1/13/2025

Update on CIP Program – 1st and 2nd Quarters of FY 2024-25

Erick Del Bosque, P.E.
Director of Engineering and Operations

CIP Project Phasing and Schedules

Project Phase	Number of Projects
Construction	5
Design/Environmental/Permitting	14
Planning/Study	5
Street Improvements	2
Software Upgrades	2
TOTAL	28

Updated CIP Dashboard and Schedules:

https://www.sweetwater.org/148/Current-Projects

Budget and Expenditures

Asset Type	Budget per Asset Type ($)	Budget Balance	Expenditures per Asset Type - Project Inception to 12/31/24 ($)	Expenditures per Asset Type this FY - 7/1/24 to 12/31/24 ($)
Reservoirs	$5,002,400	$3,418,749	$1,583,651	$246,043
Dams	$4,910,000	$2,671,753	$2,238,247	$67,992
Wells	$125,000	$66,304	$58,696	$-
Treatment Plant	$11,784,010	$10,197,715	$1,586,295	$478,338
Pipelines, Services, Meters	$6,301,930	$4,178,722	$2,123,208	$1,472,986
Storage Tanks	$8,859,240	$8,065,635	$793,605	$68,330
Buildings (Improvements)	$850,000	$612,146	$237,854	$15,965
Other^	$240,000	$121,064	$118,936	$-
TOTAL	$38,072,580*	$29,332,088	$8,740,492	$2,349,654

*Completed projects and ongoing programs where budgeted amounts do not carry over to the next fiscal year, like the Valve Replacement Program, are not included in the budget total. Vehicle Replacement Program also not included.

^Projects under Other Asset category above do not lead to a construction effort.

Completed CIP Projects

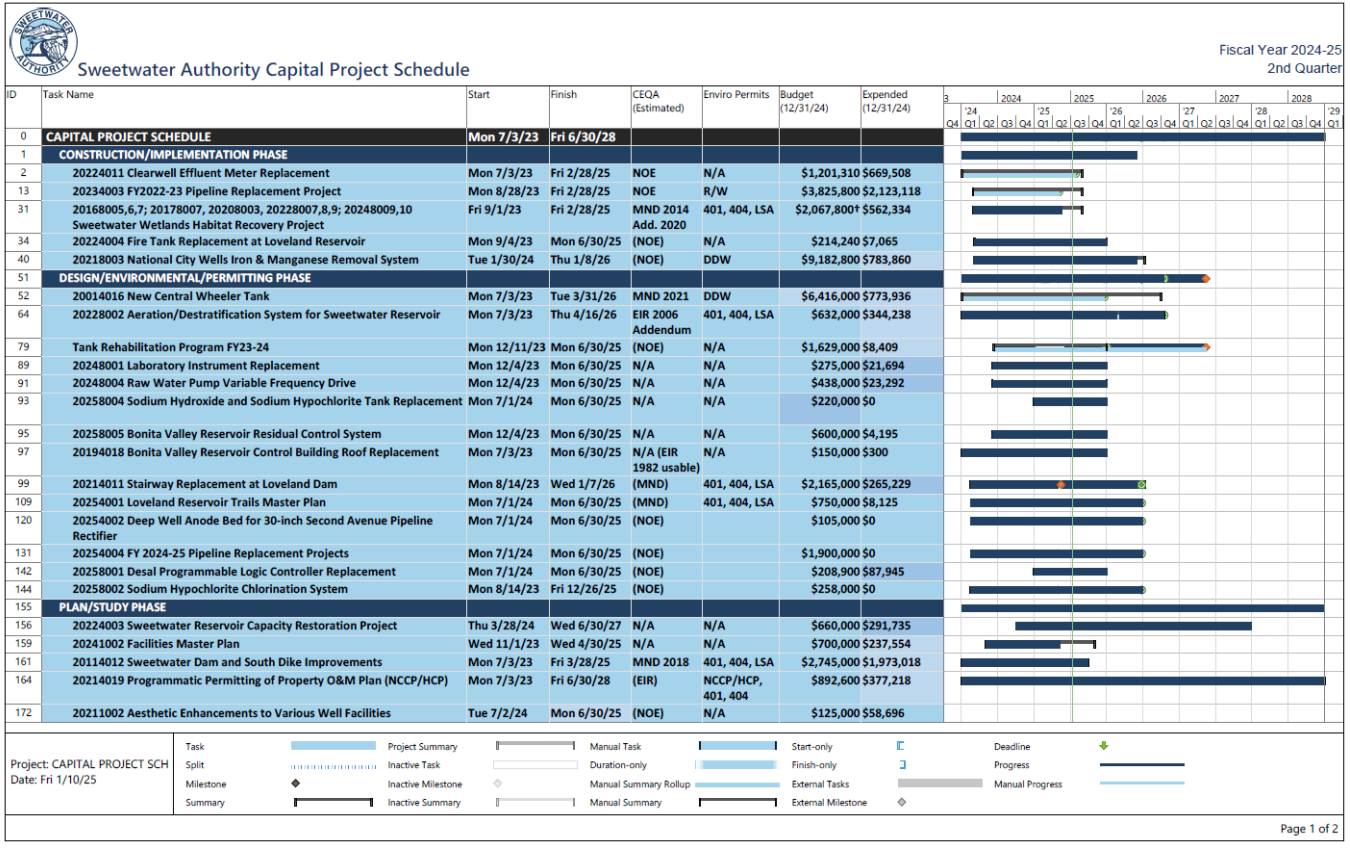
Twelve CIP Projects completed since last update in May 2024:

- Cathodic Protection at Three Storage Tanks Project
- San Miguel Road Pipeline
- Naples Street Large Meter Improvements
- Hazardous Tree Removal Defensible Space at Perdue Project
- SDF Well Pump Control Valve Modification
- Water Resources Master Plan
- New SDF Well in National City
- Lead and Copper Service Line Inventory
- Automatic Metering Infrastructure Feasibility Study
- Board Room Technology Upgrade
- GIS Assessment, Plan, and Expansion of Portal
- Paradise Creek Water Quality Enhancements Phase II (Water main relocation in National City)

CIP Schedule

Anticipated Completion

Quarter	No. of Projects
FY25 – Q3	5
FY25 – Q4	17
FY26 – Q3	3
FY26 – Q4	1
FY27 – Q4	1
FY28 – Q4	1



Sweetwater Authority Capital Project Schedule

Fiscal Year 2024-25
2nd Quarter

ID	Task Name	Start	Finish	CEQA (Estimated)	Enviro Permits	Budget (12/31/24)	Expended (12/31/24)
0	CAPITAL PROJECT SCHEDULE	Mon 7/3/23	Fri 6/30/28				
1	CONSTRUCTION/IMPLEMENTATION PHASE						
2	20224011 Clearwell Effluent Meter Replacement	Mon 7/3/23	Fri 2/28/25	NOE	N/A	$1,201,310	$669,508
13	20234003 FY2022-23 Pipeline Replacement Project	Mon 8/28/23	Fri 2/28/25	NOE	R/W	$3,825,800	$2,123,118
31	20168005,6,7; 20178007, 20208003, 20228007,8,9; 20248009,10 Sweetwater Wetlands Habitat Recovery Project	Fri 9/1/23	Fri 2/28/25	MND 2014 Add. 2020	401, 404, LSA	$2,067,800†	$562,334
34	20224004 Fire Tank Replacement at Loveland Reservoir	Mon 9/4/23	Mon 6/30/25	(NOE)	N/A	$214,240	$7,065
40	20218003 National City Wells Iron & Manganese Removal System	Tue 1/30/24	Thu 1/8/26	(NOE)	DDW	$9,182,800	$783,860
51	DESIGN/ENVIRONMENTAL/PERMITTING PHASE						
52	20014016 New Central Wheeler Tank	Mon 7/3/23	Tue 3/31/26	MND 2021	DDW	$6,416,000	$773,936
64	20228002 Aeration/Destratification System for Sweetwater Reservoir	Mon 7/3/23	Thu 4/16/26	EIR 2006 Addendum	401, 404, LSA	$632,000	$344,238
79	Tank Rehabilitation Program FY23-24	Mon 12/11/23	Mon 6/30/25	(NOE)	N/A	$1,629,000	$8,409
89	20248001 Laboratory Instrument Replacement	Mon 12/4/23	Mon 6/30/25	N/A	N/A	$275,000	$21,694
91	20248004 Raw Water Pump Variable Frequency Drive	Mon 12/4/23	Mon 6/30/25	N/A	N/A	$438,000	$23,292
93	20258004 Sodium Hydroxide and Sodium Hypochlorite Tank Replacement	Mon 7/1/24	Mon 6/30/25	N/A	N/A	$220,000	$0
95	20258005 Bonita Valley Reservoir Residual Control System	Mon 12/4/23	Mon 6/30/25	N/A	N/A	$600,000	$4,195
97	20194018 Bonita Valley Reservoir Control Building Roof Replacement	Mon 7/3/23	Mon 6/30/25	N/A (EIR 1982 usable)	N/A	$150,000	$300
99	20214011 Stairway Replacement at Loveland Dam	Mon 8/14/23	Wed 1/7/26	(MND)	401, 404, LSA	$2,165,000	$265,229
109	20254001 Loveland Reservoir Trails Master Plan	Mon 7/1/24	Mon 6/30/25	(MND)	401, 404, LSA	$750,000	$8,125
120	20254002 Deep Well Anode Bed for 30-inch Second Avenue Pipeline Rectifier	Mon 7/1/24	Mon 6/30/25	(NOE)		$105,000	$0
131	20254004 FY 2024-25 Pipeline Replacement Projects	Mon 7/1/24	Mon 6/30/25	(NOE)		$1,900,000	$0
142	20258001 Desal Programmable Logic Controller Replacement	Mon 7/1/24	Mon 6/30/25	(NOE)		$208,900	$87,945
144	20258002 Sodium Hypochlorite Chlorination System	Mon 8/14/23	Fri 12/26/25	(NOE)		$258,000	$0
155	PLAN/STUDY PHASE						
156	20224003 Sweetwater Reservoir Capacity Restoration Project	Thu 3/28/24	Wed 6/30/27	N/A	N/A	$660,000	$291,735
159	20241002 Facilities Master Plan	Wed 11/1/23	Wed 4/30/25	N/A	N/A	$700,000	$237,554
161	20114012 Sweetwater Dam and South Dike Improvements	Mon 7/3/23	Fri 3/28/25	MND 2018	401, 404, LSA	$2,745,000	$1,973,018
164	20214019 Programmatic Permitting of Property O&M Plan (NCCP/HCP)	Mon 7/3/23	Fri 6/30/28	(EIR)	NCCP/HCP, 401, 404	$892,600	$377,218
172	20211002 Aesthetic Enhancements to Various Well Facilities	Tue 7/2/24	Mon 6/30/25	(NOE)	N/A	$125,000	$58,696

Project: CAPITAL PROJECT SCH
Date: Fri 1/10/25

Task, Split, Milestone, Summary, Project Summary, Inactive Task, Inactive Milestone, Inactive Summary, Manual Task, Duration-only, Manual Summary Rollup, Manual Summary, Start-only, Finish-only, External Tasks, External Milestone, Deadline, Progress, Manual Progress

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CIP Projects in Construction

CIP Project	Budget
Clearwell Effluent Meter Replacement	$1,201,300
FY 2023 Pipeline Replacement Program	$3,825,800
Sweetwater Wetlands Recovery	$1,467,800
Fire Tank Replacement at Loveland Reservoir	$212,240
National City Wells Iron and Manganese Removal System	$9,182,800
TOTAL	$15,889,940

PROJECT BENEFITS

The National City Wells Iron and Manganese Removal System will minimize/prevent accumulation of iron and manganese deposits within Sweetwater Authority's water distribution system in National City, and will alleviate customer complaints due to discolored water.

PROJECT DESCRIPTION

The National City Wells Facility comprises three wells, with one designated as a backup, and only two wells actively utilized for groundwater production. These wells consistently yield high-quality water that meets all State and Federal standards, necessitating only the application of disinfection and fluoridation processes.

Despite the concentrations of iron and manganese in the raw water meeting regulatory standards, these elements tend to precipitate and accumulate within the distribution system over time. The accumulation is exacerbated by variations in flow velocities resulting from operational and maintenance activities, as well as disruptions caused by incidents such as knocked-off fire hydrants or water main breaks. Consequently, the resuspension of iron and manganese within the distribution system has prompted customer complaints about discolored water in National City.

To address this issue, a pilot system was implemented between 2021 and 2022, informing the comprehensive design of a treatment system for the removal of iron and manganese. The design phase was successfully completed in October 2023. Once the treatment system is constructed, the National City Wells Facility aims to consistently deliver aesthetically pleasing drinking water to customers in National City.

PROJECT UPDATE

Value engineering was performed on the project through one of the Authority's on-call engineering design consultants, with the intent of redesigning the proposed system and reduce construction costs. The project was then redesigned by PACE, the firm previously contracted to design the project, and the project was re-advertised for bids on July 29, 2024. Bids were due on September 10, 2024 and the Board awarded a construction contract in October 2024. Notice to Proceed has been issued to contractor.

	BUDGET	EXPENDITURE
	$9,182,800	$783,860

	CONTRACT AWARD 2nd Quarter	CONSTRUCTION ESTIMATE COMPLETION
SCHEDULE	2025	Q2 FY 2026

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www.sweetwater.org 2n Quarter – FY 2025

Other Notable CIP Updates

- *Central Wheeler Tank* – The project was advertised for construction in November 2024. Bids are due on January 17, 2025 and staff anticipates making a construction contract award recommendation to the Board in February 2025.

- *Aeration/Destratification System for Sweetwater Reservoir* – At the August 26, 2024 Board meeting, the Board adopted Addendum No. 1 to the Environmental Impact Report (EIR) for the Perdue Water Treatment Plant, to add the proposed Aeration System to the EIR. Staff has submitted permit applications to the permitting agencies, to have the project permitted before advertising it for construction.

- *Loveland Reservoir Trails Master Plan* – A grant agreement for the $750,000 State grant has been executed and funding has been received. Design about half way done. Environmental proposals expected this month.

- *Deep Well Anode Bed for a 30-inch Second Avenue Pipeline Rectifier* - Design has been completed and the project is anticipated to be advertised in early January 2025.

Notable CIP Updates

- *Sweetwater Reservoir Capacity Restoration* – The consultant for the project is finalizing a Project Description and updating sediment estimates within the revised project footprint in the area of the reservoir's outlet tower, to feed that information into the Preliminary Environmental Impact Assessment.

- *Sweetwater Dam and South Dike Improvements (Comprehensive Assessment)* – Draft report for Static and Seismic Stability of the Dam received by consultant. Draft report in review with staff.

PROJECT BENEFITS

Sets the stage toward expanding the capacity of Sweetwater Reservoir by removing sediments in the reservoir bottom that have been deposited over decades, gradually and slightly reducing the reservoir's storage volume.

PROJECT DESCRIPTION AND BACKGROUND

The Sweetwater Dam and South Dike Improvements Project is intended to address dam design criteria for a Probable Maximum Flood (PMF), per the California Department of Water Resources Division of Safety of Dams (DSOD). As defined by the American Society of Civil Engineers, the PMF is a flood that can be expected from the most sever combination of critical meteorological and hydrological conditions that are reasonably possible in a region.

In May 2004, Sweetwater Authority (Authority) as-needed dam consultant, GEI Consultants, Inc. (GEI), prepared a PMF analysis for Sweetwater Dam, which was later updated in February 2013 based on the following:

- Revision to the computed capacity of the South Spillway at the dam.
- Refinement of the estimated Probable Maximum Precipitation for the watershed area in which the dam is located.
- Refinement of the loss rates for the watershed area.

Per the 2013 updated PMF analysis, peak inflow at Sweetwater Reservoir during a PMF would be 118,913 cubic feet per second (cfs). Peak outflow past the dam during a PMF would be 114,249 cfs and the parapet walls at the dam abutments would be overtopped by 5.3 feet for an approximate 11-hour duration, potentially causing dam failure because the overtopping flood could erode the bedrock supporting the dam abutments. The updated PMF analysis shows 9% less runoff than the PMF analysis from 2004.

Sweetwater Dam failed in 1916 in a similar manner, when a flood of approximately 45,000 cfs at its peak overtopped the dam by 3.5 feet and breached the north abutment, causing significant flooding downstream. The South Dike of the reservoir was also breached. During that time, the dam was 22 feet lower in height and improvements to Sweetwater Dam and the South Dike were done following the 1916 flood.

It would be economically prohibitive to construct a dam or make improvements to a dam in such a manner that a PMF is fully contained; therefore, DSOD requires to safely pass the PMF downstream of the dam to avoid dam failure and does not require to fully contain it.

In June 2009, before the updated PMF analysis, GEI prepared a Technical Memorandum titled "Spillway Studies for Sweetwater Dam – Probability of Dam Overtopping". Based on this Technical Memorandum, the recurrence interval for the Probable Maximum Precipitation that would cause a PMF was estimated to be several million years. Nonetheless, DSOD still requires that Sweetwater Dam be designed to safely pass a PMF downstream of the dam.

Projects funded through the General Fund

- *Watershed Model:* At its October 9, 2024 meeting, the Board approved a contract with River Focus Water Resource Consultants for the development of Hydrologic and Hydraulic Models (Watershed Model) of the Sweetwater River Watershed. The project has initiated and it is planned for completion by June 30, 2025.

- *Seismic Stability Study for Sweetwater Reservoir Outlet Tower:* A Request for Proposals for consultant selection was advertised in December 2024. Proposals are due on January 16, 2025. The Study is planned to be completed by June 30, 2025.

- *Destruction of Well SDF-2:* At its December 11, 2024 meeting, the Board awarded a construction contract for the destruction of San Diego Formation Well No. 2 to Layne Christensen Company, for a not-to-exceed amount of $219,565. The construction contract is in the process for execution. The contractor has 45 calendar days to complete the project once a Notice to Proceed is provided after contract execution.

Projects funded through the General Fund

- *Recycled Water Analysis:* In conjunction with Otay Water District (Otay), Carollo Engineers was selected as a consultant. The project received a $350,000 grant from the State Water Resources Control Board. Per Agreement with Otay, project costs will be shared equally. The consultant for the project had a change in Project Manager, which has caused project delays. Project completion is still planned for Q4 of FY 2024-25. This project was previously funded through the CIP Fund in FY 2023-24.

- *Clearwell Assessment Study:* During the Perdue Treatment Plant shutdown period in December 2024, to install the new production meter for the treatment plant, an inspection of the inside of the Perdue Clearwell was conducted by Ardurra, one of the Authority's on-call consultants. The Study is planned to be completed by June 30, 2025.

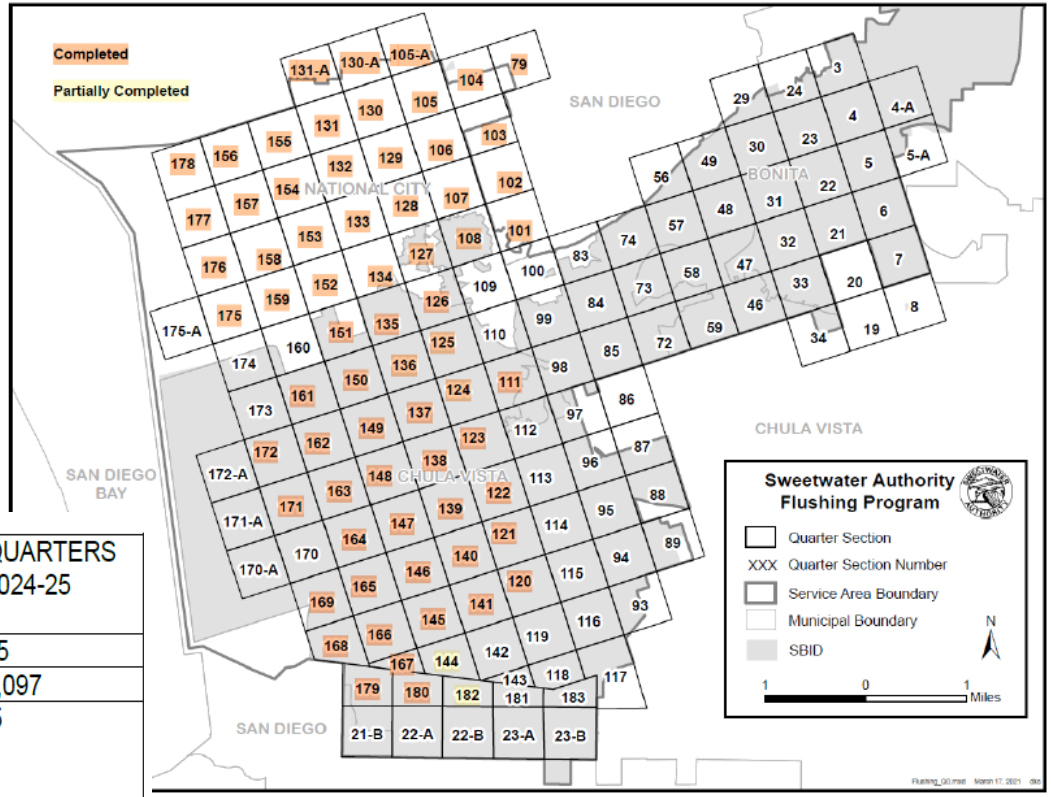
- *Urban Runoff Diversion System Master Plan:* At its December 11, 2024 meeting, the Board approved a contract with CWE for the development of the URDS Master Plan. The contract has been executed and a project kick-off meeting is planned for mid-January, with anticipated project completion by June 30, 2025.

No-Discharge Flushing

- Strategic Plan Goal WQ2-1: Flush 75 miles of pipeline in Chula Vista through the No-Discharge Flushing Program
- 47.2 miles of pipelines have been flushed this FY
- Avg. cost to flush distribution system - $1,653.18 per mile since program inception in February 2023. This cost is lower than the $3,278 per mile projected in 2021.

TYPE OF EXPENDITURE	EXPENDITURES TO DATE (12/31/2024)	FY 2024-25 – 1st and 2nd QUARTER EXPENDITURES
1220 NSF61 filters	$54,472.60	$0
Two flushing hoses and hose ramps	$5,817.22	$2,147.83
Water quality turbidity meter	$2,445.79	$0
O-ring replacements for filter pressure vessels	$1,983.36	$0
Fuel cost to date for no discharge flushing truck	$3,587.31	$1,423
Blind caps for flushing hoses	$861.30	$0
Subtotal for flushing materials	$69,167.58	$3,570.83
Labor cost	$340,144.43	$90,087.09
TOTAL	$409,312.01	$93,657.92

No-Discharge Flushing



	SINCE PROGRAM INCEPTION TO 12/31/2024	1st and 2nd QUARTERS OF FY 2024-25
Valves exercised	1,123	275
Water saved (gallons)	11,859,736	2,722,097
Water saved equates to water used by this many households for one complete year (assuming 299 gallons/household/day)	109	25

CIP Process Improvements

Staff will continue to make reporting improvements in an effort to provide more information. CIP Process Improvements already undertaken by staff are:

- Updated project estimates to account for inflation and account for more realistic timelines on projects.
- Well defined project scope to avoid scope creep.
- Deliberate coordination with municipalities and County on pipeline projects to avoid issues with pavement moratoriums.
- Explore grants to offset project costs.
- Change requirements from physical bid submittals to digital bid submittals through PlanetBids. This change would encourage more contractor participation by making it easier for them to submit bids.
- Continue to leverage the Authority's GIS Platform to provide more information on the CIP Dashboard across all funded CIP Projects.

Questions?