elected to be accomplished before implementation in January 2025.

EKI will meet with the ad-hoc committee up to one times (1-hr virtual meetings) to discuss the proposed methodology and receive feedback. EKI will summarize the OMP developed under this task as part of the PRP TM.

Deliverables: Sections of the PRP TM outlining the OMP.

Key Assumptions: Meetings will be held remotely. Costs for meetings are included in the Task 7 budget. The Model will not be calibrated, and as such, the GSA-level water budgets will remain approximate.

Task 3 – Development of the NDM Groundwater Level MT (GWL-MT) Avoidance Plan

Under this Task, EKI will work with the NDM GSAs to develop a draft GWL-MT Avoidance Plan that outlines monitoring, investigation, and GSA action to respond to declining groundwater levels and avoid the occurrence of an MT exceedance for Chronic Lowering of Groundwater Levels. The NDM Proposed Plan outlines a potential technical approach that could be used for the GWL-MT Avoidance Plan, including the establishment of well-specific triggers using historical data or data from nearby RMWs, a technical approach for implementing pumping reductions using the Model, and additional monitoring and reporting requirements if a trigger is met.

The GWL-MT Avoidance Plan developed under this task may use a similar methodology to that described in the NDM Proposed Plan, but EKI will consider the best available tools and methods at the time of plan development to make a final recommendation. EKI will meet with the ad-hoc committee for up to two times (1-hr virtual meetings) to discuss its proposed approach and receive feedback. EKI will summarize the NDM GWL-MT Avoidance Plan developed under this task in the PRP TM.

The GWL-MT Avoidance Plan technical approach will include a methodology to define the rate and extent of pumping reductions, such as defining RMW-specific zone of influence and sensitivity rates. Development of the zones and sensitivities will need additional analytical and modeling work that can be optionally deferred until after adoption and conducted by January 2025; as such EKI has provided a separate estimate of this level of effort in its budget for the NDM GSA Group to consider.

Deliverables: Respective sections of the PRP TM outlining the GWL-MT Avoidance Plan.

Key Assumptions: Meetings will be held remotely. Costs for meetings are included in the Task 7 budget. The Model will not be calibrated, and as such, the GWL-MT Avoidance Plan rates and extents will remain approximate. If modeling is deferred until after October 2024, the GWL-MT Avoidance Plan will not be informed by RMW-specific zone of influence and sensitivity rates.

Task 4 – Development of the NDM Water Quality MT (WQ-MT) Exceedance Plan

Similar to GWL-MT Avoidance Plan (Task 3), the Basin-wide PRP Framework requires GSAs to outline monitoring, investigation, and GSA action to respond to the degradation of water quality and address the occurrence of an MT exceedance for Degraded Water Quality. Per the GSP, the triggers for WQ-MT Exceedance Plan for any constituent of concern (COC) include:

- The exceedance of a water quality MT at any RMW; or,
- Statistically significant increasing trend in water quality concentration in three consecutive years of data at any RMW such that an MT exceedance is projected to occur within the next year.

Under this task, EKI will develop a WQ-MT Exceedance Plan that describes the investigation GSAs must conduct upon exceedance of one of the above triggers to assess whether degradation of water quality is caused by groundwater management actions (pumping or recharge). The proposed investigation could include a modified monitoring and measurement program accompanied by statistical and/or spatial analyses between water levels and water quality to determine causation, depending on the availability of data (e.g., in an RMW-WQ that has at least five sampling points with water level data that temporally overlaps with water quality data, a granger causality test between water levels and water quality could be conducted).

EKI expects to hold up to one 1-hr virtual meeting with the ad-hoc committee to discuss the proposed plan and receive feedback. Findings of this task will be summarized in respective sections of the PRP TM.

Deliverables: Respective sections of the PRP TM outlining the GWL-MT Avoidance Plan.

Key Assumptions: Meetings will be held remotely. Costs for meetings are included in the Task 7 budget.

Task 5 – Development of the NDM Subsidence Mitigation Plan

Under this Task, EKI will provide a similar plan to the GWL-MT Avoidance Plan, to be developed under Task 3, focused on addressing the potential exceedance of subsidence MT (Subsidence Mitigation plan). The Subsidence Mitigation Plan will define monitoring and measurement required for successful implementation, applicable triggers for GSA action, a technical approach for defining the rate and extent of pumping reduction to address potential subsidence MTs, and a tracking approach to adapt and adjust the pumping reduction.

The technical approach developed under the Subsidence Mitigation Plan will likely use the same tools and methodology under GWL-MT Avoidance Plan, but focuses on the relationship between pumping and subsidence. Similar to the GWL-MT Avoidance Plan, the development of the zones and sensitivities will need additional analytical and modeling work that can be optionally deferred until after adoption and conducted by January 2025; as such, EKI has provided a separate estimate of this level of effort in its budget for the NDM GSA Group to consider.

EKI will hold up to one 1-hr virtual meetings with the ad-hoc committee to discuss its proposed plan and receive feedback. Findings of this task will be summarized in respective sections of the PRP TM.

Deliverables: Respective sections of the PRP TM outlining the GWL-MT Avoidance Plan.

Key Assumptions: Meetings will be held remotely. Costs for meetings are included in the Task 7 budget. The Model will not be calibrated, and as such, the Subsidence Mitigation Plan rates and extents will remain approximate. If modeling is deferred until after adoption, the Subsidence Mitigation Plan will not be informed by RMW-specific zone of influence and sensitivity rates.

Task 6 – Support Implementation of the Groundwater Allocation Backstop

Under this task, EKI will summarize the requirements of the PRP and outline the criteria under which GSAs will not be in compliance, triggering the groundwater allocation backstop plan and implementation of a pumping allocation equivalent to sustainable yield. The Groundwater Allocation Backstop Plan will define the measurement and monitoring required for successful compliance with the PRP, and the criteria under which a GSA can become compliant and exit the groundwater allocation backstop.

Similar to GWL-MT avoidance and Subsidence Mitigation plans, the Groundwater Allocation Backstop Plan will likely require assessments of GSA-specific sustainable yield, pertaining to further analytical or Model-based water budget developments. This modeling work can be optionally deferred until after adoption and conducted by January 2025; as such EKI has provided a separate estimate of this level of effort in its budget for the NDM GSA Group to consider.

EKI expects to hold up to one 1-hr virtual meeting with the ad-hoc committee to discuss the proposed plan and receive feedback. Findings of this task will be summarized in respective sections of the PRP TM, for adoption by October 2024.

Deliverables: Respective sections of the PRP TM outlining the GWL-MT Avoidance Plan.

Key Assumptions: Meetings will be held remotely. Costs for meetings are included in the Task 7 budget. The Model will not be calibrated, and as such, the Groundwater Allocation Backstop Plan allocations will remain approximate. If modeling is deferred until after adoption, the Groundwater Allocation Backstop Plan will not be informed by a local estimate of sustainable yield.

Task 7 – Project Management and Client Coordination

EKI will provide routine project management and communications tasks to SLDMWA on an as-needed and as-requested basis that will be charged on a time and materials basis. EKI will be available to attend up to three meetings with the NDM SGA Group to coordinate PRP development and facilitate its adoption. EKI will also hold up to two check-in calls with the NDM GSP Group Project Manager. The EKI Team will also provide progress summary reports and budget summaries as part of EKI's monthly invoices.

Deliverables: (1) Monthly budget and progress summary reports, and (2) as-needed check-in calls (up to two calls).

Key Assumptions: Meetings will be held remotely. Costs for the meetings scoped under Tasks 2 through 6 are included in the Task 7 budget.

COMPENSATION

Inasmuch as the exact level of effort required to complete the above Scope of Work cannot be known precisely, EKI proposes to perform the work on a time and materials expense reimbursement basis in accordance with our current Schedule of Charges (**Attachment A**). The estimated budget to accomplish tasks essential for the development and adoption of compliant PRP by October 2024 is estimated to be $131,000 (**Table 1**). The complete execution of this scope of work, including optional Task 1 and analytical and modeling work required for PRP implementation by January 2025, is estimated to be $194,000 (**Table 2**).

Table 1. Estimated Budget for Tasks Required by October 2024

Tasks	Cost Estimate
Task 1– Support Implementation of the NDM Monitoring and Data Collection Plan	$0
Task 2 – Development of the NDM Overdraft Mitigation Plan	$30,000
Task 3 – Development of the NDM GWL-MT Avoidance Plan	$29,000
Task 4 – Development of the NDM WQ-MT Avoidance Plan	$13,000
Task 5 – Development of the NDM Subsidence Mitigation Plan	$29,000
Task 6 – Support Implementation of the Groundwater Allocation Backstop	$15,000
Task 7 – Project Management and Client Coordination	$15,000
Total:	**$131,000**

Table 2. Estimated Budget for Tasks Required by January 2025, Including Optional and Modeling Tasks

Tasks	Cost Estimate
Task 1– Support Implementation of the NDM Monitoring and Data Collection Plan	$17,000
Task 2 – Development of the NDM Overdraft Mitigation Plan	$39,000
Task 3 – Development of the NDM GWL-MT Avoidance Plan	$42,000
Task 4 – Development of the NDM WQ-MT Avoidance Plan	$13,000
Task 5 – Development of the NDM Subsidence Mitigation Plan	$42,000
Task 6 – Support Implementation of the Groundwater Allocation Backstop	$26,000
Task 7 – Project Management and Client Coordination	$15,000
Total:	**$194,000**

SCHEDULE

EKI is prepared to start work on the above Scope of Work immediately upon authorization to proceed. If elected by NDM GSA Group, the quantitative tasks will also be conducted as part of the Scope of Work and accomplished by October 2024. Otherwise, EKI will be available to support the implementation of the

PRP through the end of the calendar year 2024. EKI will inform SLDMWA of any issues that arise that may affect the schedule for completion or impact the anticipated level of effort.

TERMS AND CONDITIONS

All work performed by EKI under this scope will be performed pursuant to our existing Agreement with SLDMWA for Professional Services.

If this proposal meets with your approval, please sign where noted below. We are very excited about the opportunity to work with SLDMWA and the Subbasin GSAs on this project. Please call if you have any questions or wish to discuss this proposal in greater detail.

Very truly yours,

EKI ENVIRONMENT & WATER, INC.

Anona L. Dutton, PG, CHg
Vice President / Principal-In-Charge

AUTHORIZATION
SAN LUIS & DELTA-MENDOTA WATER AUTHORITY (CLIENT)

By_____

Title_____

Date_____

Attachment

Attachment A EKI 2024 Schedule of Charges

Attachment A

EKI 2024 Schedule of Charges

Proposal/Agreement Date: 6/14/2024 **EKI Proposal/Project # C00041.13**

SCHEDULE OF CHARGES FOR EKI ENVIRONMENT & WATER, INC. **1 January 2024**

Personnel Classification	Hourly Rate
Officer and Chief Engineer-Scientist	345
Principal Engineer-Scientist	333
Supervising I, Engineer-Scientist	323
Supervising II, Engineer-Scientist	310
Senior I, Engineer-Scientist	297
Senior II, Engineer-Scientist	286
Associate I, Engineer-Scientist	275
Associate II, Engineer-Scientist	259
Engineer-Scientist, Grade 1	241
Engineer-Scientist, Grade 2	227
Engineer-Scientist, Grade 3	209
Engineer-Scientist, Grade 4	187
Engineer-Scientist, Grade 5	165
Engineer-Scientist, Grade 6	144
Project Assistant	135
Technician	129
Senior GIS / Database Analyst	170
CADD Operator / GIS Analyst	148
Senior Administrative Assistant	162
Administrative Assistant	128
Secretary	108

Direct Expenses

Reimbursement for direct expenses, as listed below, incurred in connection with the work will be at cost plus fifteen percent (15%) for items such as:

a. Maps, photographs, reproductions, printing, equipment rental, and special supplies related to the work.

b. Consultants, soils engineers, surveyors, drillers, laboratories, and contractors.

c. Rented vehicles, local public transportation and taxis, travel, and subsistence.

d. Special fees, insurance, permits, and licenses applicable to the work.

e. Outside computer processing, computation, and proprietary programs purchased for the work.

A Communication charge for e-mail access, web conferencing, cellphone calls, messaging and data access, file sharing, local and long distance telephone calls and conferences, facsimile transmittals, standard delivery U.S. postage, and incidental in-house copying will be charged at a rate of 4% of labor charges. Large volume copying of project documents, e.g., bound reports for distribution or project-specific reference files, will be charged as a project expense as described above.

Reimbursement for company-owned automobiles, except trucks and four-wheel drive vehicles, used in connection with the work will be at the rate of sixty cents ($0.60) per mile. The rate for company-owned

trucks and four-wheel drive vehicles will be seventy-five cents ($0.75) per mile. There will be an additional charge of thirty dollars ($30.00) per day for vehicles used for field work. Reimbursement for use of personal vehicles will be at the federally allowed rate plus fifteen percent (15%).

CADD and other specialized software computer time will be charged at twenty dollars ($20.00) per hour. In-house material and equipment charges will be in accordance with the current rate schedule or special quotation. Excise taxes, if any, will be added as a direct expense.

Rate for professional staff for legal proceedings or as expert witnesses will be at a rate of one and one-half times the Hourly Rates specified above.

The foregoing Schedule of Charges is incorporated into the Agreement for the Services of EKI Environment & Water, Inc. and may be updated annually.

DRAFT STANISLAUS COUNTY GROUNDWATER WELL METERING MONITORING AND REPORTING PROGRAM GUIDELINES
August 30, 2024

I. Purpose

In 2014, Stanislaus County (County) adopted Chapter 9.37 of the Stanislaus County Ordinance Code (SCOC), the "Groundwater Ordinance," to address sustainable groundwater management and the export of groundwater from within the County. The Groundwater Ordinance codifies requirements, prohibitions, and exemptions that ensure the sustainable management of the County's groundwater resources. This Groundwater Ordinance serves as a framework primarily based on California's Sustainable Groundwater Management Act (SGMA), enacted in 2014.

SGMA mandates the creation of Groundwater Sustainability Agencies (GSAs) to manage groundwater subbasins within their jurisdictions. These GSAs are required to develop and implement subbasin-specific Groundwater Sustainability Plans (GSPs), which must identify sustainable management criteria for the subbasin and outline projects and management actions to achieve these sustainability goals over a 20-year implementation period. The four groundwater subbasins within the County's boundaries are the Eastern San Joaquin, Modesto, Turlock, and Delta-Mendota Groundwater Subbasins, as shown in Attachment 1.

The sustainable management of groundwater resources is essential for maintaining agricultural production, supporting a viable economy, and enhancing community infrastructure to accommodate current and future development within the County. It is also crucial to prevent the following undesirable results from occurring such as:

- **Chronic lowering of groundwater levels** indicating a significant and unreasonable depletion of supply continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a chronic lowering of groundwater levels if extractions and recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.
- **Significant and unreasonable reduction of groundwater storage**.
- **Significant and unreasonable degraded water quality**, including the migration of contaminant plumes that impair water supplies.
- **Significant and unreasonable land subsidence** that substantially interferes with surface land uses.

- **Depletion of interconnected surface water** which has significant and unreasonable adverse impacts on the beneficial uses of the surface water.

The purpose of the Stanislaus County Groundwater Well Metering Monitoring and Reporting Program Guidelines (Guidelines) is to provide guidance for compliance with SGMA and state GSP regulations. These Guidelines outline the minimum requirements necessary for accurate monitoring and measuring groundwater extractions, and for obtaining and reporting essential data. There is a critical need for water well construction and extraction data to analyze and understand the degree of groundwater depletion or recharge, establish water budgets, and balance the conjunctive use of groundwater resources.

Metering, monitoring, and reporting requirements are crucial for sustainable groundwater management, as they provide the necessary data to understand and manage groundwater resources accurately, ensure compliance with regulations, and optimize resource use. The data obtained will foster transparency and collaboration between the County, the public, and other GSAs. This will enable the County to detect issues early and allow for proactive adaptive management strategies to best respond to changing subbasin conditions, securing equitable and long-term water source reliability for all beneficial uses and to protect the quality of life for all County residents.

II. Authority

The Stanislaus County Department of Environmental Resources (DER) is responsible for protecting the health, welfare and safety of County residents by ensuring that the County's groundwater resources are protected from adverse environmental impacts resulting from unsustainable groundwater extraction. These impacts include, but are not limited to, a decline in property values, increased pumping, treatment, and well replacement costs, damage to critical infrastructure, loss of groundwater storage, lowering of groundwater levels, depletion of interconnected surface waters, and degradation of groundwater-dependent ecosystems.

The County's authorities and requirements are contained within the Groundwater Ordinance, which allows for the adoption of new regulations to establish the frequency and timing of required periodic reports of groundwater information. These reports must be reasonably necessary to monitor the existing condition of groundwater resources within the County, to determine trends, or to develop effective sustainable groundwater management plans and policies. The new regulations shall specify the required information to be monitored, including water level and pumping data, or other data necessary for any other method to determine groundwater production, (SCOC Section 9.37.065). Under the Groundwater Ordinance, the County has the authority to regulate all non-de minimis groundwater well extractors located in the unincorporated areas of the County, including public water agencies, which shall submit detailed groundwater information reports to the DER as necessary and upon request.

In 2014, SGMA empowered GSAs, made up of local public agencies with water supply or land use authority (or both), to use various management tools to achieve sustainability in the affected groundwater subbasin. The County is a member of five GSAs, with additional authorities granted under SGMA to adopt rules required for sustainable groundwater management. SGMA expanded the authorities of local agencies to include additional powers, such as, but not limited to, well registration, extractor measurements and reporting, regulating groundwater extractions (including limiting or prohibiting groundwater production), and imposing fees and assessments (California Water Code Sections 10725-10726.4, 10730.2, 10732, 10735.2). These Guidelines comply with the above authorities.

III. Implementation

DER will utilize the following information in implementing these Guidelines, in conjunction with the Groundwater Ordinance, the applicable GSP, and any additional adopted plans, policies, ordinances, or regulations enacted to fulfill the intent and purpose of these Guidelines under state legislation and County ordinances and codes:

- References, reports and studies regarding the known hydrology and groundwater water quality conditions associated with Stanislaus County;
- DER's "Programmatic Environmental Impact Report, Discretionary Well Permitting and Management Program(PEIR)," dated June 2018;
- Stanislaus County Groundwater Well Siting and Construction Guidelines, August 29, 2023;
- Technical Memorandum Approach for Screening Well Construction Permit Applications Under Section 9B of Executive Order N-7-22, Formation Environmental, May 9, 2022;
- Draft Best Management Practices for the Sustainable Management of Groundwater, Sustainable Management Criteria BMP, California Department of Water Resources, November 2017;
- Water Data Library Station Map, California Department of Water Resources;
- SGMA Data Viewer, California Department of Water Resources;
- Well Completion Report Map Application, California Department of Water Resources;
- Revised July 2024 Modesto Subbasin Groundwater Sustainability Plan;
- Revised July 2024 Turlock Subbasin Groundwater Sustainability Plan;
- Eastern San Joaquin Revised Groundwater Sustainability Plan (2022);
- Delta-Mendota Subbasin Groundwater Sustainability Plan;
- Pumping Reduction Framework for the Delta-Mendota Subbasin, EKI Environment & Water, March 2024;
- Northern Delta-Mendota Region's Proposed Plan to Address Groundwater Overdraft, EKI Environment & Water, February 2024.

The resulting Guidelines are consistent with all local, regional, and state regulations. These Guidelines will be revised as necessary when future GSP updates, amendments, or supplemental plans, policies, or programs are adopted.

IV. Application:

These Guidelines are applicable only in the unincorporated, "white areas" of the County if a well metering, monitoring, and reporting program is mandated by an adopted GSP. The GSA may adopt additional policies for the regulation of groundwater extraction measurements, monitoring, reporting, and data collection requirements. In cases where there is a conflict between the requirements specified in these Guidelines and those in the GSP or GSA policy, the GSP and/or GSA Policy shall prevail. However, where there is a conflict between the GSP or GSA policy and the Groundwater Ordinance, the provisions of the Groundwater Ordinance shall prevail.

All non-de minimis wells constructed after November 25, 2014, that extract groundwater in the "white areas" of the County shall be required to comply with the requirements included in these Guidelines. Existing wells constructed before November 25, 2014, that extract less than 10 acre-feet of groundwater per year are exempt from the requirements of these Guidelines because they operate at a scale that has minimal impact on water resources and regulatory

oversight of these extractors would not yield substantial benefits, would be inefficient, and impose significant burdens to disadvantaged communities.

Small pumpers operating prior to November 25, 2014, that extract less than 40 acre-feet of groundwater per year typically operate at a scale that has a limited impact on overall water resources. The cost of installing and maintaining well metering equipment for these small operations can be disproportionately high compared to the benefits derived and can threaten the viability of their operations. Small pumpers are required to comply with the mandatory well registration, monitoring and reporting requirements specified in these Guidelines but may use an alternative method of groundwater extraction measurement, to prevent undue financial burden on users without compromising the overarching goals of the GSP or Stanislaus County water resources management. In the absence of metering, small pumpers may use evapotranspiration products to estimate monthly groundwater extractions and shall include all reports for any surface water deliveries that occurred during the groundwater extraction monitoring and reporting period.

New non-de minimis wells constructed on or after January 1, 2025, and existing inactive wells shall demonstrate compliance with these Guidelines prior to the well-being placed into operation or returned to service on or after January 1, 2025. Landowners shall be responsible for compliance with these regulations by any lessee or well operator on their property.

V. Definitions:

A. Abandoned: A well is considered abandoned, or prematurely inactive, if it has not been used for one year and there is no intention of future use. Abandoned wells must be destroyed (decommissioned) immediately unless the owner demonstrates “intent for future use” and maintains the well in accordance with California Health and Safety Code Section 115700.

B. Agricultural Wells: Water wells are used to supply water only for irrigation or other agricultural purposes, including so-called "stock wells".

C. Aquifer: A body of rock or sediment that is sufficiently porous and permeable to store, transmit, and yield significant quantities of groundwater to wells and springs. (DWR Bulletin 118: California's Groundwater, 2003)

D. Bacteria: Microscopic single-celled organisms lacking a distinct nucleus**.**

E. Confined groundwater: Confined groundwater is isolated from the atmosphere by geologic materials of low permeability and generally is present under pressures that are higher than atmospheric pressure. (Groundwater and Wells, 2007, modified)

F. Confined aquifer: An aquifer overlain by a confining layer. (Applied Hydrogeology, Fetter, 1994)

G. Confining layer: A bed or stratum of rock or sediment stratigraphically above or below and significantly less permeable than one or more aquifers.

H. Contaminant: Any physical, chemical, biological or radiological substance or matter in water listed in the Primary or Secondary Contaminant List in the Safe Drinking Water Act (SDWA)**.**

I. Contamination: An impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. Contamination includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

J. Corcoran Clay: A low-permeability, regionally extensive, lacustrine deposit as much as 200-ft thick that divides the groundwater-flow system of the western San Joaquin Valley into an upper semi-confined zone and a lower confined zone.

K. County: means the County of Stanislaus.

L. **De minimis extractor:** a person who extracts two acre-feet or less of groundwater per year.

M. **Department:** Means the Stanislaus County Department of Environmental Resources.

N. **Exempt Well:** A de minimis extractor or a well that was constructed before November 25, 2014, that extracts less than 10 acre-feet of groundwater per year.

O. **Formation:** A body of rock or sediment sufficiently homogeneous or distinctive to be mappable as a unit.

P. **Groundwater:** The water that occurs beneath the surface of the Earth within the zone below the water table in which the soil is completely saturated with water but does not include water that flows in known and definite channels.

Q. **Groundwater Ordinance:** Means the Stanislaus County Groundwater Ordinance codified as Chapter 9.37 Groundwater of the Stanislaus County Ordinance Code.

R. **Groundwater Sustainability Plan:** A plan adopted pursuant to California Water Code Section 10727 et seq.

S. **Pollution:** Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonable affects: (1) Such water for beneficial use; or (2) Facilities which service such beneficial uses. Pollution may include contamination.

T. **Qualified Professional:** A Professional Engineer, Professional Geologist, or equivalent with experience in the design and construction of wells and related infrastructure.

U. **Small Pumper:** A well that was constructed prior to November 25, 2014, that is not a de minimis well but extracts less than 40 acre-feet of groundwater per year.

V. **Special Management Area:** Areas in Stanislaus County where, due to local soil, geologic or hydrogeologic conditions, minimum setback screening distances and construction requirements have been adopted pursuant to the "Technical Memorandum Approach for Screening Well Construction Permit Applications Under Section 9B of Executive Order N-7-22," to prevent impacts to nearby wells and infrastructure, (Tech Memo…). Several Special Management Area have been designated. They are demarked as SMA1; SMA2, & SMA3, in Section **IX** and **Attachment 5** of these Guidelines;

W. **Minimum Setback Screening Distance, (MSSD*):*** The distance between a proposed well and existing nearby wells and nearby infrastructure, outside of which the proposed well is not likely to interfere with the production and functioning of existing nearby wells or cause subsidence that would adversely impact or damage nearby infrastructure.

X. **Minimum Thresholds:** A quantitative value that represents the groundwater conditions at a representative monitoring site that, when exceeded individually or in combination with minimum thresholds at other monitoring sites, may cause an undesirable result(s) in a groundwater Subbasin (Draft Best Management Practices for the Sustainable Management of Groundwater, Sustainable Management Criteria BMP, California Department of Water Resources, November 2017).

Y. **Sustainable Groundwater Management:** The management and use of groundwater in a manner that can be maintained during a GSP planning and implementation horizon without causing or substantially contributing to undesirable results as described by California's Sustainable Groundwater Management Act of 2014.

Z. **Target Aquifer:** That aquifer or water bearing zone that is screened to access groundwater.

AA. **Trigger:** A trend and/or groundwater level(s) established by an adopted GSP or GSA Policy that, refers to a predefined level or condition of groundwater that, when reached or exceeded, indicates that the groundwater resource is approaching or has reached a critical limit that requires actions to be taken to prevent a minimum threshold exceedance and undesirable results from occurring.

BB. Unconfined Aquifer: An aquifer without a confining layer at the top. The top of an unconfined aquifer is the water table, which is the plane where groundwater pressure is equal to atmospheric pressure. (Groundwater Hydrology, 1978, modified).

CC. Unsustainable Extraction of Groundwater: The extraction of groundwater in a manner that is not sustainable groundwater management as defined by state law.

DD. Upper Zone: In SMA1, the Upper Zone shall be defined as the groundwater-bearing zone that overlies the Corcoran Clay. In SMA2, the Upper Zone shall be as defined for the Nitrate Control Program adopted by the Central Valley Regional Water Quality Control Board and published in the report prepared titled "Region 5: Updated Groundwater Quality Analysis and High Resolution Mapping for Central Valley Salt and Nitrate Management Plan," prepared for the Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) program dated June 2016. Different aquifer zones are not defined in SMA3.

EE. Water Well: Any artificial excavation constructed by any method for the purpose of extracting water from, or injecting water into, the underground. This definition shall not include: (a) oil and gas wells, or geothermal wells constructed under the jurisdiction of the Department of Conservation, except those wells converted to use as water wells; or (b) wells used for the purpose of (1) dewatering excavation during construction, or (2) stabilizing hillsides or earth embankments. (California Water Code Section 13710)

FF. Water Year: The twelve-month period October 1, for any given year, through September 30 of the following year, and designated by the calendar year in which it ends.

GG. White Areas: These include unincorporated areas that are not in the jurisdictional boundaries of a public water agency covered by a Groundwater Management Plan or a Groundwater Sustainability Plan.

VI. Hydrogeology. The Eastern Alluvial Fans, Western Alluvial Fans and Basin Deposits are part of complex set of interbedded aquifers and aquitards that comprises the regional aquifer system within the San Joaquin Valley Groundwater Basin (SJVGB). In Stanislaus County, the SJVGB is bounded by the relatively impermeable basement rocks of the Sierra Nevada foothills to the northeast and the Coast Range to the southwest and subdivided along the major rivers into the Delta-Mendota, Eastern San Joaquin, Modesto, and Turlock groundwater subbasins. The aquifers tend to be unconfined to semi-confined in the upper alluvial fan areas, grading to semi-confined and confined near the valley axis due to the presence of better-defined stratification and aerially-extensive lacustrine clays in this area. The cumulative thickness of the water-bearing formations in the basin ranges from a few hundred feet near the SJVGB margins to over 1,000 feet in the center of the basin. Separating the shallow and deep aquifers in the area of the Basinal Deposits is the Corcoran Clay, a laterally extensive lacustrine unit of the Upper Tulare and Upper Turlock Lake Formations. The Corcoran Clay occurs at a depth of approximately 250 to 300 feet below ground surface (bgs), is approximately 150 to 250 feet thick, and acts as a regional aquitard, impeding groundwater exchange between upper and lower aquifers. As a result, groundwater quality is often variable in the shallow and deep aquifers. It extends through the width of the county in a swath on either side of the San Joaquin River.

Depth to groundwater generally increases with distance away from the San Joaquin River, although this pattern can be locally modified by well extraction or recharge from irrigation. In the Basinal Deposit area, the depth to groundwater varies between approximately 2 and 20 feet bgs, and in the Eastern and Western Alluvial Fans, depths vary between 20 and 200 feet bgs. In the Foothills geomorphic region, groundwater flows through fractures in the bedrock, and is typically found at depths greater than 100 feet. Groundwater in the Coast Range is also usually found depths greater than 100 feet, where it exists in either the pores

of sedimentary rocks or in fractures in metamorphic rock, and occasionally reaches the surface in natural springs.

VII. Water Quality: Groundwater in Stanislaus County is generally of good quality, although some elevated concentrations of pollutants and contaminants do occur. Extensive agricultural activities in the county have led to areas where nitrate levels are above drinking water standards, especially in the shallow aquifer system. Animal waste associated with dairy farming in addition to fertilizers used in agriculture and lawns were identified as the most likely sources of nitrate contamination, with onsite wastewater treatment systems (OWTS) noted as another potential source. Basinal sediments in the valley can be locally anoxic, a condition that favors bacterial denitrification and the reduction of nitrate to nitrogen gas. Nitrate impacts may locally extend into the deeper aquifers when drawn down by municipal pumping.

Elevated concentrations of uranium have been identified primarily in shallow groundwater in the middle and lower Eastern Alluvial Fan area in the vicinity of Modesto and Ceres. Uranium is naturally contained in sediments derived from the granitic rocks of the Sierra Nevada, and is believed to have been mobilized as modern, alkaline recharge water penetrated into the shallow aquifer system. In Modesto, it has been found to be strongly correlated with nitrate. Also, coincident with elevated nitrate levels in portions of agricultural regions in the middle and lower Eastern Alluvial Fan area are elevated concentrations of soil fumigant residuals such as 1,2,3-trichloropropane (1,2,3-TCP) and dibromo-chloro-propane (DBCP). Municipal supply wells have also been impacted in some areas by these agricultural chemicals, which tend to persist in the environment and can be drawn deeper into the aquifer system by pumping municipal wells.

Elevated concentrations of arsenic have been detected at various depths in some areas of Eastern Alluvial Fan and Basinal Deposit areas, for example near Modesto, Salida and Hughson. Arsenic behaves in a complex way geochemically and can be mobilized under a variety of conditions. It is often associated with older, anoxic water or with the dissolution of ferric complexes as groundwater is drawn from anoxic into oxic zones by pumping. It can occur in the shallow and the deep aquifer system.

Similarly, wells serving the communities of Newman, Patterson, Grayson and Crows Landing have been locally impacted by hexavalent chromium in sediments derived from the Diablo Range. Concentrations of hexavalent chromium are generally greater in oxic groundwater compared to anoxic groundwater, but it is found at various depths.

Urban sources of groundwater contamination in the County include dry-cleaning operations, landfills, industrial sites, and leaking underground storage tanks. Historical dry-cleaning facilities remain a source of the organic contaminant, perchloroethylene (PCE) near contamination sites in Modesto and Turlock. Methyl tert-butyl ether (MTBE) originates from leaking underground gasoline storage tank sites.

Elevated concentrations of salts (total dissolved solids or TDS) are found at depth beneath the freshwater aquifers in the County, generally below a depth of about 1,000 feet bgs. However, elevated TDS is also found in some areas both above and below the Corcoran Clay in the Basinal Deposit area. Operation of deep-water wells has locally caused upwelling of deep saline groundwater that underlies the base of freshwater in some parts of the San Joaquin Valley.

VIII. Special Management Areas (SMAs)

The following SMAs are established for the purposes of these Guidelines, based on specific geologic and hydrogeologic conditions in various parts of the County as shown in **Attachment 5.** For each SMA, minimum setback screening distances (MSSDs) can be identified using the procedure, defined in the "Technical Memorandum Approach for Screening Well Permit Applications under Section 9B of Executive Order N-7-2022." The MSSD is the minimum distance a new well must maintain so that it will not likely cause interference with the production and functioning of nearby wells, or subsidence that would cause adverse impacts to or damage to critical infrastructure.

- **SMA1 Corcoran Clay Area.** In this area, the Corcoran Clay represents a regional aquitard that separates an upper unconfined to semi-confined aquifer system from a lower confined aquifer system. These systems may have different water quality conditions and groundwater levels, and cross connecting the aquifers above and below the Corcoran Clay can lead to vertical migration of pollution. The boundaries of this area shall be based on the extent of the Corcoran Clay as mapped by the United States Geological Survey in Professional Paper 1766, or as updated in the future. Pursuant to the "Stanislaus County Well Siting and Construction Guidelines," (WSCG) all wells located within the area underlain by the Corcoran Clay and penetrating the Corcoran Clay shall be constructed in such a manner that prevents the intermixing of water above and below the Corcoran Clay layer.

- **SMA2 Alluvial Fans.** The boundaries of this area extend from the outer groundwater basin boundaries as determined in the latest edition of DWR Bulletin 118 to the boundary of the Corcoran Clay. In these alluvial fan areas, vertical groundwater movement is less impeded and oxygenated groundwater extends deeper into the aquifer system. All wells located within SMA2 shall be constructed in a manner that prevents the intermixing of water between the Upper Zone and underlying aquifers, as required by the WSCG.

- **SMA3 Fractured Bedrock.** The boundaries of this area extend from the County line to the outer groundwater basin boundaries as determined in the latest edition of DWR Bulletin 118. These areas are underlain by fractured bedrock aquifers of the Coast Range, or of the crystalline bedrock area east of the San Joaquin Valley alluvial basin.

IX. Well Registration, Requirements and Fees

A "Well Registration Form," (WRF) (Attachment-2) must be completed and submitted to the DER with the well registration fee before January 1, 2026, for each operating non-de minimis or non-exempt well. The WRF shall include the well owner's (landowner) name and contact information, well use and demand data; assessor's parcel number, global positioning system (GPS) coordinates, date of construction or estimate, well permit number, well depth, diameter, pump capacity, instantaneous pump flow rate and well casing screening interval(s). The WRF shall be accompanied by a Well Completion Report or equivalent record to certify well construction details, from a licensed C-57 Water Well Contractor, licensed in accordance with the California Water Code (Section 13750.5) or a Qualified Professional.

A new "Well Registration Form," must be completed and submitted to the DER within 30 days of change of property ownership, well use or operational status, including a change in off-site use.

X. Monitoring and Reporting Requirements

Unless de minimis or exempt, all groundwater well extractors shall install and maintain a metering device as part of the water supply and distribution system to document groundwater extraction from each well in gallons per month. Proof from a qualified professional or licensed contractor verifying that the device is installed and operational (a manual and photos) shall be submitted to the DER for each non-de minimis or non-exempt well prior to January 1, 2026. The device shall be maintained as required by the manufacturer for the life of the well. Small pumpers shall comply with the monitoring and reporting requirements specified in these Guidelines, but can use an alternative approved method of measurement, other than installation of an approved meter.

The metering device shall consist of a propeller type (turbine meter), suitable for the range of extraction flows expected and shall be installed in a straight piping run at least 10 pipe diameters from any valves, bends or fittings, and shall register total gallons and instantaneous flow rate in gallons per minute. Electromagnetic flow metering devices shall be either a flange type or saddle type meter and contain a flow sensor based on Faraday's law of electromagnetic induction.

All metering devices shall meet American National Standards Institute, (ANSI) Cold-Water standards, to measure groundwater use and be accurate within 2% of actual flow, be installed according to the manufacturer and be appropriately sized for the production rate and discharge piping of the well. The meter shall measure all flow rate in gallons per minute, or cubic feet per second, and totalize extractions in gallons, cubic feet or acre-feet.

The DER may accept other devices that measure flow rate and totalize volume if sufficient evidence is provided to the DER to indicate that the device meets or exceeds these standards, and DER approval is provided in writing prior to installation.

By January 1, 2026, and each November 1, thereafter, the well owner shall submit an the annual "Groundwater Extraction Monitoring Report," (Attachment 3) to the DER that details the volume of groundwater extracted each month from the well for the previous water year in gallons and acre-feet per month. In addition to recording groundwater use, a photograph of the face of the water meter with sufficient resolution to read the meter value shall be taken on the date of the last meter reading of each water year and submitted with the annual "Groundwater Extraction Monitoring Report," (GEMR) for each well. For newly installed meters, a copy of the licensed contractor or qualified professional's installation inspection report shall be attached to the annual GEMR. The report shall include the date of the meter's installation and indicate that the meter was installed according to the manufacturer's instructions. For all wells, a certified meter calibration report shall be attached to the GEMR showing proof of calibration within the past five years. Subsequent meter calibration records shall be made available to the DER upon request

In areas where groundwater levels decline below an established "trigger" or if a minimum threshold is exceeded, the DER may require an increased frequency of groundwater extraction reporting to proactively monitor the implementation of localized pumping reductions and other management actions to assess groundwater level recovery and determine the need for additional corrective actions to avoid undesirable results.

If the DER has cause to believe that a well extractor's groundwater production is in excess of that reported to the DER, the DER may request additional information from the

landowner to substantiate the reported production amount.

Data obtained for the implementation of groundwater extraction measuring, monitoring, and reporting regulations under these Guidelines is presumptively confidential and proprietary information, including geological, geophysical, plant production data, or trade secrets. The DER had determined that the need to receive or obtain such data, and to maintain its confidentiality, outweighs the public need for site specific private information and the public will have access to the aggregate of such information which is a better measure of the cumulative status of groundwater resources (SCOC Section 9.37.020).

XI. Inspections

All meters shall be installed in a manner that makes it reasonably accessible for inspection and reading. The DER or DER representative may enter the property at all reasonable times during normal business hours to conduct inspections to assure compliance with the requirements of these Guidelines.

XII. Non-compliance and Enforcement Actions

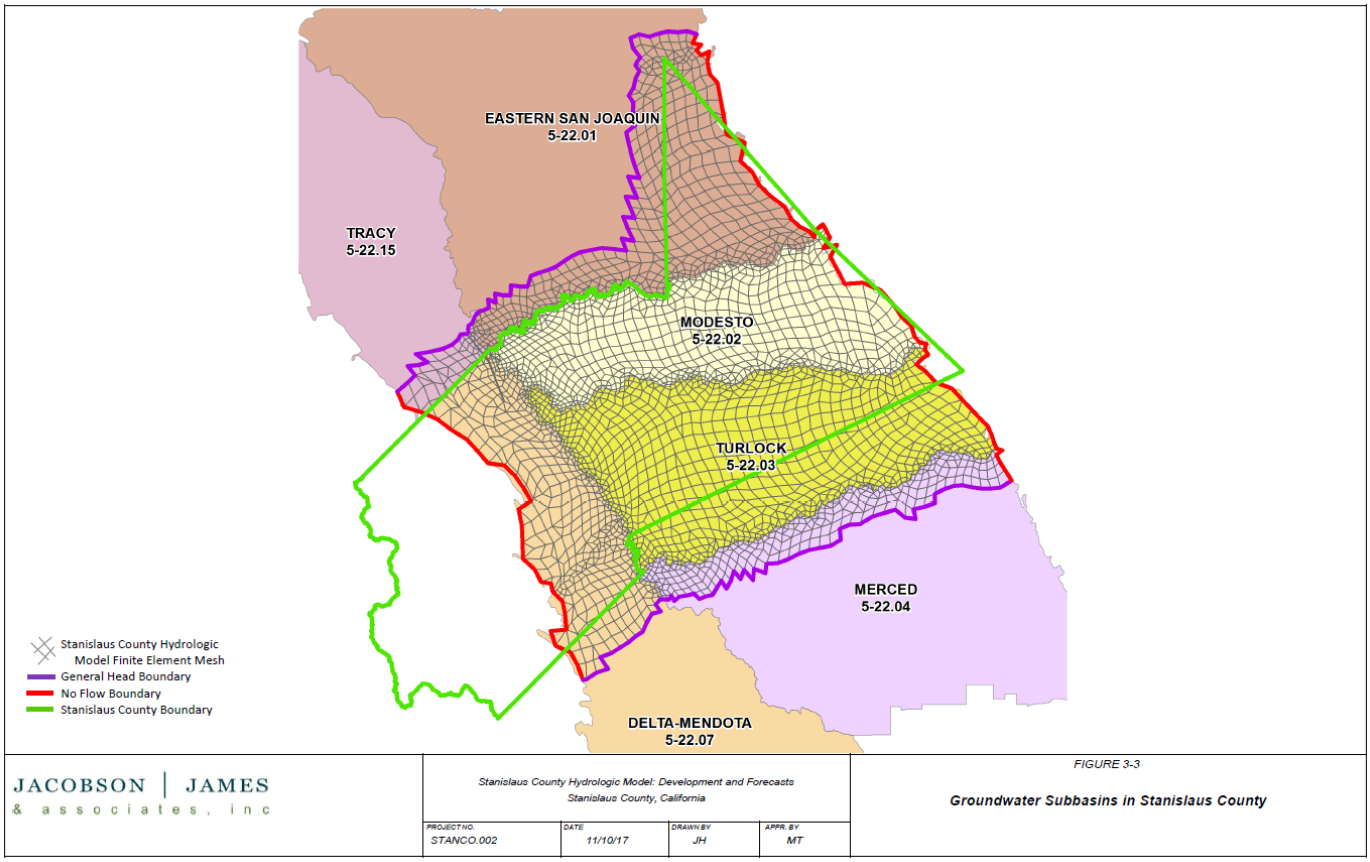
Insufficient landowner participation in this program may warrant the initiation of more restrictive backstop groundwater management programs and state intervention to ensure that all groundwater subbasins within Stanislaus County are sustainably managed in accordance with SGMA, (Water Code Sections 10735.2 (a)(1)-(5), 10735.8(a)).

Landowners shall be responsible for compliance with these rules and regulations by any lessee or well operator on their property. Failure to comply with the requirements specified in these Guidelines may result in legal action as set forth in SCOC Section 1.36.010, 9.37.070 and Chapter 2.92 which includes, but is not limited to, abatement, and the issuance of administrative citations, and penalties. If the violation remains uncorrected, it shall be deemed a public nuisance and may create a cause of action for injunctive relief, including, but not limited to, any remedy under Chapter 5 (commencing with Section 17200) of Part 2 of Division 7 of the Business and Professions Code.

XIII. Attachments

- Attachment 1: Groundwater Subbasins in Stanislaus County
- Attachment 2: Well Registration Form
- Attachment 3: Groundwater Extraction Monitoring Report
- Attachment 4: Map Showing Applicability of the Groundwater Ordinance
- Attachment 5: Figure 1 Location of Special Management Zones

ATTACHMENT 1
Groundwater Subbasins in Stanislaus County



JACOBSON | JAMES
& associates, inc

Stanislaus County Hydrologic Model: Development and Forecasts
Stanislaus County, California

PROJECT NO.	DATE	DRAWN BY	APPR. BY
STANCO.002	11/10/17	JH	MT

FIGURE 3-3

Groundwater Subbasins in Stanislaus County

ATTACHMENT 2
Well Registration Form

Well Registration Form

Groundwater Well Metering, Monitoring and Reporting Program

Fill out a separate form for each well you/your company owns. If you/your company owns multiple wells, please make copies of the form and fill one out for each well and return it to the Department of Environmental Resources Groundwater Resources Division (209) 525-6700.

Property Owner Name:_____City:_____APN:_____

Well Location: Lat: _____Long: _____ Well Permit Number:_____

Mailing Address:_____Company:_____

Owner Phone:_____Email: _____

Well Operator Name:_____Well Operator Title: _____

Phone:_____Email:_____

* If there is a change in ownership, well operator, or operational status, the DER must be notified of this change and a new "Well Registration Form" may be required.

Well Status		
☐ Active	☐ Inactive	☐ Abandoned
Water Well Type (check all that apply)		
☐ Domestic Public	☐ Industrial	☐ Commercial (type:_____)
☐ Agricultural	☐ Irrigation	☐ Other (type:_____)
☐ De minimus	☐ Exempt	☐ Small Pumper

Groundwater Extraction Monitoring

The Department of Environmental Resources (DER) has adopted the "Stanislaus County Well Metering Monitoring and Reporting Guidelines," (Guidelines) as authorized by SCOC Section 9.37.065.

Pursuant to the Guidelines, all non-de minimus or non-exempt groundwater extractors in an unincorporated area of a groundwater subbasin shall submit periodic reports of groundwater information that are reasonably necessary to monitor the existing conditions of groundwater resources within the county, to determine trends and to develop and implement effective groundwater management plans and policies that are required by an adopted Groundwater Sustainability Plan.

Exemptions

All de-minimus (2 AFY or less) wells and existing wells constructed before November 25, 2014, that extract less than 10 acre-feet of groundwater per year shall not be required to register with the DER or participate in the Well Metering Monitoring and Reporting Program. Small Pumpers that extract less than 40 acre-feet of groundwater per year, may use an alternative approved method of measurement and shall complete all registration, monitoring and reporting requirements.

Well Registration

Well Name:	Flowmeter Type/Model:	
Well Depth:	Horsepower:	Power Source:
Well Casing Diameter:	Well Casing Screening Interval:	
Flowmeter Present? ☐ Yes ☐ No	Pump Manufacturer and Model:	
Pump Capacity:	Pump instantaneous flow rate:	

Describe all uses that are served by the well (ex: 10 acres of almonds, residence, and a dairy) : _____

_____

_____

_____

Does the well provide the primary source of water for the existing use? □ Yes □ No

Are there additional water sources available? □ Yes □ No

□ If yes, list additional available sources (surface water, public/district water, additional wells, etc.)

_____

_____

What is the average annual historical water demand supplied by the well over the past 10 years (AFY): _____

_____

Off-Site Well Use

Does the well supply any off-site uses □ Yes □ No

□ If yes, list parcels also supplied by this well _____

_____

(attach a separate sheet if necessary).

□ Are the parcels supplied by this well contiguous under the same ownership? □ Yes □ No

Owner Agreement

I agree to comply with the rules and regulations set forth by the Guidelines and all applicable county codes including, but not limited to, installation, maintenance and calibration of an approved flow meter unless exempt, payment of the well registration fee, compliance with groundwater extraction monitoring and reporting requirements, allowing the DER or DER representative access to the property for inspection of the meter, water well, and related appurtenances. I consent to notify subsequent property owners of the Stanislaus County Well Metering Monitoring and Reporting Program and acknowledge that upon a change in use, operator or operational status the DER will be notified and completion of a new well registration form and fee may be required.

Owner Signature _____ Date_____

Owner Signature _____ Date_____

_____

For office use only

Groundwater Subbasin_____

Groundwater Sustainability Agency_____

Special Management Area: □ SMA1 □ SMA2 □ SMA 3

Well Registration Number_____

Reviewed By_____ Date_____

ATTACHMENT 3
Groundwater Extraction Monitoring Report

Groundwater Extraction Monitoring Report

Owner Name: _____ Assessor's Parcel Number: _____
Well Registration Number: _____ Well Coordinates: _____
Meter Type:_____ Model Number: _____
Meter Manufacturer: _____ Meter Serial Number: _____
Date of last meter calibration: _____ Meter Installation Date: _____

- For new meters attach the **Qualified Professional's Meter Installation Inspection Report** and return it to the DER **by 1/1/2026**
- For all meters attach the **Qualified Professional's Certified Calibration Report** completed as required and within past five years for all existing meters and return it to the DER **by 1/1/2026. Meters shall be calibrated and maintained as recommended by the manufacturer** and at least once every five years with records to be made available to the DER upon request.
-Record flow meter readings in gallons (gal) and acre-feet (ac ft) in the monthly and running total columns
- Conversion factor: 20 gallons = 0.00006 Acre-ft

Date	Initial Reading:						
	Prior Reading (if first use initial above)	Current Reading	Difference (total volume extracted)	Monthly Total (gal)	(ac ft)	Running Total (gal)	(ac ft)

Total Extracted _____(GAL)
_____(AF)

NOTES:

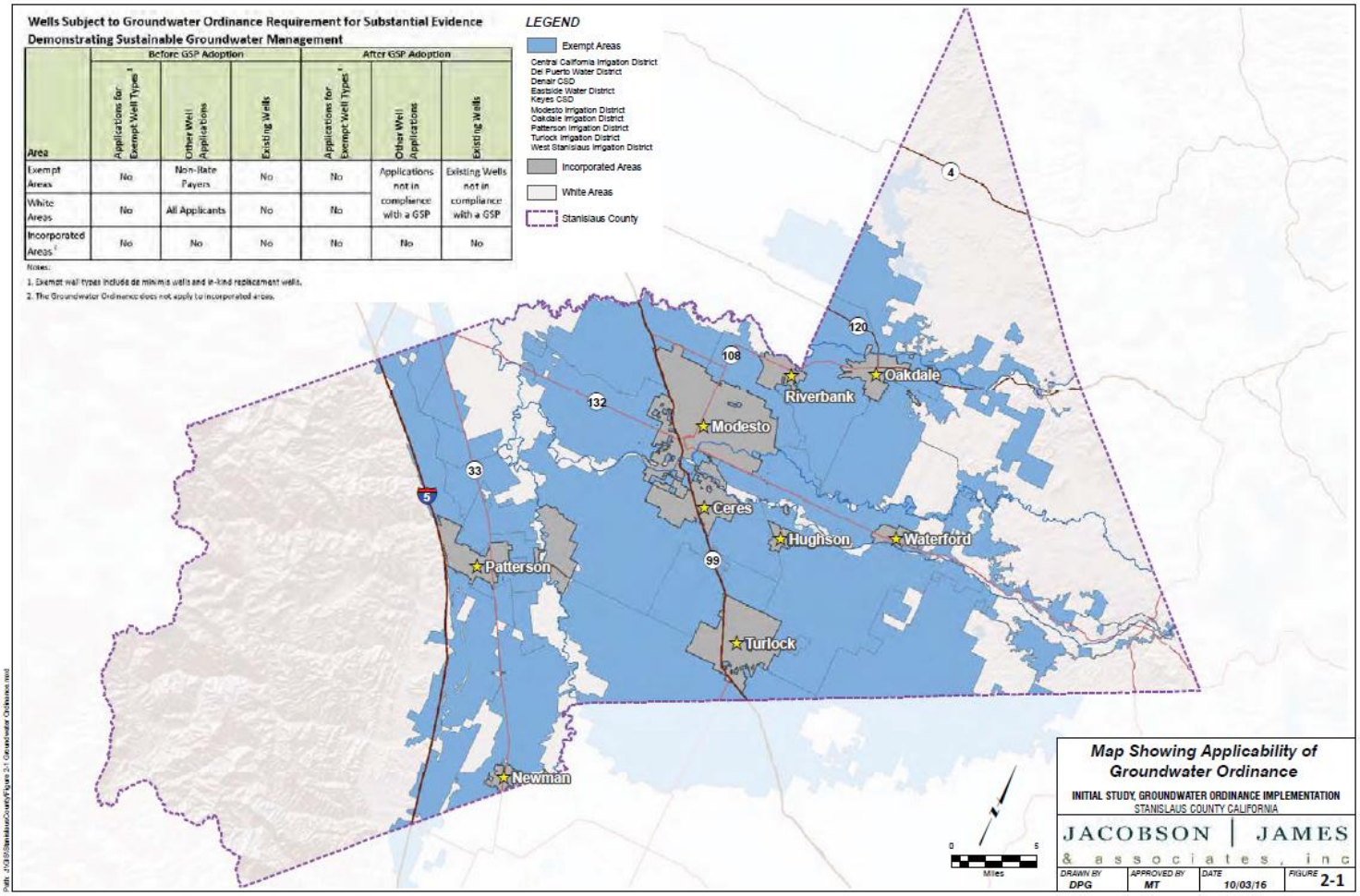
_____

_____

Response Prepared by:

_____ _____ _____
Name **Title** **Date**

ATTACHMENT 4
Map Showing Applicability of the Groundwater Ordinance


Wells Subject to Groundwater Ordinance Requirement for Substantial Evidence Demonstrating Sustainable Groundwater Management
Before GSP Adoption
After GSP Adoption
Area
Applications for Exempt Well Types [1]
Other Well Applications
Existing Wells
Applications for Exempt Well Types [1]
Other Well Applications
Existing Wells
Exempt Areas
No
Non-Rate Payers
No
No
Applications not in compliance with a GSP
Existing Wells not in compliance with a GSP
White Areas
No
All Applicants
No
No
Incorporated Areas [2]
No
No
No
No
No
No
Notes:
1. Exempt well types include de minimis wells and in-kind replacement wells.
2. The Groundwater Ordinance does not apply to incorporated areas.
LEGEND
Exempt Areas
Central California Irrigation District
Del Puerto Water District
Denair CSD
Eastside Water District
Keyes CSD
Modesto Irrigation District
Oakdale Irrigation District
Patterson Irrigation District
Turlock Irrigation District
West Stanislaus Irrigation District
Incorporated Areas
White Areas
Stanislaus County
4
120
108
132
33
5
99
Oakdale
Riverbank
Modesto
Ceres
Hughson
Waterford
Patterson
Turlock
Newman
0
5
Miles
Map Showing Applicability of Groundwater Ordinance
INITIAL STUDY, GROUNDWATER ORDINANCE IMPLEMENTATION
STANISLAUS COUNTY CALIFORNIA
JACOBSON | JAMES
& associates, inc
DRAWN BY DPG
APPROVED BY MT
DATE 10/03/16
FIGURE 2-1

ATTACHMENT 5
Figure 1. Location of Special Management Zones

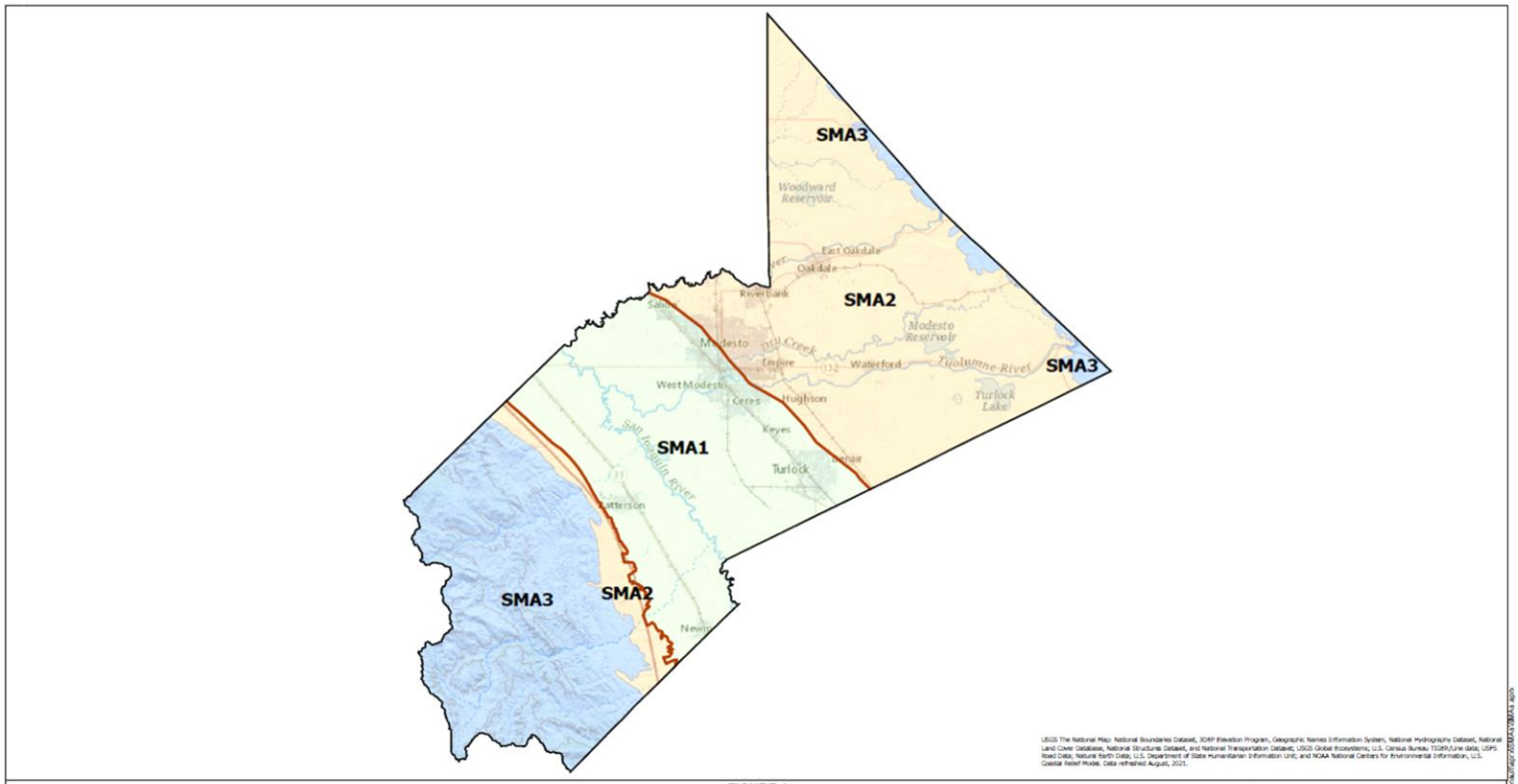


FIGURE 1

LOCATIONS OF SPECIAL MANAGEMENT ZONES

Stanislaus County Groundwater Well Siting and Construction Guidelines

Legend
- Stanislaus County Boundary
- SMA1 – Area Underlain by the Corcoran Clay
- SMA2 – Alluvial Fan Areas
- SMA3 – Bedrock Areas of Coast Range and Sierra Nevada Foothills

DATE: MAR. 09, 2022

Scale for basemap

0 4 8 Miles

N

CLERK OF THE BOARD OF SUPERVISORS
Elizabeth A. King
CLERK OF THE BOARD
Kelly Rodriguez
ASSISTANT CLERK OF THE BOARD

STANISLAUS COUNTY
NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that on October 29, 2024 at 9:00 a.m., or as soon thereafter as the matter may be heard, the Stanislaus County Board of Supervisors will meet in the Basement Chambers, 1010 10th Street, Modesto, CA, pursuant to California Water Code Section 10728.4, to consider approval and adoption of the Northern Delta-Mendota Region Pumping Reduction Plan and Stanislaus County Groundwater Well Metering, Monitoring, and Reporting Program Guidelines.

NOTICE IS FURTHER GIVEN that at the said time and place, interested persons will be given the opportunity to be heard. Written comments may be submitted to Stanislaus County at Attn: Christy McKinnon, Water Resources Manager, 3800 Cornucopia Way, Suite C, Modesto CA, or at cmckinnon@envres.org.

BY ORDER OF THE BOARD OF SUPERVISORS

DATED: October 1, 2024

ATTEST: ELIZABETH A. KING, Clerk of the Board of Supervisors of the County of Stanislaus, State of California.

BY: Kelly Rodriguez
Kelly Rodriguez, Assistant Clerk

McClatchy

The Beaufort Gazette
The Belleville News-Democrat
Bellingham Herald
Centre Daily Times
Sun Herald
Idaho Statesman
Bradenton Herald
The Charlotte Observer
The State
Ledger-Enquirer

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Fort Worth Star-Telegram
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The Island Packet
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Attention: Kelly Rodriguez
CO STAN BOARD OF SUPERVISORS
1010 10TH ST STE 6700
MODESTO, CA 95354

rodrik@stancounty.com

STANISLAUS COUNTY
NOTICE OF PUBLIC HEARING

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BY ORDER OF THE BOARD OF SUPERVISORS. DATED: October 1, 2024. ATTEST: Elizabeth A. King, Clerk of the Board of Supervisors of the County of Stanislaus, State of California. BY: Kelly Rodriguez, Assistant Clerk.

IPL0197899
Oct 13,20 2024

Declaration of Publication
C.C.P. S2015.5

STATE OF CALIFORNIA)
) ss.
County of Stanislaus)

Mary Castro,

I am a citizen of the United States; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of the printer of the Modesto Bee, a newspaper of general circulation, printed and published in the city of Modesto, County of Stanislaus, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Stanislaus, State of California, under the date of February 25, 1951 Action No. 46453 that the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

2 insertion(s) published on:
10/13/24, 10/20/24

Mary Castro

I certify (or declare) under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Dallas, Texas on:
Date: 21th, day of October, 2024

Margaret K. Wilson

Notary Public in and for the state of Texas, residing in Dallas County

MARGARET KATHLEEN WILSON
My Notary ID # 134916732
Expires May 24, 2028

Extra charge for lost or duplicate affidavits.
Legal document please do not destroy!