San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

DATE: May 04, 2021

TO: Commissioner, Sophie Maxwell, President
Commissioner, Anson Moran, Vice President
Commissioner, Tim Paulson
Commissioner, Ed Harrington
Commissioner, Newsha K. Ajami

FROM: Michael Carlin, Acting General Manager

RE: Water Enterprise Capital Improvement Program Quarterly Report (3rd Quarter / FY 2020-2021)

Enclosed is the Water Enterprise Capital Improvement Program (WECIP) Quarterly Report for the period ending on March 31, 2021. This quarterly report provides a summary update on both Regional and Local Water Enterprise CIP projects.

The information in the report allows appropriate review of the scope, schedule, and budget of projects to ensure level of service (LOS) goals and objectives are met and to measure progress of the program. Status updates for active projects allow for timely and proactive review of projects so corrective action may be taken if needed. In addition, quarterly updates to you and our stakeholders highlight program accomplishments and share activities that may be newsworthy or noticeable to the public due to improved service or impacts from construction.

This quarterly report incorporates all the changes made to the Regional Water Enterprise CIP projects and the Local Water Enterprise CIP projects in the Water Enterprise Capital Improvement Program 2021 Revised Baseline, presented to and adopted by this Commission on April 13, 2021 under Resolution No. 21-0055.

The highlights for this reporting period are as follows:

1. Regional Water Enterprise Capital Improvement Program:

- In general, there were minor schedule impacts to projects in planning, design and construction due to the need for consultants and contractors to submit revised site-specific Health and Safety Plans and implement protocols to address COVID-19 requirements.
- The planning work continued for the Sunol Valley Water Treatment Plant (SVWTP) Ozone project, including development of criteria for design flow and hydraulics, ozone application and dosing, contactor basin configuration, electrical power demand, and number and sizing of ozone generators. The site surveying was completed.
- The construction contract has reached Substantial Completion for the San Andreas Pipeline No. 2 Lockbar Replacement project, located in San Bruno, and the pipeline was returned to Water Supply and Treatment Division (WSTD) for operation. During filling and disinfection procedures, WSTD discovered and repaired a leak on a segment of pipeline that was not part of the project. The pipeline was placed back into service and the project will achieve Final Completion in the next quarter.
- Corrosion assessments including spot site excavations were performed for the Crystal Springs Pipeline No. 2 Reaches 2, 3, and 5. Analysis of alternatives continued for rehabilitation of Reach 5, located in San Bruno and South San Francisco. For Reaches 2 and 3, geotechnical and survey work for the planning phase continued.
- Planning work for Pilarcitos Dam continued, including the spillway condition assessment and the dam embankment stability evaluation.
- The Southern Skyline Boulevard Ridge Trail Extension Project Responses to Comments (RTC) document, which responds to comments that were received on the Draft Environmental Impact Report (EIR), was completed and will be published next quarter.
- Sunol Yard (Contract A): The draft project close-out dossier work started. Watershed Center (Contract B): The construction work on the Architectural concrete walls, roof structural steel, roof decking, rebar and concrete slabs, sewage holding tank, rain harvest tank and utility trenching continued during the reporting period. The major excavation work was completed. Additional Native American burials and features were discovered and removed appropriately during this reporting period.
- The Request for Proposals (RFP) for engineering services contract for the Millbrae Yard Laboratory and Shops project was advertised. The final programming document (Alternatives Analysis Report Phase) was issued.

2. Local/In-City Water Enterprise Capital Improvement Program:

- The forecast mileage of San Francisco water distribution pipelines to be replaced in FY21 is 11.5 miles. A total of eleven water main replacement projects have construction underway within San Francisco city limits during the third quarter of FY21. During this quarter, all water work was installed on Geary between 36th and 48th Avenues and 22nd Street. Projects planned to start construction during the fourth quarter of FY21 include work on Wawona Area Stormwater Improvement and Vicente Street Water Main Replacement.
- Construction of the Recycled Water Treatment Facility at the Oceanside Plant continued. The installation of major process equipment was completed; construction focused on electrical work and yard piping. Work on the Pump Station and Reservoir in Golden Gate Park focused on the construction of the pump station building, and the installation of isolation valves on the existing reservoir. The Irrigation Retrofits contract received Notice to Proceed, and the Contractor mobilized and started potholing for utilities.
- Final completion for the San Francisco Groundwater Supply Phase 1 construction was declared in this quarter. Completion of the remaining and change order work, punchlist items and closeout documents continued for Phase 2.

Enclosure

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

QUARTERLY REPORT

Water Enterprise Capital Improvement Program

Q3 FY 2020 | 2021

January 2021 — March 2021

Published: 05/04/21

Quarterly Report

Water Enterprise Capital Improvement Program

TABLE OF CONTENTS

I. Regional Capital Improvement Program

1. CAPITAL IMPROVEMENT PROGRAM DESCRIPTION

The San Francisco Public Utilities Commission (SFPUC) Water Enterprise manages a complex water supply system stretching from the Sierra Nevada to San Francisco featuring a series of reservoirs, tunnels, pipelines, and treatment systems. Two unique features of this system stand out: the drinking water provided is among the highest quality in the world, and water deliveries are made to most customers without the use of power (gravity flow) while generating power at the same time.

The SFPUC is the third largest municipal utility in California, serving 2.7 million residential, commercial, and industrial customers in the Bay Area. Approximately one-third of the delivered water goes to retail customers in San Francisco, while wholesale deliveries to 26 suburban agencies in Alameda, Santa Clara, and San Mateo counties comprise the other two-thirds.

The Regional Water System consists of water storage and treatment facilities; water transmission infrastructure; buildings and structures for facilities and employees; communications systems; and watersheds and Rights-of- Way (ROW) lands in San Mateo, Santa Clara, and Alameda Counties as well as western San Joaquin County. The Regional Water System also includes numerous assets in San Francisco that are operated in conjunction with the regional system. The Regional Water System Capital Improvement Program (Regional Water CIP) part of the SFPUC's Ten Year Capital Improvement Program (10-Year CIP), is a 10-year proposed appropriations plan including planned projects to physically improve the assets within the Regional Water System. The 10-Year CIP is updated each year and integrated with the SFPUC's Financial Plan and rate-setting.

Annual updates to the Regional CIP also account for post-Water System Improvement Program (post-WSIP) conditions, including deferred projects not in WSIP and new projects needed to continue meeting level of service goals and maintaining a state of good repair.

The capital planning process is used to inform the Regional Water CIP with updates to master plans, asset condition assessment, and review of levels of service. There are six (6) groupings of projects in the Regional Water CIP. The categories are:

- Water Treatment
- Water Transmission
- Water Supply and Storage
- Watershed and Lands Management
- Communications and Monitoring
- Buildings and Grounds

A project is formally initiated (Project Initiation) when the planning process begins, a project manager is assigned, and the project's initial Approved Budget consistent with the most recently adopted Regional Water CIP is established.

Project moves from the planning, design, and environmental review stage to contract-award and start of construction phase when Project Approval occurs through an action by the Commission, usually at the same time CEQA findings are adopted. The Commission may also make decisions about a project's scope, budget, or schedule during annual review and approval of the Regional Water CIP. While a project is active, additional budget modifications outside of the annual CIP process require approval of the Assistant General Manager for the Water Enterprise. When and if these budget modifications occur, the modified budget becomes the new Approved Project Budget.

Outside of formal budget adjustments, the project manager regularly estimates and records the anticipated final project cost and schedule as the Forecasted Cost and Forecasted Schedule. Minor modifications to scope or schedule must be approved by increasing levels of management, with major modifications requiring approval by the Program Director and

AGMs of Infrastructure and Water Enterprise. Most scope, schedule, and budget changes must be pre-approved by the Change Control Board which consists of managers within the Water Enterprise and Infrastructure Division. Final Project Closeout must be approved by the AGMs for Infrastructure and Water Enterprise.

2. CAPITAL IMPROVEMENT PROGRAM STATUS

This Quarterly Report presents the progress made on Regional Water projects between January 1, 2021 and March 31, 2021. This document serves as the third (3rd) Quarterly Report in Fiscal Year 2020-2021 (FY21) published for the Water Enterprise Capital Improvement Program.

On April 13, 2021, SFPUC approved the Water Enterprise CIP 2021 Revised Baseline budget of $918.8 million for Regional projects and $1,755.4 million for Local projects (2021 Approved Baseline). The 2021 Approved Baseline is a subset of the Regional and Local Water Enterprise 10-year CIP for FY2021-2030 and includes individual projects over $5 million that were then currently active or intended to be active by June 30, 2022 at the time proposed to the Commission on April 13, 2021. The status of projects included in the 2021 Approved Baseline are discussed in this quarterly report.

Figure 2.1 shows the total Current Approved Budget for the 25 Regional projects in each phase of the program as of March 31, 2021. The number of projects currently active in each phase is shown in parentheses.

Figure 2.2 shows the number of Regional projects in the following stages as of March 31, 2021: Pre-construction, Construction, and Post-construction.

Figure 2.3 summarizes the environmental review status of the 25 Regional projects as of March 31, 2021.

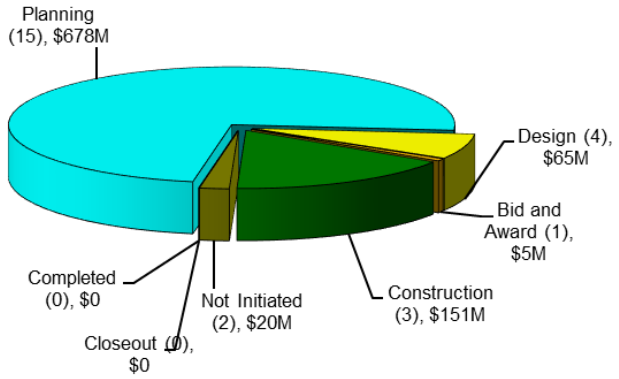


Figure 2.1 Total Current Approved Budget for Regional Projects Active in Each Phase

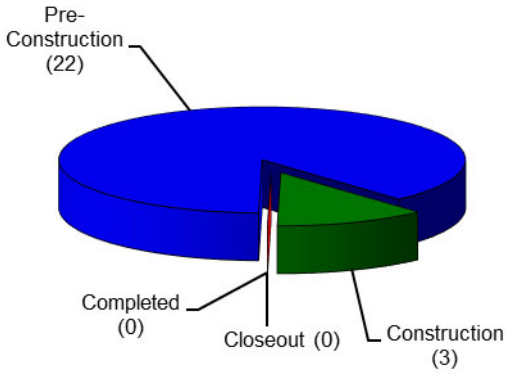


Figure 2.2 Number of Regional Projects in Pre-construction, Construction, and Post-construction

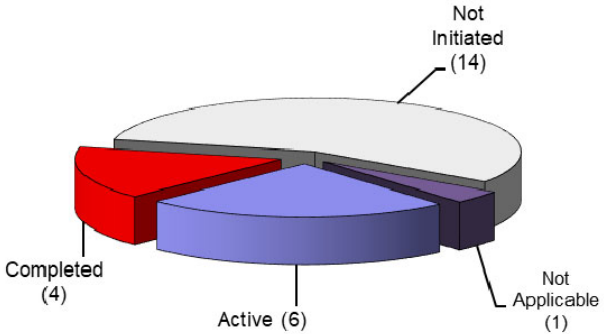


Figure 2.3 Regional Program Environmental Review

3. CAPITAL IMPROVEMENT PROGRAM COST SUMMARY

Table 3.1 provides an overall program-level cost summary of the WECIP Regional Program. It shows the Expenditures to Date; 2021 Approved, Current Approved and Q3/FY20-21 Forecasted Budgets; and the Cost Variance between the Current Approved and Forecasted Budgets.

The total Current Approved Budget (including Regional and Local Programs) and Current Forecasted Cost at completion are $2,674.2 million. The Current Approved Budget and Forecasted Cost at completion for only the Regional Program (including construction contingency) are $918.8 million.

Table 3.1 Program Cost Summary

Cost Categories	Expenditures To Date ($ Million) (A)	2021 Approved Budget ($ Million) (C)	Current Approved Budget [5] ($ Million) (D)	Q3/FY20-21 Forecasted Costs ($ Million) (E)	Cost Variance ($ Million) (F = D - E)
Regional Improvement Projects	**$140.99**	**$866.61**	**$865.09**	**$865.09**	**-**
Construction Costs [1]	$71.68	$571.73	$570.21	$570.21	-
Program Delivery Costs [2]	$69.10	$283.18	$283.18	$283.18	-
Other Costs [3]	$0.22	$11.70	$11.70	$11.70	-
Construction Contingency for Regional Projects [4]	**$5.95**	**$52.18**	**$53.70**	**$53.70**	**-**
Regional Program with Contingency	**$146.95**	**$918.79**	**$918.79**	**$918.79**	**-**
Local Improvement Projects	**$533.42**	**$1,755.36**	**$1,755.36**	**$1,755.36**	**-**
PROGRAM TOTAL	**$680.37**	**$2,674.16**	**$2,674.16**	**$2,674.16**	**-**

Notes:

1. **Construction Costs** include the Construction Base Bid and owner-provided equipment/material for all regional and support projects. Those costs do not include any construction contingency. That contingency is reflected as a separate cost category.
2. **Delivery Costs** include project management, planning, environmental (CEQA, permitting, construction compliance), design, construction management, and engineering support during construction.
3. **Other Costs** include environmental mitigation, art enrichment, security improvements, and real estate expenses.
4. Expenditures to Date for Construction Contingency for Regional projects correspond to the Total Approved Change Orders on those projects. For projects with ongoing or completed construction, the 2021 Approved Budget for construction contingency includes all change orders and trends as identified at the time of the March 2021 Revised WECIP, as well as additional contingency funding allocated to cover the 80% confidence level risks identified at the time of the March 2021 Revised WECIP. For projects in pre-construction, the 2021 Approved Budget for construction contingency includes 10% of the estimated construction base bid.
5. The budget approved as part of the March 2020 Revised WSIP, plus any additional budget changes approved by the Commission as part of additional contingencies on construction contracts.

4. CAPITAL IMPROVEMENT PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the 2021 Approved Schedule and the Current Forecast Schedule for the Regional Water CIP. Refer to the "Cost and Schedule Status" notes in Section 5 for the criteria associated with the three color-coded Forecast Status levels in Figure 4.1 – Meet Requirements, Need Attention, and Exceed Limits.

As shown in Table 4.1, the 2021 Approved and Forecasted Schedule completion for the overall Water CIP (including Regional and Local Programs) are in June 2035. The 2021 Approved and Forecasted Schedule completion for the Regional CIP alone are also June 2035.

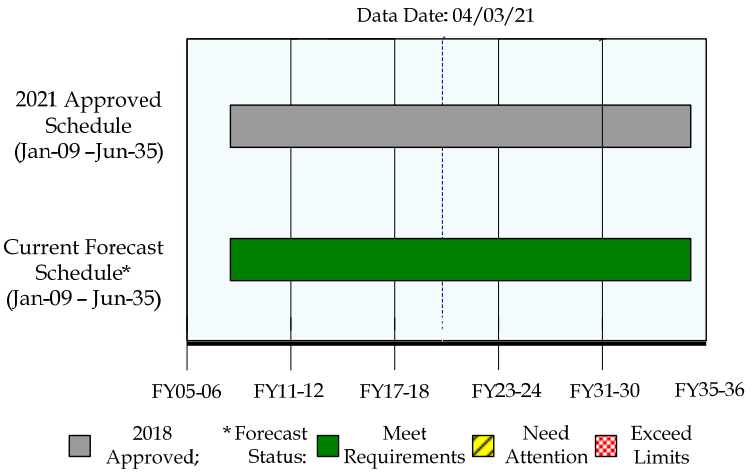


Figure 4.1 Program Schedule Summary

Table 4.1 2021 Approved vs. Current Forecast Schedule Dates

Sub-Program	2019 Approved Project Start	Actual Start	2021 Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Regional Projects	01/01/09	01/01/09✓	06/29/35	06/29/35	-
Local Projects	03/03/03	03/03/03✓	12/29/28	12/29/28	-
Overall Water Enterprise CIP	**03/03/03**	**03/03/03✓**	**06/29/35**	**06/29/35**	**-**

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in $1,000s as of 04/03/21

Project Name	Active Phase (**)	Appropriated Budget To Date (a)	Current Approved Budget (b)	Current Forecasted Cost (c)	Expenditures To Date (d)	Cost Variance (e= b - c)	Cost Status (+)	Current Approved Completion (g)	Current Forecasted Completion (h)	Schedule Variance (i = g - h)	Schedule Status (+)	Project Data Sheet
Water Treatment												
10033123 - SVWTP Ozone (CUW27202)	PL	$ 5,819	$ 165,130	$ 165,130	$ 3,084	-	★	06/30/27	06/30/27	-	★	See Section 10
CUW2720204/02 - SVWTP Phase 3 and 4	PL	$ 8,091	$ 70,132	$ 70,132	$ 7,625	-	★	06/30/26	06/30/26	-	★	See Section 10
10037349 - HTWTP Improvements Capital	PL	$ 577	$ 14,404	$ 14,404	$ 0	-	★	06/28/24	06/28/24	-	★	See Section 10
10037350 - Regional Groundwater Treatment Improvement	PL	$ 2,200	$ 38,600	$ 38,600	$ 0	-	★	12/27/29	12/27/29	-	★	See Section 10
Water Transmission												
10034578 - CSPL2 Reach 5 Lining Replacement	PL	$ 2,031	$ 13,031	$ 13,031	$ 621	-	★	09/19/25	09/19/25	-	★	See Section 10
10035029 - As-Needed Pipeline Repairs	PL	$ 1,800	$ 6,795	$ 6,795	$ 80	-	★	08/25/28	08/25/28	-	★	See Section 10
10036839 - BDPL4 PCCP Repair	PL	$ 500	$ 54,750	$ 54,750	$ 28	-	★	11/22/23	11/22/23	-	★	See Section 10
10036840 - BDPL 1-4 Lining Repair	PL	$ 500	$ 9,350	$ 9,350	$ 61	-	★	08/25/28	08/25/28	-	★	See Section 10
CUW27301 - Corrosion Control	DS	$ 10,450	$ 24,900	$ 24,900	$ 7,020	-	★	12/29/34	12/29/34	-	★	See Section 10

* Excludes projects with completed construction and projects that are no longer active (i.e., deleted projects, closed projects, and projects combined with other projects).

**** Phase Status Legend**

PL Planning DS Design BA Bid & Award
CN Construction NA Not Applicable MP Multi-Phases

For projects active in multiple phases, the table shows the phase in which a majority of the work is taking place.

+ Cost and Schedule Status

★ Meet Requirements: Forecasted Cost/Schedule is within Approved Budget/Schedule.

⚠ Need Attention: Forecasted Cost is over Approved Budget by greater than 1% and less than 10%. Or Forecasted Schedule is over Approved Schedule by greater than 2 months and both less than 6 months and less than 10%.

● Exceed Limits: Forecasted Cost is over Approved Budget by 10% or more. Or Forecasted Schedule is over Approved Schedule by greater than 6 months or 10% or more.

All costs are shown in $1,000s as of 04/03/21

Project Name	Active Phase (**)	Appropriated Budget To Date (a)	Current Approved Budget (b)	Current Forecasted Cost (c)	Expenditures To Date (d)	Cost Variance (e= b - c)	Cost Status (+)	Current Approved Completion (g)	Current Forecasted Completion (h)	Schedule Variance (i = g - h)	Schedule Status (+)	Project Data Sheet
Water Transmission												
CUW2730404 - San Antonio Pump Station MCC Upgrades	DS	$ 3,347	$ 12,500	$ 12,500	$ 544	-	★	03/19/25	03/19/25	-	★	See Section 10
CUW2730504 - San Andreas Pipeline No. 2 Replacement	CN	$ 45,542	$ 45,642	$ 45,642	$ 41,934	-	★	12/08/21	12/08/21	-	★	See Section 10
CUW2730505 - CSPL2 Reaches 2 and 3 Rehabilitation	PL	$ 2,520	$ 50,041	$ 50,041	$ 665	-	★	06/12/26	06/12/26	-	★	See Section 10
Water Supply & Storage												
10036998 - Turner Dam and Reservoir Improvements	PL	$ 1,500	$ 7,500	$ 7,500	$ 28	-	★	06/29/35	06/29/35	-	★	See Section 10
CUW2740102 - Pilarcitos Dam Improvements	PL	$ 6,680	$ 30,087	$ 30,087	$ 3,120	-	★	06/29/29	06/29/29	-	★	See Section 10
CUW2740103 - San Andreas Dam Facility Improvements	PL	$ 24,366	$ 32,195	$ 32,195	$ 740	-	★	12/30/33	12/30/33	-	★	See Section 10
Watershed & Lands Management												
CUW2751401 - EBRPD WATER SYSTEM	BA	$ 5,076	$ 5,376	$ 5,376	$ 1,267	-	★	10/31/22	10/31/22	-	★	See Section 10
10015108 - Sneath Lane Gate/North San Andreas	PL	$ 99	$ 6,698	$ 6,698	$ 0	-	★	01/27/28	01/27/28	-	★	See Section 10
CUW2751801 - Southern Skyline Blvd Ridge Trail Extension	DS	$ 5,846	$ 21,805	$ 21,805	$ 4,571	-	★	09/11/23	09/11/23	-	★	See Section 10

∗ Excludes projects with completed construction and projects that are no longer active (i.e., deleted projects, closed projects, and projects combined with other projects).

∗∗ Phase Status Legend

PL Planning DS Design BA Bid & Award
CN Construction NA Not Applicable MP Multi-Phases

For projects active in multiple phases, the table shows the phase in which a majority of the work is taking place.

+ Cost and Schedule Status

★ Meet Requirements: Forecasted Cost/Schedule is within Approved Budget/Schedule.

⚠ Need Attention: Forecasted Cost is over Approved Budget by greater than 1% and less than 10%. Or Forecasted Schedule is over Approved Schedule by greater than 2 months and both less than 6 months and less than 10%.

● Exceed Limits: Forecasted Cost is over Approved Budget by 10% or more. Or Forecasted Schedule is over Approved Schedule by greater than 6 months or 10% or more.

All costs are shown in $1,000s as of 04/03/21

Project Name	Active Phase (**)	Appropriated Budget To Date (a)	Current Approved Budget (b)	Current Forecasted Cost (c)	Expenditures To Date (d)	Cost Variance (e= b - c)	Cost Status (+)	Current Approved Completion (g)	Current Forecasted Completion (h)	Schedule Variance (i = g - h)	Schedule Status (+)	Project Data Sheet
Watershed & Lands Management												
CUW2752201 - SA-1 Service Road/Ingoing Road	PL	$ 962	$ 9,568	$ 9,568	$ 154	-	★	12/31/26	12/31/26	-	★	See Section 10
Buildings and Grounds												
10033555 - Rollins Road Building Renovations (CUW27703)	CN	$ 5,192	$ 5,192	$ 5,192	$ 2,135	-	★	06/30/22	06/30/22	-	★	See Section 10
10034526 - Millbrae Warehouse Settlement & Admin. Bldg. HVAC	DS	$ 2,580	$ 5,500	$ 5,500	$ 277	-	★	11/30/23	11/30/23	-	★	See Section 10
CUW27701 - Sunol Long Term Improvements	CN	$ 107,155	$ 100,414	$ 100,414	$ 71,592	-	★	09/13/22	09/13/22	-	★	See Section 10
CUW2770304 - Millbrae Yard Laboratory and Shop Improvements	PL	$ 2,487	$ 169,563	$ 169,563	$ 1,398	-	★	03/31/28	03/31/28	-	★	See Section 10

* Excludes projects with completed construction and projects that are no longer active (i.e., deleted projects, closed projects, and projects combined with other projects).

**** Phase Status Legend**

PL Planning DS Design BA Bid & Award
CN Construction NA Not Applicable MP Multi-Phases

For projects active in multiple phases, the table shows the phase in which a majority of the work is taking place.

+ Cost and Schedule Status

★ Meet Requirements: Forecasted Cost/Schedule is within Approved Budget/Schedule.

⚠ Need Attention: Forecasted Cost is over Approved Budget by greater than 1% and less than 10%. Or Forecasted Schedule is over Approved Schedule by greater than 2 months and both less than 6 months and less than 10%.

● Exceed Limits: Forecasted Cost is over Approved Budget by 10% or more. Or Forecasted Schedule is over Approved Schedule by greater than 6 months or 10% or more.

6. PROJECTS NOT WITHIN BUDGET AND/OR SCHEDULE

All projects are currently within Budget and Schedule.

7. On-Going Construction*

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion**	Current Forecasted Construction Final Completion	Approved Contract Cost	Current Forecasted Cost**	Schedule (Cal. Days)	Cost	
Water Transmission								
CUW2730504 - WD-2829R SAPL2 Lockbar Replacement	04/15/19	04/29/21	04/13/21	$ 33,326,615	$ 33,379,000	16	($52,385)	99.2%
Buildings and Grounds								
CUW27701 - WD-2794B Sunol Long Term Improvements - Watershed Center	03/09/20	03/16/22	03/16/22	$ 23,853,052	$ 23,853,052	-	-	28.4%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	$ 57,179,667	**$ 57,232,052**	**($52,385)**	**(0.1%)**

Note: * This table reflects Active Construction Contracts with an original contract amount greater than $1M.
** The Forecasted Cost includes all approved, pending, and potential change orders; and Final Completion includes all approved, pending, and potential change orders, and trends.

8. PROJECTS IN CLOSE-OUT

There are no active projects currently in closeout phase.

9. COMPLETED PROJECTS

There are no completed projects.

10. PROJECTS WITHIN BUDGET AND SCHEDULE

10033123 - SVWTP Ozone (CUW27202)

Project Description: In recent years, SFPUC's Sunol Valley Water Treatment Plant (SVWTP) has experienced more frequent taste and odor (T&O) events from seasonal algal blooms than had occurred historically. This project's objective is to install ozone treatment facilities as a long-term solution to control T&O events encountered in the raw water supply from both the San Antonio and Calaveras Reservoir sources. This project will improve the reliability to meet water quality goals especially during warm months and during Hetch Hetchy shutdowns.

Program: Water Treatment	**Project Status:** Planning	**Environmental Status:** Not Initiated (CatEx)

Project Cost:		**Project Schedule:**	
Approved	$165.13 M	Approved Jun-17	Jun-27
Forecast*	$165.13 M	Forecast* Jun-17	Jun-27
Actual	$3.08 M	Project Percent Complete: 2.2%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	06/02/23	08/09/23	12/21/23	12/19/26

Progress and Status:
The planning work continued to develop criteria for the design flow and hydraulics, ozone application and dosing, contactor basin configuration, electrical power demand, and number and size of ozone generators. Three criteria for the Ozone facility were selected during the reporting period including a 5 mg/L Ozone design dose, fine bubble diffusion system application method, and a configuration with four ozone contactor basins. The geotechnical investigation continued, and the site surveying was completed. The treatability testing scope continued to be developed.

Example of Fine Bubble Diffusion Ozone Application System

Issues and Challenges:
None at this time.

CUW2720204/02 - SVWTP Phase 3 and 4

Project Description: The primary objective of the SVWTP Phase 3 and 4 Project is to improve regional water delivery reliability by addressing various deficiencies and needs for improvements at the Sunol Valley Water Treatment Plant (SVWTP). Many of the scoped upgrades were identified through condition assessments, Operations staff's observations, reviews of levels of service, feasibility studies, and alternative analyses.

Program: Water Treatment	**Project Status:** Planning	**Environmental Status:** Not Initiated

Project Cost:		**Project Schedule:**	
Approved	$70.13 M	Approved Mar-14	Jun-26
Forecast*	$70.13 M	Forecast* Mar-14	Jun-26
Actual	$7.62 M	Project Percent Complete: 4.6%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/31/22	01/24/24	07/01/24	12/31/25

Progress and Status:
The project team further developed the scope with the operations staff to better understand the project needs.

Issues and Challenges:
None at this time.

Pipe Corrosion in Air Scour Tank

10037349 - HTWTP Improvements Capital

Project Description: Twenty-one sub-projects have been identified to improve the performance, efficiency and reliability of the Harry Tracy Water Treatment Plant (HTWTP). However, one of the projects, the filter underdrains, has become a priority because two of the underdrains have recently failed and a third is showing signs of imminent failure. Although 21 projects have been identified, funding is only available for the filter underdrain project, which has been deemed the highest priority. The remaining projects will be deferred to a future round of CIP planning.

Program: Water Treatment	**Project Status:** Planning	**Environmental Status:** Not Initiated

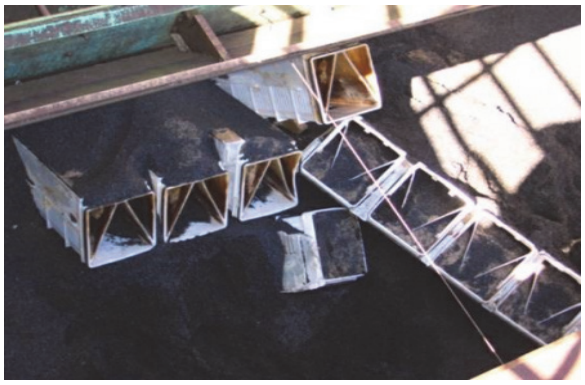
Project Cost:		**Project Schedule:**	
Approved	$14.40 M	Approved Nov-20	Jun-24
Forecast*	$14.40 M	Forecast* Nov-20	Jun-24
Actual	$0.00 M	Project Percent Complete: 1.0%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	06/29/22	07/22/22	12/30/22	12/30/23

Progress and Status:
The project team selected the preferred alternative to replace the six plastic underdrain systems that are failing with new stainless steel underdrains. A draft conceptual engineering report (CER) was prepared and reviewed, and it will be finalized next quarter. The CER was presented and approved by the Technical Steering Committee. The design phase will begin next quarter.

Issues and Challenges:
None at this time.



Filter underdrain failure

10037350 - Regional Groundwater Treatment Improvement

Project Description: The purpose of this project is to improve the performance of the Regional Groundwater Wells and treatment systems in the South Westside Basin for reliable use during dry years. In normal and wet years, the SFPUC will supply treated surface water to Daly City, San Bruno, and Cal Water to be used in place of their typical groundwater supply, thereby increasing the volume of groundwater in storage that can be pumped as supplemental water in dry years. This project will address emerging well water quality issues that require treatment, will provide additional reliability for treatment systems at the wells, and will evaluate the potential for a consolidated treatment facility (through Alternatives Analysis only).

Program: Water Treatment	**Project Status:** Planning	**Environmental Status:** Not Initiated

Project Cost:		**Project Schedule:**	
Approved	$38.60 M	Approved Aug-20	Dec-29
Forecast*	$38.60 M	Forecast* Aug-20	Dec-29
Actual	$0.00 M	Project Percent Complete: 0.1%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/03/25	01/29/26	06/18/26	06/25/29

Progress and Status:

A review of options for decentralized groundwater treatment facilities was initiated under the Regional Groundwater Storage and Recovery Project under WSIP. This project will take over review and completion of a technical memorandum (TM) that summarizes the findings. Recommendations from this TM will be carried into an alternatives analysis report (AAR) under this project. The draft TM on centralized groundwater treatment improvements was prepared last quarter and is being circulated for review. The final comprehensive report anticipated to be available next quarter.

Typical well site

Issues and Challenges:

None at this time.

10034578 - CSPL2 Reach 5 Lining Replacement

Project Description: Crystal Springs Pipeline No. 2 (CSPL2) runs from Crystal Springs Pump Station to University Mound Reservoir. It delivers potable and emergency water supply to San Francisco and to several cities along the peninsula. Reach 5 of CSPL2, 60 inches in diameter and located in the Cities of South San Francisco and San Bruno between Millbrae Yard and Baden Pump Station, is over 80 years old and has extensive lining failures. This project would replace approximately 3.3 miles of coal tar lining with cement mortar or dielectric lining, upgrade about 30 appurtenances to meet current standards, and improve access and shutdown flexibility for maintenance by installing five manway structures and one 48-inch diameter valve on San Andreas Pipeline No. 1 (SAPL1) near Baden Pump Station.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Active

Project Cost:

Approved		$13.03 M
Forecast*		$13.03 M
Actual		$0.62 M

Project Schedule:

Approved Feb-19		Sep-25
Forecast* Feb-19		Sep-25

Project Percent Complete: 5.1%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	See Note	04/24/23	10/02/23	03/21/25

** Environmental CatEx was obtained under project CUW2730504 - SAPL2 Lockbar Replacement on 06/20/17.

Progress and Status:

Consultants recommended an additional location since last quarter along the CSPL2 for field investigation due to potential for corrosion. This location was potholed for investigation and will be repaired. The draft Alternatives Analysis Report (AAR) was circulated for review and comments were provided. Responses to comments to the draft AAR will be provided and a scoring committee will convene to select and recommended an alternative next quarter.

Additional pothole location showing previous repair

Issues and Challenges:

None at this time.

10035029 - As-Needed Pipeline Repairs

Project Description: Water Supply and Treatment Division's (WSTD) maintenance and inspection program inspects the regional pipeline system on an ongoing basis. However, when repairs are identified to be needed following inspections and when emergency repairs are needed, a contractor is not readily available to perform the repairs. This project will increase system reliability by reducing the duration and number of outages since a pre-qualified, as-needed contractor will be available to complete repairs immediately following inspections or in emergencies. This project will repair/replace regional pipeline segments that will be inspected over the next five years, in addition to any emergency repairs that may be needed. The construction contract for this project will be combined with Project 10036840, BDPL1-4-B Lining Repair to provide a sufficient guaranteed scope.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Active

Project Cost:		**Project Schedule:**	
Approved	$6.80 M	Approved Oct-16	Aug-28
Forecast*	$6.80 M	Forecast* Oct-16	Aug-28
Actual	$0.08 M	Project Percent Complete: 1.2%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	09/22/22	10/18/22	03/27/23	02/26/28

Progress and Status:
A draft Conceptual Engineering Report (CER) was prepared describing the repair methodology and requirements. The CER will be circulated for review next quarter.

Issues and Challenges:
None at this time.

Stockpiled pipe segments to be used for repairs

10036839 - BDPL4 PCCP Repair

Project Description: Historically, when prestressed concrete cylinder pipe (PCCP) fails due to wrapped wire breaks, the failure can result in widespread damage to the pipe and ground surface due to multiple wires breaking at the same time along the pressurized pipe. From recent inspections of Bay Division Pipeline No. 4 (BDPL4) Segment D, constructed of PCCP, a large number of defects were found in the last mile of pipe that parallels Edgewood Road in Redwood City; this project will address those defects. This project will increase system reliability by rehabilitating approximately 350 feet of 84-inch diameter BDPL4 PCCP in Redwood City.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Active

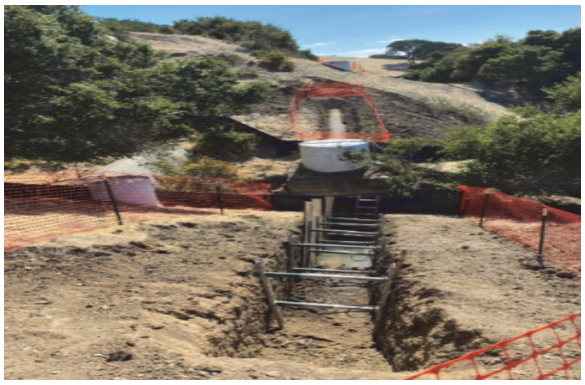
Project Cost:		**Project Schedule:**	
Approved	$54.75 M	Approved May-20	Nov-23
Forecast*	$54.75 M	Forecast* May-20	Nov-23
Actual	$0.03 M	Project Percent Complete: 0.4%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	03/31/22	04/22/22	09/29/22	05/26/23

Progress and Status:
A portion of BDPL4 in Redwood City, which was leaking, was dewatered and inspected. Temporary internal repairs at leaks and other areas identified to be of concern were also repaired. A draft technical memorandum with recommendations for future improvements will be prepared next quarter.

Issues and Challenges:
None at this time.



BDPL4 Prestressed Concrete Cylinder Pipe

10036840 - BDPL 1-4 Lining Repair

Project Description: Water Supply and Treatment Division's (WSTD) ongoing pipeline inspection program has identified segments of the Bay Division Pipeline Nos. 1 through 4 (BDPL 1-4) that require lining repairs and replacement. This project will retain an as-needed contractor to repair or replace sections of lining that are identified by WSTD over the next 5-years.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Active

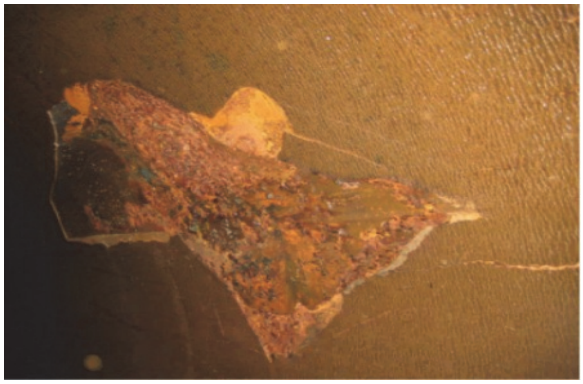
Project Cost:		**Project Schedule:**	
Approved	$9.35 M	Approved Sep-16	Aug-28
Forecast*	$9.35 M	Forecast* Sep-16	Aug-28
Actual	$0.06 M	Project Percent Complete: 1.3%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	08/24/22	10/18/22	03/24/23	01/04/28

Progress and Status:
A draft Conceptual Engineering Report (CER) was prepared to document the lining repair needs, requirements, and methodology. The CER will be circulated for review early next quarter.

Issues and Challenges:
None at this time.



Typical pipeline lining defect to be repaired

CUW27301 - Corrosion Control

Project Description: This project will implement the corrosion protection and control program as recommended in the Corrosion Control Master Plan completed in August 2010. Sites identified with worst levels of corrosion were bundled up in the masterplan in four phases. Each phase will take several years for implementation. The scope for all phases will be similar, but the number of sites will vary at each phase. Phase 1 construction work for ten sites was completed and accepted on August 27, 2019. Phase 2 has fourteen sites and is currently in the design phase. Phase 3 is anticipated to include work at eighteen sites and to begin planning in 2025. The number of sites and locations for Phase 4 will be determined from the corrosion database resulting from WST's annual inspection reports. Planning phase for Phase 4 will commence after Phase 3 is completed.

Program: Water Transmission	**Project Status:** Design	**Environmental Status:** Not Applicable

Project Cost:		**Project Schedule:**	
Approved	$24.90 M	Approved Jan-16	Dec-34
Forecast*	$24.90 M	Forecast* Jan-16	Dec-34
Actual	$7.02 M	Project Percent Complete: 28.5%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/29/18✓	07/23/21	01/03/22	12/29/23

Progress and Status:
The Corrosion Control Phase 2 sub-project is currently in the design phase. The project team is coordinating utilities permits with PG&E and Palo Alto Electric. Focus is on obtaining temporary construction encroachment permits from Fremont, Newark, Redwood City, Mountain View, Los Altos, Palo Alto, Stanford, and Menlo Park.

Issues and Challenges:
None at this time.

Deep Anode Installation – Corrosion Phase 1

CUW2730404 - San Antonio Pump Station MCC Upgrades

Project Description: The San Antonio Pump Station (SAPS) is one of the key facilities in the Sunol Valley; it was constructed in 1965 and modified in 1990. The existing motor control centers (MCC) MCC-A, MCC-B, and MCC-C have been in service since the 1960's and they are approaching the end of their useful life. In order to maintain reliable operation at SAPS, the existing MCCs are being replaced and facility walls are being seismically retrofitted. In order to accommodate the retrofit work, the communications system is being relocated to an adjacent room and the HVAC will be replaced in affected rooms. In addition, a new propane generator will replace the existing diesel generator to serve as reliable backup power to the facility.

Program: Water Transmission	**Project Status:** Design	**Environmental Status:** Not Initiated (CatEx)

Project Cost:		**Project Schedule:**	
Approved	$12.50 M	Approved May-16	Mar-25
Forecast*	$12.50 M	Forecast* May-16	Mar-25
Actual	$0.54 M	Project Percent Complete: 4.4%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	04/14/22	12/07/22	06/05/23	10/09/24

Progress and Status:
The design has resumed and is moving forward. The design team is revising the design criteria to include the new generator and ancillary facilities scope, with support from operations staff.

Issues and Challenges:
None at this time.

San Antonio Pump Station building looking southeast

CUW2730504 - San Andreas Pipeline No. 2 Replacement

Project Description: San Andreas Pipeline No. 2 (SAPL2) provides key water supply redundancy from the Harry Tracy Water Treatment Plant (HTWTP) to the Sunset Reservoir. The lock bar steel sections of SAPL2 between the HTWTP and the Golden Gate National Cemetery are almost 90 years old, pitted, deteriorated, and in need of replacement. This project will replace/rehabilitate approximately 6,500 linear feet of SAPL2 in the City of San Bruno. In addition, as part of this project, two valves will be installed on SAPL1 and CSPL2 near the Baden Valve Lot to improve access to these pipelines.

Program: Water Transmission	**Project Status:** Construction	**Environmental Status:** Completed (EIR Addendum)

Project Cost:

Approved		$45.64 M
Forecast*		$45.64 M
Actual		$41.93 M

Project Schedule:

Approved Mar-16		Dec-21
Forecast* Mar-16		Dec-21

Project Percent Complete: 96.4%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/17/17✓	10/09/18✓	05/01/19✓	04/13/21

Progress and Status:
Contractor has demobilized and is addressing remaining punch list items. Final Completion anticipated to be achieved early next quarter.

Issues and Challenges:
None at this time.

Segment 4 restored

CUW2730505 - CSPL2 Reaches 2 and 3 Rehabilitation

Project Description: Crystal Springs Pipeline No. 2 (CSPL2) spans from Crystal Springs Pump Station to University Mound Reservoir. It delivers potable water supply to San Francisco and several cities along the Peninsula. Reaches 2 and 3 of CSPL2 in the Town of Hillsborough, unincorporated areas of San Mateo County, the City of San Mateo, and the City of Burlingame are over 80 years old and deteriorated in some locations with Reach 2 located on slopes that are eroding and Reach 3 containing extensive lining failures. This project would realign Reach 2 to the existing abandoned CSPL1 alignment, replace the coal tar lining of Reach 3, and improve access to the pipeline.

Program: Water Transmission	**Project Status:** Planning	**Environmental Status:** Not Initiated (MND)

Project Cost:

Approved		$50.04 M
Forecast*		$50.04 M
Actual		$0.66 M

Project Schedule:

Approved	Sep-16	Jun-26
Forecast*	Sep-16	Jun-26

Project Percent Complete: 1.4%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/27/23	07/11/23	12/18/23	12/16/25

Progress and Status:
San Francisco Public Works is continuing with surveying and geotechnical investigation work. Preliminary results of the corrosion investigation identified two locations that may need to be excavated for additional testing.

Issues and Challenges:
None at this time.

CSPL2 creek crossing

10036998 - Turner Dam and Reservoir Improvements

Project Description: Turner Dam is a 195-foot-high earth embankment dam that was completed in 1965 and impounds San Antonio Reservoir in the East Bay. The dam is regulated by the California Division of Safety of Dams (DSOD). This project is to investigate the seismic stability and hydraulic performance of the Turner Dam and San Antonio Reservoir facilities and to perform necessary upgrades identified during the Planning Phase. The scope of work will be confirmed once Condition and Needs Assessments, and Alternative Analysis of the dam, outlet structures, and spillway are complete.

Program: Water Supply & Storage	**Project Status:** Planning	**Environmental Status:** Not Initiated (EIR)

Project Cost:		**Project Schedule:**	
Approved	$7.50 M	Approved Oct-20	Jun-35
Forecast*	$7.50 M	Forecast* Oct-20	Jun-35
Actual	$0.03 M	Project Percent Complete: 0.3%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	06/30/31	07/01/31	01/01/32	12/29/34

Progress and Status:
A kick-off meeting with the project team was held on Feb 12, 2021, followed by a site visit on March 26, 2021 to officially start the planning phase of the project. A design consultant has been retained. The first task order was issued early this quarter to cover scope for performing condition assessment for the spillway and preparing geotechnical investigation work plan.

Issues and Challenges:
None at this time.

Upstream Face of Turner Dam and San Antonio Reservoir

CUW2740102 - Pilarcitos Dam Improvements

Project Description: The Pilarcitos Dam is an earthen embankment dam that was built in 1866 and raised in 1874; it is the SFPUC's oldest dam regulated by the California Division of Safety of Dams (DSOD). This project will investigate the seismic stability and hydraulic performance of the Pilarcitos Dam and Reservoir facilities and perform necessary upgrades identified during the Planning Phase. The scope of work will be confirmed following the completion of the Condition and Needs Assessments, and Alternative Analysis for the dam and forebay outlet structure, spillway, outlet tunnel, and outlet pipeline.

Program: Water Supply & Storage	**Project Status:** Planning	**Environmental Status:** Not Initiated (MND)

Project Cost:		**Project Schedule:**	
Approved	$30.09 M	Approved Apr-14	Jun-29
Forecast*	$30.09 M	Forecast* Apr-14	Jun-29
Actual	$3.12 M	Project Percent Complete: 10.3%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	06/30/25	07/09/25	01/02/26	12/31/28

Progress and Status:
The design consultant continued to work on the spillway condition assessment and the dam embankment stability evaluation. Spillway hydraulic analysis Technical Memo was finalized during the reporting period. Once the spillway condition assessment and the dam embankment stability evaluation are completed, anticipated by mid-2021, the team will prepare an overall condition assessment report for the entire facility.

Pilarcitos spillway inspection

Issues and Challenges:
None at this time.

CUW2740103 - San Andreas Dam Facility Improvements

Project Description: The San Andreas dam is a 105-foot-high earthen embankment dam that was built in 1870; it impounds San Andreas Reservoir that is the raw water source for the Harry Tracy Water Treatment Plant, and it is regulated by the California Division of Safety of Dams (DSOD). This project will investigate the seismic stability and hydraulic performance of the San Andreas Dam and Reservoir facilities and perform necessary upgrades identified during the Planning Phase. The objectives are to perform Condition and Needs Assessments and Alternatives Analyses of the dam, spillway, emergency outlet, and ancillary facilities; to develop retrofit options if required; and to implement the selected alternatives.

Program: Water Supply & Storage	**Project Status:** Planning	**Environmental Status:** Not Initiated (Various)

Project Cost:

Approved	$32.20 M
Forecast*	$32.20 M
Actual	$0.74 M

Project Schedule:

Approved	Dec-13	Dec-33
Forecast*	Dec-13	Dec-33

Project Percent Complete: 2.8%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	(A) 07/02/24 (B) 12/31/26	01/04/27 01/02/29	07/01/27 07/02/29	06/29/29 06/30/33

** (A) CatEx; (B) MND

Progress and Status:

The design consultant has completed the review for all the existing background information. Project team started performing needs assessment for the spillway and the emergency drawdown outlet structures, and a workshop was held on Mar 9, 2021 with Operations to present the preliminary findings. In the meantime, the team has also started developing seismic design criteria and planning for the geotechnical investigation and surveying work.

San Andreas Dam and Spillway

Issues and Challenges:

None at this time.

CUW2751401 - EBRPD WATER SYSTEM

Project Description: As a mitigation for the Calaveras Dam Replacement Project, the SFPUC agreed to construct new potable water distribution facilities for the Sunol Regional Wilderness Park (SRP), managed by the East Bay Regional Park District (EBRPD). The EBRPD owns and maintains a water system located at SRP Headquarters which previously supplied potable water to four park facilities, as well as drinking water fountains and picnic areas interspersed throughout the park. Currently, the water system serves non-potable water for use by EBRPD employees only. Since the system stopped producing potable water due to supply and sanitary deficiencies, EBRPD has been supplying park visitors with bottled water trucked in by a contracted vendor. The project purpose is to provide a reliable water supply for potable use at the EBRPD facilities and to provide potable uses at the SRP.

Program: Watershed & Lands Management	**Project Status:** Bid and Award	**Environmental Status:** Completed

Project Cost:		**Project Schedule:**	
Approved	$5.38 M	Approved Jun-14	Oct-22
Forecast*	$5.38 M	Forecast* Jun-14	Oct-22
Actual	$1.27 M	Project Percent Complete: 24.3%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	11/05/20✓	10/09/20✓	04/28/21	05/28/22

Progress and Status:
The construction contract was approved for award by the Commission on February 9, 2021. The Notice to Proceed (NTP) will be issued next quarter and construction will start.

Issues and Challenges:
None at this time.

Sunol Regional Wilderness Park High Valley Area

10015108 - Sneath Lane Gate/North San Andreas

Project Description: The 2001 Peninsula Watershed Management Plan identified the need for a new trail connection between San Mateo County's Crystal Springs Regional Trail (North San Andreas) to Golden Gate National Recreation Area's Sweeney Ridge property at the Sneath Lane Gate. The trail is a critical connection among existing regional trails, and will provide access to hikers, bikers and equestrians.

Program: Water Supply & Storage	**Project Status:** Planning	**Environmental Status:** Not Initiated

Project Cost:		**Project Schedule:**	
Approved	$6.70 M	Approved Feb-21	Jan-28
Forecast*	$6.70 M	Forecast* Feb-21	Jan-28
Actual	$0.00 M	Project Percent Complete: 0.1%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	01/31/25	02/02/26	07/31/26	07/30/27

Progress and Status:
The planning phase of the project commenced this quarter. San Francisco Public Works submitted a fee proposal for the Planning Phase work scope. Next quarter, consultant selection will be finalized and work on the planning documentation will begin.

Issues and Challenges:
None at this time.

Sneath Lane Trailhead

CUW2751801 - Southern Skyline Blvd Ridge Trail Extension

Project Description: The Bay Area Ridge Trail project was started in 1987 by the Bay Area Ridge Trail Council to create an approximately 550-mile long continuous trail for hikers, mountain bicyclists, and equestrians along the ridgelines overlooking San Francisco Bay. The objective of this project is to provide access to the Peninsula watershed, to enhance educational opportunities, and to ensure watershed protection. This proposed trail extension project would construct a 6-mile long trail on the Peninsula Watershed in San Mateo County between Highway 92 and the Golden Gate National Recreation Area's (GGNRA) Phleger Estate. The project would consist of 8 to 10-foot wide, all-weather surface trails; retaining structures to stabilize cut and/or fill slopes; drainage facilities; two parking lots; two prefabricated restrooms along the trail; site security features; and landscape restoration.

Program: Watershed & Lands Management	**Project Status:** Design	**Environmental Status:** Active (EIR)

Project Cost:		**Project Schedule:**	
Approved	$21.81 M	Approved Oct-12	Sep-23
Forecast*	$21.81 M	Forecast* Oct-12	Sep-23
Actual	$4.57 M	Project Percent Complete: 22.2%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	07/20/21	07/20/21	12/20/21	03/15/23

Progress and Status:
During the quarter, the environmental consultant prepared the Response to Public Comment (RTC) document. The RTC was reviewed by the San Francisco Planning Department and the City Attorney's Office. Next quarter, publication of the RTC and certification of the EIR is anticipated, and that will be followed by project approval by the SFPUC Commission.

Issues and Challenges:
None at this time.

Section of Proposed Trail Alignment

CUW2752201 - SA-1 Service Road/Ingoing Road

Project Description: The SFPUC has identified landslide and erosion damage that have destabilized service roads (East Shore Service Road and West Shore Service Road) and adjacent areas in three locations on San Francisco Peninsula Watershed lands situated along the San Andreas Reservoir in San Mateo County. The project is to evaluate and repair the damage, and to implement long term solutions for SFPUC staff and contractors to continue to use the roads to access, operate, and maintain SFPUC facilities and watershed lands. Construction for these locations can be done through phases to accommodate budget cash flow.

Program: Watershed & Lands Management	**Project Status:** Planning	**Environmental Status:** Not Initiated (MND)

Project Cost:		**Project Schedule:**	
Approved	$9.57 M	Approved Jun-16	Dec-26
Forecast*	$9.57 M	Forecast* Jun-16	Dec-26
Actual	$0.15 M	Project Percent Complete: 1.6%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	12/15/22	07/25/23	01/02/24	01/01/25

Progress and Status:
The Alternative Analysis Report (AAR) will be finalized in the next quarter. Included in the AAR were options for the east shore road repairs with a recommendation to further investigate the slope stabilization on the northern areas of the east shore. Operations indicated that late summer or early fall is preferred for construction to avoid shutdown and allow for lowered water level in the San Andreas Reservoir. The next steps are for the project team to initiate the CER and Environmental Phase in the next quarter.

Project Map – SA-1 Service Road/Ingoing Road

Issues and Challenges:
None at this time.

10033555 - Rollins Road Building Renovations (CUW27703)

Project Description: The SFPUC purchased a property that was previously leased long-term on Rollins Road in Burlingame, San Mateo County, in September 2017, securing ownership of an additional 10,000 square feet of office space for the SFPUC Water Enterprise (WE). A capital project was initiated in 2018 for tenant improvements. In June 2020, the project scope for the 1657 Rollins Road was decreased significantly, and the scope of the Millbrae Yard Lab & Shop Project was increased. The program for Rollins Road Building Renovation Project will be achieved at the Millbrae Yard by adding two additional floors to the laboratory building as part of its Phase 1 project. The expanded laboratory building will accommodate the Rollins Road building staff. As a result of the scope change, personnel at 1657 Rollins Road will relocate to Millbrae Yard campus following the completion of the Millbrae Yard Lab & Shops Project.

Program: Buildings and Grounds	**Project Status:** Construction	**Environmental Status:** Completed (CatEx)

Project Cost:

Approved	$5.19 M
Forecast*	$5.19 M
Actual	$2.14 M

Project Schedule:

Approved	Mar-18	Jun-22
Forecast*	Mar-18	Jun-22

Project Percent Complete: 42.9%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/30/20✓	N/A	12/08/20✓	12/30/21

Progress and Status:

During this quarter, the JOC contractor completed installation of the perimeter fencing. In addition, the PUC received a cost proposal for the exterior security, lighting and related electrical scope of work, which is currently under negotiation. Next quarter, a supplemental task order will be issued for the beforementioned work. The project scope reported herein has been reduced to include design and construction of exterior fencing, lighting, security hardware and related electrical with a project budget of $3.3M. Water Enterprise is managing the remaining $1.8M, which will be used for interior improvements, under the R&R program.

View of rear parking lot where lights and cameras will be added

Issues and Challenges:

None at this time.

10034526 - Millbrae Warehouse Settlement & Admin. Bldg. HVAC

Project Description: This project will construct improvements for two buildings located at the Millbrae Yard facility, the Millbrae Warehouse and the Administration Building. The Millbrae Warehouse Settlement project will provide a long-term repair for the displacement (settlement) of the slab between the loading dock and the offices. The slab settlement resulted from expansive clay layers located seven feet below the top of the existing concrete slab. For the Millbrae Administration Building HVAC Upgrades, this project will provide long-term reliable and economical improvements to heating and cooling systems.

Program: Buildings and Grounds	**Project Status:** Design	**Environmental Status:** Active

Project Cost:

Approved	$5.50 M
Forecast*	$5.50 M
Actual	$0.28 M

Project Schedule:

Approved	Jan-17	Nov-23
Forecast*	Jan-17	Nov-23

Project Percent Complete: 5.2%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	10/29/21	(A) 09/01/20✓ (B) 11/23/21	(A) 06/01/21 (B) 03/01/22	06/30/22 02/28/23

+ Project includes multiple construction contracts: (A) WD-2870 (I) Millbrae Warehouse Settlement; (B) WD-2869 Millbrae Admin Building HVAC Upgrade

** The CatEx was approved in 2017, however it needs to be modified to include tree removal for the HVAC Upgrades only.

Progress and Status:

The Millbrae Warehouse Settlement project is in Bid & Award Phase under the WD-2870 (I) contract. WD-2870 (I), Millbrae Loading Dock Repair, was advertised as an informal contract. Four (4) bids were received. The lowest bidder submitted a bid for $570,745, which is less than the engineers estimate of $800k. On February 2, 2021, the Notice of Award Letter was issued.

The Millbrae Administration Building HVAC Upgrades is in Design Phase under the WD-2869 contract.

Existing Millbrae Administration Building

Issues and Challenges:

None at this time.

CUW27701 - Sunol Long Term Improvements

Project Description: The project includes redevelopment of the existing Sunol Yard and construction of a Watershed Center near the Sunol Water Temple. The project will demolish six existing dilapidated structures at the Sunol Yard and construct a LEED Gold administration building, shops, fuel station, backup generator system, truck wash station, paving and site restoration. The SFPUC Alameda Creek Watershed Center (Center) will be a gathering place for increasing the awareness and appreciation of the natural, cultural, scenic, historic and recreational resources of the Alameda Creek watershed. Consistent with the SFPUC Water Enterprise Environmental Stewardship Policy, and as described in the SFPUC Alameda Watershed Management Plan, the Center will enhance public awareness and provide education opportunities related to water quality, water supply, conservation and environmental stewardship issues.

Program: Buildings and Grounds	**Project Status:** Construction	**Environmental Status:** Completed (MND)

Project Cost:

Approved		$100.41 M
Forecast*		$100.41 M
Actual		$71.59 M

Project Schedule:

Approved Jan-09		Sep-22
Forecast* Jan-09		Sep-22

Project Percent Complete: 71.9%

Approved; Actual Cost; * Forecast Status: Meet Requirements; Need Attention; Exceed Limits

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	12/02/15✓	(A) 03/01/16✓ (B) 08/30/19✓	(A) 01/17/17✓ (B) 03/09/20✓	09/15/20✓ 03/16/22

+ Project includes multiple construction contracts: (A) Sunol Yard; and (B) Watershed Center

Progress and Status:

Sunol Yard (Contract A): The draft project close-out dossier work started.

Watershed Center (Contract B): The construction work on the Architectural concrete walls, roof structural steel, roof decking, rebar and concrete slabs, sewage holding tank, rain harvest tank and utility trenching continued during the reporting period. The major excavation work was completed. The public art piece design work continued. The draft exterior exhibit design was submitted for review. Additional Native American burials and features were discovered this quarter during the excavation and trenching work and were appropriately removed.

View of Watershed Center

Issues and Challenges:

None at this time.

CUW2770304 - Millbrae Yard Laboratory and Shop Improvements

Project Description: SFPUC has determined that the existing Millbrae Administration Building must remain operational following a major earthquake, and therefore needs to be retrofitted or replaced to meet essential facility requirements. SFPUC also wants to expand the existing Millbrae Administration Building to merge and house the Water Enterprise staff and equipment from the Rollins Road Facility. This project is necessary to provide Water Enterprise personnel a long term and sustainable campus and facilitate the consolidation of work groups for increased staff efficiency. This project will also alleviate shortage of program space, increase efficiency of operations, improve employee working environment with improved heating, ventilation, and air conditioning, improve employee health and safety, and enhance site and building security. The Millbrae Yard campus improvements will be implemented in three phases. Phase 1 includes a new laboratory and new south shop building; Phase 2 includes demolition of the existing Administration Building and construction of a new consolidated Administration Building; Phase 3 includes new covered storage for materials and equipment. This project includes planning for all three phases, but only design and construction for Phase 1.

Program: Buildings and Grounds	**Project Status:** Planning	**Environmental Status:** Not Initiated (MND)

Project Cost:

Approved	$169.56 M
Forecast*	$169.56 M
Actual	$1.40 M

Project Schedule:

Approved	Nov-15	Mar-28
Forecast*	Nov-15	Mar-28

Project Percent Complete: 0.9%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/27/23	11/06/24	04/15/25	10/02/27

Progress and Status:

The project is currently in the Planning Phase. The Request for Proposals (RFP) PRO.0186 for engineering services was advertised on 3/10/2021. The final programming document (Alternatives Analysis Report Phase) was issued during this quarter. The Conceptual Engineering Report (CER) Phase work prior to hiring the consultant from the RFP PRO.0186 contract will begin on 4/1/21.

Issues and Challenges:

None at this time.

Existing Administration Building

This page is intentionally left blank

II. Local Capital Improvement Program

1. CAPITAL IMPROVEMENT PROGRAM DESCRIPTION

The San Francisco Public Utilities Commission (SFPUC) Water Enterprise manages a complex water supply system stretching from the Sierra to San Francisco featuring a series of reservoirs, tunnels, pipelines, and treatment systems. Two unique features of this system stand out: the drinking water provided is among the highest quality in the world, and water deliveries are made to most customers without the use of power (gravity flow) while generating power at the same time.

The SFPUC is the third largest municipal utility in California, serving 2.7 million residential, commercial, and industrial customers in the Bay Area. Approximately one-third of the delivered water goes to retail customers in San Francisco, while wholesale deliveries to 27 suburban agencies in Alameda, Santa Clara, and San Mateo counties comprise the other two-thirds.

The Local Water System is located primarily within the City and County of San Francisco and consists of water storage and treatment facilities; water transmission and distribution infrastructure; buildings and structures for facilities and employees; communications systems; and various lands in the City and County of San Francisco. In addition, the Local Water System includes several other small retail systems in Alameda, Santa Clara and San Mateo Counties where the SFPUC directly retails water to various customers. Groundwater in San Francisco is under the jurisdiction of the SFPUC; the Westside Basin is the only viable aquifer for municipal use. Additionally, the Local Water System includes the Emergency Firefighting Water System (EFWS) used for fire suppression in San Francisco and developer-funded assets that have been conveyed to the SFPUC.

The Local Water System Capital Improvement Program (Local Water CIP) is a 10-year proposed appropriations plan of scheduled projects to physically improve the system assets and maintain level of service goals. This Local Water CIP is updated each year and integrated with the SFPUC's 10-year Financial Plan and rate-setting.

There are seven (7) groupings of projects in the Local Water CIP in addition to a separate set of programmatic projects used for feasibility planning, for future capital projects, and for implementation of permit compliance activities. The categories are:

- Local Water Supply
- Local Water Conveyance/Distribution
- Local Reservoirs and Tanks Improvements
- Pump Station Improvements
- Automated Water Meter Reading
- Buildings and Grounds Improvements
- Emergency Firefighting Water System

A project is formally initiated (Project Initiation) when the planning process begins, a project manager is assigned, and the project's initial **Approved Budget** consistent with the most recently adopted Local Water CIP is established.

A project moves from the planning, design, and environmental review stage to contract-award and start of construction phase when **Project Approval** occurs through an action by the Commission, usually at the same time CEQA findings are adopted. The Commission may also make decisions about a project's scope, budget, or schedule during annual review and approval of the Local Water CIP.

While a project is active, additional budget modifications outside of the annual CIP process require approval of the Assistant General Manager (AGM) for the Water Enterprise. When and if these budget modifications occur, the modified budget becomes the new **Approved Project Budget**.

Outside of formal budget adjustments, the project manager regularly estimates and records the anticipated final project cost and schedule as he **Forecasted Cost** and **Forecasted Schedule**.

Minor modifications to scope or schedule must be approved by increasing levels of management, with major modifications requiring approval by the Program Director and AGMs of Infrastructure and Water Enterprise. Most scope, schedule, and budget changes must be pre-approved by the Change Control Board which consists of managers within the Water Enterprise and Infrastructure Division. Final Project Closeout must be approved by the AGMs for Infrastructure and Water Enterprise.

2. CAPITAL IMPROVEMENT PROGRAM STATUS

This Quarterly Report presents the progress made on Local Water projects between January 1, 2021 and March 31, 2021. This document serves as the third (3rd) Quarterly Report in Fiscal Year 2020-2021 (FY21) published for the Water Enterprise Capital Improvement Program.

On April 13, 2021, SFPUC approved the Water Enterprise CIP 2021 Revised Baseline budget of $918.8 million for Regional projects and $1,755.4 million for Local projects (2021 Approved Baseline). The 2021 Approved Baseline is a subset of the Regional and Local Water Enterprise 10-year CIP for FY2021-2030 and includes individual projects over $5 million that were then currently active or intended to be active by June 30, 2022 at the time proposed to the Commission on April 13, 2021. The status of projects included in the 2021 Approved Baseline are discussed in this quarterly report.

Figure 2.1 shows the total Current Approved Budget for the Local projects in each phase of the program as of March 31, 2021. The number of projects currently active in each phase is shown in parentheses.

Figure 2.2 shows the number of Local projects in the following stages as of March 31, 2021: Pre-construction, Construction, and Post-construction.

Figure 2.3 summarizes the environmental review status of the Local projects as of March 31, 2021.

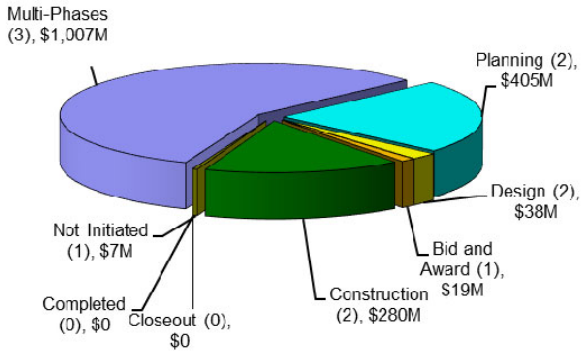


Figure 2.1 Total Current Approved Budget for Local Projects Active in Each Phase

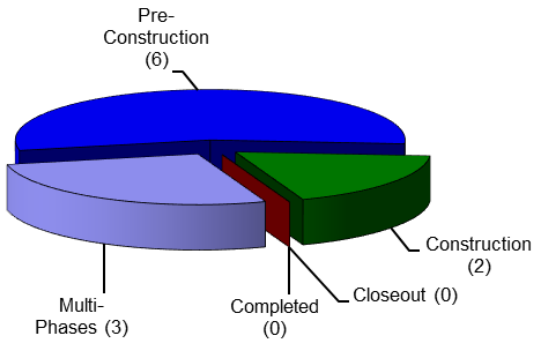


Figure 2.2 Number of Local Projects in Pre-construction, Construction, and Post-construction

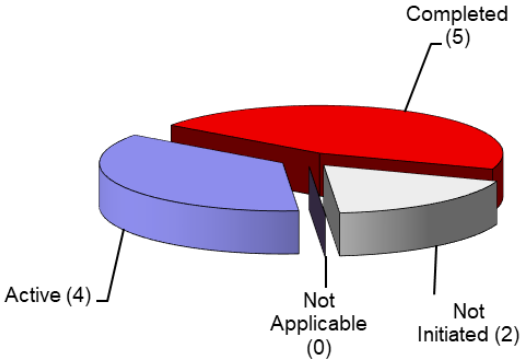
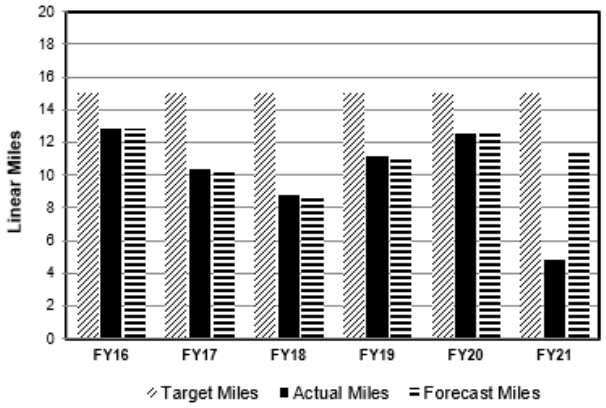


Figure 2.3 Local Program Environmental Status

The Local Water Conveyance/Distribution System Program has an annual goal to replace or improve a target of 15 miles of water mains in San Francisco. Figure 2.4 shows the planned and actual miles of pipeline projects that have reached substantial completion since FY16. At the end of FY21, 11.5 miles of pipe are anticipated to have been replaced and their construction to have achieved substantial completion.

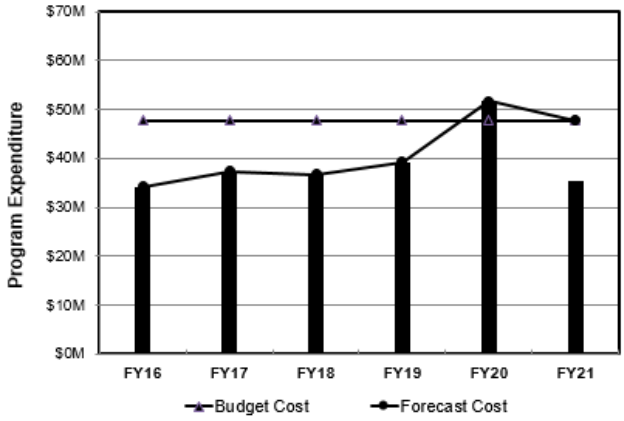


	FY16	FY17	FY18	FY19	FY20	FY21
Target Miles	15.0	15.0	15.0	15.0	15.0	15.0
Actual Miles	12.9	10.4	8.8	11.2	12.6	4.8
Forecast Miles						11.5

Figure 2.4 Water Conveyance/Distribution System Program - Linear Miles by Fiscal Year

Water main replacement projects with construction underway in the 3rd quarter of FY21 included the City streets of Geary between 36th and 48th Avenues, Geary between Van Ness and Kearny, L-Taraval between Sunset and SF Zoo, 22nd Street, Pierce Street, Castro Street, 21 Street, 17th Street, Baker Street, 19th Avenue, and Casitas. Pipelines were replaced and water work was completed during the 3rd quarter of FY21 on Geary between 36th and 48th Avenues and 22nd Street. Project achieving substantial completion, including all paving restoration and curb ramp improvements during this quarter include Geary between 36th and 48th Avenues and 22nd Street and 22nd Street. Projects anticipated to start replacement of water pipelines in the 4th quarter of FY21 include Wawona Area Stormwater Improvement and Vicente Street Water Main Replacement (Vicente). Below are highlights of key projects scheduled to start next quarter:

- Vicente: Installation of 9,700 feet of 8-inch ductile iron water main and 3,200 feet of copper water service pipe on Vicente between 19th Avenue and 34th, Vicente St from 15th Ave to Wawona St, and Wawona St from 15th Ave to Vicente St. This project replaces existing cast iron water mains installed between 1918 and 1928.



	FY16	FY17	FY18	FY19	FY20	FY21
Budget	$47.7M	$47.7M	$47.7M	$47.7M	$47.7M	$47.7M
Actual Expenditure	$34.2M	$37.3M	$36.8M	$39.2M	$51.7M	$35.5M
Forecast Expenditure						$47.7M

Figure 2.5 Water Conveyance/Distribution System Program - Expenditure by Fiscal Year

Figure 2.5 shows the annual total program expenditure by fiscal year for the pipeline replacement program. Program expenditures are forecast to be higher than the budgeted amount of $47.7M over the next three years to account for the delayed start of several large streetscape improvement projects mentioned above. Additionally, future program expenditure may exceed the budgeted amount of $3.18 million per mile of pipeline replaced due to the following factors:

- The program has previously focused on replacing smaller, less expensive distribution mains to coordinate with San Francisco Public Works' (SFPW) Paving Program.
- Higher bid prices associated with water pipeline replacement for the larger streetscape projects are attributed to a shortage of local contracting labor force; high risks for water subcontractors, including the potential for liquated damages as high as $50,000 per day (i.e. VNBRT Project); and decreased competition amongst the local contractors, as there are many projects to bid on within San Francisco and the greater Bay Area.
- Projects will increasingly include more expensive and/or larger diameter pipe replacement for larger distribution mains as well as special earthquake-resistant pipe installation to increase seismic reliability of the City's local water distribution.
- Projects along designated state highway routes such as Van Ness Avenue, 19th Avenue, and Lombard Street are significantly more expensive due to CalTrans permitting requirements, which include costly utility protection requirements and restricted work hours.
- Changes in SFPW's pavement restoration, ADA curb ramps, and permitting requirements in the City continue to increase the cost of pipe replacement projects over earlier estimations.

3. CAPITAL IMPROVEMENT PROGRAM COST SUMMARY

Table 3.1 provides an overall program-level cost summary of the Water Enterprise CIP Local Program. It shows the Expenditures to Date; 2021 Approved, Current Approved and Q3/FY20-21 Forecasted Budgets; and the Cost Variance between the Current Approved and Forecasted Budgets.

The total Current Approved Budget (including Regional and Local Programs) and Current Forecasted Cost at completion are $2,674.2 million. The Current Approved Budget and Forecasted Cost at completion for only the Local Program (including construction contingency) are $1,755.4 million.

Table 3.1 Program Cost Summary

Cost Categories	Expenditures To Date ($ Million) (A)	2021 Approved Budget ($ Million) (C)	Current Approved Budget [5] ($ Million) (D)	Q3/FY20-21 Forecasted Costs ($ Million) (E)	Cost Variance ($ Million) (F = D - E)
Local Improvement Projects	**$530.61**	**$1,702.31**	**$1,702.07**	**$1,702.07**	**-**
Construction Costs [1]	$337.36	$1,213.20	$1,211.66	$1,211.66	-
Program Delivery Costs [2]	$191.86	$481.70	$483.00	$483.00	-
Other Costs [3]	$1.39	$7.41	$7.41	$7.41	-
Construction Contingency for Local Projects [4]	**$2.81**	**$53.05**	**$53.30**	**$53.30**	**-**
Local Program with Contingency	**$533.42**	**$1,755.36**	**$1,755.36**	**$1,755.36**	**-**
Regional Improvement Projects	**$146.95**	**$918.79**	**$918.79**	**$918.79**	**-**
PROGRAM TOTAL	**$680.37**	**$2,674.16**	**$2,674.16**	**$2,674.16**	**-**

Notes:

1. **Construction Costs** include the Construction Base Bid and owner-provided equipment/material for all regional and support projects. Those costs do not include any construction contingency. That contingency is reflected as a separate cost category.
2. **Delivery Costs** include project management, planning, environmental (CEQA, permitting, construction compliance), design, construction management, and engineering support during construction.
3. **Other Costs** include environmental mitigation, art enrichment, security improvements, and real estate expenses.
4. Expenditures to Date for Construction Contingency for Regional projects correspond to the Total Approved Change Orders on those projects. For projects with ongoing or completed construction, the 2021 Approved Budget for construction contingency includes all change orders and trends as identified at the time of the March 2021 Revised WECIP, as well as additional contingency funding allocated to cover the 80% confidence level risks identified at the time of the March 2021 Revised WECIP. For projects in pre-construction, the 2021 Approved Budget for construction contingency includes 10% of the estimated construction base bid.
5. The budget approved as part of the March 2020 Revised WSIP, plus any additional budget changes approved by the Commission as part of additional contingencies on construction contracts.

4. CAPITAL IMPROVEMENT PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the 2021 Approved Schedule and the Current Forecast Schedule for the Local Water CIP. Refer to the "Cost and Schedule Status" notes in Section 5 for the criteria associated with the three color-coded Forecast Status levels in Figure 4.1 – Meet Requirements, Need Attention, and Exceed Limits.

As shown in Table 4.1, the 2021 Approved and Forecasted Schedule completion for the overall Water CIP (including Regional and Local Programs) are in June 2035. The 2021 Approved and Forecasted Schedule completion for the Local CIP are both in December 2028.

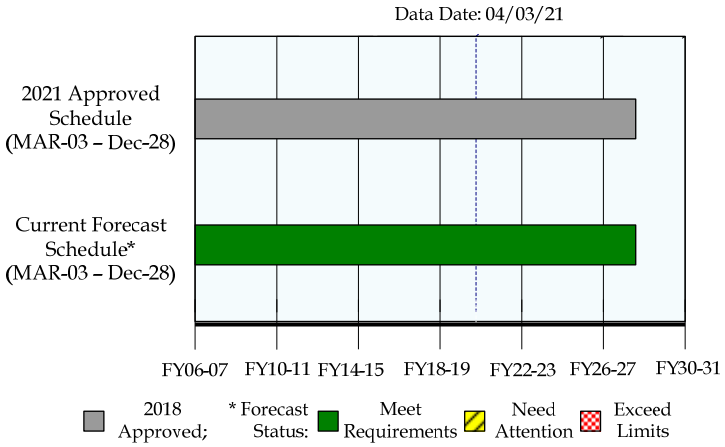


Figure 4.1 Program Schedule Summary

Table 4.1 2021 Approved vs. Current Forecast Schedule Dates

Sub-Program	2018 Approved Project Start	Actual Start	2021 Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Local Projects	03/03/03	03/03/03✓	12/29/28	12/29/28	-
Regional Projects	01/01/09	01/01/09✓	06/29/35	06/29/35	-
Overall Water Enterprise CIP	**03/03/03**	**03/03/03✓**	**06/29/35**	**06/29/35**	**-**

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in $1,000s as of 04/03/21

Project Name	Active Phase (**)	Appropriated Budget To Date (a)	Current Approved Budget (b)	Current Forecasted Cost (c)	Expenditures To Date (d)	Cost Variance (e= b - c)	Cost Status (+)	Current Approved Completion (g)	Current Forecasted Completion (h)	Schedule Variance (i = g - h)	Schedule Status (+)	Project Data Sheet
Local Water Conveyance/ Distribution System												
10033816 - Potable Emergency Firefighting Water System	PL	$ 12,000	$ 55,000	$ 55,000	$ 402	-	★	06/30/28	06/30/28	-	★	See Section 10
10033818 - Town of Sunol Pipeline	DS	$ 3,925	$ 5,000	$ 5,000	$ 1,908	-	★	04/03/23	04/03/23	-	★	See Section 10
CUW28000 - Local Water Conveyance/Distribution System	MP	$ 438,693	$ 750,581	$ 750,581	$ 235,778	-	★	06/30/28	06/30/28	-	★	See Section 10
Local Water Supply												
CUW30101 - Lake Merced Water Level Restoration	DS	$ 32,868	$ 32,668	$ 32,668	$ 4,456	-	★	01/30/26	01/30/26	-	★	See Section 10
CUW30102 - San Francisco Groundwater Supply	CN	$ 68,701	$ 66,552	$ 66,552	$ 61,950	-	★	06/30/22	06/30/22	-	★	See Section 10
CUW30201 - San Francisco Westside Recycled Water	CN	$ 206,319	$ 213,316	$ 213,316	$ 159,834	-	★	01/12/23	01/12/23	-	★	See Section 10
Local Tanks/Reservoir Improvements												
CUW28301 - College Hill Reservoir Outlet	BA	$ 7,365	$ 19,283	$ 19,283	$ 920	-	★	01/29/24	01/29/24	-	★	See Section 10

* Excludes projects with completed construction and projects that are no longer active (i.e., deleted projects, closed projects, and projects combined with other projects).

**** Phase Status Legend**

PL Planning DS Design BA Bid & Award
CN Construction NA Not Applicable MP Multi-Phases

For projects active in multiple phases, the table shows the phase in which a majority of the work is taking place.

+ Cost and Schedule Status

★ Meet Requirements: Forecasted Cost/Schedule is within Approved Budget/Schedule.

⚠ Need Attention: Forecasted Cost is over Approved Budget by greater than 1% and less than 10%. Or Forecasted Schedule is over Approved Schedule by greater than 2 months and both less than 6 months and less than 10%.

● Exceed Limits: Forecasted Cost is over Approved Budget by 10% or more. Or Forecasted Schedule is over Approved Schedule by greater than 6 months or 10% or more.

All costs are shown in $1,000s as of 04/03/21

Project Name	Active Phase (**)	Appropriated Budget To Date (a)	Current Approved Budget (b)	Current Forecasted Cost (c)	Expenditures To Date (d)	Cost Variance (e= b - c)	Cost Status (+)	Current Approved Completion (g)	Current Forecasted Completion (h)	Schedule Variance (i = g - h)	Schedule Status (+)	Project Data Sheet
Buildings and Grounds												
10037249 - New CDD Headquarters	PL	$ 10,000	$ 350,192	$ 350,192	$ 35	-	★	06/28/28	06/28/28	-	★	See Section 10
Auxiliary Water Supply System												
Pipelines												
EFWS PL - EFWS Pipelines	MP	$ 39,490	$ 205,513	$ 205,513	$ 29,364	-	★	12/29/28	12/29/28	-	★	See Section 10
Pump Stations												
EFWS PS - EFWS Pump Stations	MP	$ 49,388	$ 45,245	$ 45,245	$ 33,373	-	★	12/29/28	12/29/28	-	★	See Section 10

* Excludes projects with completed construction and projects that are no longer active (i.e., deleted projects, closed projects, and projects combined with other projects).

**** Phase Status Legend**

PL Planning	DS Design	BA Bid & Award
CN Construction	NA Not Applicable	MP Multi-Phases

For projects active in multiple phases, the table shows the phase in which a majority of the work is taking place.

+ Cost and Schedule Status

★ Meet Requirements: Forecasted Cost/Schedule is within Approved Budget/Schedule.

⚠ Need Attention: Forecasted Cost is over Approved Budget by greater than 1% and less than 10%. Or Forecasted Schedule is over Approved Schedule by greater than 2 months and both less than 6 months and less than 10%.

● Exceed Limits: Forecasted Cost is over Approved Budget by 10% or more. Or Forecasted Schedule is over Approved Schedule by greater than 6 months or 10% or more.

6. PROJECTS NOT WITHIN BUDGET AND/OR SCHEDULE

All projects are currently within Approved Budget and Schedule.

7. On-Going Construction*

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion**	Current Forecasted Construction Final Completion	Approved Contract Cost	Current Forecasted Cost**	Schedule (Cal. Days)	Cost	
Local Water Conveyance/Distribution System								
10014974 - WD-2811 17TH STREET/CLAYTON/ORD	05/26/20	07/09/22	09/17/21	$ 6,657,074	$ 7,620,133	295	($963,059)	29.1%
10032578 - WD-2842 CASITAS AVE FROM LANSDALE TO YERBA BUENA	02/08/21	04/19/22	04/19/22	$ 3,539,250	$ 3,539,250	-	-	0.0%
10035043 - WD-2834 GEARY RAPID EAST of VAN NESS	07/22/19	10/26/21	10/05/21	$ 4,214,400	$ 4,069,400	21	$ 145,000	60.6%
CUW280PR42 - WD-2616 BAKER STREET /SUTTER STREET	10/19/20	03/27/22	04/23/22	$ 3,701,180	$ 3,701,180	(27)	-	0.0%
CUW280PR48 - WD-2739 CASTRO STREET 19TH/26TH STREET	08/17/20	02/10/23	08/16/22	$ 10,707,724	$ 11,053,393	178	($345,669)	36.8%
CUW280PR70 - WD-2766 TARAVAL STREET PHASE 1	07/01/19	09/06/21	05/16/21	$ 4,538,012	$ 5,071,806	113	($533,794)	49.1%
CUW280PR73 - WD-2775 19TH AVE/VICENTE/LINCOLN	10/19/20	01/09/23	01/09/23	$ 6,457,251	$ 6,457,251	-	-	5.8%
CUW280PR74 - WD-2693 21ST STREET/FORD/HANCOCK	05/26/20	12/31/21	12/30/21	$ 3,861,835	$ 3,970,422	1	($108,587)	48.3%

Note: * This table reflects Active Construction Contracts with an original contract amount greater than $1M.
** The Forecasted Cost includes all approved, pending, and potential change orders; and Final Completion includes all approved, pending, and potential change orders, and trends.

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion**	Current Forecasted Construction Final Completion	Approved Contract Cost	Current Forecasted Cost**	Schedule (Cal. Days)	Cost	
Local Water Supply								
CUW30102 - WD-2809 SF Groundwater Supply Phase 2	08/07/17	08/26/19	12/31/21	$ 11,685,130	$ 11,685,130	(858)	-	96.7%
CUW30201 - WD-2852R Westside Recycled Irrigation Retrofits and Improvements	01/25/21	06/23/22	06/23/22	$ 2,483,525	$ 2,483,525	-	-	0.0%
CUW30201 - WD-2776 Westside Recycled Water Treatment Facility	10/16/17	03/18/21	04/05/22	$ 92,413,186	$ 92,413,186	(383)	-	84.5%
CUW30201 - WD-2797 Westside Recycled Water Pump Station and Reservoir	07/01/19	05/20/21	10/08/21	$ 17,707,924	$ 17,707,924	(141)	-	65.5%
Emergency Firefighting Water System								
CUWAW2AW29 - WD-2861 Clarendon Supply	02/01/21	12/24/21	12/24/21	$ 2,685,720	$ 2,685,720	-	-	0.0%
CUWAWSAW04 - WD-2687R Pump Station # 2	12/12/17	12/30/21	12/30/21	$ 20,623,887	$ 20,623,887	-	-	63.9%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	$ 191,276,098	**$ 193,082,207**	**($1,806,109)**	**(0.9%)**

Note: * This table reflects Active Construction Contracts with an original contract amount greater than $1M.
** The Forecasted Cost includes all approved, pending, and potential change orders; and Final Completion includes all approved, pending, and potential change orders, and trends.

8. PROJECTS IN CLOSE-OUT

Project Title	Current Approved Construction Phase Completion	Actual Construction Phase Completion	Current Approved Construction Phase Budget	Construction Phase Expenditures To Date
Emergency Firefighting Water System				
CUWAWSAW05 - Pump Station #1	04/30/19	04/30/19	$ 9,827,981	$ 9,549,140
TOTAL			$ 9,827,981	$ 9,549,140

9. COMPLETED PROJECTS

There are no completed projects

10. PROJECTS WITHIN BUDGET AND SCHEDULE

10033816 - Potable Emergency Firefighting Water System

Project Description: This project, the Potable Emergency Firefighting Water System (PEFWS) proposes to design and construct earthquake-resistant water pipelines in western San Francisco, particularly the Sunset and Richmond areas. These pipelines will connect to the existing potable water distribution system to help deliver water to businesses, institutions, and residences during normal operations. It will also be designed to provide high-pressure fire suppression water when needed after a major earthquake or other emergency. When so needed, it will be isolated from the remainder of the potable distribution system by strategically located valves and can then be pumped to achieve pressures comparable to the existing conventional Emergency Firefighting Water System (EFWS), which is located in other areas of San Francisco. The system will be capable of pumping potable water, but also switching to non-potable water in Lake Merced for a much larger supply. The proposed overall project will install over 14 miles of seismically resilient pipelines in multiple phases as funding is provided. The system will be capable of providing water to the SFFD firefighters at the high pressure needed to combat large fires after a seismic event. The proposed pipelines will be fed by pump stations delivering 30,000 gallons per minute with services to the Richmond and Sunset Districts.

Program: Local Water Conveyance/Distribution System	**Project Status:** Planning	**Environmental Status:** Not Initiated

Project Cost:

Approved		$55.00 M
Forecast*		$55.00 M
Actual		$0.40 M

Project Schedule:

Approved Aug-19		Jun-28
Forecast* Aug-19		Jun-28

Project Percent Complete: 0.8%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	TBD	TBD	TBD	TBD

Progress and Status:
This project will fund construction of PEFWS pipelines in the next several years. These pipelines are in planning phase.

Issues and Challenges:
None at this time.

10033818 - Town of Sunol Pipeline

Project Description: Since 2000 the SFPUC has replaced the majority of the Town of Sunol pipeline system through the Town of Sunol Fire Suppression project, except for two segments. This project will complete the replacement of the last two segments of the system, by replacing sections of the pipeline that crosses the Arroyo de Laguna Creek (Creek Crossing) and under Highway 680.The upstream section of pipeline that feeds the Town of Sunol is exposed under the creek and in danger of failing under Highway 680. Pipeline failure at either location has significant consequences, since all fire and potable water in the Town of Sunol is dependent on the rehabilitation of this 12-inch diameter line. This project will reduce maintenance from pipe breaks and have less main flushing which may lower impact on operating expenses.

Program: Local Water Conveyance/Distribution System	**Project Status:** Design	**Environmental Status:** Active

Project Cost:

Approved		$5.00 M
Forecast*		$5.00 M
Actual		$1.91 M

Project Schedule:

Approved Jun-19		Apr-23
Forecast* Jun-19		Apr-23

Project Percent Complete: 37.8%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	N/A	07/08/21	01/05/22	10/03/22

Progress and Status:
The project design team is working towards the 65% design milestone for the Creek Crossing portion of the project. Coordination between the various Caltrans projects in the area is also being explored by the project team. The Highway 680 Crossing construction is projected to begin late this summer through the Agreement with Alameda County Transportation Agency.

Issues and Challenges:
None at this time.

Exposed Town of Sunol Pipeline crossing Arroyo de la Laguna Creek

CUW28000 - Local Water Conveyance/Distribution System

Project Description: This long-term program funds management of linear assets in San Francisco's potable water distribution system between transmission or storage and final customer service connection. The Linear Asset Management Program replaces and renews feeder and distribution mains for the 1,230 miles of pipe in San Francisco's drinking water distribution system. The SFPUC's goal is to replace 10 to 15 miles of pipe per year, depending on funding availability. Improvements include replacement, rehabilitation, relining, and cathodic protection of all pipe size categories to extend or renew pipeline useful life. Coordination with construction projects by other City agencies, especially SFPUC Sewer and SFPW Paving, is emphasized to optimize efficiencies and minimize customer disruptions. Some street improvement projects led by other agencies (CalTrans, SFMTA, SFCTA, SFPW) are more expensive to implement due to their complexity, traffic and transit impacts, and multi-agency coordination. Starting in FY21-22, separate funding for 4 miles of main replacement at a cost of $6.0M per mile has been provided for the L-Taraval Transit Project. Additionally, in FY21-22, a new Better Market Street Project has been created to provide separate funding for the water main replacement along the Market Street Corridor to be constructed over a period of 7 years with the assumption of 0.5 miles per year.

Program: Local Water Conveyance/Distribution System	**Project Status:** Multiple Phases	**Environmental Status:** Active (Various)

Project Cost:		**Project Schedule:**	
Approved	$750.58 M	Approved Jul-10	Jun-28
Forecast*	$750.58 M	Forecast* Jul-10	Jun-28
Actual	$235.78 M	Project Percent Complete: 31.4%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid+ Advertisement**	**Construction+ NTP**	**Construction+ Final Completion**
Current Forecast	Various	Various	Various	Various

+ The Programmatic Project includes multiple active and upcoming construction contracts (Refer to Section 7 for the active construction status).

Progress and Status:

Planning efforts have determined that a 15-mile per year pipeline replacement or renewal rate to extend the useful life of assets is required to ensure levels of service can be met in the future. City Distribution Division (CDD) and Engineering Management Bureau are performing design; CDD with Construction Management Bureau are managing construction. The environmental review is completed on a project-by-project basis as design work is completed. CDD is coordinating with Wastewater Enterprise sewer replacement projects as well as San Francisco Public Works paving projects to avoid conflicts, reduce construction costs, and minimize disruption in public and residential areas. The forecast mileage for FY21 is 11.5 miles and correlates to the approved FY21 Capital Improvement Plan (CIP) Budget for 11.5 miles for FY21-FY22. Projects currently under construction include the City streets of Geary between 36th and 48th Avenues, L-Taraval between Sunset and SF Zoo, 22nd Street, Pierce Street, Castro Street, 21st Street, 17th Street, Baker Street, and 19th Avenue, and Casitas.

WD-2766 Taraval Casings under Tracks

Issues and Challenges:

None at this time.

CUW30101 - Lake Merced Water Level Restoration

Project Description: The project consists of three subprojects. (1) The City of Daly City is proposing and working in coordination with the SFPUC to implement the Vista Grande Drainage Basin Improvements project to address storm related flooding in the Vista Grande Watershed Drainage Basin while providing the benefit of restoring connection to the natural watershed of Lake Merced. (2) In addition, the SFPUC is implementing a Demonstration/Full Scale Aeration Mixing Project to evaluate whether additional lake mixing might result in improved dissolved oxygen concentrations in the Lake and finally (3) The SFPUC is evaluating diversion of highly treated recycled water from the new Westside Recycled Water facility into Lake Merced to increase and stabilize lake levels.

Program: Local Water Supply	**Project Status:** Design	**Environmental Status:** Active (Various)

Project Cost:

Approved		$32.67 M
Forecast*		$32.67 M
Actual		$4.46 M

Project Schedule:

Approved Jun-03		Jan-26
Forecast* Jun-03		Jan-26

Project Percent Complete: 13.7%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	(A) 07/31/18✓ (B) 11/10/16✓ (C) 08/25/22	10/01/21 N/A 09/13/22	07/08/22 06/13/17✓ 03/14/23	07/29/25 07/07/17✓ 10/08/23

+ Project includes multiple construction contracts. (A) Vista Grande Drainage Basin Improvement managed by Daly City ; (B) Lake Merced Aeration Mixing System - Phase 1 JOC Contract; (C) Lake Merced Aeration Mixing System - Phase 2

** (A) EIR/EIS; (B) CatEx; (C) MND

Progress and Status:

Vista Grande Drainage Basin Improvement Project (Contract A): Daly City and SFPUC continue to evaluate temporary and permanent real estate uses to support planned construction activities. SFPUC and Daly City are also working on cost sharing and fund allocation between the two agencies in order to complete needed funding for project construction. Bid and Award is currently scheduled for late 2021 or early 2022.

Aeration Mixing System (Contract B): In August 2017 the SFPUC implemented a demonstration project to improve dissolved oxygen levels in the lower portion of the lake which typically run below 5 mg/l due to seasonal lake stratification. In February 2019 staff finalized and submitted to the Regional Water Quality Control Board (RWQCB) a report summarizing the testing and data monitoring from the aeration system, and received comments back on the report from RWQCB staff. Due to the above-mentioned delays in the Vista Grande Drainage Basin Project, no additional evaluations or decisions have been made to determine whether to proceed with the Aeration Mixing Phase II.

Looking South across Lake Merced North Lake

Issues and Challenges:

None at this time.

CUW30102 - San Francisco Groundwater Supply

Project Description: This project consists of two phases, which combined will provide an annual average of 4 mgd of groundwater to San Francisco's municipal water supply, and improvements at the existing San Francisco Zoo Well No. 5. Phase 1 is divided in two separate contracts. Under Contract A work to build four new groundwater well stations in the western part of San Francisco is currently in the final construction phase. Contract B work to install buried piping to connect three of these well stations to the Sunset Reservoir was completed and accepted on December 21, 2015. Groundwater from the fourth well station was piped to the nearby Lake Merced Pump Station, where it was distributed to both the Sunset Reservoir and Sutro Reservoir. Phase 2 includes Contract C work to install buried piping and convert two existing irrigation well facilities in Golden Gate Park to groundwater supply wells; this contract is currently in the final construction phase, and would be implemented after completion of the CUW30201, San Francisco Westside Recycled Water Project. Improvements at the existing San Francisco Zoo Well No. 5 were completed and accepted on February 15, 2007.

Program: Local Water Supply	**Project Status:** Construction	**Environmental Status:** Completed (EIR)

Project Cost:

Approved	$66.55 M
Forecast*	$66.55 M
Actual	$61.95 M

Project Schedule:

Approved	Jun-03	Jun-22
Forecast*	Jun-03	Jun-22

Project Percent Complete: 94.1%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	12/19/13✓	(A) 05/01/14✓ (B) 03/10/14✓ (C) 08/17/16✓	(A) 03/16/15✓ (B) 08/04/14✓ (C) 08/07/17✓	03/31/21✓ 12/21/15✓ 12/31/21

\+ Project includes multiple construction contracts.
(A) San Francisco Groundwater Supply Well Stations Phase 1; (B) San Francisco Groundwater Supply Pipeline Phase 1; (C) San Francisco Groundwater Supply Phase 2

Progress and Status:

For Phase 1 well station construction (Contract A), final completion was declared on 3/31/2021. Closeout documents such as operational and maintenance manuals, spare parts, warranties, and interim electronic versions of draft as-built drawings have been turned over to Operations. The final as-builts will be completed in a couple of months. An agenda item for closeout is being drafted to be included in the next Commission meeting.

For Phase 2 (Contract C), a change order has been issued for extended warranties to 7/24/22 for the North Lake Well Station equipment such as surge tank, well pump, supply and exhaust fans, motor operated butterfly valve. The contractor continued working on punchlist items and closeout documents, including processing of remaining change orders such as COVID cost impact, deductive bid item, extended warranties and miscellaneous work, preparation of as-builts, and the submittal of operational and maintenance manuals.

North Lake Well Station

Issues and Challenges:

None at this time.

CUW30201 - San Francisco Westside Recycled Water

Project Description: This project consists of a new recycled water treatment facility located at the SFPUC's existing Oceanside Plant, along with the associated distribution system components, to produce and deliver an annual average of approximately 1.6 mgd of recycled water to Golden Gate Park, Lincoln Park, and the Presidio. The treatment process includes membrane filtration, reverse osmosis, and ultraviolet light disinfection. A new pump station and reservoir will be constructed in Golden Gate Park to deliver water to Lincoln Park and the Presidio. Approximately 8 miles of new recycled water pipeline connect the treatment facility to the new reservoir in Golden Gate Park and extends to the Lincoln Park and Presidio points of connection. The project also includes the retrofitting of the existing irrigation systems to bring them into compliance with Title 22 regulations. The treatment facility includes additional capacity to serve potential future customers, such as the SF Zoo.

Program: Local Water Supply	**Project Status:** Construction	**Environmental Status:** Completed (EIR)

Project Cost:

Approved $213.32 M

Forecast* $213.32 M

Actual $159.83 M

Project Schedule:

Approved Mar-03 Jan-23

Forecast* Mar-03 Jan-23

Project Percent Complete: 40.0%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	09/03/15✓	(A) 12/29/16✓ (B) 12/19/18✓ (C) 07/15/16✓ (D) 02/25/20✓	(A) 10/18/17✓ (B) 07/01/19✓ (C) 02/21/17✓ (D) 01/25/21✓	04/05/22 10/08/21 08/19/18✓ 06/23/22

+ Project includes multiple construction contracts. (A) Recycled Water Treatment Facilities; (B) Pump Station and Reservoir; (C) Pipeline; (D) Irrigation System Retrofit. Contract (D) was previously advertised on 09/13/19.

Progress and Status:

Treatment Facility (Contract A): The installation of major process equipment (membrane filtration system, reverse osmosis unit, and ultraviolet light disinfection system) was completed this quarter. The secondary effluent pumps in Building 530 were delivered and installed. Electrical work in Building 580 continued, with installation of power and instrumentation and control conduits, control panels, and lighting. Work on the elevator system also continued. Work in Building 510 included the installation chemical pipelines, and power and instrumentation conduits and lighting. Revisions to regulatory permitting documents continued. Distribution Pump Station and Reservoir (Contract B): Forming and pouring of pump station walls was completed this quarter, and work on the roof slab initiated. Existing Reservoir 2 was taken out of service for the coring of the wall and installation of the gate valve; the reservoir wall was repaired, leak tested, and the reservoir returned to service. Existing Reservoir 1 was taken out of service in March for coring and gate valve installation, with work on-going through the end of the quarter.

Pipeline (Contract C) is complete.

Irrigation System Retrofit (Contract D): Contract WD-2852R was issued Notice to Proceed on January 25, 2021. Preliminary construction submittals were received and reviewed. The Contractor mobilized on-site, and began potholing work in mid-March 2021.

Issues and Challenges:

None at this time.

CUW28301 - College Hill Reservoir Outlet

Project Description: The College Hill Reservoir is located in San Francisco's Bernal Heights residential district and is a critical reservoir responsible for delivering water to the eastern and northern areas of San Francisco including General Hospital, Upper Market Street, Civic Center, and City Hall. The College Hill Reservoir, constructed in 1870 and San Francisco's oldest water reservoir, was seismically retrofitted in 2001. SFPUC is currently undertaking a phased program to improve the seismic reliability of the water distribution system from College Hill Reservoir to SF General Hospital to withstand a major seismic event. This project addresses essential seismic improvements within the reservoir including installation of a new control valve vault; replacement of reservoir inlet and outlet piping; reservoir roof replacement; miscellaneous piping, security, site access, electrical, instrumentation, and water quality improvements; and replacement of the first section of transmission pipelines for the College Hill system up to Cortland Avenue.

Program: Local Tanks/Reservoir Improvements	**Project Status:** Bid and Award	**Environmental Status:** Completed (CatEx)

Project Cost:

Approved		$19.28 M
Forecast*		$19.28 M
Actual		$0.92 M

Project Schedule:

Approved	Jan-13	Jan-24
Forecast*	Jan-13	Jan-24

Project Percent Complete: 5.0%

Approved; Actual Cost; * Forecast Status: Meet Requirements; Need Attention; Exceed Limits

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/20/19✓	02/24/21✓	08/09/21	08/29/23

Progress and Status:
Project advertised for construction on February 24, 2021. Bid opening will occur next quarter.

Issues and Challenges:
None at this time.

Arial view of College Hill Reservoir

10037249 - New CDD Headquarters

Project Description: The City Distribution Division (CDD) oversees the retail water distribution system within the City and County of San Francisco and is responsible for the physical infrastructure of San Francisco's potable water, Emergency Firefighting Water System (EFWS), recycled water distribution, and ground water systems. CDD's responsibilities include 24/7 emergency response to water main breaks and two-alarm or larger fires in addition to day-to-day operations and maintenance of over 1,250 miles of water mains; 12 reservoirs; 9 pump stations; 7 hydro-pneumatic stations; 6 tanks; the water meter program serving over 176,000 customers; CDD's physical buildings, equipment and fleet; and over 1,100 acres of grounds throughout the City. The buildings and facilities at the existing main CDD campus are functionally obsolete, in disrepair and are not in compliance with current building codes, and do not meet standards for safety, accessibility and environmental requirements. The campus requires full replacement. New buildings will provide greater reliability, safety, security, and higher productivity. This project builds an entirely new campus located at 2000 Marin Street in San Francisco for the CDD staff and facilities.

Program: Buildings and Grounds	**Project Status:** Planning	**Environmental Status:** Active

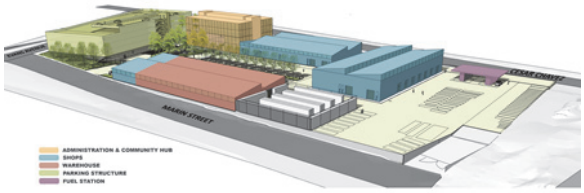
Project Cost:		**Project Schedule:**	
Approved	$350.19 M	Approved Feb-20	Jun-28
Forecast*	$350.19 M	Forecast* Feb-20	Jun-28
Actual	$0.03 M	Project Percent Complete: 0.0%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	06/30/23	06/30/21	07/03/23	12/31/27

Progress and Status:
Programming and Conceptual Design have been completed. Schematic Design is scheduled to start in April 2021.

Issues and Challenges:
None at this time.



Approved Concept Design

EFWS PL - EFWS Pipelines

Project Description: These projects include construction of various pipelines using ESER bond funds.

Program: Emergency Firefighting Water System	**Project Status:** Multiple Phases	**Environmental Status:** Completed

Project Cost:

Approved $205.51 M
Forecast* $205.51 M
Actual $29.36 M

Project Schedule:

Approved Apr-11 Dec-28
Forecast* Apr-11 Dec-28
Project Percent Complete: 20.5%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	Various	Various	Various	Various

Progress and Status:

•Clarendon Supply:
Construction Notice-to-Proceed (NTP) was issued on February 1, 2021. Construction contract continued.

•19th Avenue Pipeline:
This project is part of Public Works' 19th Avenue Roadway Improvements, Contract 2652J. Install new 20-inch diameter Emergency Firefighting Water System (EFWS) pipeline from Irving St to Kirkham St. On 19th Ave from Vicente Street to Sloat Blvd, a new 36-inch diameter welded steel Potable Emergency Firefighting Water System (PEFWS) pipeline will be installed as a change order.

•Terry Francois Blvd (TFB) Mission South Pipeline:
Construction completion expected in July 2021 for the new 20-inch diameter EFWS pipeline on TFB from Mission Rock St to Warriors Way.

•Street Valve Motorization:
Project team is coordinating with other project teams for construction contract.

•EFWS Studies:
Future fire water demands and seawater supply studies are expected to be completed by June 2021. Future EFWS development study is expected to be completed by December 2021.

•PEFWS Pipeline:
Install a seismically resilient high-pressure firefighting water system to the western neighborhoods of the City, while also creating a seismically resilient pipeline that can supply drinking water to the same western neighborhoods when not in use for a side fire situation. Design for the PEFWS pipeline continues.
On Vicente Street from 19th Ave to 25th Ave, a new 36-inch diameter welded steel PEFWS pipeline will be installed as part of the Waste Water Enterprise Construction Contract, WW-711.

•AWSS PS/Pipeline - Lake Merced:
Project is in the planning phase.

•Fireboat Manifolds:
Planning in progress. The project includes installation of a new fireboat manifold and pipelines at Fort Mason and near Pier 33.5.

Issues and Challenges:

None at this time.

EFWS PS - EFWS Pump Stations

Project Description: These projects include construction of various pump stations using ESER bond funds.

Program: Emergency Firefighting Water System	**Project Status:** Multiple Phases	**Environmental Status:** Completed

Project Cost:

Approved		$45.25 M
Forecast*		$45.25 M
Actual		$33.37 M

Project Schedule:

Approved	Apr-11	Dec-28
Forecast*	Apr-11	Dec-28

Project Percent Complete: 90.5%

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	**Environmental Approval**	**Bid Advertisement**	**Construction NTP**	**Construction Final Completion**
Current Forecast	Various	Various	Various	Various

Progress and Status:

•Pump Station #2:

Construction continued for Pump Station #2, contract WD-2687. Construction completion expected in December 2021.

•PEFWS PS - Lake Merced:

Planning in progress. Alternatives for Lake Merced and Central Pump Stations. AAR is expected to be completed in May 2021.

Issues and Challenges:

None at this time.

This page is intentionally left blank

APPENDICES

This page is intentionally left blank

APPENDIX A. PROJECT DESCRIPTION

REGIONAL PROJECTS

Water Treatment

10033123 SVWTP Ozone (CUW27202)
In recent years, SFPUC's Sunol Valley Water Treatment Plant (SVWTP) has experienced more frequent taste and odor (T&O) events from seasonal algal blooms than had occurred historically. This project's objective is to install ozone treatment facilities as a long-term solution to control T&O events encountered in the raw water supply from both the San Antonio and Calaveras Reservoir sources. This project will improve the reliability to meet water quality goals especially during warm months and during Hetch Hetchy shutdowns.

10037349 HTWTP Improvements Capital
Twenty-one sub-projects have been identified to improve the performance, efficiency and reliability of the Harry Tracy Water Treatment Plant (HTWTP). However, one of the projects, the filter underdrains, has become a priority because two of the underdrains have recently failed and a third is showing signs of imminent failure. Although 21 projects have been identified, funding is only available for the filter underdrain project, which has been deemed the highest priority. The remaining projects will be deferred to a future round of CIP planning.

10037350 Regional Groundwater Treatment Improvement
The purpose of this project is to improve the performance of the Regional Groundwater Wells and treatment systems in the South Westside Basin for reliable use during dry years. In normal and wet years, the SFPUC will supply treated surface water to Daly City, San Bruno, and Cal Water to be used in place of their typical groundwater supply, thereby increasing the volume of groundwater in storage that can be pumped as supplemental water in dry years. This project will address emerging well water quality issues that require treatment, will provide additional reliability for treatment systems at the wells, and will evaluate the potential for a consolidated treatment facility (through Alternatives Analysis only).

CUW2720204/02 SVWTP Phase 3 and 4
The primary objective of the SVWTP Phase 3 and 4 Project is to improve regional water delivery reliability by addressing various deficiencies and needs for improvements at the Sunol Valley Water Treatment Plant (SVWTP). Many of the scoped upgrades were identified through condition assessments, Operations staff's observations, reviews of levels of service, feasibility studies, and alternative analyses.

CUW2720205 SVWTP Polymer Feed
At the Sunol Valley Water Treatment Plant (SVWTP), the new flocculation/sedimentation basin built in 2013 as well as the other 4 existing basins that are each rated at a capacity of 40 million gallons per day (mgd) were not able to achieve their capacity under all operating and water quality scenarios. A basin optimization plan was prepared to address the performance; it recommended adding a flocculant aid polymer system. The project will build a polymer feed facility that will serve all five sedimentation basins to optimize plant water production. The funding for the project is provided under WECIP and WSIP. The WSIP funding for this project, $2.19M, is included with other Sunol Valley closeout projects and will complete the Planning phase and a portion of the Design phase. The remaining funding for the project is provided under Water Enterprise 10-year CIP, $7,537,000.

Water Transmission

10034578 CSPL2 Reach 5 Lining Replacement
Crystal Springs Pipeline No. 2 (CSPL2) runs from Crystal Springs Pump Station to University Mound Reservoir. It delivers potable and emergency water supply to San Francisco and to several cities along the peninsula. Reach 5 of CSPL2, 60 inches in diameter and located in the Cities of South San Francisco and San Bruno between Millbrae Yard and Baden Pump Station, is over 80 years old and has extensive lining

failures. This project would replace approximately 3.3 miles of coal tar lining with cement mortar or dielectric lining, upgrade about 30 appurtenances to meet current standards, and improve access and shutdown flexibility for maintenance by installing five manway structures and one 48-inch diameter valve on San Andreas Pipeline No. 1 (SAPL1) near Baden Pump Station.

10035029 As Needed Pipeline Repairs
Water Supply and Treatment Division's (WSTD) maintenance and inspection program inspects the regional pipeline system on an ongoing basis. However, when repairs are identified to be needed following inspections and when emergency repairs are needed, a contractor is not readily available to perform the repairs. This project will increase system reliability by reducing the duration and number of outages since a pre-qualified, as-needed contractor will be available to complete repairs immediately following inspections or in emergencies. This project will repair/replace regional pipeline segments that will be inspected over the next five years, in addition to any emergency repairs that may be needed. The construction contract for this project will be combined with Project 10036840, BDPL1-4-B Lining Repair to provide a sufficient guaranteed scope.

10036839- Pre-Stressed Concrete Cylinder Pipe (PCCP) Repair
Historically, when prestressed concrete cylinder pipe (PCCP) fails due to wrapped wire breaks, the failure can result in widespread damage to the pipe and ground surface due to multiple wires breaking at the same time along the pressurized pipe. From recent inspections of Bay Division Pipeline No. 4 (BDPL4) Segment D, constructed of PCCP, a large number of defects were found in the last mile of pipe that parallels Edgewood Road in Redwood City; this project will address those defects. This project will increase system reliability by rehabilitating approximately 350 feet of 84-inch diameter BDPL4 PCCP in Redwood City.

10036840 BDPL 1 4 Lining Repair
Water Supply and Treatment Division's (WSTD) ongoing pipeline inspection program has identified segments of the Bay Division Pipeline Nos. 1 through 4 (BDPL 1-4) that require lining repairs and replacement. This project will retain an as-needed contractor to repair or replace sections of lining that are identified by WSTD over the next 5-years.

CUW27301 Corrosion Control
This project will implement the corrosion protection and control program as recommended in the Corrosion Control Master Plan completed in August 2010. Sites identified with worst levels of corrosion were bundled up in the masterplan in four phases. Each phase will take several years for implementation. The scope for all phases will be similar, but the number of sites will vary at each phase. Phase 1 construction work for ten sites was completed and accepted on August 27, 2019. Phase 2 has fourteen sites and is currently in the design phase. Phase 3 is anticipated to include work at eighteen sites and to begin planning in 2025. The number of sites and locations for Phase 4 will be determined from the corrosion database resulting from WST's annual inspection reports. Planning phase for Phase 4 will commence after Phase 3 is completed. .

CUW2730404 San Antonio Pump Station MCC Upgrades
The San Antonio Pump Station (SAPS) is one of the key facilities in the Sunol Valley; it was constructed in 1965 and modified in 1990. The existing motor control centers (MCC) MCC-A, MCC-B, and MCC-C have been in service since the 1960's and they are approaching the end of their useful life. In order to maintain reliable operation at SAPS, the existing MCCs are being replaced and facility walls are being seismically retrofitted. In order to accommodate the retrofit work, the communications system is being relocated to an adjacent room and the HVAC will be replaced in affected rooms. In addition, a new propane generator will replace the existing diesel generator to serve as reliable backup power to the facility.

CUW2730504 San Andreas Pipeline No. 2 Replacement

San Andreas Pipeline No. 2 (SAPL2) provides key water supply redundancy from the Harry Tracy Water Treatment Plant (HTWTP) to the Sunset Reservoir. The lock bar steel sections of SAPL2 between the HTWTP and the Golden Gate National Cemetery are almost 90 years old, pitted, deteriorated, and in need of replacement. This project will replace/rehabilitate approximately 6,500 linear feet of SAPL2 in the City of San Bruno. In addition, as part of this project, two valves will be installed on SAPL1 and CSPL2 near the Baden Valve Lot to improve access to these pipelines.

CUW2730505 CSPL2 Reaches 2 and 3 Rehabilitation
Crystal Springs Pipeline No. 2 (CSPL2) spans from Crystal Springs Pump Station to University Mound Reservoir. It delivers potable water supply to San Francisco and several cities along the Peninsula. Reaches 2 and 3 of CSPL2 in the Town of Hillsborough, unincorporated areas of San Mateo County, the City of San Mateo, and the City of Burlingame are over 80 years old and deteriorated in some locations with Reach 2 located on slopes that are eroding and Reach 3 containing extensive lining failures. This project would realign Reach 2 to the existing abandoned CSPL1 alignment, replace the coal tar lining of Reach 3, and improve access to the pipeline.

Water Supply & Storage

10015232 Merced Manor Reservoir Facilities Repairs
The Merced Manor Reservoir was upgraded in 2004 to seismically strengthen and repair the roof structure and foundations. After the completion of the upgrade, spalling of concrete at various locations on the roof structure was observed over the years due to the constant temperature gradient experienced in the roof structure. The design of the seismic retrofit of Merced Manor Reservoir was done without the benefit of the lessons learned from later roof retrofits and construction at Sunset North Basin and University Mound North Basin where the effect of temperature load on the roof due to expansion and contraction was analyzed and designed to accommodate the temperature loading. The scope of this project includes performing structural analysis of the effect of temperature gradient on the existing roof structure design; developing design modifications of the roof structure to accommodate the expansion and contraction loads; and construction of the roof modifications and repair of the spalled concrete.

10036998 Turner Dam and Reservoir Improvements
Turner Dam is a 195-foot-high earth embankment dam that was completed in 1965 and impounds San Antonio Reservoir in the East Bay. The dam is regulated by the California Division of Safety of Dams (DSOD). This project is to investigate the seismic stability and hydraulic performance of the Turner Dam and San Antonio Reservoir facilities and to perform necessary upgrades identified during the Planning Phase. The scope of work will be confirmed once Condition and Needs Assessments, and Alternative Analysis of the dam, outlet structures, and spillway are complete.

CUW2740102 Pilarcitos Dam Improvements
The Pilarcitos Dam is an earthen embankment dam that was built in 1866 and raised in 1874; it is the SFPUC's oldest dam regulated by the California Division of Safety of Dams (DSOD). This project will investigate the seismic stability and hydraulic performance of the Pilarcitos Dam and Reservoir facilities and perform necessary upgrades identified during the Planning Phase. The scope of work will be confirmed following the completion of the Condition and Needs Assessments, and Alternative Analysis for the dam and forebay outlet structure, spillway, outlet tunnel, and outlet pipeline.

CUW2740103 San Andreas Dam Facility Improvements
The San Andreas dam is a 105-foot-high earthen embankment dam that was built in 1870; it impounds San Andreas Reservoir that is the raw water source for the Harry Tracy Water Treatment Plant, and it is regulated by the California Division of Safety of Dams (DSOD). This project will investigate the seismic stability and hydraulic performance of the San Andreas Dam and Reservoir facilities and perform

necessary upgrades identified during the Planning Phase. The objectives are to perform Condition and Needs Assessments and Alternatives Analyses of the dam, spillway, emergency outlet, and ancillary facilities; to develop retrofit options if required; and to implement the selected alternatives.

WATERSHED & LANDS MANAGEMENT

10015110 EBRPD WATER SYSTEM
As a mitigation for the Calaveras Dam Replacement Project, the SFPUC agreed to construct new potable water distribution facilities for the Sunol Regional Wilderness Park (SRP), managed by the East Bay Regional Park District (EBRPD). The EBRPD owns and maintains a water system located at SRP Headquarters which previously supplied potable water to four park facilities, as well as drinking water fountains and picnic areas interspersed throughout the park. Currently, the water system serves non-potable water for use by EBRPD employees only. Since the system stopped producing potable water due to supply and sanitary deficiencies, EBRPD has been supplying park visitors with bottled water trucked in by a contracted vendor. The project purpose is to provide a reliable water supply for potable use at the EBRPD facilities and to provide potable uses at the SRP.

10015108 Sneath Lane Gate/North San Andreas
The 2001 Peninsula Watershed Management Plan identified the need for a new trail connection between San Mateo County's Crystal Springs Regional Trail (North San Andreas) to Golden Gate National Recreation Area's Sweeney Ridge property at the Sneath Lane Gate. The trail is a critical connection among existing regional trails, and will provide access to hikers, bikers and equestrians.

CUW2751801 Southern Skyline Blvd Ridge Trail Extension
The Bay Area Ridge Trail project was started in 1987 by the Bay Area Ridge Trail Council to create an approximately 550-mile long continuous trail for hikers, mountain bicyclists, and equestrians along the ridgelines overlooking San Francisco Bay. The objective of this project is to provide access to the Peninsula watershed, to enhance educational opportunities, and to ensure watershed protection. This proposed trail extension project would construct a 6-mile long trail on the Peninsula Watershed in San Mateo County between Highway 92 and the Golden Gate National Recreation Area's (GGNRA) Phleger Estate. The project would consist of 8 to 10-foot wide, all-weather surface trails; retaining structures to stabilize cut and/or fill slopes; drainage facilities; two parking lots; two prefabricated restrooms along the trail; site security features; and landscape restoration.

CUW2752201 SA 1 Service Road/Ingoing Road
The SFPUC has identified landslide and erosion damage that have destabilized service roads (East Shore Service Road and West Shore Service Road) and adjacent areas in three locations on San Francisco Peninsula Watershed lands situated along the San Andreas Reservoir in San Mateo County. The project is to evaluate and repair the damage, and to implement long term solutions for SFPUC staff and contractors to continue to use the roads to access, operate, and maintain SFPUC facilities and watershed lands. Construction for these locations can be done through phases to accommodate budget cash flow.

Buildings and Grounds

10033555 Rollins Road Building Renovations (CUW27703)
The SFPUC purchased a property that was previously leased long-term on Rollins Road in Burlingame, San Mateo County, in September 2017, securing ownership of an additional 10,000 square feet of office space for the SFPUC Water Enterprise (WE). A capital project was initiated in 2018 for tenant improvements. In June 2020, the project scope for the 1657 Rollins Road was decreased significantly, and the scope of the Millbrae Yard Lab & Shop Project was increased. The program for Rollins Road Building Renovation Project will be achieved at the Millbrae Yard by adding two additional floors to the laboratory building as part of its Phase 1 project. The expanded laboratory building will

accommodate the Rollins Road building staff. As a result of the scope change, personnel at 1657 Rollins Road will relocate to Millbrae Yard campus following the completion of the Millbrae Yard Lab & Shops Project.

10034526 Millbrae Warehouse Settlement & Admin. Bldg. HVAC

This project will construct improvements for two buildings located at the Millbrae Yard facility, the Millbrae Warehouse and the Administration Building. The Millbrae Warehouse Settlement project will provide a long-term repair for the displacement (settlement) of the slab between the loading dock and the offices. The slab settlement resulted from expansive clay layers located seven feet below the top of the existing concrete slab. For the Millbrae Administration Building HVAC Upgrades, this project will provide long-term reliable and economical improvements to heating and cooling systems.

Two separate construction contracts will be used for the Millbrae Warehouse Settlement repairs and the Administration Building HVAC Upgrades. Construction for the Millbrae Warehouse loading dock repair is forecasted to begin in 2021 whereas the Millbrae Administration Building HVAC Upgrades construction is forecasted to begin in 2022.

CUW27701 Sunol Long Term Improvements

The project includes redevelopment of the existing Sunol Yard and construction of a Watershed Center near the Sunol Water Temple. Most of the existing structures at the Sunol Yard date back to 1930 and were converted from the original purpose, residence and barn, to office and shop spaces. The structures contain lead-based paint, asbestos, bats, and bat guano, and did not meet current building, health, or safety codes. The project will demolish six existing dilapidated structures at the Sunol Yard and construct a LEED Gold administration building, shops, fuel station, backup generator system, truck wash station, paving and site restoration.

The SFPUC Alameda Creek Watershed Center (Center) will be a gathering place for increasing the awareness and appreciation of the natural, cultural, scenic, historic and recreational resources of the Alameda Creek watershed. Consistent with the SFPUC Water Enterprise Environmental Stewardship Policy, and as described in the SFPUC Alameda Watershed Management Plan, the Center will enhance public awareness and provide education opportunities related to water quality, water supply, conservation and environmental stewardship issues.

This project is comprised of the following related projects: CUW2630601, Sunol Master Plan Support covering the planning and partial environmental and design phases, $5,764,341, and CUW27701 (10015124), Sunol Long Term Improvements, covering partial environmental and design phases and the construction phase, $100,414,000. The preconstruction phases were combined with the Sunol Yard and Center scope. The construction work was separated into two phases with the Sunol Yard under Phase A and the Center under Phase B. The Sunol Yard construction work was completed in September 5, 2020 with a total construction amount of $37,584,195 and included Phase A and JOC work. The Phase B construction notice to proceed was issued January 17, 2020 under WD-2794B for a contract amount of $27,577,000. The total project cost is $106,178,000.

CUW2770304 Millbrae Yard Laboratory and Shop Improvements

SFPUC has determined that the existing Millbrae Administration Building must remain operational following a major earthquake, and therefore needs to be retrofitted or replaced to meet essential facility requirements. SFPUC also wants to expand the existing Millbrae Administration Building to merge and house the Water Enterprise staff and equipment from the Rollins Road Facility. This project is necessary to provide Water Enterprise personnel a long term and sustainable campus and facilitate the consolidation of work groups for increased staff efficiency. This project will also alleviate shortage of program space, increase efficiency of operations, improve employee working environment with improved heating, ventilation, and air conditioning, improve employee health and safety, and enhance site and building security. A recent

planning study has identified several alternatives to meet the project goals.

The selected alternative for the Millbrae Yard campus improvements will be implemented in three phases. Phase 1 includes a new laboratory and new south shop building to alleviate Water Enterprise undersized and outdated workspaces and desire to relocate mission-critical functions to code-compliant structures. Phase 2 includes demolition of the existing Administration Building and construction of a new consolidated Administration Building adjacent to the new laboratory building to accommodate other Water Enterprise staff. Phase 3 includes new covered storage for materials and equipment.

In May 2020, the scope for the Rollins Road Project was significantly decreased, and the scope of the Millbrae Yard Lab & Shop Project was increased. This project will provide additional space in the laboratory building by constructing two additional floors on top of it to accommodate the relocation of all personnel from Rollins Road Facility.

LOCAL PROJECTS

Local Water Conveyance/Distribution System

10033816 Potable Emergency Firefighting Water System
This project, the Potable Emergency Firefighting Water System (PEFWS) proposes to design and construct earthquake-resistant water pipelines in western San Francisco, particularly the Sunset and Richmond areas. These pipelines will connect to the existing potable water distribution system to help deliver water to businesses, institutions, and residences during normal operations. It will also be designed to provide high-pressure fire suppression water when needed after a major earthquake or other emergency. When so needed, it will be isolated from the remainder of the potable distribution system by strategically located valves and can then be pumped to achieve pressures comparable to the existing conventional Emergency Firefighting Water System (EFWS), which is located in other areas of San Francisco. The system will be capable of pumping potable water, but also switching to non-potable water in Lake Merced for a much larger supply. This project also includes Lake Merced and Sunset Reservoir pump stations, which will increase water pressure when needed for fire suppression. Pipeline alignment, diameter, and related features will be determined during the planning phase, as will pump station schematic design. Phased construction scheduling and associated budgets will be determined in conjunction with finalizing these pipeline and pump station details.
The PEFWS will bring a seismically resilient high□pressure firefighting water system to the western neighborhoods of San Francisco, while also creating a seismically resilient pipeline that can supply drinking water to the west side during non□fire situations. The proposed overall project will install over 14 miles of seismically resilient pipelines in multiple phases as funding is provided. The system will be capable of providing water to the SFFD firefighters at the high pressure needed to combat large fires after a seismic event. The proposed pipelines will be fed by pump stations delivering 30,000 gallons per minute with services to the Richmond and Sunset Districts.

10033818 Town of Sunol Pipeline
Since 2000 the SFPUC has replaced the majority of the Town of Sunol pipeline system through the Town of Sunol Fire Suppression project, except for two segments. This project will complete the replacement of the last two segments of the system, by replacing sections of the pipeline that crosses the Arroyo de Laguna Creek (Creek Crossing) and under Highway 680.
The upstream section of pipeline that feeds both the potable line and fire suppression line to the Town of Sunol is exposed under the creek and in danger of failing under Highway 680. Pipeline failure at either location has significant consequences, since all fire and potable water in the Town of Sunol is dependent on the rehabilitation of this 12" line. This project will reduce maintenance from pipe breaks and have less main flushing which may lower impact on operating expenses.

CUW28000 Local Water Conveyance/Distribution System
This long-term program funds management of linear assets in San Francisco's potable water distribution system between transmission or storage and final customer service connection. The Linear Asset Management Program replaces and renews feeder and distribution mains for the 1,230 miles of pipe in San Francisco's drinking water distribution system. The SFPUC's goal is to replace 10 to 15 miles of pipe per year, depending on funding availability. Improvements include replacement, rehabilitation, relining, and cathodic protection of all pipe size categories to extend or renew pipeline useful life. Coordination with construction projects by other City agencies, especially SFPUC Sewer and SFPW Paving, is emphasized to optimize efficiencies and minimize customer disruptions. Some street improvement projects led by other agencies (CalTrans, SFMTA, SFCTA, SFPW) are more expensive to implement due to their complexity, traffic and transit impacts, and multi-agency coordination. Starting in FY21-22, separate funding for 4 miles of main replacement at a cost of $6.0M per mile has been provided for the L-Taraval Transit Project, where

Additionally, in FY21-22, a new Better Market Street Project has been created to provide separate funding for the water main replacement along the Market Street Corridor to be constructed over a period of 7 years with the assumption of 0.5 miles per year.

Local Water Supply

CUW30101 Lake Merced Water Level Restoration

The project consists of three subprojects. (1) The City of Daly City is proposing and working in coordination with the SFPUC to implement the Vista Grande Drainage Basin Improvements project to address storm related flooding in the Vista Grande Watershed Drainage Basin while providing the benefit of restoring connection to the natural watershed of Lake Merced. (2) In addition, the SFPUC is implementing a Demonstration/Full Scale Aeration Mixing Project to evaluate whether additional lake mixing might result in improved dissolved oxygen concentrations in the Lake and finally (3) The SFPUC is evaluating diversion of highly treated recycled water from the new Westside Recycled Water facility into Lake Merced to increase ad stabilize lake levels.

CUW30102 San Francisco Groundwater Supply

This project consists of two phases, which combined will provide an annual average of 4 mgd of groundwater to San Francisco's municipal water supply, and improvements at the existing San Francisco Zoo Well No. 5. Phase 1 is divided in two separate contracts, which are Contracts A & B. Contract A work for building four new groundwater well stations in the western part of San Francisco is currently in the final construction phase. Contract B work for installing buried piping to connect three of these well stations to the Sunset Reservoir was completed and accepted on December 21, 2015. Groundwater from the fourth well station was piped to the nearby Lake Merced Pump Station, where it was distributed to both the Sunset Reservoir and Sutro Reservoir. Phase 2 has Contract C work for installing buried piping and converting two existing irrigation well facilities in Golden Gate Park to groundwater supply wells is currently in the final construction phase, and would be implemented after completion of the CUW30201, San Francisco Westside Recycled Water Project. Improvements at the existing San Francisco Zoo Well No. 5 were completed and accepted on February 15, 2007.

CUW30201 San Francisco Westside Recycled Water

This project consists of a new recycled water treatment facility located at the SFPUC's existing Oceanside Plant, along with the associated distribution system components, to produce and deliver an annual average of approximately 1.6 mgd of recycled water to Golden Gate Park, Lincoln Park, and the Presidio. The treatment process includes membrane filtration, reverse osmosis, and ultraviolet light disinfection. A new pump station and reservoir will be constructed in Golden Gate Park to deliver water to Lincoln Park and the Presidio. Approximately 8 miles of new recycled water pipeline connect the treatment facility to the new reservoir in Golden Gate Park and extends to the Lincoln Park and Presidio points of connection. The project also includes the retrofitting of the existing irrigation systems to bring them into compliance with Title 22 regulations. The treatment facility includes additional capacity to serve potential future customers, such as the SF Zoo.

Local Tanks/Reservoir Improvements

CUW28301 College Hill Reservoir Outlet

The College Hill Reservoir is located in San Francisco's Bernal Heights residential district and is a critical reservoir responsible for delivering water to the eastern and northern areas of San Francisco including General Hospital, Upper Market Street, Civic Center, and City Hall. The College Hill Reservoir, constructed in 1870 and San Francisco's oldest water reservoir, was seismically retrofitted in 2001. SFPUC is currently undertaking a phased program to improve the seismic reliability of the water distribution system from College Hill Reservoir to SF General Hospital to withstand a major seismic event. This project addresses essential seismic improvements within the reservoir including installation of a new control valve vault; replacement of reservoir

inlet and outlet piping; reservoir roof replacement; miscellaneous piping, security, site access, electrical, instrumentation, and water quality improvements; and replacement of the first section of transmission pipelines for the College Hill system up to Cortland Avenue.

Pump Stations

CUW28404 HARDING PARK PS

The Harding Park irrigation pump station and recycled water storage tank was commissioned in 2012. The pump station draws recycled water from an underground reservoir and delivers the pressurized water to the Tournament Players Club (TPC) Harding Park golf course. In the summer of 2016, the pump station was taken off-line because electrical terminations in the pump station control panel had corroded. This resulted in an arc flash event, which damaged the main switch, making the pump station inoperable. Temporary repairs have been made, allowing for the facility to resume operation. The primary objective of the Harding Park Pump Station Project is to implement a permanent solution to the electrical system deficiencies and improve pump station reliability.

Buildings and Grounds

10037249 New CDD Headquarters

The City Distribution Division (CDD) oversees the retail water distribution system within the City and County of San Francisco and is responsible for the physical infrastructure of San Francisco's potable, auxiliary water supply and ground water systems. CDD's responsibilities include 24/7 emergency response to water main breaks and two-alarm or larger fires in addition to day-to-day operations and maintenance of over 1,250 miles of water mains, 12 reservoirs, 9 pump stations, 7 hydro-pneumatic stations, 6 tanks, the water meter program serving over 176,000 customers, and maintain CDD's physical plant, equipment and fleet and over 1,100 acres of grounds through the City.

The buildings and facilities at the existing CDD campus are functionally obsolete, in disrepair and are not in compliance with current building codes, and do not meet standards for safety, accessibility and environmental requirements. The campus requires full replacement. New buildings will provide greater reliability, safety, security, and higher productivity.

Emergency Firefighting Water System

EFWS PL Emergency Firefighting Water System (EFWS) Pipelines

The Emergency Firefighting Water System (EFWS) includes several methods of delivering water to suppress fires during emergency situations. EFWS is vital for protecting against the loss of life, homes, and businesses from fire following an earthquake and non-earthquake multiple-alarm fires.

One EFWS component is a high-pressure fire-suppression water system, formerly known as Auxiliary Water Supply System (AWSS), which was originally built in the decade following the catastrophic 1906 San Francisco earthquake. It consists of a resilient 135-mile high-pressure pipeline network, a high elevation reservoir, two large capacity tanks, two high-pressure seawater pumping stations, and manifolds that allow fireboats to inject Bay water into the City's pipelines.

The Potable Emergency Firefighting Water System (PEFWS) will bring a seismically resilient high-pressure firefighting water system to the western neighborhoods of San Francisco, while also creating a seismically resilient pipeline that supplies drinking water to the west side during non-fire situations. The proposed overall project will install over 14 miles of seismically resilient pipelines in multiple phases as funding is provided. The system will be capable of providing water to the SFFD firefighters at the high pressure needed to combat large fires after a seismic event. The proposed pipelines will be fed by pump stations delivering 30,000 gallons per minute with services to the Richmond and Sunset Districts.

Fireboat manifolds allow fire boats to pump seawater from the bay into the EFWS. Existing fireboat manifolds at Fort Mason and Pier 33 ½ are located on piers of unknown condition and are likely susceptible to seismically induced failures. Rehabilitation of manifolds and

connector pipelines is required at Fort Mason and Pier 33 ½ to provide adequate access for firefighters.

EFWS PS Emergency Firefighting Water System (EFWS) Pump Stations

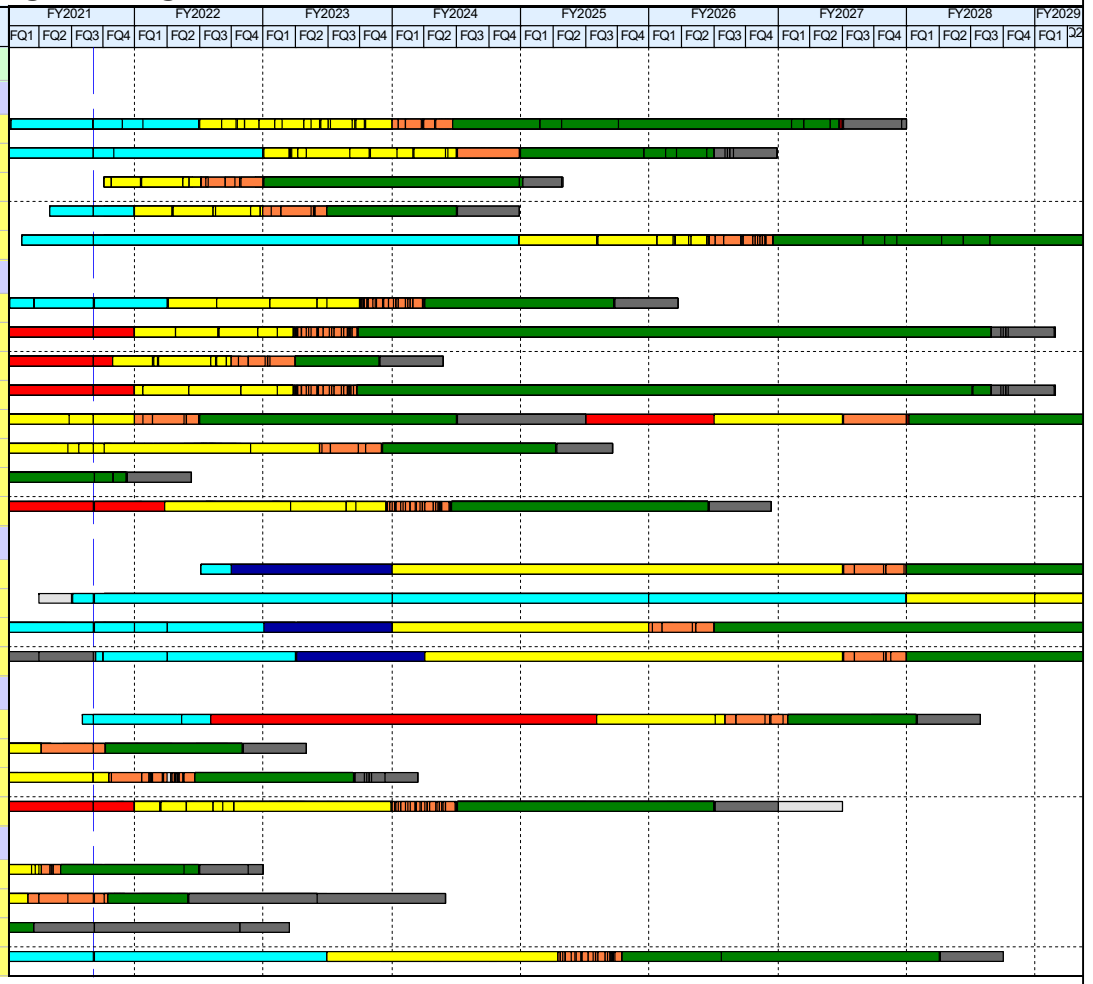
The Emergency Firefighting Water System (EFWS) includes several methods of delivering water to suppress fires during emergency situations. EFWS is vital for protecting against the loss of life, homes, and businesses from fire following an earthquake and non-earthquake multiple-alarm fires.

One EFWS component is a high-pressure fire-suppression water system, formerly known as Auxiliary Water Supply System (AWSS), which was originally built in the decade following the catastrophic 1906 San Francisco earthquake. It consists of a resilient 135-mile high-pressure pipeline network, a high elevation reservoir, two large capacity tanks, two high-pressure seawater pumping stations, and manifolds that allow fireboats to inject Bay water into the City's pipelines.

The Potable Emergency Firefighting Water System (PEFWS) will bring a seismically resilient high□pressure firefighting water system to the western neighborhoods of San Francisco, while also creating a seismically resilient pipeline that can supply drinking water to the west side during non□fire situations. The proposed overall project will install over 14 miles of seismically resilient pipelines in multiple phases as funding is provided. The system will be capable of providing water to the SFFD firefighters at the high pressure needed to combat large fires after a seismic event. The proposed pipelines will be fed by pump stations delivering 30,000 gallons per minute with services to the Richmond and Sunset Districts.

Appendix B. Water Enterprise Proposed Project-Level Schedules
Regional Programs

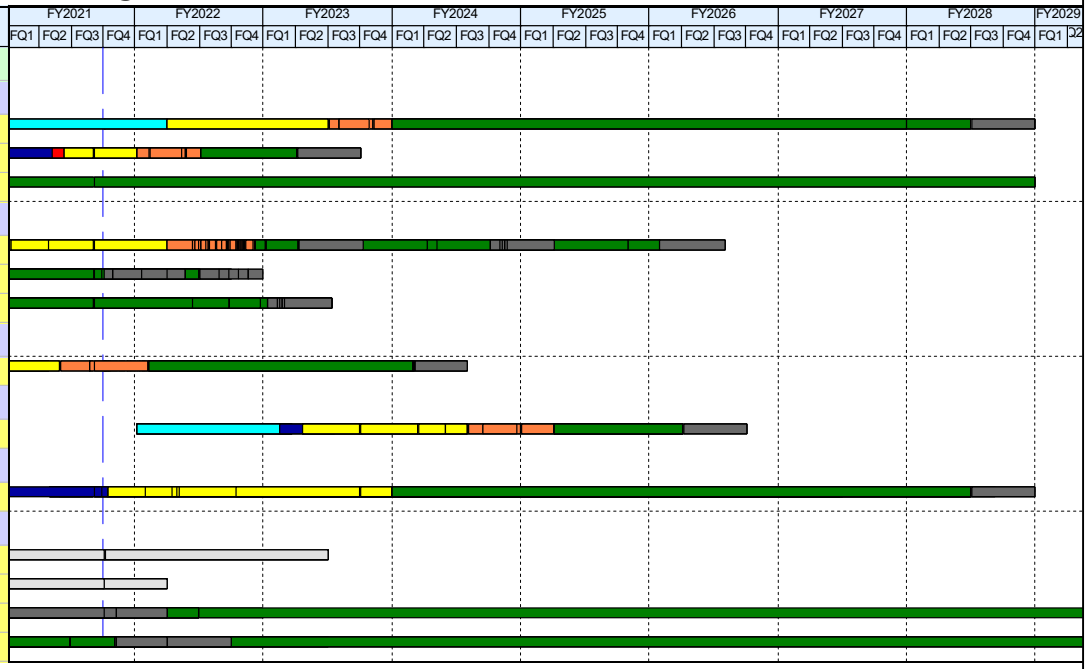
Project Name	Start	Finish
Water Regional Improvement Projects	01-Jan-09 A	29-Jun-35
Water Treatment	03-Mar-14 A	27-Dec-29
10033123 SVWTP Ozone (CUW27202)	27-Jun-17 A	30-Jun-27
CUW2720204/02 SVWTP Phases 3 and 4	03-Mar-14 A	30-Jun-26
CUW2720205 SVWTP Polymer Feed Facility	05-Apr-21	28-Oct-24
CUW2720301HTWTP Improvements Capital	02-Nov-20 A	28-Jun-24
CUW2720304 Regional Groundwater Treatment Improvements	13-Aug-20 A	27-Dec-29
Water Transmission	01-Jan-16 A	29-Dec-34
10034578 CSPL2 Reach 5 Lining Replacement	25-Feb-19 A	19-Sep-25
10035029 As-Needed Pipeline Repair	01-Jul-20 A	25-Aug-28
10036839 Pre-Stressed Concrete Cylinder Pipe (PCCP) Repair	01-May-20 A	22-Nov-23
10036840 BDPL 1-4 Lining Repair	12-Sep-16 A	25-Aug-28
CUW2730101 Corrosion Control	01-Jan-16 A	29-Dec-34
CUW2730404 San Antonio Pump Station MCC Upgrades	12-May-16 A	19-Mar-25
CUW2730504 San Andreas Pipeline No. 2 Replacement	01-Mar-16 A	08-Dec-21
CUW2730505 CSPL2 Reaches 2 and 3 Rehabilitation	22-Oct-16 A	12-Jun-26
Water Supply & Storage	11-Dec-13 A	29-Jun-35
10015232 Merced Manor Reservoir Facilities Repairs	04-Jan-22	30-Jun-31
10036998 Turner Dam and Reservoir Improvements	01-Oct-20 A	29-Jun-35
CUW2740102 Pilarcitos Dam Improvements	07-Apr-14 A	29-Jun-29
CUW2740103 San Andreas Dam Facility Improvements	11-Dec-13 A	30-Dec-33
Watershed and Lands Management	31-Oct-12 A	27-Jan-28
10015108 Sneath Lane Gate/North San Andreas	01-Feb-21 A	27-Jan-28
10015110 EBRPD Water System	02-Jun-14 A	31-Oct-22
CUW2751801 Southern Skyline Blvd Ridge Trail Extension	31-Oct-12 A	11-Sep-23
CUW2752201San Andreas Service Road Upgrades	30-Jun-16 A	31-Dec-26
Buildings and Grounds	01-Jan-09 A	31-Mar-28
10033555 Rollins Road Building Renovations (CUW27703)	01-Mar-18 A	30-Jun-22
10034526 Millbrae Warehouse Settlement & Admin. Bldg. HVAC	03-Jan-17 A	30-Nov-23
CUW27701 Sunol Long Term Improvements	01-Jan-09 A	13-Sep-22
CUW2770304 Millbrae Yard Laboratory and Shop Improvements	02-Nov-15 A	31-Mar-28



Project Management
Planning
Environmental
Design
Right-of-Way
Bid & Award
Construction Mgmt
Construction
Closeout

Appendix B. Water Enterprise Proposed Project-Level Schedules
Local Programs

Project Name	Start	Finish
Water Local Improvement Projects	03-Mar-03 A	29-Dec-28
Local Water Conveyance / Distribution System	01-Jul-10 A	30-Jun-28
10033816 Potable Emergency Firefighting Water System	12-Aug-19 A	30-Jun-28
10033818 Town of Sunol Pipeline	17-Jun-19 A	03-Apr-23
CUW28000 Local Water Conveyance/Distribution System	01-Jul-10 A	30-Jun-28
Local Water Supply	03-Mar-03 A	30-Jan-26
CUW30101 Lake Merced Water Level Restoration	16-Jun-03 A	30-Jan-26
CUW30102 San Francisco Groundwater Supply	16-Jun-03 A	30-Jun-22
CUW30201 San Francisco Westside Recycled Water	03-Mar-03 A	12-Jan-23
Local Tanks/Reservoir Improvements	24-Jan-13 A	29-Jan-24
CUW28301 College Hill Reservoir Outlet	24-Jan-13 A	29-Jan-24
Pump Stations	06-Jul-21	03-Apr-26
CUW28404 Harding Park PS	06-Jul-21	03-Apr-26
Buildings and Grounds	01-Feb-20 A	28-Jun-28
10037249 New CDD Headquarters	01-Feb-20 A	28-Jun-28
Emergency Firefighting Water System (EFWS)	01-Apr-11 A	29-Dec-28
CUWAW200 2014 AUXILIARY WATER SUPPLY SYSTEM*	06-Nov-14 A	30-Dec-22
CUWAWS01 AUXILIARY WATER SUPPLY SYSTEM*	01-Apr-11 A	30-Sep-21
EFWSPS EFWS Pump Stations	01-Apr-11 A	29-Dec-28
EFWSPL EFWS Pipelines	01-Apr-11 A	29-Dec-28



Project Management
Design
Construction Mgmt
Planning
Right-of-Way
Construction
Environmental
Bid & Award
Closeout

APPENDIX C. LIST OF ACRONYMS

AAR	Alternative Analysis Report
ADEIR	Administrative Draft of the Environmental Impact Report
AWMP	Automated Water Meter Program
AWSS	Auxiliary Water Supply System
BARR	Bay Area Regional Reliability
BRT	Bus Rapid Transit
C&M	Construction and Maintenance
CalTrans	California Department of Transportation
CATEX	Categorical Exemption
CDD	City Distribution Division
CEQA	California Environmental Quality Act
CER	Conceptual Engineering Report
CIP	Capital Improvement Program
CM	Construction Management
CMB	Construction Management Bureau
COVID-19	Coronavirus Disease of 2019
CSPL2	Crystal Springs Pipeline Number 2
DCU	Data Collection Unit
DFI	Dam Facility Improvements
DIP	Ductile Iron Pipe
DSOD	Division of Safety of Dams (State of California)
EFWS	Emergency Firefighting Water System
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMB	Engineering Management Bureau
ESER	Earthquake Safety and Emergency Response
FCC	Federal Communications Commission
FY	Fiscal Year
GGNRA	Golden Gate National Recreation Area
GGP	Golden Gate Park
HTWTP	Harry Tracy Water Treatment Plant
HVAC	Heating, Ventilation, and Air Conditioning
ITS	Information Technology Services
JOC	Job Order Contract
MCC	Motor Control Centers
MCP	Main Control Panel
MG	Million Gallons
MGD	Million Gallons per Day
MIB	2-Methylisoborneol
MND	Mitigated Negative Declaration
MOU	Memorandum of Understanding
MW	Megawatt
NEPA	National Environmental Policy Act
NLWS	North Lake Well Station
NRD	Natural Resources Division
NTP	Notice to Proceed
O&M	Operation and Maintenance
PAC	Powdered Activated Carbon
PAH	Polycyclic Aromatic Hydrocarbons
PMF	Probable Maximum Flood
PREP	Potable Reuse Exploratory Plan
PRGC	Pacific Rod and Gun Club
PS	Pump Station
PUC	Public Utilities Commission
RF	Radio Frequency
RFP	Request for Proposal
RFQ	Request for Qualifications
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
RWS	Regional Water System
SAD	San Andreas Dam
SAPL1	San Antonio Pipeline Number 1
SAPL2	San Antonio Pipeline Number 2
SAPS	San Antonio Pump Station
SCADA	Supervisory Control and Data Acquisition
SF	San Francisco
SFPUC	San Francisco Public Utilities Commission
SFPW	San Francisco Public Works (formerly SFDPW)
STATEX	Statutory Exemption
SVWTP	Sunol Valley Water Treatment Plant
SWWS	South Windmill Well Station
T&O	Taste and Odor
TBD	To be determined
UV	Ultra Violet
VNBRT	Van Ness Bus Rapid Transit
WE	Water Enterprise
WECIP	Water Enterprise Capital Improvement Program
WQD	Water Quality Division
WSIP	Water System Improvement Program
WSTD	Water Supply and Treatment Division

This page is intentionally left blank