

6. PLAN IMPLEMENTATION

This section describes how the Terra Bella Irrigation District (TBID) Groundwater Sustainability Agency (GSA) will implement the Groundwater Sustainability Plan (GSP), including costs, timelines, reporting obligations, and evaluation procedures.

The TBID GSP includes both Tule Subbasin (Subbasin)-wide components and elements specific to the TBID GSA. The Tule Subbasin Technical Advisory Committee (TAC) will be responsible for facilitating Subbasin-wide project coordination as described by the 2024 Tule Subbasin Coordination Agreement (2024 Coordination Agreement), which defines how shared projects are developed, implemented, and maintained collectively by the participating GSAs. Subbasin-level components established under the 2024 Coordination Agreement include, but are not limited to, sustainable management criteria (SMC) and the Tule Subbasin Monitoring Plan. All remaining components that apply specifically to the TBID GSA, including the development, implementation, and administration of TBID-specific components of this GSP, are the responsibility of the TBID GSA. **Table 6-1** below provides a detailed description of the elements in this GSP, along with cost estimates and designation of the party responsible for each.

Table 6-1 Estimated GSP Costs

Element	Description	Responsible Party	Estimated Cost
Annual Administration	Plan manager/point-of-contact coordination and facilitation of the Tule Subbasin TAC meeting. TBID GSP Administration.	Tule Subbasin TAC and TBID GSA	Subbasin: \$340,000
			TBID GSA: \$10,200
GSP Development	Actual cost for developing this GSP.	TBID GSA	\$300,000
Model Updates and Extension	Used to estimate the groundwater storage change and subsurface inflow/outflow values for water budgets in the Tule Subbasin.	Tule Subbasin TAC	Subbasin: \$81,000
			TBID GSA: \$2,430
Data Management System	Developed to collect SGMA-related data and improve the efficiency and accuracy of reporting requirements.	Tule Subbasin TAC	Subbasin: \$58,000
			TBID GSA: \$1,740
Monitoring	Coordinated land surface, water quality, and water level data collection.	Tule Subbasin TAC and TBID GSA	Subbasin: \$577,000
			TBID GSA: \$17,310

Element	Description	Responsible Party	Estimated Cost
Drinking Water Well Mitigation Program	Partnership with Self-Help Enterprises for groundwater level-impacted drinking water wells and Tule Basin Water Foundation for groundwater quality-impacted drinking water wells.	Tule Subbasin TAC (Mitigation Plan coordination) and TBID GSA (mitigation funding)	Subbasin: \$2,500,000
			TBID GSA: \$10,000
Friant-Kern Canal Mitigation Program	Coordinated effort with Friant Water Authority to define and mitigate impacts to the Friant-Kern Canal.	Tule Subbasin TAC (Mitigation Plan coordination) and TBID GSA (mitigation funding)	Plan Development - Subbasin: \$200,000
			Plan Development – TBID GSA: \$5,000
			Plan Implementation: TBD
Annual Report	Ongoing costs to conduct Annual Reporting.	Tule Subbasin TAC and TBID GSA	Subbasin: \$100,000
			TBID GSA: \$3,000
Periodic Evaluation and 5-year GSP Update	Review Annual Report data and current groundwater conditions, evaluate the GSP, and adjust as needed to ensure interim milestones continue to be met.	Tule Subbasin TAC and TBID GSA	Subbasin: \$745,000
			TBID GSA: \$22,350
Implementation of all planned Projects and Management Actions	Implementing demand reduction and supply.	TBID GSA	Variable ongoing and one-time costs (See Table 6-5)

TAC = Technical Advisory Committee; TBID = Terra Bella Irrigation District; GSP = Groundwater Sustainability Plan; GSA = Groundwater Sustainability Agency; SGMA = Sustainable Groundwater Management Act; TBD = to be determined

6.1. Estimate of GSP Implementation Costs

Estimated implementation costs for the GSP, along with ongoing GSA support costs, are calculated on an annual basis. These costs encompass operations, monitoring, reporting, management, and administrative functions, as well as the development and implementation of the Projects and Management Actions (PMAs) described in **Chapter 5**. In addition, costs associated with periodic updates to the GSP will be incurred during plan development and execution.

The 2024 Coordination Agreement provides that costs associated with shared projects are allocated among the Tule Subbasin GSAs based on the number of acres within each GSA’s jurisdiction. All remaining costs associated with the development and implementation of the TBID-GSA-specific portions of this GSP are the responsibility of TBID GSA. A detailed discussion of these costs and the corresponding funding sources is provided in the sections that follow.

6.1.1. Monitoring Costs

Costs related to monitoring include the measurement and evaluation of groundwater levels, groundwater quality, and land subsidence, as required under the Monitoring Network Plan (**Chapter 4**). Supporting activities include data analysis and management, system and equipment maintenance, pump metering, groundwater model updates, and preparation of the annual report. These actions have an estimated total cost of \$17,310 for TBID GSA and \$577,000 for the Tule Subbasin. The specific operational and monitoring activities associated with these efforts are described in **Table 6-2**.

Table 6-2. Annual Monitoring Costs

Task No.	Description	Estimated Annual Cost (TBID GSA)	Estimated Annual Cost (Subbasin)
1	Groundwater Level Monitoring	\$2,100	\$70,000
2	Land Subsidence Monitoring	\$5,400	\$180,000
3	Water Quality Monitoring	\$5,700	\$190,000
4	Administrative Personnel	\$1,110	\$37,000
5	Annual Comprehensive DWR Reporting	\$3,000	\$100,000
Total		\$17,310	\$577,000

TBID = Terra Bell Irrigation District; GSA = Groundwater Sustainability Plan; DWR = Department of Water Resources

6.1.2. Management, Administration, Operations, and Other Costs

Many costs associated with GSP implementation are variable and depend on factors such as the implementation schedule, regulatory requirements, and unanticipated needs that may arise over time. As implementation progresses, the TBID GSA may incur expenses related to the repair, replacement, and maintenance of capital assets, including well meters, monitoring equipment, operational supplies, billing systems, and, where applicable, well abandonment. Additional activities that may require funding include land management efforts, public outreach, and compliance-related tasks. Professional services such as legal, engineering, auditing, and insurance support, as well as permits and associated fees, may also be necessary. Ongoing evaluation and adjustment of cost estimates will be required throughout GSP implementation. **Table 6-3** provides an estimation of the costs described.

Table 6-3. Management Costs

Task No.	Description	Estimated Annual Cost	
		TBID GSA	Subbasin
1	Metering Data	\$12,000	\$48,000
2	Maintenance and Repairs	\$10,000	\$40,000
3	Project Management and Coordination	\$60,000	\$240,000
4	Administrative Personnel	\$10,000	\$40,000
5	Engineering & Consulting Service	\$40,000	\$200,000
6	SGMA-Related Legal Expenses	\$40,000	\$80,000
7	Public Outreach	\$400	\$10,000
Total		\$172,400	\$658,000

TBID = Terra Bella Irrigation District; GSA = Groundwater Sustainability Agency

6.1.3. Periodic Evaluation and Plan Amendment Costs

GSP Regulation Section 356.4 requires that the GSPs be evaluated at least once every five years and whenever the GSP is amended, with a written assessment submitted to the Department of Water Resources (DWR). Periodic Evaluations of the GSP, particularly during the early stages of plan execution, are expected to result in revisions or amendments as needed to incorporate updated information and address any corrective actions recommended by DWR.

Table 6-4. Periodic Evaluation Costs

Task No.	Description	Estimated Annual Cost	
		TBID GSA	Subbasin
1	GSP amendment	\$15,000	\$500,000
2	Update Data Management System	\$2,250	\$75,000
3	Public Outreach	\$600	\$20,000
4	Periodic Evaluation	\$4,500	\$150,000
Total		\$22,350	\$745,000

TBID = Terra Bella Irrigation District; GSA = Groundwater Sustainability Agency; GSP = Groundwater Sustainability Plan

6.1.4. Project and Management Actions Development and Implementation Costs

Chapter 5, Projects and Management Actions, of this GSP covers the Projects and Management Actions for the TBID GSA. The following table lists each PMA and its estimated cost of implementation. These projects are primarily funded by landowners through TBID assessments.

Table 6-5. Estimated PMA Costs

PMA Name	One-Time Cost (TBID GSA)	Ongoing Cost (Per Year)
FKC Land Subsidence Monitoring Plan	NA	Benchmark Survey Subbasin: \$87,750; TBID GSA: \$2,500
FKC Land Subsidence Management Plan	Plan Development: \$5,000	Variable
Southern Land Subsidence Study	\$8,400	NA
FKC Land Subsidence Mitigation Plan	Plan Development: \$5,000	TBD
Tule Subbasin DWW Mitigation Plan	NA	Subbasin: \$2.5M TBID GSA: \$10,000
Monitoring Network Data Gap Filling	\$422,000	Monitoring Costs: \$5,000
Groundwater Accounting and Allocation	NA	\$10,000
Well Registration	\$35,000	\$2,500
Well Metering Policy	\$82,500	\$10,000
Well Permit Application Review	NA	\$2,500
Fees and Incentives	NA	\$7,500
Managed Aquifer Recharge	NA	Variable (Cost of Surface Water)
Class 1/Class 2 Surface Water Exchange	NA	Variable (Cost of Surface Water)
Sustainability Forecast Analysis	\$20,000	\$0-15,000

PMA = Project and Management Action; FKC = Friant-Kern Canal; TBID = Terra Bella Irrigation District; GSA = Groundwater Sustainability Agency; NA = not applicable; M = million; TBD = to be determined; DWW = Drinking Water Well

6.1.5. Total Costs

Annual GSP implementation costs are anticipated to fluctuate over time. Variability is expected due to differences in the timing and scope of PMA implementation, evolving data needs, and periodic updates to data management and groundwater modeling systems. Additional uncertainty may arise from changing management priorities, increased reporting obligations during five-year milestone evaluations, and unforeseen requirements for equipment repair or replacement. Costs may also be influenced by professional services and other implementation-related needs. As implementation progresses, cost estimates will be reviewed and revised as appropriate during each milestone review period.

6.1.6. Funding Sources

Implementation of the GSP and ongoing compliance with the Sustainable Groundwater Management Act (SGMA) require TBID GSA to secure sufficient funding to support groundwater management activities. Funding is expected to be derived from a combination of locally imposed fees and, where available, state or federal grant funding. SGMA authorizes a GSA to impose fees to fund the reasonable costs of groundwater management and GSP implementation, including administrative, monitoring, reporting, and project-related expenses [Water Code §§ 10730, 10730.2(a)]. In addition, SGMA authorizes GSAs to impose civil penalties for unauthorized groundwater extraction and for violations of adopted rules and regulations. Revenues generated from such civil penalties may be expended to support SGMA compliance and implementation of the Groundwater Sustainability Plan (Water Code § 10732).

6.2. Schedule for Implementation

Figure 6-1 and **Figure 6-2** detail an initial estimate of the GSP implementation schedule. The schedule will be reviewed annually, as it is subject to change as GSP adoption progresses.

The GSP implementation schedule is shown in **Figure 6-1**. Milestone-based components include *GSP Submittal* and *Plan Adoption*. *Annual Reporting* and *Periodic Evaluation/Plan Amendments* are recurring activities, occurring annually and every five years, respectively. *PMAs*, *Operations and Monitoring*, and *Management/Administration* are continuous activities without specific milestones.

The PMA implementation schedule is shown in **Figure 6-2**. The figure identifies the timing for plan development, partial implementation, project completion, and full implementation. Several projects, including the Friant-Kern Canal (FKC) Land Subsidence Monitoring Plan, were fully implemented before completion of this GSP. All other projects are expected to be fully implemented by 2032.

6.3. Annual Reporting

In accordance with GSP Regulations Section 356.2, the GSA must prepare and submit an Annual Report to the Department of Water Resources each year after the GSP has been adopted. The report summarizes relevant groundwater conditions and activities from the prior water year. These reports include items such as groundwater elevation and extraction data, surface water supply, groundwater storage, and water use.

General Information: For each reporting period, TBID GSA will prepare an executive summary that highlights key findings and identifies any conclusions or recommendations. The summary will include a map defining the basin area covered by the report.

Groundwater Elevation Data: Groundwater elevations will be measured semiannually and managed within the data management system. The Annual Report will include aquifer-specific contour maps depicting seasonal high and low groundwater conditions, along with historical groundwater level hydrographs from the start of monitoring through the reporting period. An interpretive discussion will summarize groundwater elevation trends, reference historical conditions, identify data gaps, and recommend actions as appropriate.

Groundwater Extraction Data: The Annual Report will summarize groundwater extraction for the preceding water year using tables, maps, and narrative discussion. Extraction volumes will be derived primarily from District pumping records for metered wells. Groundwater extractions will be reported by water use sector, measurement method (direct or estimated), and data accuracy, and mapped to show the general location and volume of pumping.

Surface Water Supply: Surface water supplies available or delivered for consumptive use, recharge, or in-lieu use will be quantified through annual surface water diversion reporting and summarized in the Annual Report.

Total Water Use: Total water use within the TBID Plan Area will be estimated using direct measurements, such as District records and metered wells, and indirect sources, including Urban and Agricultural Water Management Plans. Annual water use will be summarized by sector, measurement method, and estimated accuracy.

Changes in Groundwater Storage: Annual changes in groundwater storage will be estimated based on observed groundwater level changes. Results will be presented through aquifer-specific maps and graphs showing water year type, groundwater use, annual storage change, and cumulative storage trends.

Implementation Progress: The Annual Report will evaluate progress toward GSP implementation by comparing current conditions for each applicable sustainability indicator to established minimum thresholds, interim milestones, and measurable objectives. Progress on Projects and Management Actions—including milestones, schedules, implementation activities, and costs—will be summarized, with updates provided as necessary.

6.4. Periodic Evaluations

The periodic evaluations will assess progress toward GSP implementation and meeting SMCs and will be submitted to DWR for review every five years. These reports will include updated information on, but not limited to, current groundwater conditions, implementation of PMAs, basin evaluation, monitoring networks, and plan amendments. Periodic evaluations are to be made publicly available through the SGMA website.

Current Groundwater Conditions: The periodic evaluation will summarize groundwater conditions for each applicable sustainability indicator relative to minimum thresholds, interim milestones, measurable objectives, and undesirable results identified in **Chapter 3**. Figures, graphs, and narrative discussion will be provided as needed to illustrate groundwater elevations in key wells relative to GSP goals.

Implementation of Project Management Actions: PMAs will be evaluated for implementation status, effectiveness, and progress toward sustainability goals. Adaptive management will be applied, and PMAs that do not meet performance or schedule expectations may be reevaluated and accelerated, as appropriate.

Plan Elements: GSP elements, including the Subbasin setting and management areas, will be reviewed to determine whether revisions are warranted. Sustainability indicators, minimum thresholds, and measurable objectives will be reassessed, and progress toward sustainability goals and interim milestones will be evaluated.

Basin Evaluation: The Subbasin setting will be evaluated for significant changes or new information, including changes in water use and potential overdraft conditions. Where applicable, impacts to sustainability yield, pumping allocations, and other GSP components will be identified.

Monitoring Network: The Monitoring Network will be evaluated for functionality, data adequacy, and compliance with SGMA data standards. Data gaps will be identified, and network improvements or additional monitoring may be recommended as needed.

New Information: Significant new information developed since the prior evaluation, amendment, or GSP adoption will be summarized.

Relevant Actions: Regulatory actions, newly adopted PMAs, and other District actions affecting GSP implementation since the prior evaluation will be summarized.

Enforcement or Legal Actions: Any enforcement or legal actions taken during the evaluation period will be described.

Plan Amendments: Completed or proposed GSP amendments will be identified.

Summary of Coordination: Coordination among GSAs, hydrologically connected basins, and land use agencies will be summarized, as applicable.

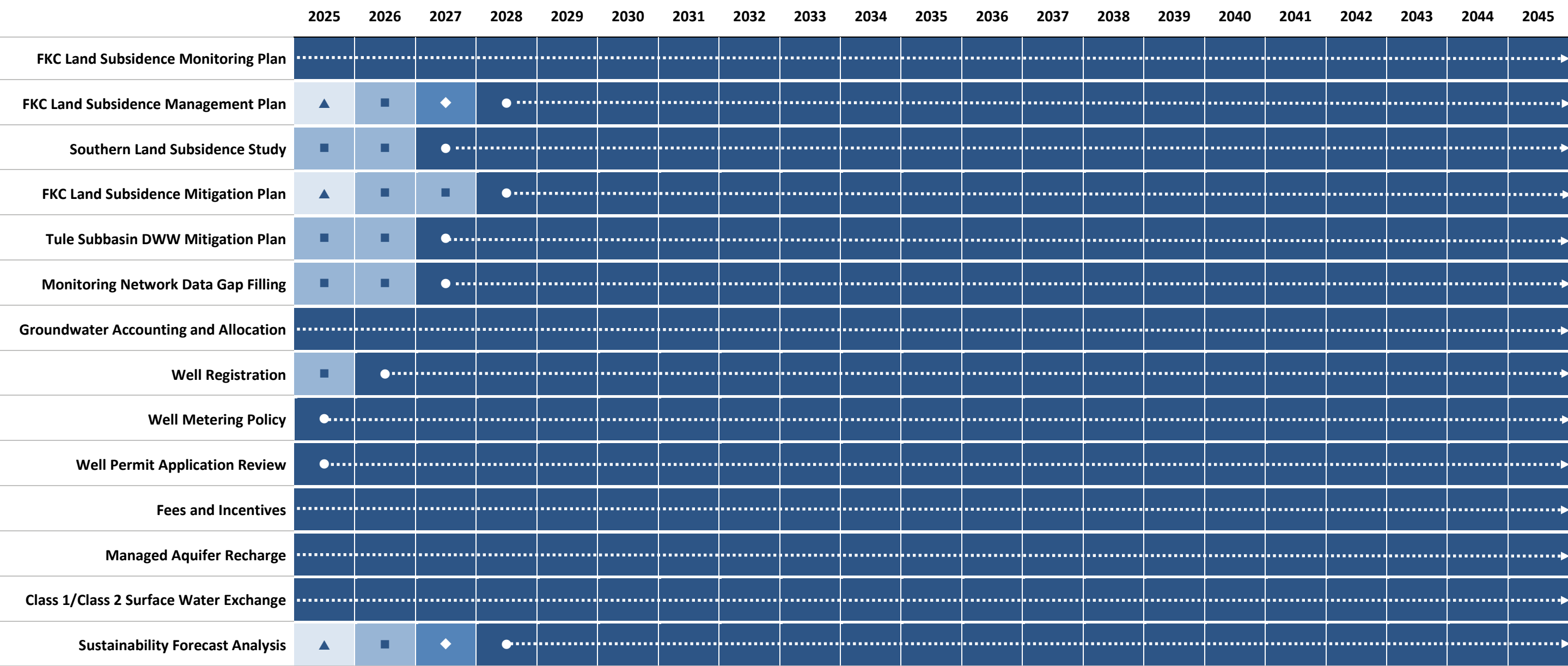
Other Information: Any additional information relevant to SGMA compliance, GSP implementation, or DWR review will be provided.

Figure 6-1. Plan Implementation Schedule

Plan Element	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
GSP Submittal	x																				
Plan Adoption	x																				
Annual Reporting	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Periodic Evaluation and Plan Amendments						x					x					x					x
Projects and Management Actions	ONGOING▶																				
Operations and Monitoring	ONGOING▶																				
Management and Administration	ONGOING▶																				

GSP = Groundwater Sustainability Plan

Figure 6-2. Projects and Management Actions Implementation Schedule



LEGEND: ▲ Pending/Conceptual ■ Plan Development (funding, pilot texting, supporting studies, environmental compliance) ◆ Partial Implementation ● Completion – Start Implementation➡ Ongoing

NOTES: FKC = Friant-Kern Canal; DWW = Drinking Water Well