

Task 4: Develop Implementation Plan

Task 4 Scope and Objectives

- **Tasks 4.1:** Identify Potential Habitat and Environmental Opportunities for the Project Alternatives
- **Task 4.2:** Develop Phasing and Monitoring Plan
- **Task 4.3:** Revise Cost Options

Task 4 Key Findings

Task 4.1: Potential Habitat and Environmental Benefits / Impacts

- Increased standing water / vegetated channel banks for habitat
- Creation of Pacific flyway migration habitat
- No impediment to fish migration
- Potential impacts to Arroyo Toad and Coastal California Gnatcatcher habitats
- Permanent structure installation and heavy equipment use in the soft bottom channel
- Local, State, Federal agency permitting will be required

Task 4.2: Develop Phasing and Monitoring Plan

Based on the analysis performed, four Surface Water Recharge (SWR) concept strategies were selected for project consideration. The selected SWR conceptual strategies are summarized in the following table:

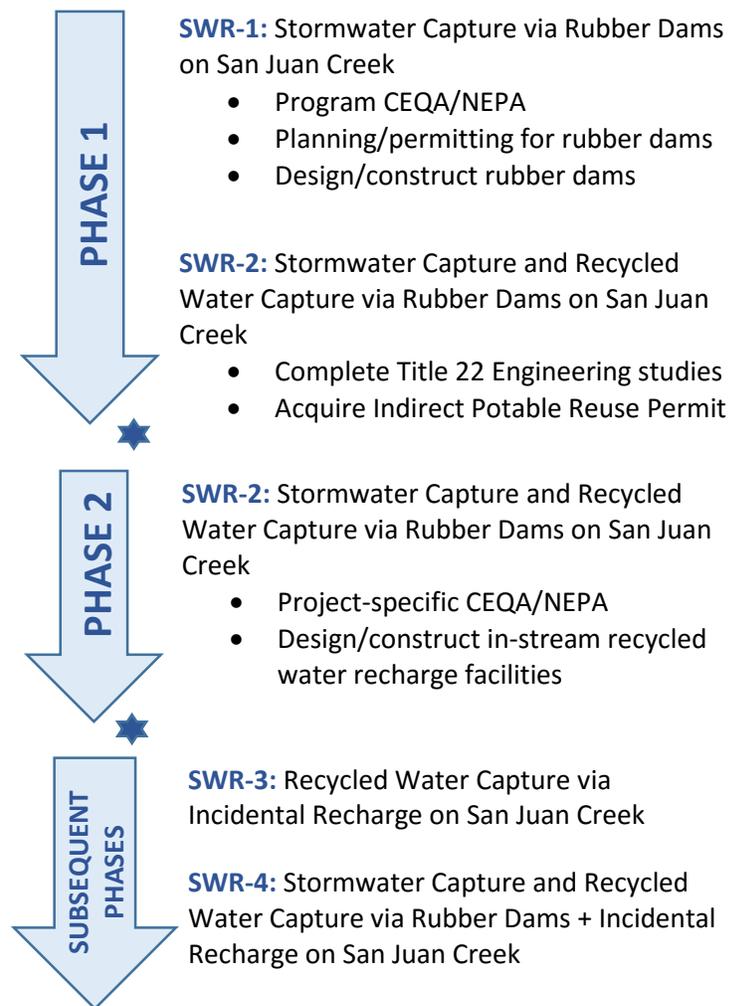
Conceptual Strategy		New Project Yield (afy)
SWR-1	Storm Water Via Rubber Dams On San Juan Creek	1,120
SWR-2	Storm Water And Recycled Water Via Rubber Dams On San Juan Creek	3,920
SWR-3	Recycled Water Via Incidental Recharge On San Juan Creek	1,800
SWR-4	Storm Water And Recycled Water Via Rubber Dams And Incidental Recharge On San Juan Creek And Arroyo Trabuco	7,360

Recycled water recharge via injection and the vertical extraction seawater barrier concepts were determined to be not cost effective at this time and were not included in further analysis.

SJBGFMP Implementation Plan: A Phased Approach

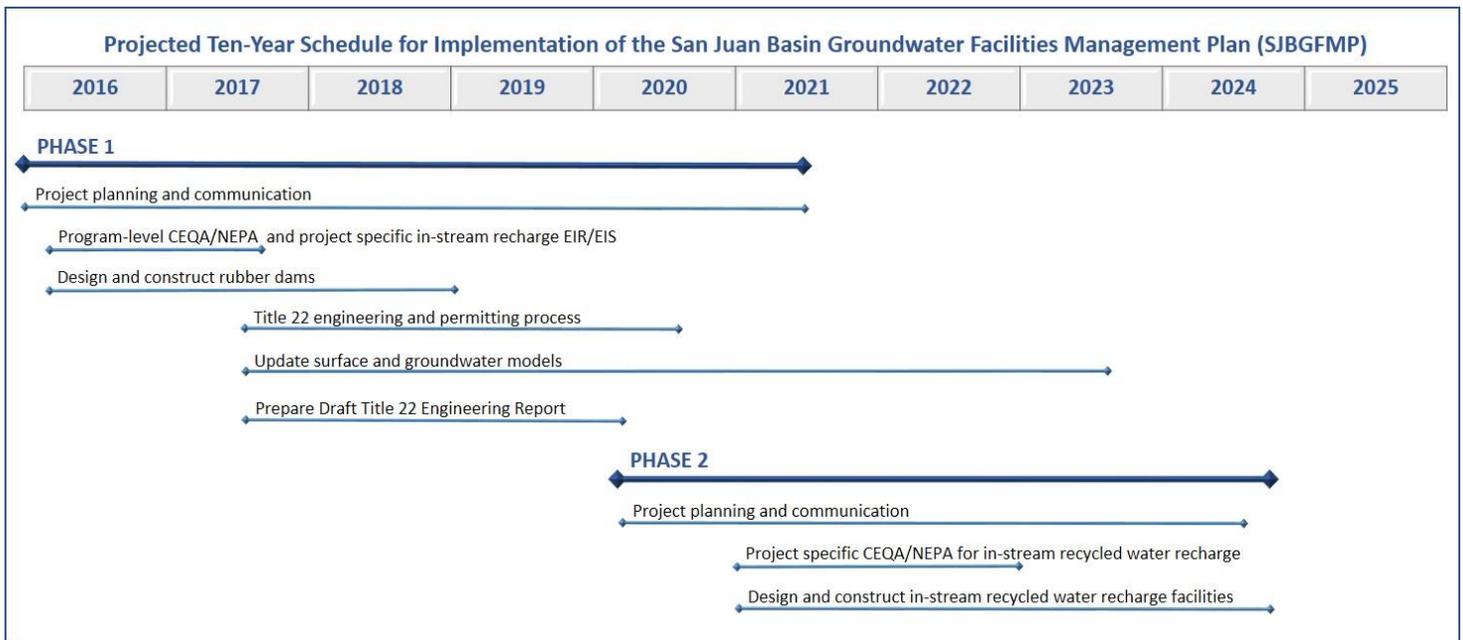
The San Juan Basin Groundwater Facilities Management Plan (SJBGFMP) includes adaptive management of the basin and Task 4 introduces construction of rubber dams along San Juan Creek and Arroyo Trabuco for stormwater capture and future recycled water recharge.

A phasing strategy (SJBGFMP Implementation Plan) was developed in such a way that each phase can be an endpoint or off-ramp from further expansion. The recommended phasing strategy for the SJBGFMP Implementation Plan includes:



★ Denotes project checkpoints where program costs are reevaluated before proceeding with next phase

The following diagram summarizes the projected ten-year schedule for implementation of Phases 1 and 2 (detailed in Figure 4-2.1 in the Task 4 Technical Memorandum):



In addition to Phases 1 and 2, the plan also includes basin management tasks and process to periodically update the SJBGFMP and the surface and groundwater models used to support the implementation process. Per this schedule, recycled water recharge and recovery would begin in the late summer 2014.

Task 4.3 Revise Cost Estimates: Phasing Plan Costs

Task 4.3 included estimating the annual costs for the major implementation steps for Phases 1 and 2 (excluding contingency) per the implementation schedule (Table 4.2-1 in the Task 4 Technical Memorandum). The following table, taken from the Task 4 Technical Memorandum, summarizes the total program costs and unit capital costs, by phase; and provides a breakdown of the construction and implementation costs.

Implementation Phase	Cost Breakdown by Phase (\$1,000) Excluding Contingency			Cumulative Yield (AFY)	Potential Unit Capital Costs	
	Total Program <i>a = b + c</i>	Construction <i>b</i>	Implementation <i>c</i>		30-Year Lifecycle	50-Year Lifecycle
SJBGFMP Basin Operations and Adaptive Management	\$7,350	\$0	\$7,350	0	N/A	N/A
Phase 1	\$33,560	\$26,300	\$7,260	1,120	\$1,530	\$1,160
Phase 2¹	\$119,140	\$89,600	\$29,540	4,920	\$1,580	\$1,210
Subsequent Phases²	\$160,900	\$123,700	\$37,200	7,360	\$2,170	\$1,660
Total	\$320,950	\$239,600	\$81,350			

Notes

1. Unit capital cost estimates for Phase 2 include Phase 1 costs and yield.
2. Unit capital cost estimates for subsequent phases include Phase 2 costs and yield.