

Water Enterprise Capital Improvement Program


Quarterly Reports – Fiscal Year 2020-2021

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DATE: November 03, 2020

TO: Commissioner, Sophie Maxwell, President
Commissioner, Anson Moran, Vice President
Commissioner, Tim Paulson
Commissioner, Ed Harrington

FROM: Harlan L. Kelly, Jr., General Manager 

RE: Water Enterprise Capital Improvement Program
Quarterly Report (1st Quarter / FY 2020-2021)

Enclosed is the Water Enterprise Capital Improvement Program Quarterly Report for the period ending on September 30, 2020. This quarterly report provides a summary update on both Regional and Local Capital 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. Scope and schedule information show which projects are active, potentially newsworthy, or otherwise noticeable to the public due to improved service or impacts from construction. Quarterly updates allow for timely and proactive review of projects.

We would like to note that reported costs associated with Public Works Department (PW) support are not fully reconciled to PeopleSoft. Due to the PeopleSoft process PW utilizes for tracking their charges, costs are reported at a level that does not relate to a single SFPUC project. SFPUC staff have held numerous meetings with the Controller and the Public Works Accounting team in an effort to reach agreement on revised cost tracking procedures. As current projects utilizing the system put in place at PeopleSoft conversion are completed and being closed, SFPUC staff work closely with PW Accounting and the respective PW Manager to reconcile actual costs to work completed at the SFPUC project level of detail. This is a lengthy and complex process, but staff are making progress toward completion of the reconciliation.

To ensure accurate and efficient cost reporting on future projects, SFPUC is currently drafting a Memorandum of Understanding (MOU) between SFPUC and PW. The MOU will outline estimating, tracking, and reporting processes for SFPUC capital projects where PW is providing design and/or construction

London N. Breed
Mayor

Sophie Maxwell
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Anson Moran
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Tim Paulson
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Ed Harrington
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management support; it will allow programmatic updates of PW costs into the SFPUC project controls system and monthly reconciliation of reported actual costs against the PeopleSoft financial system.

As mentioned last quarter, on March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective March 17, 2020. In compliance with this order, nearly 1,200 SFPUC employees have been working remotely. Employees who have been deemed essential to continue operations by reporting to SFPUC facilities are doing so to deliver water, power and sewer services to the communities we serve.

Following the shelter-in-place order, on March 18, 2020, SFPUC issued a memo to the construction contractors stating that public works construction projects are considered an “essential activity” and work is expected to continue, but contractors are required to stop work temporarily and submit a revised Site-Specific Health and Safety Plan to address COVID-19 safety and protective work practices for SFPUC review by close of business on March 20, 2020.

On March 20, 2020, a letter was issued to contractors from the City Administrator. The letter noted that The City was prepared to partner with contractors to take steps to make projects as safe as possible for employees to help keep projects moving forward and determine if Social Distancing Requirements can be met.

On March 31, 2020, the Health Officer issued Health Order No. C19-07b, replacing the earlier March 16, 2020 order. The order requires the City Administrator, in consultation with the Health Officer, to specifically designate certain public works projects as an Essential Government Function if they are to continue during this shelter-in-place order.

Additionally, contractors were provided with the Construction Safety Guidelines, dated April 1, 2020, developed by City representatives and the San Francisco Building and Construction Trades Council, with input from construction industry contractors’ associations. This document provides industry guidelines for safe practices at construction work sites. Accordingly, Contractors were required to prepare and submit updated Site-Specific Health and Safety Plan to address COVID-19 issues at each site.

Furthermore, on April 15, 2020, the City Administrator’s Office issued Procedures for Implementation and Enforcement of COVID-19 Field Safety Guidelines for Public Works Projects.

And, on April 29, 2020, the Health Officer issued Health Order No. C19-07c, extending the shelter-in-place through the end of May. This new order went into effect on May 4, 2020 and all construction was allowed to resume as long as specific safety measures are in place. The Health Order C19-07c also provides Safety protocols for both small and large construction projects. Lastly, on May 5, 2020, the Health Officer issued a directive requiring that each contractor for a City public works project to comply with all aspects of these safety protocols.

During the months following, staff coordinated with the Enterprises to implement worksite health screenings and communication plans. The SFPUC's construction management teams developed procedures and practices to fulfill the City's role as mandated by the "Public Works Project Safety Protocol for COVID-19" through inspection of worksites to assure worker compliance with the contractors' approved Health and Safety Plans.

Due to anticipated financial impacts from the pandemic, staff worked on revising the 10-year Capital Improvement Program (CIP) budget to ensure we can continue essential services to the public and maintain our financial sustainability. On July 14, 2020, a Revised CIP plan was submitted and approved by the Commission.

The highlights for this reporting period are as follows:

1. Regional Water Enterprise CIP:

- 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 to address COVID-19 requirements.
- Geotechnical site investigations were initiated at the Sunol Valley Water Treatment Plant (SVWTP) for locating future ozone facilities as part of the SVWTP Ozone project conceptual engineering phase.
- Bay Division Pipeline No.4 (BDPL4), an 84-inch diameter prestressed concrete cylinder pipe (PCCP), was externally inspected in August 2020. For four pipe pieces that were excavated during the inspection, the concrete coating was removed and prestressed wire wraps were exposed to assess the pipe's condition. During its excavation, a leak was found on BDPL4. The leak was temporarily mitigated with external pipe wrap, and a permanent repair has been scheduled to occur within the next three years.
- Crystal Springs Pipeline No.2 (CSPL2), a 60-inch diameter welded steel pipe, was externally inspected in September 2020. The external inspection was a follow-up to the detailed corrosion survey performed in 2019. Coal tar coating was removed for the entire circumference of the

pipe at four locations. A visual inspection was performed, and ultrasonic measurements of the steel thickness were taken. At all four locations, the steel substrate was found to be in overall good condition. Additional analysis will be performed with the collected data.

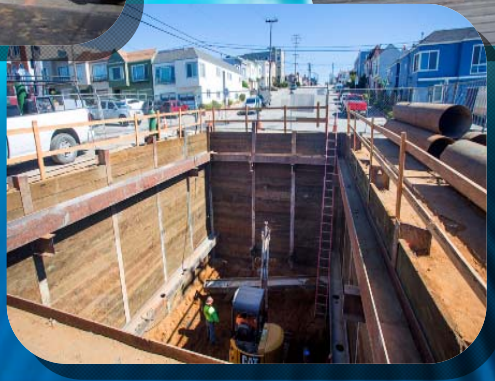
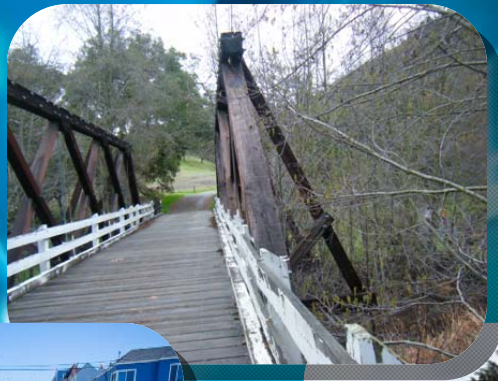
- Planning continued for the lining repair project for the Bay Division Pipeline Nos.1, 2, 3 and 4. This project will address defects found during previous inspections as well as address deficiencies that may be observed in future planned inspections.
 - Construction continued for San Andreas Pipeline No. 2 Replacement in San Bruno. The project is over 75% complete in construction.
 - Public comments were received on the Draft Environmental Impact Report (EIR) for the Southern Skyline Ridge Trail Extension.
 - Excavation work and the main building concrete slab were completed for the Alameda Creek Watershed Center, part of the Sunol Long Term Improvements project.
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 ten water main replacement projects have construction underway within San Francisco city limits during the first quarter of FY21. During the first quarter of FY21, all water work was installed on Geary between 36th and 48th Avenues. Projects planned to start construction during the second quarter of FY21 include work on Baker Street, 19th Avenue, and Casitas Avenue.
- Construction for the Recycled Water Treatment Facility at Oceanside Water Pollution Control Plant continued. The new treatment building shell was completed, and installation of treatment process equipment continued. Construction for the Distribution Pump Station and Reservoir in Golden Gate Park completed pouring of reservoir walls and columns. The Irrigation System Retrofit contract was awarded during the quarter.
- Substantial completion was achieved for Phase 2 of the San Francisco Groundwater Supply project.

Enclosure



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



QUARTERLY REPORT

Water Enterprise Capital Improvement Program

Q1 FY 2020 | 2021

July 2020 — September 2020

Quarterly Report

Water Enterprise Capital Improvement Program

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II. LOCAL CAPITAL IMPROVEMENT PROGRAM

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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 treatment facilities; water transmission infrastructure; 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) is a 10-year plan of projects and activities to physically improve the system, 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 and include deferred projects not included in WSIP and new projects which are needed to continue meeting level of service goals.

The capital planning process is used to inform the CIP with updates to master plans, asset

condition assessment, and review of levels of service.

There are five programs in the 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 programs are:

- Water Treatment Program
- Water Transmission Program
- Water Supply & Storage Program
- Watershed & Lands Management Program
- Buildings and Grounds Program

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.

A project moves from the planning, design, and environmental review stage to implementation 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, schedule, or necessity during annual review and approval of the 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 **Current Approved Budget**.

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

I. Regional WECIP Quarterly Report

Modifications to scope or schedule must be approved by the Assistant General Manager for Water Enterprise with input from the project's **Technical Oversight Committee** which generally consists of managers within the Water Enterprise and Infrastructure Division. Final **Project Closeout** must be approved by the Assistant General Manager for Water Enterprise.

2. CAPITAL IMPROVEMENT PROGRAM STATUS

This Quarterly Report presents the progress made on Regional Water projects between July 1, 2020 and September 30, 2020. This document serves as the first (1st) Quarterly Report in Fiscal Year 2020-2021 (FY21) published for the Water Enterprise Capital Improvement Program.

On December 11, 2018, SFPUC approved the Water Enterprise 2018 Proposed Baseline budget of \$631.0 million for Regional projects and \$1,602.1 million for Local projects (2018 Approved Baseline). The 2018 Approved Baseline is a subset of the Regional and Local Water Enterprise 10-year CIP for FY2019-2028 and includes individual projects over \$5 million that were then currently active or intended to be active by June 30, 2020 at the time proposed to the Commission on December 11, 2018. The status of projects included in the 2018 Approved Baseline are discussed in this quarterly report.

Figure 2.1 shows the total Current Approved Budget for the 17 Regional projects in each phase of the program as of September 30, 2020. 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 September 30, 2020: Pre-construction, Construction, and Post-construction.

Figure 2.3 summarizes the environmental review status of the 17 Regional projects as of September 30, 2020.

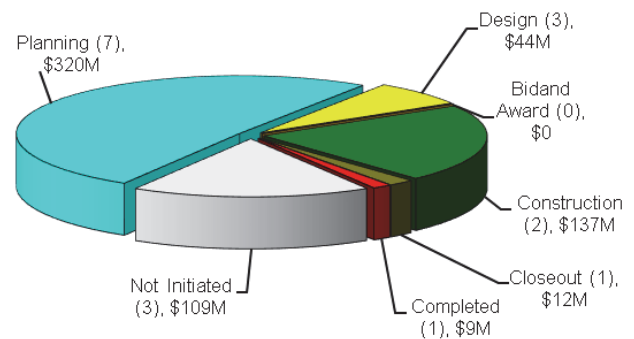


Figure 2.1 Total Current Approved Budget for Regional Projects Active in Each Phase

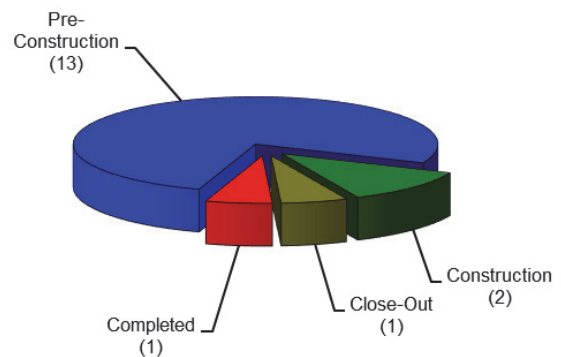


Figure 2.2 Number of Regional Projects in Pre-construction, Construction, and Post-construction

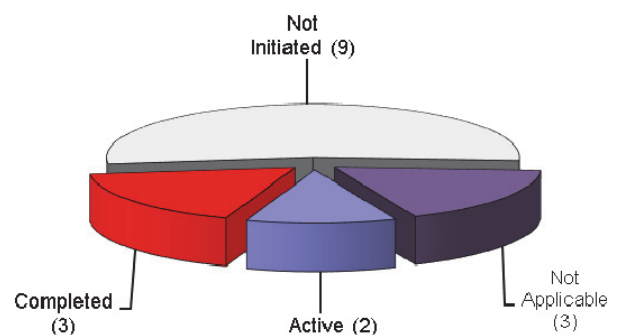


Figure 2.3 Regional Program Environmental Review

3. CAPITAL IMPROVEMENT PROGRAM COST SUMMARY

Table 3.1 provides an overall cost summary of the Regional Water CIP. It shows the Expenditures to Date; 2018 Approved Budget, Current Approved Budget and Current Forecasted Cost; and the Cost Variance between

the Current Approved Budget and Forecasted Cost.

The total Current Approved Budget is \$631.0 million, and the Current Forecasted Cost at completion is \$952.1 million (\$321.1 million over the Current Approved Budget).

Table 3.1 Regional Water CIP Cost Summary

Cost Categories	Expenditures To Date (\$ Million) (A)	2018 Approved Budget (\$ Million) (C)	Current Approved Budget (\$ Million) (D)	Current Forecasted Costs (\$ Million) (E)	Cost Variance (\$ Million) (F = D - E)
Regional Water CIP	\$133.55	\$630.99	\$630.99	\$952.12	(\$321.13)
Water Treatment	\$8.91	\$123.60	\$123.60	\$173.16	(\$49.56)
Construction Costs ⁽¹⁾	\$6.56	\$91.56	\$91.56	\$129.02	(\$37.46)
Delivery Costs ⁽²⁾	\$2.35	\$32.04	\$32.04	\$43.65	(\$11.61)
Other Costs ⁽³⁾	-	-	-	\$0.50	(\$0.50)
Water Transmission	\$50.29	\$133.26	\$133.26	\$137.85	(\$4.59)
Construction Costs ⁽¹⁾	\$37.34	\$98.72	\$98.72	\$100.65	(\$1.93)
Delivery Costs ⁽²⁾	\$12.44	\$34.29	\$34.31	\$36.21	(\$1.90)
Other Costs ⁽³⁾	\$0.51	\$0.24	\$0.22	\$1.00	(\$0.78)
Water Supply & Storage	\$4.03	\$220.86	\$220.86	\$338.36	(\$117.50)
Construction Costs ⁽¹⁾	-	\$165.01	\$165.01	\$109.45	\$55.56
Delivery Costs ⁽²⁾	\$4.03	\$55.85	\$55.85	\$224.58	(\$168.73)
Other Costs ⁽³⁾	-	-	-	\$4.33	(\$4.33)
Watershed & Lands Management	\$3.88	\$19.34	\$19.34	\$21.81	(\$2.47)
Construction Costs ⁽¹⁾	-	\$15.40	\$15.40	\$13.34	\$2.06
Delivery Costs ⁽²⁾	\$3.88	\$3.94	\$3.94	\$8.43	(\$4.49)
Other Costs ⁽³⁾	\$0.00	-	-	\$0.03	(\$0.03)
Buildings and Grounds	\$66.43	\$133.94	\$133.94	\$280.93	(\$146.99)
Construction Costs ⁽¹⁾	\$38.42	\$88.27	\$88.27	\$185.74	(\$97.47)
Delivery Costs ⁽²⁾	\$27.61	\$44.69	\$45.49	\$93.88	(\$48.39)
Other Costs ⁽³⁾	\$0.40	\$0.98	\$0.18	\$1.31	(\$1.13)
Local Water CIP	\$740.38	\$1,602.12	\$1,602.12	\$1,575.52	\$26.60
Construction Costs ⁽¹⁾	\$430.11	\$1,043.31	\$1,049.08	\$1,041.91	\$7.17
Delivery Costs ⁽²⁾	\$309.11	\$555.58	\$549.65	\$529.63	\$20.02
Other Costs ⁽³⁾	\$1.15	\$3.22	\$3.38	\$3.98	(\$0.60)
Overall Water CIP	\$873.93	\$2,233.11	\$2,233.11	\$2,527.64	(\$294.53)

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Notes:

1. Construction Costs include the Construction Base Bid and owner-provided equipment/material for all projects. Those costs include any construction contingency.
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. CAPITAL IMPROVEMENT PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the 2018 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 2018 Approved and Forecasted Schedule completion for the overall Water CIP (including Regional and Local Programs) are in March 2029 and July 2030, respectively (16 months behind schedule). The 2018 Approved and Forecasted Schedule completion for the Regional CIP are March 2029 and July 2030, respectively (16 months behind schedule).

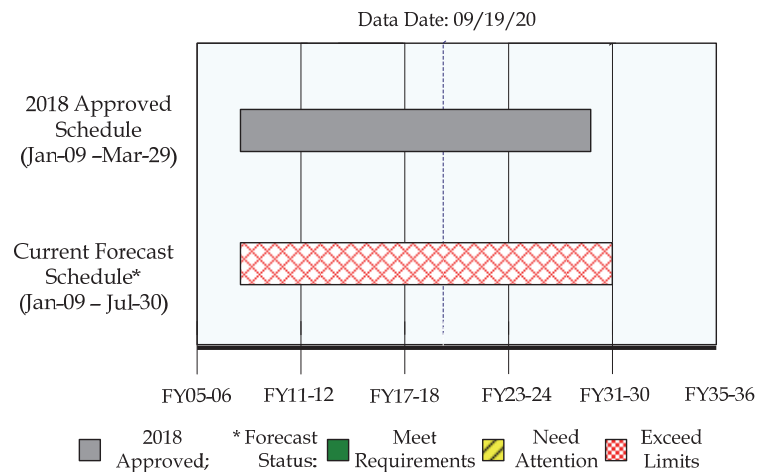


Figure 4.1 Program Schedule Summary

Table 4.1 2018 Approved vs. Current Forecast Schedule Dates

Sub-Program	2018 Approved Project Start	Actual Start	2018 Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Regional Projects	01/01/09	01/01/09✓	03/20/29	07/30/30	16.3 (Late)
Local Projects	03/03/03	03/03/03✓	06/30/28	06/30/28	-
Overall Water Enterprise CIP	03/03/03	03/03/03✓	03/20/29	07/30/30	16.3 (Late)

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 09/19/20

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	\$ 5,519	\$ 115,000	\$ 165,130	\$ 1,500	(\$50,130)	●	09/09/24	12/15/25	15.2 mo. Late	●	See Section 6
Water Transmission												
10034578 - CSPL2 Reach 5 Rehabilitation	PL	\$ 2,531	\$ 12,840	\$ 13,031	\$ 234	(\$191)	⚠	11/30/22	06/01/23	6.0 mo. Late	●	See Section 6
CUW2730404 - SAPS Motor Control Centers	DS	\$ 3,347	\$ 7,200	\$ 12,500	\$ 434	(\$5,300)	●	01/27/23	02/19/25	24.8 mo. Late	●	See Section 6
CUW2730504 - SAPL2 Lockbar Replacement	CN	\$ 45,542	\$ 45,642	\$ 45,642	\$ 37,281	-	★	12/08/21	12/08/21	-	★	See Section 10
CUW2730505 - CSPL2 Reaches 2 and 3 Rehabilitation	PL	\$ 2,520	\$ 55,920	\$ 55,028	\$ 1,149	\$ 892	★	10/10/23	02/12/25	16.1 mo. Late	●	See Section 6
Water Supply & Storage												
CUW2740102 - Pilarcitos Dam and Reservoir Improvements	PL	\$ 6,680	\$ 25,676	\$ 30,087	\$ 2,782	(\$4,411)	●	09/05/25	09/05/25	-	★	See Section 6
CUW2740103 - San Andreas Dam Facility Improvements	PL	\$ 24,366	\$ 26,795	\$ 32,195	\$ 543	(\$5,400)	●	04/20/27	12/31/29	32.4 mo. Late	●	See Section 6
CUW2740600 - Potable Reuse & Other Supplies	PL	\$ 2,442	\$ 59,400	\$ 171,500	\$ 697	(\$112,100)	●	06/30/26	07/30/30	49.0 mo. Late	●	See Section 6

* 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 09/19/20

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												
CUW2751801 - Southern Skyline Blvd Ridge Trail Extension	DS	\$ 5,846	\$ 19,340	\$ 21,805	\$ 3,883	(\$2,465)	●	01/21/22	09/22/22	8.0 mo. Late	●	See Section 6
Buildings and Grounds												
10033555 - Rollins Road Building Renovations (CUW27703)	DS	\$ 2,300	\$ 17,878	\$ 5,192	\$ 1,696	\$ 12,686	★	01/31/22	01/31/22	-	★	See Section 10
CUW27701 - Sunol Long Term Improvements	CN	\$ 107,155	\$ 91,684	\$ 106,178	\$ 63,899	(\$14,494)	●	09/01/21	09/08/22	12.2 mo. Late	●	See Section 6
CUW2770304 - Millbrae Yard Laboratory and Shop Improvements	PL	\$ 2,487	\$ 24,376	\$ 169,563	\$ 839	(\$145,187)	●	05/03/23	03/31/27	46.9 mo. Late	●	See Section 6

* 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

10033123 - SVWTP Ozone (CUW27202)

Project Description: The project intent is to build an ozonation system that will provide a long-term solution to control taste and odor (T&O) events encountered in the raw water supply from both the San Antonio and Calaveras Reservoir sources. The work will include installation of cryogenic oxygen tanks, liquid oxygen vaporizers, ozone generators, ozone injectors, an ozone contactor, an ozone building, an ozone destruct system, associated pumping/valving/piping/appurtenances, associated automatic controls, related facilities, an electrical building, site improvements, and offset power generation consisting of solar panels atop the treated water reservoir.

Program: Water Treatment		Project Status: Planning		Environmental Status: Not Initiated (CatEx)	
Project Cost:			Project Schedule:		
Approved		\$115.00 M	Approved Jun-17		Sep-24
Forecast*		\$165.13 M	Forecast* Jun-17		Dec-25
Actual		\$1.50 M	Project Percent Complete: 2.0%		
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	03/18/22	05/10/22	09/29/22	03/20/25	

Progress and Status:

As part of the Conceptual Engineering phase, evaluations were performed for treatability testing, plant design flow and hydraulics, and the photovoltaic system. The approach for selecting ozone application method and ozone dosing criteria was proposed and reviewed by the peer review panel. The geotechnical investigation field work started. The first round of treatability testing was completed, and a workshop was held to discuss the results and revisions for the second round of testing.

Issues and Challenges:

The variance between the Approved and Forecast completion dates is due to the extension of the planning phase to allow a more detailed planning process and also to a planned extension of the construction duration based on the updated construction estimate and schedule.

The variance between the Approved Budget and the Forecast cost is primarily due to the construction estimate increase due to the design progression, with detailing of the ozone system components, layout, and configuration having occurred since the Alternative Analysis Report.













Geotech fault trenching across the site

I. Regional WECIP Quarterly Report

10034578 - CSPL2 Reach 5 Rehabilitation

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 in the cities of South San Francisco and San Bruno is over 80 years old and has extensive lining failures. This project would replace the coal tar lining and would also improve access and shutdown flexibility for maintenance by installing manway structures and valves on CSPL2 and San Andreas Pipeline No. 1 (SAPL1) near Baden Pump Station.

Program: Water Transmission		Project Status: Planning		Environmental Status: Not Applicable	
Project Cost:			Project Schedule:		
Approved		\$12.84 M	Approved Dec-18		Nov-22
Forecast*		\$13.03 M	Forecast* Feb-19		Jun-23
Actual		\$0.23 M	Project Percent Complete: 1.5%		
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits					
Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	N/A	03/15/22	08/19/22	02/01/23	

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

Progress and Status:

The JOC contractor received NTP and began excavating to verify the structural integrity of the pipeline for the corrosion assessment. The consultant received NTP and began drafting an Alternatives Analysis Report.

Issues and Challenges:

The variance between the Approved and Forecast completion dates is due to delays in procuring the JOC contractor to perform excavations required to finalize the corrosion assessment.













Exploratory Excavation for Corrosion Investigation

CUW2730404 - SAPS Motor Control Centers

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-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.

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

Project Cost:		Project Schedule:	
Approved 	\$7.20 M	Approved May-16 	Jan-23
Forecast* 	\$12.50 M	Forecast* May-16 	Feb-25
Actual 	\$0.43 M	Project Percent Complete: 5.9%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits			

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/19/21	07/05/22	01/06/23	07/04/24

Progress and Status:

The project team is working on a Request for Proposal (RFP) for a qualified engineering consultant to complete the design for this project and to provide engineering support during construction. The design was placed on hold during the 65% design phase after a major scope change requested by Operations required that the existing Main Control Panel (MCP) be demolished and that all MCP functions be field verified, relocated, and either incorporated into the MCC or programmed into SCADA. Operations also requested that the existing diesel generator system be removed from inside the SAPS and replaced with a new propane-fueled generator to be installed outside of the building. Design will resume after the consultant contract has been awarded.



San Antonio Pump Station building looking southeast

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost are due to an updated cost estimate for the original scope, the addition of new scope, and the cost of escalation.






The variance between the Approved and Forecast completion dates results from the additional time required to issue an RFP and advertise for a specialized engineering consultant, as well as from the scope addition.

I. Regional WECIP Quarterly Report

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 and emergency 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, 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:	Project Schedule:
Approved  \$55.92 M	Approved Sep-16  Oct-23
Forecast*  \$55.03 M	Forecast* Sep-16  Feb-25
Actual  \$1.15 M	Project Percent Complete: 2.5%

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

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	03/03/22	05/17/22	10/21/22	06/11/24

Progress and Status:

Work on procurement of consultant support services for the Conceptual Engineering Report (CER) and for final design continued. The Request for Proposals is anticipated to be advertised next quarter. Drafting of the CER has begun but will need support from the consultant being procured. Corrosion assessment began and will be completed next quarter.

Issues and Challenges:











The variance between the Approved and Forecast completion dates, and the variance between the Approved Budget and Forecast Cost are due to the need - for procurement of consultant support services, anticipated to be available early next year, to complete the planning and design phases.



Corrosion Investigation Site in Hillsborough

CUW2740102 - Pilarcitos Dam and Reservoir Improvements

Project Description: This project is to address concerns regarding the seismic stability of the Pilarcitos Dam and Reservoir facilities and to perform necessary upgrades identified during the Planning Phase. The primary objectives are to perform a condition and needs assessment of the dam and forebay outlet structure, outlet tunnel, and outlet pipeline as requested by the California Division of Safety of Dams (DSOD); to develop retrofit options if required; and to implement the chosen option. Secondary objectives are to perform the same evaluation and implementation for the spillway.

Program: <i>Water Supply & Storage</i>	Project Status: <i>Planning</i>	Environmental Status: <i>Not Initiated (MND)</i>
Project Cost: Approved  \$25.68 M Forecast*  \$30.09 M Actual  \$2.78 M		Project Schedule: Approved Apr-14  Sep-25 Forecast* Apr-14  Sep-25 Project Percent Complete: <i>0.9%</i>
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/22/23	07/09/24	01/03/25	06/30/25

Progress and Status:

The project team completed the inspection of the Outlet Tunnel Discharge Facilities and completed a geotechnical data report to be submitted for DSOD review in the next quarter. During the reporting period, the design consultant received approval to start work on the Spillway Alternative Analysis and Dam Embankment Stability Evaluation.

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost are due to the more extensive than originally planned efforts for the geotechnical exploration and assessments. The project budget and schedule will be re-forecasted once the scope for the dam improvements is fully defined.









Pilarcitos spillway inspection

I. Regional WECIP Quarterly Report

CUW2740103 - San Andreas Dam Facility Improvements

Project Description: This project is to address concerns regarding the condition of the San Andreas Dam facility and to perform necessary upgrades identified during the Planning Phase. This project includes CUW2740103 (10015092) San Andreas Dam Facility Improvements (DFI), San Andreas Dam (SAD) Spillway 1003237, and a new project to assess the SAD embankment. San Andreas DFI project addresses the emergency drawdown outlets, as directed by the California Division of Safety of Dams (DSOD). The SAD Spillway project performs a spillway condition assessment mandated by DSOD and also budgets for the spillway replacement, if that should be required. The third project is the SAD embankment assessment for seismic stability associated with potential alluvium underneath the embankment. Construction of the emergency drawdown outlets will precede any potential upgrades to the spillway and/or embankment.

Program: Water Supply & Storage		Project Status: Planning		Environmental Status: Not Initiated (Various)	
Project Cost:			Project Schedule:		
Approved		\$26.80 M	Approved Dec-13		Apr-27
Forecast*		\$32.20 M	Forecast* Dec-13		Dec-29
Actual		\$0.54 M	Project Percent Complete: 2.6%		
					
Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	(A) 12/29/23 (B) 12/31/26	01/02/24 01/04/27	07/01/24 01/04/27	06/30/26 06/29/29	

** (A) CatEx; (B) MND

Progress and Status:

A scope of work for the engineering design consultant was developed to review the nine alternatives identified and evaluated for the emergency drawdown outlet structures and to perform a Needs Assessment for the spillway, dam embankment, and other outlet works. The task order is anticipated to be issued to the engineering consultant in the next reporting period.

Issues and Challenges:










The variance between the Approved and Forecast completion dates, and the variance between the Approved Budget and Forecast Cost are due to the complexity of DSOD review requirements and the extended hiring process to bring the design consultant under contract. The project schedule and budget will be re-forecasted once the scope for the dam improvements is fully defined, towards the end of the Planning Phase.



San Andreas Dam and Spillway

CUW2740600 - Potable Reuse & Other Supplies

Project Description: The SFPUC is identifying opportunities and investigating the potential for purified water projects through direct and indirect potable reuse (DPR and IPR) processes. The SFPUC is participating in research and regulatory review statewide and is working with other Bay Area water agencies to develop potential project opportunities for up to 15 mgd of drinking water with advanced treatment technologies for water needs anticipated within the planning horizon. Feasibility analyses and pilot efforts are anticipated to promote further development of purified water as a source of drinking water. The feasibility studies currently underway include the Bay Area Regional Reliability (BARR), Potable Reuse Exploratory Plan (PREP) Study Silicon Valley Clean Water, Evaluation of Purified Water Alternatives, and Los Vaqueros Expansion Opportunities. Additional opportunities are also being identified under this portfolio. Once one or more projects have been identified for planning to continue to move forward, pilot testing, environmental review, design, and construction phases will follow. The current funding will carry this work through the bid and award phase and cover a portion of construction.

Program: Water Supply & Storage	Project Status: Planning	Environmental Status: Not Initiated (EIR)
Project Cost: Approved  \$59.40 M Forecast*  \$171.50 M Actual \$0.70 M		Project Schedule: Approved Jan-17  Jun-26 Forecast* Jan-17  Jul-30 Project Percent Complete: 0.7%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

Progress and Status:

Several projects have been identified and each continues to move forward individually. As part of the Capital Improvement Planning process, separate projects will be better defined in the next rebaselining. Funds for planning are anticipated to increase in the next 10-year CIP, reflecting a more aggressive planning program to continue to move candidate projects forward and determine their viability for reaching programmatic goals. As individual project studies are completed, additional information on budget needs and schedules will become available.

Issues and Challenges:

The variance between the Approved and Forecast completion dates, and the variance between the Approved Budget and Forecast Cost result from a revised funding forecast for the planning and recently approved increased budget in the 10-Year CIP.



Proposed project service area

I. Regional WECIP Quarterly Report

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. This proposed 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 10 to 12-foot wide, all-weather surface trails; retaining structures to stabilize cut and/or fill slopes; drainage facilities; a 15,000-square-foot parking lot accommodating up to 14 cars; two to three pre-fabricated restrooms along the trail; site security features; and landscape restoration. In addition, trailhead improvements on SFPUC lands will be analyzed with the goals to support trail users, enhance educational opportunities, and ensure watershed protection.

Program: Watershed & Lands Management	Project Status: Design	Environmental Status: Active (EIR)		
Project Cost:		Project Schedule:		
Approved	█ \$19.34 M	Approved Oct-12	█	Jan-22
Forecast*	▨ \$21.81 M	Forecast* Oct-12	▨	Sep-22
Actual	▤ \$3.88 M	Project Percent Complete: 13.6%		
█ Approved; ▤ Actual Cost; * Forecast Status: █ Meet Requirements ▨ Need Attention ▨ Exceed Limits				
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/13/21	04/20/21	06/21/21	06/21/22

Progress and Status:

The Planning Department published the Draft EIR on June 24, 2020. A public hearing was conducted during the quarter on July 23, 2020, and the public comment period ended on August 10, 2020. In total, the Planning Department has received in excess of 400 public comment letters on the Draft EIR. Revised structural drawings were submitted to Caltrans for an encroachment permit. Project design was completed to the extent possible, pending any revisions to the project design in response to public comments on the Draft EIR. Next quarter, it is planned that the first administrative draft of the EIR, including response to comments, will be issued.

Issues and Challenges:







The variance between the Approved Budget and Forecast Cost is due to the increased complexity of environmental issues and the increased duration of the environmental phase. In September 2020, the environmental consultant provided a forecast schedule that shows EIR certification in May 2021, reflecting a schedule variance of 5 months. Delays in publishing the Draft EIR and the unexpected volume of related public comment are the reasons for the schedule variance.



Section of Proposed Trail Alignment

CUW27701 - Sunol Long Term Improvements

Project Description: The project includes general redevelopment of the existing Sunol Yard and construction of a Watershed Center near the Sunol Water Temple. Replacement structures will be constructed for existing maintenance shops and equipment storage. New structures to be built include a fueling center, a new administration building, four new pre-fabricated shop buildings, approximately 40,000 square feet of covered storage for vehicles and materials, and a re-surfaced area for vehicle traffic. To create space and lower maintenance costs, six existing dilapidated structures will be demolished. Near the Sunol Water Temple, a 13,000-square foot Watershed Center will be constructed. Additionally, work will be completed on the main gate and road to the Sunol Water Temple. This project is comprised of the following related projects: CUW27701, Sunol Long Term Improvements, and CUW2630601, Sunol Master Plan Support.

Program: Buildings and Grounds	Project Status: Construction	Environmental Status: Completed (MND)
Project Cost:		Project Schedule:
Approved  \$91.68 M	Approved Jan-09  Sep-21	
Forecast*  \$106.18 M	Forecast* Jan-09  Sep-22	
Actual  \$63.90 M	Project Percent Complete: 71.9%	
		

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✓ 01/28/22

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

Progress and Status:

Sunol Yard (Contract A): Outstanding field work and punchlist items were completed in the quarter. Work on required final closeout documents and warranty work continued.

Watershed Center (Contract B): Excavation work was completed. The underslab utilities and rebar work was completed. The building slab was poured and the concrete wall forming started. Site utility trenching work continued. Additional Native American burials and features were discovered during the excavation and trenching work and were removed.

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost is for the Sunol Yard construction (Contract A) and is due to unforeseen archaeological findings, changes to excavation methods due to those findings, unsuitable soil conditions, additional landscaping work, contractor extended overhead, and additional construction management and support services costs resulting from delays.

The variance between the Approved and Forecast completion dates is due to several factors that delayed the issuance of contract NTP: the Watershed Center (Contract B) was redesigned to incorporate approved



Building Slab Rebar Installation

value engineering changes; the RFQ required additional time to complete; and bids received were higher than the Engineer’s Estimate, necessitating a rebid of construction. In addition, the construction duration was changed to account for revised excavation methods related to the high potential for additional archaeological discoveries in the area.

I. Regional WECIP Quarterly Report

CUW2770304 - Millbrae Yard Laboratory and Shop Improvements

Project Description: Additional laboratory space is needed to meet current water regulations and to provide WSTD operations improvements. There are four major components to this project: (1) the construction of a new 13,500 square-foot shop building for WSTD; (2) the construction of a new 2,000 square-foot WQD Lab addition; (3) conversion of the existing WSTD Operations Supervisor wing of the existing Administration Building into a WQD laboratory; and (4) Tenant Improvements to the existing Administration Building laboratory. The scope includes remodeling a portion of the Administration Building with WQ sample receiving room upgrades, reconfiguring a conference and flavor profile room, lab additions with extraction lab, a calibration room, relocating and reconfiguring WSTD space, adding two offices for WSTD, server room renovation, a new south shop with WSTD office space, security upgrades and site improvements.

Program: Buildings and Grounds	Project Status: Planning	Environmental Status: Not Initiated (MND)		
Project Cost:		Project Schedule:		
Approved	\$24.38 M	Approved Nov-15		May-23
Forecast*	\$169.56 M	Forecast* Nov-15		Mar-27
Actual	\$0.84 M	Project Percent Complete: 0.5%		
■ Approved; ■ Actual Cost; * Forecast Status: ■ Meet Requirements ■ Need Attention ■ Exceed Limits				
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/03/22	10/24/23	04/02/24	06/30/26

Progress and Status:

The project is currently in Planning Phase. The project team continued to prepare the programming document that will supplement the Alternatives Planning Report. The programming document will provide details of the new additional scope, which is the construction of two additional floors on top of the proposed two-story laboratory building. The project team also started preparation of a staff list and space assignment, equipment and vehicle program, shop and warehouse program, and discussion on the design criteria for social distancing due to the COVID-19 pandemic. The Civil Service Commission approved the Personal Services Summary during the quarter, on August 3rd. The reviewers continued to review and provide comments to the draft Request for Proposal (RFP) for engineering services for this project.

Issues and Challenges:

The variances between the Approved and Forecasted cost and schedule are the result of the revision to the scope of work. The baseline scope of work associated with the approved cost and schedule consisted of a limited retrofit to the existing administration building.



Existing Administration Building

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 - SAPL2 Lockbar Replacement	04/15/19	04/29/21	04/29/21	\$ 32,631,156	\$ 32,968,156	-	(\$337,000)	88.6%
Buildings and Grounds								
CUW27701 - WD-2794A Sunol Long Term Improvements - Yard	01/17/17	11/15/18	09/15/20	\$ 36,512,209	\$ 36,512,209	(670)	-	100.0%
CUW27701 - WD-2794B Sunol Long Term Improvements - Watershed Center	03/09/20	01/28/22	01/28/22	\$ 27,778,972	\$ 27,570,972	-	\$ 208,000	3.7%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 96,922,337	\$ 97,051,337	(\$129,000)	(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

Project Title	Current Approved Construction Phase Completion	Actual Construction Phase Completion	Current Approved Construction Phase Budget	Construction Phase Expenditures To Date
Water Transmission				
CUW2730503 - Peninsula Pipelines Seismic Upgrade Phase III	09/05/18	09/05/18	\$ 7,677,067	\$ 7,378,426
TOTAL			\$ 7,677,067	\$ 7,378,426

9. COMPLETED PROJECTS

Project Title	Approved Project Completion	Actual Project Completion	Approved Project Budget	Project Expenditures To Date
Water Treatment				
10032938 - SVWTP Powdered Activated Carbon Feed Units (CUW27202)	12/18/19	12/18/19	\$ 8,600,000	\$ 7,410,861
TOTAL			\$ 8,600,000	\$ 7,410,861











I. Regional WECIP Quarterly Report

10. PROJECTS WITHIN BUDGET AND SCHEDULE

CUW2730504 - SAPL2 Lockbar 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 54" diameter 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.

Program: Water Transmission	Project Status: Construction	Environmental Status: Completed (EIR Addendum)
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Project Cost:		Project Schedule:	
Approved 	\$45.64 M	Approved Mar-16 	Dec-21
Forecast* 	\$45.64 M	Forecast* Mar-16 	Dec-21
Actual 	\$37.28 M	Project Percent Complete: 85.1%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits			

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/17/17✓	10/09/18✓	05/01/19✓	04/29/21

Progress and Status:

The contractor completed pipeline replacement work at Segment 4, from Cherry Avenue to the Golden Gate National Cemetery, and at Segment 1, from the Junipero Serra County Park to the Harry Tracy Water Treatment Plant, and has begun site restoration work.

Issues and Challenges:

None at this time.








Pipeline Replacement Work inside Harry Tracy Water Treatment Plant

10033555 - Rollins Road Building Renovations (CUW27703)

Project Description: The SFPUC purchased a property on Rollins Road in September 2017, securing an additional 10,000 square feet of office space for the SFPUC Water Enterprise (WE). The project is to perform tenant improvements, facilitating the consolidation of WE work groups and the elimination of trailers at the SFPUC WE Administration Building. Renovation of the facility is required to create useable office space, a limnology laboratory, conference rooms, additional showers, and a workshop and library for Natural Resources Division (NRD). In addition, the project will address deferred building maintenance, replace the roof, upgrade security, HVAC, phone, and electrical systems, and build storage space.

Program: Buildings and Grounds	Project Status: Design	Environmental Status: Active (CatEx)
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Project Cost:		Project Schedule:	
Approved 	\$17.88 M	Approved Mar-18 	Jan-22
Forecast* 	\$5.19 M	Forecast* Mar-18 	Jan-22
Actual 	\$1.70 M	Project Percent Complete: 9.0%	

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

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/02/20	09/18/20✓	12/16/20	08/05/21

Progress and Status:

During this quarter, EMB completed the 95% design of the fencing work. In addition, the security consultant assessed the existing security infrastructure for compatibility with the proposed gates and security cameras. A JOC task order for the fencing work was initiated for pricing next quarter. It is also anticipated that next quarter the security design will be completed along with related electrical design.

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost is due to deleted scope resulting from the decision to move staff to the new Millbrae Yard Lab and Shops rather than long-term occupancy at Rollins Road.



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

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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 26 suburban agencies in Alameda, Santa Clara, and San Mateo counties comprise the other two-thirds.

The Local Water System consists of water storage, treatment, and pumping facilities; water transmission and distribution infrastructure; and various lands in the City and County of San Francisco as well as several other small retail systems in Alameda, Santa Clara and San Mateo Counties where the SFPUC directly retails 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 used for fire suppression in San Francisco and developer-funded assets that have been conveyed to the SFPUC. Several large assets located in San Francisco are not included in the Local Water System because these assets are Regional Water System assets. The Local Water System Capital Improvement Program (Local Water CIP) is a 10-year plan of projects and activities to physically improve the system and maintain level of service goals. This CIP is updated each year and integrated with the SFPUC's Financial Plan and rate-setting.

The local water supply projects that were originally managed within the WSIP are included here to produce a comprehensive Local Water CIP report (the schedule for these projects extends beyond WSIP).

The capital planning process is used to inform the CIP with updates to master plans, asset condition assessment, and review of levels of service. There are seven programs in the 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 programs are:

- Local Water Conveyance/Distribution System Program
- Local Water Supply Program
- Local Tanks/Reservoir Improvements Program
- Pump Stations Program
- Buildings and Grounds Program
- Automated Water Meter Program
- Emergency Firefighting Water System Program

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 implementation 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, schedule, or necessity during annual review and approval of the 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

II. Local WECIP Quarterly Report

these budget modifications occur, the modified budget becomes the **Current Approved Budget**. Outside of formal budget adjustments, the project manager regularly estimates and records the anticipated final project cost as the **Forecasted Cost**.

Modifications to scope or schedule must be approved by the Assistant General Manager for Water Enterprise with input from the project's **Technical Oversight Committee** which generally consists of managers within the Water Enterprise and Infrastructure Division. Final **Project Closeout** must be approved by the Assistant General Manager for Water Enterprise.

2. CAPITAL IMPROVEMENT PROGRAM STATUS

This Quarterly Report presents the progress made on Local Water projects between July 1, 2020 and September 30, 2020. This document serves as the first (1st) Quarterly Report in Fiscal Year 2020-2021 (FY21) published for the Water Enterprise Capital Improvement Program.

On December 11, 2018, SFPUC approved the Water Enterprise 2018 Proposed Baseline budget of \$631.0 million for Regional projects and \$1,602.1 million for Local projects (2018 Approved Baseline). The 2018 Approved Baseline is a subset of the Regional and Local Water Enterprise 10-year CIP for FY2019-2028 and includes individual projects over \$5 million that were then currently active or intended to be active by June 30, 2020 at the time proposed to the Commission on December 11, 2018. The status of projects included in the 2018 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 September 30, 2020. The number of projects currently active in each phase is shown in parentheses.

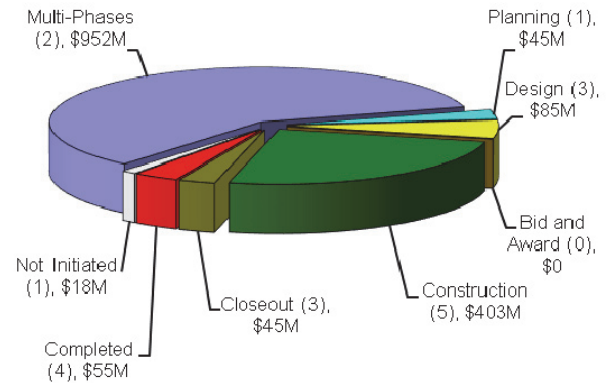


Figure 2.1 Total Current Approved Budget for Local Projects Active in Each Phase

Figure 2.2 shows the number of Local projects in the following stages as of September 30, 2020: Pre-construction, Construction, and Post-construction.

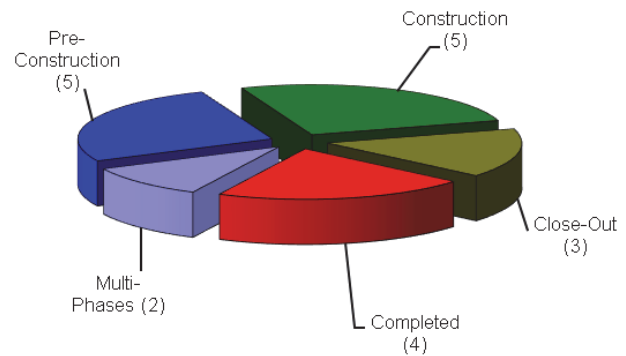


Figure 2.2 Number of Local Projects in Pre-construction, Construction, and Post-construction

Figure 2.3 summarizes the environmental review status of the Local projects as of September 30, 2020.

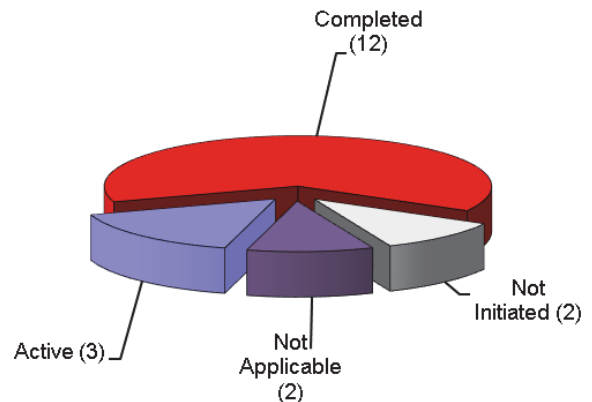
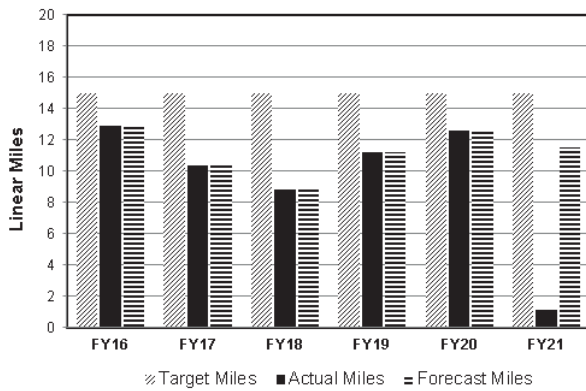


Figure 2.3 Local Program Environmental Status

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..



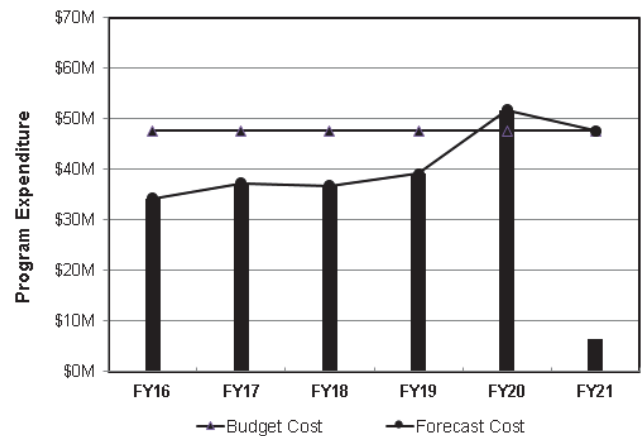
	FY16	FY17	FY18	FY19	FY20	FY21
Target Miles	15.0	15.0	15.0	15.0	15.0	15.0
Actual Miles	12.9	10.4	8.8	11.2	12.6	1.1
Forecast Miles						11.5

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

In FY12, the Commission approved annual increases to the program budget for three years to increase the pipeline replacement rate from 6 miles per year to 15 miles per year by FY16. The program expansion has required additional staff resources and inter-agency coordination to implement. While the City Distribution Division (CDD) has increased staffing in various trades to accommodate the expansion, additional resources will be needed to sustainably construct 15 miles of pipeline per year.

Water main replacement projects with construction underway in the 1st quarter of FY20 included the City streets of Geary between 36th and 48th Avenues, Geary between Presidio and Van Ness, Geary between Van Ness and Kearny, L-Taraval between Sunset and SF Zoo,

22nd Street, Green Street, Pierce Street, Castro Street, 21 Street, and 17th Street. Pipelines were replaced and water work was completed during the 1st quarter of FY21 on Geary between 36th and 48th Avenues. Projects anticipated to start replacement of water pipelines in the 2nd quarter of FY21 include 19th Avenue, Baker Street, and Casitas Avenue. Construction had been anticipated to start in the first quarter of FY21 on 19th Avenue, Baker Street, and Casitas Avenue but was delayed due to additional time required for material procurement, contract certification, and COVID-19 related impacts.



	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	\$6.5M
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:

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- 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 liquidated 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 cost summary of the Local Water CIP. It shows the Expenditures to Date; 2018 Approved Budget, Current Approved Budget and Current Forecasted Cost; and the Cost Variance between the Current Approved Budget and Forecasted Cost.

The total Current Approved Budget is \$1,602.1 million, and the Current Forecasted Cost is \$1,575.5 million (\$26.6 million under the Current Approved Budget).

Table 3.1 Local Water CIP Cost Summary

Cost Categories	Expenditures To Date (\$ Million) (A)	2018 Approved Budget (\$ Million) (C)	Current Approved Budget (\$ Million) (D)	Current Forecasted Costs (\$ Million) (E)	Cost Variance (\$ Million) (F = D - E)
Local Water CIP	\$740.38	\$1,602.12	\$1,602.12	\$1,575.52	\$26.60
Local Water Conveyance / Distribution System	\$326.26	\$958.84	\$958.84	\$969.20	(\$10.36)
Construction Costs ⁽¹⁾	\$159.15	\$633.78	\$633.78	\$633.72	\$0.06
Delivery Costs ⁽²⁾	\$167.11	\$325.05	\$325.05	\$335.48	(\$10.43)
Other Costs ⁽³⁾	-	-	-	-	-
Local Water Supply	\$204.76	\$315.54	\$315.54	\$315.54	-
Construction Costs ⁽¹⁾	\$132.78	\$214.38	\$214.11	\$210.84	\$3.27
Delivery Costs ⁽²⁾	\$71.16	\$97.93	\$98.20	\$101.05	(\$2.85)
Other Costs ⁽³⁾	\$0.83	\$3.22	\$3.22	\$3.64	(\$0.42)
Local Tanks/Reservoir Improvements	\$0.54	\$16.32	\$16.32	\$19.28	(\$2.96)
Construction Costs ⁽¹⁾	-	\$14.28	\$14.28	\$15.11	(\$0.83)
Delivery Costs ⁽²⁾	\$0.39	\$2.03	\$2.03	\$4.02	(\$1.99)
Other Costs ⁽³⁾	\$0.14	-	-	\$0.15	(\$0.15)
Pump Stations	-	\$18.00	\$18.00	\$18.00	-
Construction Costs ⁽¹⁾	-	\$12.10	\$12.10	\$12.10	-
Delivery Costs ⁽²⁾	-	\$5.90	\$5.90	\$5.90	-
Other Costs ⁽³⁾	-	-	-	-	-
Buildings and Grounds	\$20.18	\$66.44	\$66.44	\$25.42	\$41.02
Construction Costs ⁽¹⁾	\$11.79	\$16.94	\$16.94	\$13.00	\$3.94
Delivery Costs ⁽²⁾	\$8.39	\$49.50	\$49.50	\$12.42	\$37.08
Other Costs ⁽³⁾	-	-	-	-	-
Automated Water Meter Program	\$69.31	\$70.24	\$70.24	\$71.34	(\$1.10)
Construction Costs ⁽¹⁾	\$59.81	\$61.72	\$61.72	\$61.84	(\$0.12)
Delivery Costs ⁽²⁾	\$9.50	\$8.51	\$8.51	\$9.50	(\$0.99)
Other Costs ⁽³⁾	-	-	-	-	-
Auxiliary Water Supply System	\$119.33	\$156.75	\$156.75	\$156.75	-
Construction Costs ⁽¹⁾	\$66.59	\$90.10	\$96.14	\$95.31	\$0.83

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Cost Categories	Expenditures To Date (\$ Million) (A)	2018 Approved Budget (\$ Million) (C)	Current Approved Budget (\$ Million) (D)	Current Forecasted Costs (\$ Million) (E)	Cost Variance (\$ Million) (F = D - E)
Delivery Costs ⁽²⁾	\$52.56	\$66.65	\$60.45	\$61.26	(\$0.81)
Other Costs ⁽³⁾	\$0.18	-	\$0.16	\$0.18	(\$0.02)
Regional Water CIP	\$133.55	\$630.99	\$630.99	\$952.12	(\$321.13)
Construction Costs ⁽¹⁾	\$82.32	\$458.97	\$458.97	\$538.20	(\$79.23)
Delivery Costs ⁽²⁾	\$50.32	\$170.81	\$171.63	\$406.75	(\$235.12)
Other Costs ⁽³⁾	\$0.91	\$1.22	\$0.40	\$7.17	(\$6.77)
Overall Water CIP	\$873.93	\$2,233.11	\$2,233.11	\$2,527.64	(\$294.53)

Notes:

- Construction Costs** include the Construction Base Bid and owner-provided equipment/material for all projects. Those costs include any construction contingency.
- Delivery Costs** include project management, planning, environmental (CEQA, permitting, construction compliance), design, construction management, and engineering support during construction.
- Other Costs** include environmental mitigation, art enrichment, security improvements, and real estate expenses.

4. CAPITAL IMPROVEMENT PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the 2018 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 2018 Approved and Forecasted Schedule completion for the overall Water CIP (including Regional and Local Programs) are in March 2029 and July 2030, respectively (16 months behind schedule). The 2018 Approved and Forecasted Schedule completion for the Local CIP are both in June 2028.

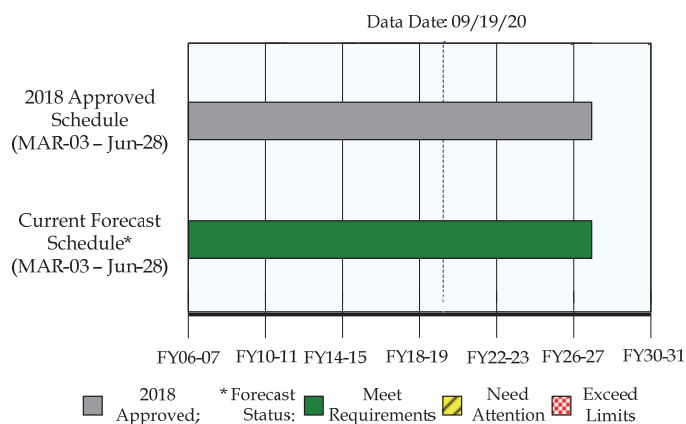


Figure 4.1 Program Schedule Summary

Table 4.1 2018 Approved vs. Current Forecast Schedule Dates

Sub-Program	2018 Approved Project Start	Actual Start	2018 Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Local Projects	03/03/03	03/03/03✓	06/30/28	06/30/28	-
Regional Projects	01/01/09	01/01/09✓	03/20/29	07/30/30	16.3 (Late)
Overall Water Enterprise CIP	03/03/03	03/03/03✓	03/20/29	07/30/30	16.3 (Late)

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 09/19/20

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 - Westside Potable Auxiliary Water Supply System	PL	\$ 12,000	\$ 44,782	\$ 55,000	\$ 174	(\$10,218)	●	06/30/28	06/30/28	-	★	See Section 6
CUW28000 - Local Water Conveyance/Distribution System	MP	\$ 426,430	\$ 902,664	\$ 902,664	\$ 315,355	-	★	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	\$ 4,284	-	★	10/31/23	10/31/23	-	★	See Section 10
CUW30102 - San Francisco Groundwater Supply	CN	\$ 68,701	\$ 66,552	\$ 66,552	\$ 61,681	-	★	03/30/21	03/30/21	-	★	See Section 10
CUW30201 - San Francisco Westside Recycled Water	CN	\$ 201,262	\$ 216,317	\$ 216,317	\$ 138,800	-	★	03/28/22	10/03/22	6.2 mo. Late	●	See Section 6
Local Tanks/Reservoir Improvements												
CUW28301 - College Hill Reservoir Outlet	DS	\$ 7,421	\$ 16,317	\$ 19,283	\$ 535	(\$2,966)	●	09/28/21	10/10/23	24.4 mo. Late	●	See Section 6
Buildings and Grounds												
CUW68800 - Buildings and Grounds Improvements	MP	\$ 10,135	\$ 49,035	\$ 8,000	\$ 6,457	\$ 41,035	★	06/30/28	12/31/20	90.0 mo. Early	★	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.

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Q1-FY2020-2021 (07/01/20 - 09/30/20)

All costs are shown in \$1,000s as of 09/19/20

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
Automated Water Meter												
CUW68601 - Automated Water Meter Program	CN	\$ 70,232	\$ 70,238	\$ 71,336	\$ 69,311	(\$1,098)	⚠	03/17/21	03/17/21	-	★	See Section 6
Auxiliary Water Supply System												
Physical Plant												
CUWAWS WD-2687 - Pump Station #2	CN	\$ 28,765	\$ 28,716	\$ 28,716	\$ 17,058	-	★	06/30/21	06/30/21	-	★	See Section 10
Pipelines												
CUAWAW2AW29-44 - ESER 2014 Pipelines	DS	\$ 35,071	\$ 34,643	\$ 34,643	\$ 21,260	-	★	12/30/22	12/30/22	-	★	See Section 10
CUWAWSAW11-19 - ESER 2010 Pipes/Tunnels Construction	CN	\$ 7,505	\$ 18,870	\$ 18,870	\$ 7,209	-	★	12/31/20	12/31/20	-	★	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

10033816 - Westside Potable Auxiliary Water Supply System

Project Description: This project proposes to design and construct earthquake-resistant water pipeline in western San Francisco, particularly the Sunset and Richmond areas. This pipeline 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 Auxiliary Water Supply System, which is located in other areas of San Francisco. 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.

Program: Local Water Conveyance/Distribution System	Project Status: Planning	Environmental Status: Not Initiated
Project Cost:		Project Schedule:
Approved  \$44.78 M	Forecast*  \$55.00 M	Approved Jan-19  Jun-28
Actual \$0.17 M		Forecast* Aug-19  Jun-28
		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	TBD	TBD	TBD	TBD

Progress and Status:

Planning is in progress and is anticipated to be completed next quarter, in December 2020.







Issues and Challenges:

The variance between the Approved and Forecast completion dates, and the variance between the Approved Budget and Forecast Cost result from a revision to the funding forecast for the planning and budgets in the proposed 10-Year CIP.

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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 2 mgd of recycled water to Golden Gate Park (GGP), 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 GGP 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 GGP, and also 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:		Project Schedule:
Approved  \$216.32 M	Approved Mar-03  Mar-22	
Forecast*  \$216.32 M	Forecast* Mar-03  Oct-22	
Actual  \$138.80 M	Project Percent Complete: 52.6%	
		

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) 01/04/21	06/26/21 07/19/21 08/19/18✓ 01/03/22

+ 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) began last quarter in June and continued during this quarter. Rough-in of mechanical, electrical, and plumbing also continued in the main treatment facility (Building 580). The chemical containment walls and equipment pads (Building 510) were completed, and installation of tanks and equipment started. Work on regulatory permitting continued with a submission of updated reports to the State, and a teleconference to discuss outstanding comments.

Distribution Pump Station and Reservoir (Contract B): Forming and pouring of reservoir walls and columns was completed, and the forming and rebar installation of the roof slab and beams was initiated.

Pipeline (Contract C) is complete.

Irrigation System Retrofit (Contract D): Contract WD-2852R was awarded to the lowest responsive bidder during the quarter, on September 8, and the bid was about 20% lower than Engineer's Estimate. In August, staff conducted a demonstration of the cross-






connection testing protocol for the State Department of Drinking Water and the State Water Resources Control Board.

Issues and Challenges:

The project is trending behind schedule due to COVID-19 related delays. Equipment manufacturing, testing, and delivery on both WD-2776 (Contract A) and WD-2797 (Contract B) could potentially impact the schedule further. Delays currently being experienced in the bidding and award of contract WD-2852R (Contract C) may also lead to an overall delay in project completion.

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. This project is comprised of the following related projects: CUW28301, College Hill Reservoir Outlet and CUW280PR09, College Hill Pipeline Improvements.

Program: Local Tanks/Reservoir Improvements	Project Status: Design	Environmental Status: Completed (CatEx)
Project Cost: Approved  \$16.32 M Forecast*  \$19.28 M Actual  \$0.54 M		Project Schedule: Approved Jan-13  Sep-21 Forecast* Jan-13  Oct-23 Project Percent Complete: 8.9%
■ Approved; ■ Actual Cost; * Forecast Status: ■ Meet Requirements ■ Need Attention ■ Exceed Limits		

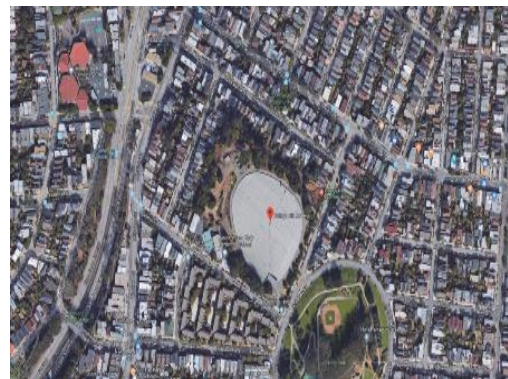
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/20/19✓	11/30/20	03/12/21	03/12/23

Progress and Status:

Final design is anticipated to be complete in early October 2020, and advertisement is anticipated in November 2020. The 24-month construction duration is forecast to start in March 2021 under contract WD-2717.

Issues and Challenges:

The variance between the Approved and Forecast Completion Dates and between the Approved Budget and Forecast Cost are the result of additional time and cost required to accomplish the following: update the contract documents with current water quality equipment standards; incorporate State funding and environmental compliance requirements; revise transmission piping alignment; restore existing retaining walls disturbed by the pipeline replacement; conduct additional surveying associated with PG&E revised work scope; implement PG&E's design of power distribution for the new facilities, and add work scope to replace the reservoir roof as it is over 20 years old and has reached the end of its useful life. During this quarter, the Forecast Cost and the Actual Cost were changed due to the removal of the project



Aerial view of College Hill Reservoir







cost for CUW280PR09, College Hill Pipeline Improvements.

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CUW68601 - Automated Water Meter Program

Project Description: The Automated Water Meter Program (AWMP) will install meters with low-frequency radio signals to collect hourly water consumption data and transmit them four times a day from residential and commercial customers to our billing system and to share with customers on our My Account Website without the need for physical field visits and manual meter reading.

Program: Automated Water Meter Program	Project Status: Construction	Environmental Status: Completed (CatEx)
---	-------------------------------------	--

Project Cost:		Project Schedule:	
Approved	 \$70.24 M	Approved Mar-09	 Mar-21
Forecast*	 \$71.34 M	Forecast* Mar-09	 Mar-21
Actual	 \$69.31 M	Project Percent Complete: 99.5%	
			

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	07/27/09✓	N/A	(A) 01/04/10✓ (B) 03/15/16✓	04/29/15✓ 06/20/17✓

+ Project includes multiple construction contracts: (A) Phase 1 & 2 Implementation of the Advanced Meter Infrastructure; and (B) Phase 3 Supply and Installation of Automatic Water Meter

Progress and Status:

The remaining scope under Phase 3 consists of installing roughly 7,000 water meter units which were either returned by the previous contractor for handling by CDD staff or only partially installed due to the presence of a metal lid on each of the meter vaults. Phase 3 is 88.4% complete overall. The remaining scope is being performed primarily by CDD Construction and Maintenance, and Meter and Machine Shop crews, with a small portion handled by Customer Service Bureau Field Inspectors and is anticipated to be complete by March 2021. This anticipated completion date is highly dependent on the availability of CDD resources.

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost is due to recently updated actual installation costs for these complex installations.



AWMP Data Collection Unit on the roof of the CDD Operations Building

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	07/09/22	\$ 6,300,314	\$ 6,500,314	-	(\$200,000)	7.0%
10033457 - WD-2692 GEARY/36TH AVE/48TH AVE POINT LOBOS	08/27/18	11/08/20	11/08/20	\$ 5,944,473	\$ 5,944,473	-	-	71.7%
10035043 - WD-2834 GEARY RAPID EAST of VAN NESS	07/22/19	10/26/21	10/26/21	\$ 4,214,400	\$ 4,069,400	-	\$ 145,000	36.9%
CUW280PR38 - WD-2719 22ND STREET/VALENCIA ST/POTRERO	06/17/19	02/20/21	02/20/21	\$ 3,747,983	\$ 4,022,983	-	(\$275,000)	58.7%
CUW280PR48 - WD-2739 CASTRO STREET 19TH/26TH STREET	08/31/20	02/10/23	08/30/22	\$ 10,707,724	\$ 10,707,724	164	-	2.4%
CUW280PR67 - WD-2614 GREEN/GOUGH/BRODERICK	08/26/19	12/31/20	12/31/20	\$ 2,763,377	\$ 2,919,358	-	(\$155,981)	62.4%
CUW280PR70 - WD-2766 TARAVAL STREET PHASE 1	07/01/19	09/06/21	03/19/21	\$ 4,522,544	\$ 4,744,792	171	(\$222,248)	31.4%
CUW280PR74 - WD-2693 21ST STREET/FORD/HANCOCK	05/26/20	12/31/21	12/31/21	\$ 3,861,835	\$ 3,981,835	-	(\$120,000)	1.9%
CUW280PR88 - WD-2793 GEARY WEST/VAN NESS to STANYAN ST	10/27/18	01/01/21	12/01/20	\$ 6,723,075	\$ 6,843,075	31	(\$120,000)	73.7%

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-2621R SF Groundwater Supply Well Stations Phase 1	03/16/15	04/03/17	12/31/20	\$ 16,480,953	\$ 16,480,953	(1,368)	-	98.4%
CUW30102 - WD-2809 SF Groundwater Supply Phase 2	08/07/17	08/26/19	09/24/20	\$ 10,732,565	\$ 10,732,565	(395)	-	96.7%
CUW30201 - WD-2776 Westside Recycled Water Treatment Facility	10/16/17	03/18/21	06/26/21	\$ 90,005,093	\$ 90,005,093	(100)	-	69.0%
CUW30201 - WD-2797 Westside Recycled Water Pump Station and Reservoir	07/01/19	05/20/21	07/19/21	\$ 16,670,562	\$ 16,670,562	(60)	-	47.3%
Auxiliary Water Supply System								
CUWAWSAW04 - Pump Station # 2	12/12/17	11/09/20	11/09/20	\$ 19,512,875	\$ 19,512,875	-	-	52.1%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 202,187,774	\$ 203,136,002	(\$948,228)	(0.5%)

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
Local Water Conveyance/Distribution System				
CUW26308 - Town of Sunol Fire Suppression System	03/23/17	03/23/17	\$ 6,914,715	\$ 6,849,148
Buildings and Grounds				
CUW28101 - Pacific Rod and Gun Club Remediation	04/23/16	04/23/16	\$ 11,623,859	\$ 10,417,287
Auxiliary Water Supply System				
CUWAWSAW05 - Pump Station #1	04/30/19	04/30/19	\$ 9,827,981	\$ 9,549,140
TOTAL			\$ 28,366,554	\$ 26,815,576

II. Local WECIP Quarterly Report

9. COMPLETED PROJECTS







Project Title	Approved Project Completion	Actual Project Completion	Approved Project Budget	Project Expenditures To Date
Auxiliary Water Supply System				
CUWAW2AW29-44 - ESER 2014 Pipelines				
CUWAW2AW31 - Candlestick Point Pipeline	12/29/17	12/29/17	\$ 999,831	\$ 999,831
CUWAW2AW33 - Irving St Pipeline	07/15/19	07/15/19	\$ 8,899,129	\$ 7,564,362
CUWAW2AW34 - Ashbury Bypass Pipeline	06/30/20	06/30/20	\$ 3,265,018	\$ 3,234,673
CUWAW2AW35 - Columbus Avenue Pipeline	12/29/17	12/29/17	\$ 1,028,088	\$ 1,013,566
CUWAW2AW39 - University Mound East Pipeline	03/31/20	03/31/20	\$ 1,697,840	\$ 1,698,190
CUWAW2AW42 - Ingleside Pipeline	07/24/20	07/24/20	\$ 888,993	\$ 398,778
CUWAW2AW43 - Mariposa Pipeline	06/30/20	06/30/20	\$ 3,049,328	\$ 2,791,958
CUWAW2AW44 - Sunset Pipeline	12/31/20	06/30/20	\$ 1,996,868	\$ 556,730
CUWAW2AW30 - ESER 2014 Assessment	01/31/17	01/31/17	\$ 1,186,194	\$ 1,185,452
CUAWAWS WD-2685 - Reservoir and Tanks Improvements				
CUWAW2AW23 - Twin Peaks Reservoir - ESER 2014	05/31/17	05/31/17	\$ 643,519	\$ 643,519
CUAWAWSAW01 - Jones Street Tank	05/31/17	05/31/17	\$ 6,408,365	\$ 6,408,365
CUAWAWSAW02 - Ashbury Heights Tank	05/31/17	05/31/17	\$ 4,647,361	\$ 4,647,361
CUAWAWSAW03 - Twin Peaks Reservoir	05/31/17	05/31/17	\$ 2,652,884	\$ 2,652,884
CUAWAWSAW06-09 - Cisterns Construction				
CUAWAWSAW06 - Cisterns Construction #1	07/19/13	07/19/13	\$ 508,057	\$ 508,057
CUAWAWSAW07 - New Cisterns	06/29/18	06/29/18	\$ 34,540,819	\$ 34,540,819
CUAWAWSAW08 - Cisterns Construction #3	07/05/13	07/05/13	\$ 50,718	\$ 50,718
CUAWAWSAW09 - Cisterns Construction #4	07/19/13	07/19/13	\$ 124,191	\$ 124,191
CUAWAWSAW10 - Pipes, Cisterns & Tunnels Study	06/30/14	06/30/14	\$ 2,739,289	\$ 2,739,289
CUAWAWSAW11-19 - ESER 2010 Pipes/Tunnels Construction				
CUAWAWSAW11 - Pipes/ Tunnels Construction #1	08/01/14	08/01/14	\$ 368,729	\$ 368,729
CUAWAWSAW13 - Controls - Pipeline	08/23/18	08/23/18	\$ 771,888	\$ 771,888
CUAWAWSAW15 - Jones Street Valves - Pipeline	05/31/17	05/31/17	\$ 641,402	\$ 641,402
CUAWAWSAW16 - Manifolds - Pipeline	12/31/19	12/31/19	\$ 177,901	\$ 177,901
CUAWAWSAW17 - Pump Station #1 Tunnel	06/01/20	06/01/20	\$ 732,063	\$ 732,063
CUAWAWSAW20 - AWSS Transition Projects	02/11/16	02/11/16	\$ 73,335	\$ 73,335
TOTAL			\$ 78,091,810	\$ 74,524,061

10. PROJECTS WITHIN BUDGET AND SCHEDULE

CUW28000 - Local Water Conveyance/Distribution System

Project Description: This long-term renewal program consists of three major components:

1. **Linear Assets Management Program:** This program replaces and renews distribution system pipelines and customer service connections for the 1,230 miles of drinking water mains in San Francisco. Planning analysis has demonstrated a need to increase the annual replacement rate from the previous 6 miles per year to a target of 15 miles per year to minimize main breaks and meet customer service goals of uninterrupted service. The FY14 approved budget was for replacement or renewal of 9 miles of pipe; FY15 approved budget was to renew 12 miles pipelines, and FY16 and subsequent years are funded to renew 15 miles per year for the next 10 years. Improvements include replacement, rehabilitation, re-lining, and cathodic protection of all pipe size categories so as to extend or renew the pipeline’s useful life. Coordination with construction projects from other City agencies, especially SFPUC Wastewater and SFPW paving, is emphasized to optimize efficiencies, reduce costs, and minimize customer disruptions.
2. **Renew Services:** This program replaces assets between the water main and the customer’s service connection at the end of their useful life, including: replacement of 1-inch to 8-inch diameter service pipes made of galvanized steel, lead, or plastic with copper or ductile iron; replacement of broken meter boxes and outdated meters and associated piping; and subsequent restoration of associated sidewalk and roadway.
3. **New Services:** This program provides materials and labor for installing new domestic, fire, and irrigation services charged as a one-time flat rate to new customers and includes related sidewalk and roadway restoration. No increase over time is anticipated.

Program: Local Water Conveyance/Distribution System	Project Status: Multiple Phases	Environmental Status: Active (Various)
Project Cost:		Project Schedule:
Approved  \$902.66 M	Approved Jul-10  Jun-28	
Forecast*  \$902.66 M	Forecast* Jul-10  Jun-28	
Actual  \$315.35 M	Project Percent Complete: 34.9%	
		

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 Presidio and Van Ness, Geary between Van Ness and Kearny, L-Taraval between Sunset and SF Zoo, 22nd Street, Pierce Street, Castro Street, 21st Street, and 17th Street.











Issues and Challenges:

Health and safety measures associated with COVID-19 have impacted the construction and are anticipated to have impacts through FY21. SFPUC has temporarily reduced the program goal to 11.5 miles per year to match the approved CIP Budget over the next 2 years but will work towards achieving the program goal of 15 miles per year starting in FY23.

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CUW30101 - Lake Merced Water Level Restoration

Project Description: The project consists of two 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 the level of Lake Merced. (2) In addition, the SFPUC is implementing a Demonstration Aeration Mixing Project to evaluate whether additional lake mixing might result in improved dissolved oxygen concentrations in the Lake.

Program: Local Water Supply	Project Status: Design	Environmental Status: Active (Various)
Project Cost:		Project Schedule:
Approved  \$32.67 M	Approved Jun-03  Oct-23	
Forecast*  \$32.67 M	Forecast* Jun-03  Oct-23	
Actual  \$4.28 M	Project Percent Complete: 13.9%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	(A) 07/31/18✓ (B) 11/10/16✓ (C) 10/21/21	01/29/21 N/A 10/26/21	04/14/21 06/13/17✓ 04/08/22	06/04/23 07/07/17✓ 11/02/22

+ 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 completed preparation of the 100% design documents during the quarter and shared this with SFPUC for final review. SFPUC completed review of the 100% design documents and Daly City reconciled the remaining unresolved comments. SFPUC is working with Daly City staff to evaluate and apply for additional sources of funding under various available loan and grant programs. Due to delays in securing funding as well as impacts of the ongoing pandemic, Daly City now anticipates Bid and Award commencing in early Spring 2021, with construction commencing in Fall/Winter 2021, all assuming project funding can be secured.

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 the SFPUC finalized and submitted a report summarizing the testing and data monitoring from the aeration system to the Regional Water Quality Control Board (RWQCB) and received comments from RWQCB



Aeration Mixing System Installation at Lake Merced Pump Station







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.

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. The first phase consists of building four new groundwater well stations in the western part of San Francisco. All four stations will include a building to house the well pump and electrical equipment, with two stations having an additional room to provide chemical disinfection. Buried piping will be installed to connect three of these well stations to the Sunset Reservoir. Groundwater from the fourth well station will be piped to the nearby Lake Merced Pump Station, where it will be distributed to both the Sunset Reservoir and Sutro Reservoir. The second phase consists of converting two existing irrigation well facilities in Golden Gate Park to groundwater supply wells, and would be implemented after completion of the CUW30201, San Francisco Westside Recycled Water Project. In the second phase, buried piping will be installed to also connect these two wells to the Sunset Reservoir. Improvements to the facilities at the existing San Francisco Zoo Well No. 5 have been completed as part of the project, allowing this well to serve as an emergency potable water source.

Program: Local Water Supply	Project Status: Construction	Environmental Status: Completed (EIR)
Project Cost:		Project Schedule:
Approved  \$66.55 M	Approved Jun-03  Mar-21	
Forecast*  \$66.55 M	Forecast* Jun-03  Mar-21	
Actual  \$61.68 M	Project Percent Complete: 95.5%	
		

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✓	12/31/20 12/21/15✓ 09/24/20

+ 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) the contractor continued working on punchlist items during the quarter, including instrumentation and controls, other electrical items, and completion of the closeout documents such as as-builts and CMD forms.

For Phase 2 (Contract C), substantial completion was reached during the quarter, on July 24. The Contractor continued working on change orders during the quarter including air gap installation cameras and thermostats replacement, and flowmeter repair. The Contractor also started working on punchlist items.

Issues and Challenges:

Phase 1 project final completion is delayed due to additional time needed to complete certain punchlist items, primarily the instrumentation and controls and the as-built drawings. Additional construction contract duration will be addressed as part of the agenda for closeout.

Phase 2 project final completion has been delayed due













North Lake Well Station

to additional electrical and mechanical modifications, required paving of roads, and change order work as described above.

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CUW68800 - Buildings and Grounds Improvements

Project Description: This project covers capital improvements to CDD non-operational facilities and structures, primarily benefitting the CDD corporate yard, to address health, safety, reliability, and security issues. This project will replace obsolete and inefficient HVAC equipment, improve office and warehouse efficiencies, and replace the underground Fueling Station, which has reached the end of its useful service life and poses an environmental risk. In addition, the program includes the construction of a future CDD Control Center (a seismically reliable building to house CDD's communications and control systems, with space for Operations, Administration, and Support staff), and as-needed improvements to ancillary facilities to reduce operating and maintenance costs, improve reliability to maintain routine and emergency operations of the potable and auxiliary water systems, and increase efficiency.

Program: Buildings and Grounds	Project Status: Multiple Phases	Environmental Status: Completed (Various)		
Project Cost:		Project Schedule:		
Approved	 \$49.04 M	Approved Oct-08	 Jun-28	
Forecast*	 \$8.00 M	Forecast* Oct-08	 Dec-20	
Actual	 \$6.46 M	Project Percent Complete: 95.9%		
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits				
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	Various	Various	Various	Various

Progress and Status:

The status of active subprojects is as follows:

CUW68801 - Buildings and Grounds Improvements: As of the end of the quarter, the project is 99% complete.

CUW68812 - Newcomb Yard Improvements: As of the end of the quarter, the project is 95% complete. Design is 65% complete for the Warehouse Office Suite Tenant Improvements, and the rest of the work will be performed by the CDD Construction and Maintenance Department. Work has been canceled for the improvements at 300 Putnam Street for the development of a satellite storage location for EFWS appurtenances due to the high cost of developing a new electrical service.

Issues and Challenges:











The variance between the Approved and Forecast completion dates and the variance between the Approved Budget and Forecast Cost are primarily due to the removal of the project information for the new CDD headquarters facility as it will be tracked as a separate project per the 10-Year CIP.



New 1990 Newcomb Guard Booth

CUWAW2AW29-44 - ESER 2014 Pipelines

Project Description: These projects include construction of various pipelines using ESER 2014 bond funds.

Program: Auxiliary Water Supply System	Project Status: Design	Environmental Status: Active (StatEx)
Project Cost: Approved  \$34.64 M Forecast*  \$34.64 M Actual  \$21.26 M		Project Schedule: Approved Feb-15  Dec-22 Forecast* Feb-15  Dec-22 Project Percent Complete: 76.1%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/11/16✓ - 03/31/20✓	03/20/20✓ - 03/31/20✓	11/21/16 ✓ - 12/01/20	03/31/17 ✓ - 09/30/21

Progress and Status:

CUWAW2AW29 Clarendon Supply (ESER 2014 Partial Funding):

Contract was awarded. Construction NTP is pending.

CUWAW2AW32 19th Avenue Pipeline:

This project will be constructed as part of Public Works' 19th Avenue Roadway Improvements, Contract 2652J. Contract was awarded in May 2020. Construction NTP is pending.

CUWAW2AW36 Lake Merced Pipeline:

Design completion is scheduled for December 2020.

10034292 TFB Mission South Pipeline:

Construction completion is scheduled for December 2020.

10032909 Street Valve Motors:

Construction completion is scheduled for December 2021.

Issues and Challenges:







None at this time.

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CUWAWS WD-2687 - Pump Station #2

Project Description: This project will provide seismic improvements to the Pump Station #2 building foundation, walls, and roof (the roof and skylights will be replaced). It will remove the rear portion of existing steam boilers while maintaining the front boiler facade. It will add fire sprinklers to the building and will construct an accessible work area and rest room, with associated electrical, mechanical, and plumbing work.

Program: Auxiliary Water Supply System	Project Status: Construction	Environmental Status: Completed (MND)
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Project Cost:		Project Schedule:	
Approved	 \$28.72 M	Approved Apr-11	 Jun-21
Forecast*	 \$28.72 M	Forecast* Apr-11	 Jun-21
Actual	 \$17.06 M	Project Percent Complete: 60.9%	
			

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/01/11✓	04/06/17✓	12/12/17✓	12/31/20

** The Mitigated Negative Declaration (MND) was completed under a SFPW project.

Progress and Status:

Construction continued for Pump Station #2, contract WD-2687.

Issues and Challenges:











None at this time.



Interior view of PS2 showing a pump, valves, engine sound enclosure and exhaust, and building structural members

CUWAWSAW11-19 - ESER 2010 Pipes/Tunnels Construction

Project Description: These projects include various pipeline and tunnel construction using ESER 2010 bond funds.

Program: Auxiliary Water Supply System	Project Status: Construction	Environmental Status: Completed (Various)
Project Cost: Approved  \$18.87 M Forecast*  \$18.87 M Actual  \$7.21 M		Project Schedule: Approved Apr-11  Dec-20 Forecast* Apr-11  Dec-20 Project Percent Complete: 99.4%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/08/14✓ - 10/07/19✓	11/30/15✓ - 03/20/20✓	11/30/15 ✓ - 12/02/19✓	12/01/15 ✓ - 12/01/20

Progress and Status:

CUWAWSAW14 Street Valve Motors - Pipeline:

Please see ESER 2014 Pipelines.

CUWAWSAW19 Clarendon Supply (ESER 2010 Partial Funding):

Please see ESER 2014 Pipelines.

Issues and Challenges:

None at this time.

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APPENDICES

A PROJECT DESCRIPTIONS

B APPROVED PROJECT-LEVEL SCHEDULE

C LIST OF ACRONYMS

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APPENDIX A. PROJECT DESCRIPTION

A1. REGIONAL PROGRAMS

Water Treatment

10032938 - SVWTP Powdered Activated Carbon Feed Units (CUW27202)

The project intent is to construct a powdered activated carbon (PAC) feed system at SFPUC's Sunol Valley Water Treatment Plant (SVWTP) to provide an intermediate-term solution to control taste and odor (T&O) issues during Hetch Hetchy shutdowns. In recent years, SVWTP has experienced more frequent T&O events than had occurred historically. The T&O events result from by-products of algae growing naturally in San Antonio and Calaveras Reservoirs, the plant's primary water sources. The project scope includes a pair of concrete PAC tanks, their associated chemical feed system, and other related upgrades at the SVWTP headworks. Although project 10033123, SVWTP Ozone system, will provide a long-term solution to control T&O events, it will not be completed until the 2023 Hetch Hetchy shutdown. So in the interim, the PAC system will be in place for the upcoming Hetch Hetchy shutdowns. This project is a continuation of project CUW2720206, SVWTP Phase 3, under which the planning, design, environmental review and bid & award phases were performed, and those costs are not included in the budget numbers presented herein.

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 than had occurred historically. The cause of the T&O events has been geosmin and/or 2-methylisoborneol (MIB) which are by-products of algae growing naturally in San Antonio and Calaveras Reservoirs, SVWTP's primary water sources. In early December 2016, San Antonio Reservoir was the source of a major T&O event. In addition to this specific recent event, algal blooms have also generally increased in magnitude and frequency in Calaveras Reservoir due to its lower water levels related to the dam reconstruction

project, the use of less effective algacides, and certain environmental factors. The algal blooms can occur at any time of year but are more likely in late spring and late autumn.

The project intent is to build an ozonation system that will provide a long-term solution to control T&O events encountered in the raw water supply from both the San Antonio and Calaveras Reservoir sources. The work will include installation of cryogenic oxygen tanks, liquid oxygen vaporizers, ozone generators, ozone injectors, an ozone contactor, an ozone building, an ozone destruct system, associated pumping/valving/piping/appurtenances, associated automatic controls, related facilities, an electrical building, site improvements, and offset power generation consisting of solar panels atop the treated water reservoir.

Water Transmission

10034578 - CSPL2 Reach 5 Rehabilitation

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 in the cities of South San Francisco and San Bruno is over 80 years old and has extensive lining failures. This project would replace the coal tar lining, and would also improve access and shutdown flexibility for maintenance by installing manway structures and valves on CSPL2 and San Andreas Pipeline No. 1 (SAPL1) near Baden Pump Station.

CUW2730404 - SAPS Motor Control Centers

The San Antonio Pump Station (SAPS) is one of the key facilities in the Sunol Valley, and was constructed in 1965 and modified in 1990. The existing motor control centers 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.

CUW2730503 - Peninsula Pipelines Seismic Upgrade Phase III

This project completes the seismic reliability improvements to pipelines in the Peninsula geographic region leading to terminal reservoirs within the City of San Francisco. WD-2727 Phases I & II of the seismic reliability improvements project were completed under WSIP. Phase III is a non-WSIP project, and includes new isolation valves on San Andreas Pipeline No. 2 (SAPL2) at Belle Avenue and Junipero Serra Boulevard in San Francisco, and near 22nd Avenue and Sloat Boulevard in San Francisco. A new parallel pipeline will be installed within Sigmund Stern Grove in San Francisco to replace an approximately 580-foot segment of SAPL2.

CUW2730504 - SAPL2 Lockbar 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 54" diameter 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.

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 and emergency 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 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.

10036602 - Daly City Recycled Water

The Daly City Recycled Water Expansion Project was originally envisioned and planned under Local Water CUW278 (Other Recycled Water Projects). Planning for this and other recycled water projects was completed and identified in the Local CIP. Currently, the Daly City Recycled Water Expansion Project water delivery capacity is envisioned to help offset groundwater pumping in the Westside Basin and potential demands from the Regional Water System (RWS). The SFPUC is working with Daly City's North San Mateo County Sanitation District, Cal Water, the Town of Colma and potential customers to treat, transmit, store and deliver up to 3 million gallons per day (MGD) of additional recycled water supply. Facilities included in the project design consist of a new treatment facility co-located with Daly City's existing wastewater treatment plant, a transmission pipeline through Daly City and the Town of Colma, and a storage tank. Final design and construction of the project will be completed under the scope of this project

once planning is completed in fiscal year 2019.

CUW2740102 - Pilarcitos Dam and Reservoir Improvements

This project is to address concerns regarding the seismic stability of the Pilarcitos Dam and Reservoir facilities and to perform necessary upgrades identified during the Planning Phase. The primary objectives are to perform a condition and needs assessment of the dam and forebay outlet structure, outlet tunnel, and outlet pipeline as requested by the California Division of Safety of Dams (DSOD); to develop retrofit options if required; and to implement the chosen option. Secondary objectives are to perform the same evaluation and implementation for the spillway.

CUW2740103 - San Andreas Dam Facility Improvements

This project is to address concerns regarding the condition of the San Andreas Dam facility and to perform necessary upgrades identified during the Planning Phase. This project includes CUW2740103 (10015092) San Andreas Dam Facility Improvements (DFI), San Andreas Dam (SAD) Spillway 1003237, and a new project to assess the SAD embankment. San Andreas DFI project addresses the emergency drawdown outlets, as directed by the California Division of Safety of Dams (DSOD). The SAD Spillway project performs a spillway condition assessment mandated by DSOD and also budgets for the spillway replacement, if that should be required. The third project is the SAD embankment assessment for seismic stability associated with potential alluvium underneath the embankment. Construction of the emergency drawdown outlets will precede any potential upgrades to the spillway and/or embankment.

CUW27401TD - Turner Dam and Reservoir Improvements

This project addresses the Turner Dam spillway condition assessment, and the repair of the erosion downstream of the spillway, as directed by California Division of Safety of Dams (DSOD). The project also is budgeted for the spillway replacement, if that should be necessary.

CUW2740600 - Potable Reuse & Other Supplies

The SFPUC is identifying opportunities and investigating the potential for purified water projects through direct and indirect potable reuse (DPR and IPR) processes. The SFPUC is participating in research and regulatory review statewide and is working with other Bay Area water agencies to develop potential project opportunities for up to 15 mgd of drinking water with advanced treatment technologies for water needs anticipated within the planning horizon. Feasibility analyses and pilot efforts are anticipated to promote further development of purified water as a source of drinking water. The feasibility studies currently underway include the Bay Area Regional Reliability (BARR), Potable Reuse Exploratory Plan (PREP) Study Silicon Valley Clean Water, Evaluation of Purified Water Alternatives, and Los Vaqueros Expansion Opportunities. Additional opportunities are also being identified under this portfolio. Once one or more projects have been identified for planning to continue to move forward, pilot testing, environmental review, design, and construction phases will follow. The current funding will carry this work through the bid and award phase and cover a portion of construction.

Watershed & Lands Management

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. This proposed 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 10 to 12-foot wide, all-weather surface trails; retaining structures to stabilize cut and/or fill slopes; drainage facilities; a 15,000-square-foot parking lot accommodating up to 14 cars; two to three pre-fabricated restrooms along the trail; site security features; and landscape restoration. In addition, trailhead

improvements on SFPUC lands will be analyzed with the goals to support trail users, enhance educational opportunities, and ensure watershed protection.

Buildings and Grounds

10033555 - Rollins Road Building Renovations (CUW27703)

The SFPUC purchased a property on Rollins Road in September 2017, securing an additional 10,000 square feet of office space for the SFPUC Water Enterprise (WE). The project is to perform tenant improvements, facilitating the consolidation of WE work groups and the elimination of trailers at the SFPUC WE Administration Building. Renovation of the facility is required to create useable office space, a limnology laboratory, conference rooms, additional showers, and a workshop and library for Natural Resources Division (NRD). In addition, the project will address deferred building maintenance, replace the roof, upgrade security, HVAC, phone, and electrical systems, and build storage space.

CUW27701 - Sunol Long Term Improvements

The project includes general redevelopment of the existing Sunol Yard and construction of a Watershed Center near the Sunol Water Temple. Replacement structures will be constructed for existing maintenance shops and equipment storage. New structures to be built include a fueling center, a new administration building, four new pre-fabricated shop buildings, approximately 40,000 square feet of covered storage for vehicles and materials, and a re-surfaced area for vehicle traffic. To create space and lower maintenance costs, six existing dilapidated structures will be demolished. Near the Sunol Water Temple, a 13,000-square foot Watershed Center will be constructed. Additionally, work will be completed on the main gate and road to the Sunol Water Temple. This project is comprised of the following related projects: CUW27701, Sunol Long Term Improvements, and CUW2630601, Sunol Master Plan Support.

CUW2770304 - Millbrae Yard Laboratory and

Shop Improvements

Additional laboratory space is needed to meet current water regulations and to provide WSTD operations improvements. There are four major components to this project: (1) the construction of a new 13,500 square-foot shop building for WSTD; (2) the construction of a new 2,000 square-foot WQD Lab addition; (3) conversion of the existing WSTD Operations Supervisor wing of the existing Administration Building into a WQD laboratory; and (4) Tenant Improvements to the existing Administration Building laboratory. The scope includes remodeling a portion of the Administration Building with WQ sample receiving room upgrades, reconfiguring a conference and flavor profile room, lab additions with extraction lab, a calibration room, relocating and reconfiguring WSTD space, adding two offices for WSTD, server room renovation, a new south shop with WSTD office space, security upgrades and site improvements.

A2. LOCAL PROGRAMS

LOCAL WATER CONVEYANCE/ DISTRIBUTION SYSTEM

10033816 - Westside Potable Auxiliary Water Supply System

This project proposes to design and construct earthquake-resistant water pipeline in western San Francisco, particularly the Sunset and Richmond areas. This pipeline 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 Auxiliary Water Supply System, which is located in other areas of San Francisco. 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.

CUW26308 - Town of Sunol Fire Suppression System

In 2010, the SFPUC committed to the implementation of a fire hydrant system for the Town of Sunol via an MOU with Alameda County. The project will involve construction of a fire hydrant system, including new pipelines, pump stations, monitoring equipment, and storage tanks. The project may be integrated into the existing local potable water system or may be independent.

CUW28000 - Local Water Conveyance/ Distribution System

This long-term renewal program consists of three major components:

1. Linear Assets Management Program: This program replaces and renews distribution system pipelines and customer service connections for the 1,230 miles of drinking water mains in San Francisco. Planning analysis has demonstrated a need to increase the annual replacement rate from the previous 6 miles per year to a target of 15 miles per year to minimize main breaks and meet customer service goals of uninterrupted service. The FY14 approved budget was for replacement or renewal of 9 miles of pipe; FY15 approved budget was to renew 12 miles pipelines, and FY16 and subsequent years are funded to renew 15 miles per year for the next 10 years. Improvements include replacement, rehabilitation, re-lining, and cathodic protection of all pipe size categories so as to extend or renew the pipeline's useful life. Coordination with construction projects from other City agencies, especially SFPUC Wastewater and SFPW paving, is emphasized to optimize efficiencies, reduce costs, and minimize customer disruptions.

2. Renew Services: This program replaces assets between the water main and the customer's service connection at the end of their useful life, including: replacement of 1-inch to 8-inch diameter service pipes made of galvanized steel, lead, or plastic with copper or ductile iron; replacement of broken meter boxes and outdated meters and associated piping; and subsequent restoration of associated sidewalk and roadway.

3. New Services: This program provides materials and labor for installing new domestic, fire, and irrigation services charged as a one-time flat rate to new customers and includes related sidewalk and roadway restoration. No increase over time is anticipated.

Local Water Supply

CUW30101 - Lake Merced Water Level Restoration

The project consists of two 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 the level of

Lake Merced. (2) In addition, the SFPUC is implementing a Demonstration Aeration Mixing Project to evaluate whether additional lake mixing might result in improved dissolved oxygen concentrations in the Lake.

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. The first phase consists of building four new groundwater well stations in the western part of San Francisco. All four stations will include a building to house the well pump and electrical equipment, with two stations having an additional room to provide chemical disinfection. Buried piping will be installed to connect three of these well stations to the Sunset Reservoir. Groundwater from the fourth well station will be piped to the nearby Lake Merced Pump Station, where it will be distributed to both the Sunset Reservoir and Sutro Reservoir. The second phase consists of converting two existing irrigation well facilities in Golden Gate Park to groundwater supply wells, and would be implemented after completion of the CUW30201, San Francisco Westside Recycled Water Project. In the second phase buried piping will be installed to also connect these two wells to the Sunset Reservoir. Improvements to the facilities at the existing San Francisco Zoo Well No. 5 have been completed as part of the project, allowing this well to serve as an emergency potable water source.

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 2 mgd of recycled water to Golden Gate Park (GGP), 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 GGP 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 GGP, and also 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. This project is comprised of the following related projects: CUW28301, College Hill Reservoir Outlet, and CUW280PR09, College Hill Pipeline Improvements.

Pump Stations

CUW28401 - McLaren Park Pump Station Upgrades

This project is to rebuild the McLaren Park Pump Station. This facility is the backup to the Alemany Pump Station and provides water to the McLaren Park Tanks. The project includes the demolition of the existing building, construction of a new reinforced concrete building with bridge crane,

new pumps and motors, a fire sprinkler system, a new electrical system, a new standby generator and generator building, replacement of surge tanks, a new Lenel security system, new fencing, water quality monitoring, landscaping and other site work. The new pump station will be automated and operated through the existing Water SCADA system.

Buildings and Grounds

CUW28101 - Pacific Rod and Gun Club Remediation

The City owns the property, and the SFPUC has exclusive jurisdiction over the property. The SFPUC leases the property to the Pacific Rod and Gun Club (PRGC) which has used it for skeet and trap shooting since 1934. Until 1994 and 2000 respectively, shotgun shells containing lead shot and clay pigeons containing polycyclic aromatic hydrocarbons (PAHs) were used on the property. Elevated concentrations of lead, PAHs, other heavy metals, and arsenic have been detected in site soil; of these, the detected concentrations of lead and PAHs are the primary constituents that contribute to potential human health risk at the site.

The SFPUC wants to preserve all options for future use of the property. Under this project, the SFPUC proposes to excavate and dispose of impacted soils at an approved landfill over a period of up to 50 weeks. This project includes planning, environmental review, excavation, and loading and offsite disposal of about 45,000 cubic yards of contaminated soils located throughout the property. Contaminated soils will be excavated to a depth of up to 7 feet below ground surface at various locations. Following removal of impacted soils, excavated areas will be backfilled with clean soil.

The project is needed to implement remediation of contaminated soils at the PRGC site in order to reduce soil contamination below applicable human health screening levels, and would enable future unrestricted safe reuse of the property. The project will also utilize technology, to the extent possible, in conformance with the SFPUC's technology policy (adopted on 7/24/12). Areas where technology may be used include: cost

management, environmental impact assessment and resource management, and regulatory compliance.

CUW68800 - Buildings and Grounds Improvements

This project covers capital improvements to CDD non-operational facilities and structures, primarily benefitting the CDD corporate yard, to address health, safety, reliability, and security issues. This project will replace obsolete and inefficient HVAC equipment, improve office and warehouse efficiencies, and replace the underground Fueling Station, which has reached the end of its useful service life and poses an environmental risk. In addition, the program includes the construction of a future CDD Control Center (a seismically reliable building to house CDD's communications and control systems, with space for Operations, Administration, and Support staff), and as-needed improvements to ancillary facilities to reduce operating and maintenance costs, improve reliability to maintain routine and emergency operations of the potable and auxiliary water systems, and increase efficiency.

Automated Water Meter Program

CUW68601 - Automated Water Meter Program

The Automated Water Meter Program (AWMP) will install meters with low-frequency radio signals to collect hourly water consumption data and transmit the data four times a day from residential and commercial customers to our billing system and to share with customers on our My Account Website. This will remove the need for physical field visits and manual meter reading. In addition to installation or retrofit of approximately 180,000 residential and commercial water meters in San Francisco, project implementation includes deployment of the data collection network of 84 data collection units (DCUs) and establishment of an FCC licensed private RF channel and a Verizon data connection for transmittal of the data from the meters to a network control computer. The network control computer will be equipped with software to collect and analyze the meter reading data

interfaced to the SFPUC's billing system and My Account Website portals. The program also involves potential connection of Power Enterprise electric meters to the AWMP collection network.

Auxiliary Water Supply System

10034292 - TFB Mission South Pipeline

Install new AWSS pipeline and appurtenances on Terry Francois Boulevard from Mission Rock Street to South Street.

CUWAW2AW23 - Twin Peaks Reservoir - ESER 2014 (Completed)

In order to reduce leakage occurring from the Twin Peaks Reservoir basins, sealant materials will be installed along the joints at Twin Peaks Reservoir in this project.

CUWAW2AW24 - PS 2 (ESER 2014)

This project will provide seismic improvements to the Pump Station #2 building foundation, walls, and roof (the roof and skylights will be replaced). It will remove the rear portion of existing steam boilers while maintaining the front boiler facade. It will add fire sprinklers to the building and will construct an accessible work area and rest room, with associated electrical, mechanical, and plumbing work.

CUWAW2AW29 - Clarendon Supply (ESER 2014 Partial Funding)

Provide a new AWSS water supply near the crest of Clarendon Avenue at Dellbrook Avenue.

CUWAW2AW30 - ESER 2014 Assessment (Completed)

This study will help decide which projects to pursue with Earthquake Safety and Emergency Response (ESER) 2014 bond funding among candidate projects derived from the AWSS Planning Study, considering the need for flexible water supply systems and taking into account CCSF obligations under various land development agreements. A Network Surge Analysis will also assess the potential for pressure surge conditions in the AWSS pipeline and recommend solutions if any such conditions are identified. Additional assessments will analyze

the structural integrity of various AWSS components for seismic reliability.

CUWAW2AW31 - Candlestick Point Pipeline (Completed)

This project will install a new 20" AWSS pipe on Carroll Avenue from Ingalls Street to Hawes Street. This project is being performed in coordination with the Candlestick Point development project and will be constructed as part of Public Works' Potrero Streetscape project.

CUWAW2AW32 - 19th Avenue Pipeline

This project will install a new 20" AWSS pipe on 19th Avenue from Irving Street to Kirkham Street, replacing the existing 12" pipe. It will also construct pipe crossings under 19th Avenue at four locations for the FWSS. This project is part of Public Works' 19th Avenue project.

CUWAW2AW33 - Irving St Pipeline

This project will install a new 20" AWSS pipe on Irving Street from 7th Street to 19th Street, replacing most of the existing 12" pipe. This project is part of Public Works' Irving Street project.

CUWAW2AW34 - Ashbury Bypass Pipeline

This project will install new 20" AWSS pipe near Ashbury Heights Tank to allow Twin Peaks Reservoir to connect with the lower (Ashbury and Jones Street) pressure zones without need for the Ashbury Tank valve house devices. This new connection is anticipated to be used in the event the valve house is damaged.

CUWAW2AW35 - Columbus Avenue Pipeline (Completed)

Replace existing AWSS pipe with new AWSS pipe at the intersection of Columbus Avenue and Green Street to eliminate an existing sewer conflict. This work will be part of Public Works' Columbus Avenue project starting in early 2016.

CUWAW2AW36 - Lake Merced Pipeline

Install new 20" AWSS pipe from Lake Merced Pump Station across Lake Merced Boulevard to the intersection of Vidal Drive and Higuera Avenue. Modify lake-pump discharge piping.

This project is being performed in coordination with the Parkmerced development project.

CUWAW2AW37 - McLaren Tank Flexible System (Eliminated)

Project is cancelled due to logistical and operational issues.

CUWAW2AW38 - Sunset Reservoir Flexible System (Eliminated)

Project is cancelled due to logistical and operational issues.

CUWAW2AW39 - University Mound East Pipeline

This project will install new 20" AWSS pipe from the University Mound Reservoir to the existing 20" AWSS pipeline on Third Street in the vicinity of Jamestown Avenue.

CUWAW2AW40 - Repairs - Pipeline (2014) (Eliminated)

This project will assess the condition of AWSS pipeline and establish a capital improvement program for abandonment, repair, or replacement activities as needed. Assessments of corrosion potential, utility conflicts, liquefiable areas, joint restraints, pipeline settlement, and related factors are being planned.

CUWAW2AW41 - FWSS Crossings (Eliminated)

Project is cancelled due to logistical and operational issues.

CUWAW2AW42 - Ingleside Pipeline

This project will install new 20" AWSS pipe from existing Ocean Avenue AWSS pipe to the intersection of Ocean Ave and Jules Ave.

CUWAW2AW43 - Mariposa Pipeline

This project will install new 20" AWSS pipe from Mariposa St/3rd St to South St via Terry Francois Blvd.

CUWAW2AW44 - Sunset Pipeline

This project will install new Potable AWSS pipeline from Sunset Reservoir.

CUWAWSAW01 - Jones Street Tank

(Completed)

Construction at Jones Street Tank will reinforce the connection between the existing 750,000-gallon water tank wall and foundation. It will improve the seismic capacity of pipes, fittings, supports, restraints, joints, valves, and related items leading away from the tank and to the valve house. It will add electric actuators on selected gate valves with Supervisory Control and Data Acquisition (SCADA) interface. It will replace valve house skylights and re-surface the roof. Work includes installing micropiles to stabilize the tank foundation, adding a curb to better connect the tank wall to the foundation, and improving or repairing various architectural, mechanical, and electrical elements of Jones Street Tank.

CUWAWSAW02 - Ashbury Heights Tank (Completed)

Construction at Ashbury Heights Tank will replace the existing 500,000-gallon water tank and improve the seismic capacity of pipes, fittings, supports, restraints, joints, valves, and related items connecting the tank to the valve house. Work includes removing the existing riveted steel tank, installing drilled piers into rock for the foundation, and installing a new bolted glass-fused steel tank of equivalent storage capacity.

CUWAWSAW03 - Twin Peaks Reservoir (Completed)

Construction at Twin Peaks Reservoir will improve the seismic capacity of pipes, valves, gates, and related items. The work also includes repairing miscellaneous concrete spall and cracks, replacing sluice gates and discharge screens, and replacing and motorizing selected gate valves.

CUWAWSAW04 - Pump Station #2

This project will provide seismic improvements to the Pump Station #2 building foundation, walls, and roof (the roof and skylights will be replaced). It will remove the rear portion of existing steam boilers while maintaining the front boiler facade. It will add fire sprinklers to the building and will construct an accessible work area and rest room, with associated electrical, mechanical, and

plumbing work.

CUAWSAW05 - Pump Station #1

This project will replace the seawater pump engines and engine controls. It will replace the existing pump room ventilation system to provide adequate combustion air and allow ambient air flow. The work includes installing four new diesel engines, a new backup power generator, engine controls with SCADA interface, new engine exhaust piping, and pump room ventilation; replacing seawater intake pipes; anchoring seawater pumps; and repairing the concrete slab supporting one of the pumps.

CUAWSAW06 - Cisterns Construction #1 (Completed)

The initial analysis of existing cisterns indicated no need for repairs. Project is being consolidated under CUAWSAW07 New Cisterns.

CUAWSAW07 - New Cisterns (Completed)

This project will construct new cisterns for storage of water for firefighting.

CUAWSAW08 - Cisterns Construction #3 (Completed)

Initial design of new cisterns. Project is being consolidated under CUAWSAW07 New Cisterns.

CUAWSAW09 - Cisterns Construction #4 (Completed)

Initial design of new cisterns. Project is being consolidated under CUAWSAW07 New Cisterns.

CUAWSAW10 - Pipes, Cisterns & Tunnels Study (Completed)

Joint Venture Consultant AECOM/AGS provided planning support services for repair, improvement, and expansion of the AWSS pipelines, cisterns, and tunnels. The planning incorporated results of work by EMB for Twin Peaks Reservoir, Ashbury Heights Tank, Jones Street Tank, Pumping Station 1, and Pumping Station 2. The work also included planning-level assessment of the effects of proposed AWSS modifications on fire insurance premiums for

property owners in San Francisco. The objective was to review existing configurations, analyze system hydraulics and water demands, and make recommendations for pipelines, control systems, cisterns, and seawater intake tunnels to optimize benefits to the AWSS, given the potential for seismic activity in the area. A critical goal of this work was to maximize the likelihood that the AWSS will effectively provide required fire suppression capabilities after a major seismic event.

CUAWSAW11 - Pipes/ Tunnels Construction #1 (Completed)

New 16" fill pipe was installed by CDD at Twin Peaks Reservoir.

CUAWSAW12 - 4th Street Pipeline (Eliminated)

This project was cancelled because it is no longer hydraulically needed.

CUAWSAW13 - Controls - Pipeline (Completed)

Design and construct improvements to the AWSS SCADA control and telecommunications systems.

CUAWSAW14 - Gate Valve Motors - Pipeline

This project will motorize street valves, and replace a non-functioning street valve on AWSS pipelines, to better control water flows. This work is planned to occur near the intersections of Bayshore/Cesar Chavez, Clarendon/Twin Peaks, Evans/Napoleon, Kearny/Sacramento, and Van Ness/Bay.

CUAWSAW15 - Jones Street Valves - Pipeline (Completed)

This project will design and construct motorized actuators for Jones Street Tank valves to allow remote control of pressure zone connections. This project is being constructed as part of contract WD-2685 Reservoir and Tanks Improvements (CUAWSAW 01 - 03 and CUAW2AW23).

CUAWSAW16 - Manifolds - Pipeline

Repair existing AWSS fireboat manifolds at Fort Mason Pier 1 and Embarcadero Pier 33.

CUWAWSAW17 - Pump Station #1 Tunnel

Design and construct seismic improvements and concrete repair to the Embarcadero seawall tunnel, installing resilient inserts at the existing Embarcadero sewer-box crossing, the mid-tunnel inflection, and the sand-rock interface, and repairing minor concrete spalling and exposed steel reinforcing.

**CUWAWSAW18 - Repairs - Pipeline (2010)
(Eliminated)**

Assess the condition of AWSS pipeline and establish a capital improvement program for abandonment, repair, or replacement activities as needed. Assessments of corrosion potential, utility conflicts, liquefiable areas, joint restraints, pipeline settlement, and related factors are planned.

**CUWAWSAW19 - Clarendon Supply (ESER
2010 Partial Funding)**

Provide a new AWSS water supply near the crest of Clarendon Avenue at Dellbrook Avenue.

Appendix B. Water Enterprise Approved Project Level Schedules Regional Programs

Project Name	Start	Finish	FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027				FY2028			
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4				
Water Regional Improvement Projects	01-Jan-09	20-Mar-29																																												
Water Treatment	27-Jun-17	09-Sep-24																																												
10032938 SVWTP Powdered Activated Carbon Feed Units (CUW)	16-Apr-18	18-Dec-19																																												
10033123 SVWTP Ozone (CUW27202)	27-Jun-17	09-Sep-24																																												
Water Transmission	03-Dec-12	10-Oct-23																																												
10034578 CSPL2 Reach 5 Rehabilitation	25-Feb-19	30-Nov-22																																												
CUW2730404 SAPS Motor Control Centers	12-May-16	27-Jan-23																																												
CUW2730503 Peninsula Pipelines Seismic Upgrade Phase III	03-Dec-12	27-Feb-19																																												
CUW2730504 SAPL2 Lockbar Replacement	01-Mar-16	08-Dec-21																																												
CUW2730505 CSPL2 Reach 2 and 3 Rehabilitation	12-Sep-16	10-Oct-23																																												
Water Supply & Storage	11-Dec-13	20-Mar-29																																												
10015232 Merced Manor Reservoir Facilities Repairs	01-Jul-19	28-Feb-24																																												
CUW2740102 Pilarcitos Dam and Reservoir Improvements	07-Apr-14	05-Sep-25																																												
CUW2740103 San Andreas Dam Facility Improvements	11-Dec-13	20-Apr-27																																												
CUW27401TD Turner Dam and Reservoir Improvements	02-Jan-20	20-Mar-29																																												
10036602 Daly City Recycled Water	01-Oct-19	19-Sep-25																																												
CUW2740600 Potable Reuse & Other Supplies	06-Jan-17	30-Jun-26																																												
Watershed and Lands Management	31-Oct-12	21-Jan-22																																												
CUW2751801 Southern Skyline Blvd Ridge Trail Extension	31-Oct-12	21-Jan-22																																												
Buildings and Grounds	01-Jan-09	03-May-23																																												
10033555 Rollins Road Building Renovations (CUW27703)	01-Mar-18	31-Jan-22																																												
CUW27701 Sunol Long Term Improvements	01-Jan-09	01-Sep-21																																												
CUW2770304 Millbrae Yard Laboratory and Shop Improvements	02-Nov-15	03-May-23																																												

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

Appendix B. Water Enterprise Approved Project Level Schedules Local Programs

Project Name	Start	Finish	FY2017				FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027	
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2				
Water Local Improvement Projects	03-Mar-03	30-Jun-28																																										
Local Water Conveyance / Distribution System	01-Jan-09	30-Jun-28																																										
10033816 Westside Potable Auxiliary Water Supply System	02-Jan-19	30-Jun-28																																										
CUW28000 Local Water Conveyance/Distribution System	01-Jul-10	30-Jun-28																																										
CUW26308 Town of Sunol Fire Suppression System	01-Jan-09	28-Jun-19																																										
Local Water Supply	03-Mar-03	31-Oct-23																																										
CUW30101 Lake Merced Water Level Restoration	16-Jun-03	31-Oct-23																																										
CUW30102 San Francisco Groundwater Supply	16-Jun-03	30-Mar-21																																										
CUW30201 San Francisco Westside Recycled Water	03-Mar-03	28-Mar-22																																										
Local Tanks/Reservoir Improvements	24-Jan-13	28-Sep-21																																										
CUW28301 College Hill Reservoir Outlet	24-Jan-13	28-Sep-21																																										
Pump Stations	03-Feb-20	21-Apr-26																																										
CUW28401 McLaren Park Pump Station Upgrades	03-Feb-20	21-Apr-26																																										
Buildings and Grounds	01-Oct-08	30-Jun-28																																										
CUW28101 Pacific Rod and Gun Club Remediation	20-Aug-13	31-Dec-19																																										
CUW68800 Buildings and Grounds Improvements	01-Oct-08	30-Jun-28																																										
Automated Water Meter	02-Mar-09	17-Mar-21																																										
CUW68601 Automated Water Meter Program	02-Mar-09	17-Mar-21																																										
Auxiliary Water Supply System	01-Apr-11	31-Dec-20																																										
Physical Plants	01-Apr-11	31-Dec-20																																										
CUWAW2AW30 ESER 2014 Assessment	13-Nov-14	31-Jan-17																																										
CUWAWS WD-2685 Reservoir and Tanks Improvements	01-Apr-11	31-May-17																																										
CUWAWSAW05 Pump Station # 1	01-Apr-11	29-Jul-19																																										
CUWAWS WD-2687 Pump Station #2	01-Apr-11	31-Dec-20																																										
Cistern	01-Apr-11	29-Jun-18																																										
CUWAWSAW06-09 Cisterns Construction	01-Apr-11	29-Jun-18																																										
Pipelines	01-Apr-11	31-Dec-20																																										
CUWAWSAW10 Pipes, Cisterns, & Tunnels Study	01-Apr-11	30-Jun-14																																										
CUWAWSAW11-19 Pipes/ Tunnels Construction	01-Apr-11	30-Nov-20																																										
CUWAW2AW29-44 ESER 2014 Pipelines, Tunnels, and Flexibl	23-Feb-15	31-Dec-20																																										
CUWAWS01 AUXILIARY WATER SUPPLY SYSTEM*	01-Apr-11	31-Dec-20																																										
CUWAW200 2014 AUXILIARY WATER SUPPLY SYSTEM*	06-Nov-14	31-Dec-20																																										




APPENDIX C. LIST OF ACRONYMS

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

DATE: February 2, 2021

TO: Commissioner, Sophie Maxwell, President
Commissioner, Anson Moran, Vice President
Commissioner, Tim Paulson
Commissioner, Ed Harrington

FROM: Michael Carlin, Acting General Manager 

RE: Water Enterprise Capital Improvement Program
2nd Quarter / Fiscal Year 2020-2021

Enclosed is the Water Enterprise Capital Improvement Program Quarterly Report for the period ending on December 31, 2020. This quarterly report provides a summary update on both Regional and Local Capital 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. Scope and schedule information show which projects are active, potentially newsworthy, or otherwise noticeable to the public due to improved service or impacts from construction. Quarterly updates allow for timely and proactive review of projects.

We would like to note that reported costs associated with Public Works Department (PW) support are not fully reconciled to PeopleSoft. Due to the PeopleSoft process PW utilizes for tracking their charges, costs are reported at a level that does not relate to a single SFPUC project. SFPUC staff have held numerous meetings with the Controller and the Public Works Accounting team in an effort to reach agreement on revised cost tracking procedures. As current projects utilizing the system put in place at PeopleSoft conversion are completed and being closed, SFPUC staff work closely with PW Accounting and the respective PW Manager to reconcile actual costs to work completed at the SFPUC project level of detail. This is a lengthy and complex process, but staff are making progress toward completion of the reconciliation.

London N. Breed
Mayor

Sophie Maxwell
President

Anson Moran
Vice President

Tim Paulson
Commissioner

Ed Harrington
Commissioner

Michael Carlin
Acting
General Manager



To ensure accurate and efficient cost reporting on future projects, SFPUC is currently drafting a Memorandum of Understanding (MOU) between SFPUC and PW. The MOU will outline estimating, tracking, and reporting processes for SFPUC capital projects where PW is providing design and/or construction management support; it will allow programmatic updates of PW costs into the SFPUC project controls system and monthly reconciliation of reported actual costs against the PeopleSoft financial system.

As mentioned last quarter, on March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective March 17, 2020. In compliance with this order, nearly 1,200 SFPUC employees have been working remotely. Employees who have been deemed essential to continue operations by reporting to SFPUC facilities are doing so to deliver water, power and sewer services to the communities we serve.

Following the shelter-in-place order, on March 18, 2020, SFPUC issued a memo to the construction contractors stating that public works construction projects are considered an "essential activity" and work is expected to continue, but contractors are required to stop work temporarily and submit a revised Site-Specific Health and Safety Plan to address COVID-19 safety and protective work practices for SFPUC review by close of business on March 20, 2020.

On March 20, 2020, a letter was issued to contractors from the City Administrator. The letter noted that The City was prepared to partner with contractors to take steps to make projects as safe as possible for employees to help keep projects moving forward and determine if Social Distancing Requirements can be met.

On March 31, 2020, the Health Officer issued Health Order No. C19-07b, replacing the earlier March 16, 2020 order. The order requires the City Administrator, in consultation with the Health Officer, to specifically designate certain public works projects as an Essential Government Function if they are to continue during this shelter-in-place order.

Additionally, contractors were provided with the Construction Safety Guidelines, dated April 1, 2020, developed by City representatives and the San Francisco Building and Construction Trades Council, with input from construction industry contractors' associations. This document provides industry guidelines for safe practices at construction work sites. Accordingly, Contractors were required to prepare and submit updated Site-Specific Health and Safety Plan to address COVID-19 issues at each site.

Furthermore, on April 15, 2020, the City Administrator's Office issued Procedures for Implementation and Enforcement of COVID-19 Field Safety Guidelines for Public Works Projects.

And, on April 29, 2020, the Health Officer issued Health Order No. C19-07c, extending the shelter-in-place through the end of May. This new order went into effect on May 4, 2020 and all construction was allowed to resume as long as specific safety measures are in place. The Health Order C19-07c also provides Safety protocols for both small and large construction projects. Lastly, on May 5, 2020, the Health Officer issued a directive requiring that each contractor for a City public works project to comply with all aspects of these safety protocols.

During the months following, staff coordinated with the Enterprises to implement worksite health screenings and communication plans. The SFPUC's construction management teams developed procedures and practices to fulfill the City's role as mandated by the "Public Works Project Safety Protocol for COVID-19" through inspection of worksites to assure worker compliance with the contractors' approved Health and Safety Plans.

Due to anticipated financial impacts from the pandemic, staff worked on revising the 10-year Capital Improvement Program (CIP) budget to ensure we can continue essential services to the public and maintain our financial sustainability. On July 14, 2020, a Revised CIP plan was submitted and approved by the Commission.

The highlights for this reporting period are as follows:

1. Regional Water Enterprise CIP:

- 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 to address COVID-19 requirements.
- Technical memoranda were issued for ozone dosing strategy, solar panel and corrosion protection work, and geotechnical interpretive surveys for the Sunol Valley Water Treatment Plant Ozone project. Planning work continued on the treatability testing, plant design flow and hydraulics, electrical power demand, site surveying, and ozone contactor basin configuration.
- Construction on the San Andreas Pipeline No. 2 Lockbar Replacement project, located in San Bruno, was completed this quarter, 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 is anticipated to be placed back into service the first quarter of 2021.
- Corrosion assessments were performed for the Crystal Springs Pipeline No. 2 Reaches 2, 3 and 5. For the project to rehabilitate Reach 5, located in San Bruno and South San Francisco, the Alternatives Analysis continued and will be completed in Q3.
- Planning work for Pilarcitos Dam continued, including the initiation of a spillway condition assessment and a dam embankment stability evaluation.
- The first administrative draft of the Response to Public Comments on the Draft Environmental Impact Report (EIR) for the Southern Skyline Blvd. Ridge Trail Extension was submitted to the San Francisco Planning Department on November 9.
- Architectural concrete walls were constructed this quarter for the Sunol Long Term Improvements (SLTI) Contract B - Alameda Creek Watershed Center. For Contract A, Sunol Yard, the contract closeout was approved by the SFPUC.
- A draft programming document was issued for the Millbrae Yard Lab and Shops, and the stakeholders attended workshops to clarify needs and objectives for the new facilities.

- This will be the last quarter that the Potable Reuse and Other Supplies project will be reported. Progress will be reported in the Alternative Water Supply Quarterly Report through the SFPUC Water Resources Division.

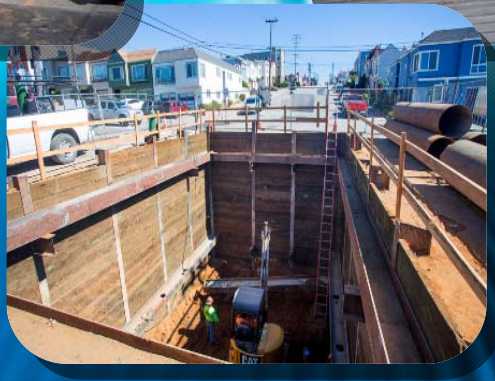
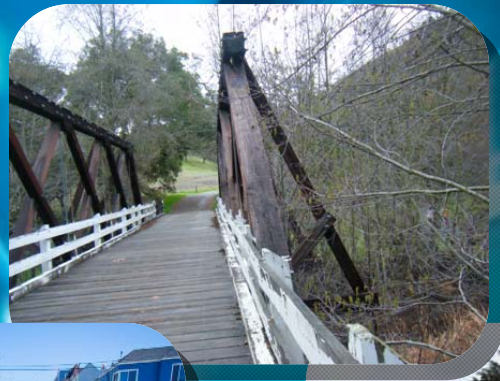
2. Local/In-City Water Enterprise Capital Improvement Program:

- The forecast mileage of San Francisco water distribution pipelines to be replaced in FY21 is 11.5 miles. A total of twelve water main replacement projects have construction underway within San Francisco city limits during the second quarter of FY21. During this quarter, all water work was installed on Geary between Presidio and Van Ness, and Green Street reached substantial completion. Projects planned to start construction during the third quarter of FY21 include work on Casitas Avenue.
- Daly City completed 100% design documents for the Vista Grande Drainage Basin Improvement Project, partially funded by the SFPUC's Lake Merced Water Level Restoration Project.
- Construction for the Recycled Water Treatment Facility at Oceanside Water Pollution Control Plant continued. Significant progress was made in the installation of treatment process equipment; mechanical, electrical, and plumbing; chemical tanks and piping; and fiberglass grating. Construction for the Distribution Pump Station and Reservoir in Golden Gate Park were focused on the forming and pouring of reservoir roof slab and beams and the pump station structure.
- Completion of the remaining and change order work, punchlist items and closeout documents continued for Phase 2 of the San Francisco Groundwater Supply project.

Enclosure



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



QUARTERLY REPORT

Water Enterprise Capital Improvement Program
Q2 FY 2020 | 2021
October 2020 — December 2020

Quarterly Report

Water Enterprise Capital Improvement Program

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APPENDICES

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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 treatment facilities; water transmission infrastructure; 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) is a 10-year plan of projects and activities to physically improve the system, 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 and include deferred projects not included in WSIP and new projects which are needed to continue meeting level of service goals.

The capital planning process is used to inform the CIP with updates to master plans, asset

condition assessment, and review of levels of service.

There are five programs in the 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 programs are:

- Water Treatment Program
- Water Transmission Program
- Water Supply & Storage Program
- Watershed & Lands Management Program
- Buildings and Grounds Program

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.

A project moves from the planning, design, and environmental review stage to implementation 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, schedule, or necessity during annual review and approval of the 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 **Current Approved Budget**.

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

Modifications to scope or schedule must be approved by the Assistant General Manager for Water Enterprise with input from the project’s **Technical Oversight Committee** which generally consists of managers within the Water Enterprise and Infrastructure Division. Final **Project Closeout** must be approved by the Assistant General Manager for Water Enterprise.

2. CAPITAL IMPROVEMENT PROGRAM STATUS

This Quarterly Report presents the progress made on Regional Water projects between October 1, 2020 and December 31, 2020. This document serves as the second (2nd) Quarterly Report in Fiscal Year 2020-2021 (FY21) published for the Water Enterprise Capital Improvement Program.

On December 11, 2018, SFPUC approved the Water Enterprise 2018 Proposed Baseline budget of \$631.0 million for Regional projects and \$1,602.1 million for Local projects (2018 Approved Baseline). The 2018 Approved Baseline is a subset of the Regional and Local Water Enterprise 10-year CIP for FY2019-2028 and includes individual projects over \$5 million that were then currently active or intended to be active by June 30, 2020 at the time proposed to the Commission on December 11, 2018. The status of projects included in the 2018 Approved Baseline are discussed in this quarterly report.

Figure 2.1 shows the total Current Approved Budget for the 17 Regional projects in each phase of the program as of December 31, 2020. 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 December 31, 2020: Pre-construction, Construction, and Post-construction.

Figure 2.3 summarizes the environmental review status of the 17 Regional projects as of December 31, 2020.

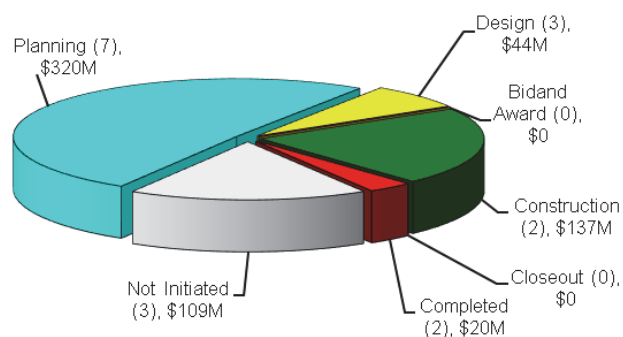


Figure 2.1 Total Current Approved Budget for Regional Projects Active in Each Phase

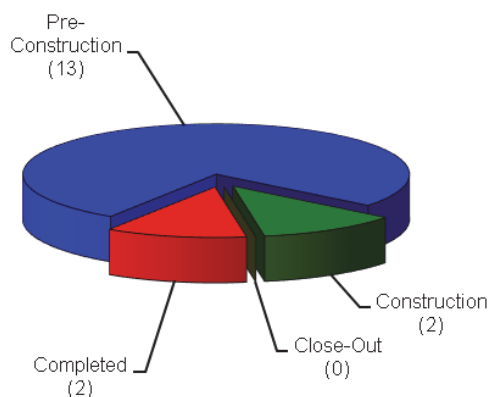


Figure 2.2 Number of Regional Projects in Pre-construction, Construction, and Post-construction

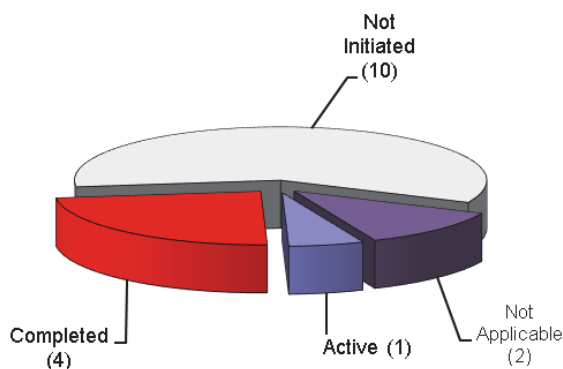


Figure 2.3 Regional Program Environmental Review

3. CAPITAL IMPROVEMENT PROGRAM COST SUMMARY

Table 3.1 provides an overall cost summary of the Regional Water CIP. It shows the Expenditures to Date; 2018 Approved Budget, Current Approved Budget and Current Forecasted Cost; and the Cost Variance between

the Current Approved Budget and Forecasted Cost.

The total Current Approved Budget is \$631.0 million, and the Current Forecasted Cost at completion is \$952.2 million (\$321.2 million over the Current Approved Budget).

Table 3.1 Regional Water CIP Cost Summary

Cost Categories	Expenditures To Date (\$ Million) (A)	2018 Approved Budget (\$ Million) (C)	Current Approved Budget (\$ Million) (D)	Current Forecasted Costs (\$ Million) (E)	Cost Variance (\$ Million) (F = D - E)
Regional Water CIP	\$143.29	\$630.99	\$630.99	\$952.15	(\$321.16)
Water Treatment	\$9.73	\$123.60	\$123.60	\$173.16	(\$49.56)
Construction Costs ⁽¹⁾	\$6.56	\$91.56	\$91.56	\$125.63	(\$34.07)
Delivery Costs ⁽²⁾	\$3.17	\$32.04	\$32.04	\$45.81	(\$13.77)
Other Costs ⁽³⁾	-	-	-	\$1.72	(\$1.72)
Water Transmission	\$53.40	\$133.26	\$133.26	\$137.85	(\$4.59)
Construction Costs ⁽¹⁾	\$39.32	\$98.72	\$98.72	\$102.90	(\$4.18)
Delivery Costs ⁽²⁾	\$13.85	\$34.29	\$34.31	\$33.73	\$0.58
Other Costs ⁽³⁾	\$0.23	\$0.24	\$0.22	\$1.22	(\$1.00)
Water Supply & Storage	\$4.44	\$220.86	\$220.86	\$338.39	(\$117.53)
Construction Costs ⁽¹⁾	-	\$165.01	\$165.01	\$123.99	\$41.02
Delivery Costs ⁽²⁾	\$4.44	\$55.85	\$55.85	\$214.41	(\$158.56)
Other Costs ⁽³⁾	-	-	-	-	-
Watershed & Lands Management	\$4.22	\$19.34	\$19.34	\$21.81	(\$2.47)
Construction Costs ⁽¹⁾	-	\$15.40	\$15.40	\$14.30	\$1.10
Delivery Costs ⁽²⁾	\$4.22	\$3.94	\$3.94	\$7.47	(\$3.53)
Other Costs ⁽³⁾	\$0.01	-	-	\$0.03	(\$0.03)
Buildings and Grounds	\$71.49	\$133.94	\$133.94	\$280.93	(\$146.99)
Construction Costs ⁽¹⁾	\$42.52	\$88.27	\$88.27	\$190.00	(\$101.73)
Delivery Costs ⁽²⁾	\$28.96	\$44.69	\$45.49	\$82.30	(\$36.81)
Other Costs ⁽³⁾	-	\$0.98	\$0.18	\$8.63	(\$8.45)
Local Water CIP	\$769.22	\$1,602.12	\$1,602.12	\$1,420.44	\$181.68
Construction Costs ⁽¹⁾	\$440.11	\$1,043.31	\$1,049.67	\$907.64	\$142.03
Delivery Costs ⁽²⁾	\$327.72	\$555.58	\$549.33	\$508.22	\$41.11
Other Costs ⁽³⁾	\$1.39	\$3.22	\$3.12	\$4.58	(\$1.46)
Overall Water CIP	\$912.51	\$2,233.11	\$2,233.11	\$2,372.59	(\$139.48)

I. Regional WECIP Quarterly Report

Notes:

1. Construction Costs include the Construction Base Bid and owner-provided equipment/material for all projects. Those costs include any construction contingency.
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. CAPITAL IMPROVEMENT PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the 2018 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 2018 Approved and Forecasted Schedule completion for the overall Water CIP (including Regional and Local Programs) are in March 2029 and June 2035, respectively (75 months behind schedule). The 2018 Approved and Forecasted Schedule completion for the Regional CIP alone are also March 2029 and June 2035, respectively (75 months behind schedule).

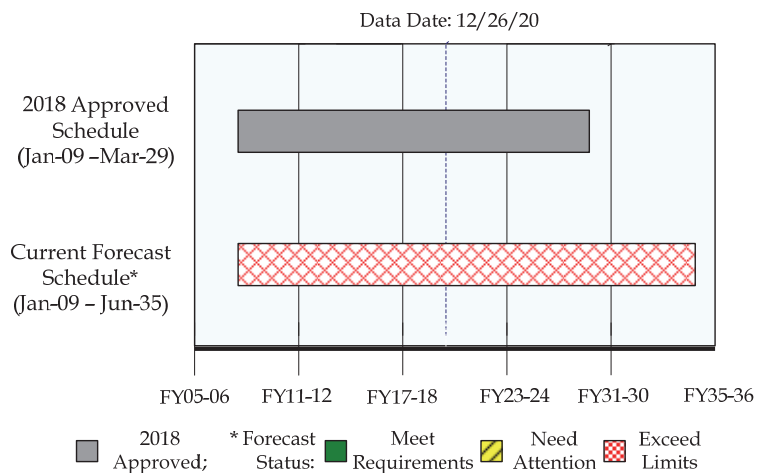


Figure 4.1 Program Schedule Summary

Table 4.1 2018 Approved vs. Current Forecast Schedule Dates

Sub-Program	2018 Approved Project Start	Actual Start	2018 Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Regional Projects	01/01/09	01/01/09✓	03/20/29	06/29/35	75.4 (Late)
Local Projects	03/03/03	03/03/03✓	06/30/28	06/30/28	-
Overall Water Enterprise CIP	03/03/03	03/03/03✓	03/20/29	06/29/35	75.4 (Late)

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 12/26/20

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	\$ 5,519	\$ 115,000	\$ 165,130	\$ 2,321	(\$50,130)	●	09/09/24	06/30/27	33.7 mo. Late	●	See Section 6
Water Transmission												
10034578 - CSPL2 Reach 5 Rehabilitation	PL	\$ 2,031	\$ 12,840	\$ 13,031	\$ 357	(\$191)	⚠	11/30/22	09/19/25	33.7 mo. Late	●	See Section 6
CUW2730404 - SAPS Motor Control Centers	DS	\$ 3,347	\$ 7,200	\$ 12,500	\$ 481	(\$5,300)	●	01/27/23	03/19/25	25.7 mo. Late	●	See Section 6
CUW2730504 - SAPL2 Lockbar Replacement	CN	\$ 45,542	\$ 45,642	\$ 45,642	\$ 40,176	-	★	12/08/21	12/08/21	-	★	See Section 10
CUW2730505 - CSPL2 Reaches 2 and 3 Rehabilitation	PL	\$ 2,520	\$ 55,920	\$ 55,028	\$ 1,193	\$ 892	★	10/10/23	06/12/26	32.1 mo. Late	●	See Section 6
Water Supply & Storage												
CUW2740102 - Pilarcitos Dam and Reservoir Improvements	PL	\$ 6,680	\$ 25,676	\$ 30,087	\$ 3,016	(\$4,411)	●	09/05/25	06/29/29	45.8 mo. Late	●	See Section 6
CUW2740103 - San Andreas Dam Facility Improvements	PL	\$ 5,144	\$ 26,795	\$ 32,195	\$ 582	(\$5,400)	●	04/20/27	12/30/33	80.4 mo. Late	●	See Section 6
CUW2740600 - Potable Reuse & Other Supplies	PL	\$ 2,170	\$ 59,400	\$ 171,500	\$ 750	(\$112,100)	●	06/30/26	07/30/30	49.0 mo. Late	●	See Section 6

* 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 12/26/20

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												
CUW2751801 - Southern Skyline Blvd Ridge Trail Extension	DS	\$ 5,846	\$ 19,340	\$ 21,805	\$ 4,224	(\$2,465)	●	01/21/22	09/11/23	19.7 mo. Late	●	See Section 6
Buildings and Grounds												
10033555 - Rollins Road Building Renovations (CUW27703)	DS	\$ 2,800	\$ 17,878	\$ 5,192	\$ 1,851	\$ 12,686	★	01/31/22	06/30/22	4.9 mo. Late	⚠	See Section 6
CUW27701 - Sunol Long Term Improvements	CN	\$ 101,572	\$ 91,684	\$ 106,178	\$ 68,405	(\$14,494)	●	09/01/21	09/13/22	12.4 mo. Late	●	See Section 6
CUW2770304 - Millbrae Yard Laboratory and Shop Improvements	PL	\$ 2,487	\$ 24,376	\$ 169,563	\$ 1,231	(\$145,187)	●	05/03/23	03/31/28	59.0 mo. Late	●	See Section 6

* 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

10033123 - SVWTP Ozone (CUW27202)

Project Description: The project intent is to build an ozonation system that will provide a long-term solution to control taste and odor (T&O) events encountered in the raw water supply from both the San Antonio and Calaveras Reservoir sources. The work will include installation of cryogenic oxygen tanks, liquid oxygen vaporizers, ozone generators, ozone injectors, an ozone contactor, an ozone building, an ozone destruct system, associated pumping/valving/piping/appurtenances, associated automatic controls, related facilities, an electrical building, site improvements, and offset power generation consisting of solar panels atop the treated water reservoir.

Program: Water Treatment		Project Status: Planning		Environmental Status: Not Initiated (CatEx)	
Project Cost:			Project Schedule:		
Approved		\$115.00 M	Approved Jun-17		Sep-24
Forecast*		\$165.13 M	Forecast* Jun-17		Jun-27
Actual		\$2.32 M	Project Percent Complete: 2.0%		
					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	06/02/23	08/17/23	01/02/24	12/31/26	

Progress and Status:

The planning work continued on treatability testing, plant design flow and hydraulics, electrical power demand, site surveying, and geotechnical investigation. The peer review panel submitted a technical memorandum on the approach to identifying the design ozone dosage for review. The technical memoranda for the solar panel and corrosion protection work and geotechnical interpretive surveys were completed. The second round of treatability testing was completed, and a workshop was held to discuss the results. The ozone contactor basin configuration was evaluated for the various benefits, drawbacks, and costs for arrangements of 2 vs. 4 contactor basins.

Issues and Challenges:

The variance between the Approved and Forecast completion dates is due to the extension of the planning phase to allow a more detailed planning process and extended design and construction durations as recommended by the consultant based on recently constructed ozone facilities at other locations. The variance between the Approved Budget and the Forecast cost is primarily due to the increased construction estimate based on the design progression, with detailing of the ozone system components, layout, and configuration since the Alternative Analysis Report.









Geotech fault trenching across the site

I. Regional WECIP Quarterly Report

10034578 - CSPL2 Reach 5 Rehabilitation

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 in the cities of South San Francisco and San Bruno is over 80 years old and has extensive lining failures. This project would replace the coal tar lining and would also improve access and shutdown flexibility for maintenance by installing manway structures and valves on CSPL2 and San Andreas Pipeline No. 1 (SAPL1) near Baden Pump Station.

Program: Water Transmission		Project Status: Planning		Environmental Status: Not Initiated	
Project Cost:			Project Schedule:		
Approved		\$12.84 M	Approved Dec-18		Nov-22
Forecast*		\$13.03 M	Forecast* Feb-19		Sep-25
Actual		\$0.36 M	Project Percent Complete: 1.5%		
					
Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	N/A	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:

The JOC contractor completed excavation of four locations to verify the structural integrity of the pipeline as part of the corrosion assessment, and will be excavating one additional location early next quarter for additional corrosion assessment. The draft Alternatives Analysis Report is close to completion and anticipated to be issued for review early next quarter.

Issues and Challenges:

The variance between the Approved and Forecast cost is due to the need to perform a corrosion assessment. The variance between the Approved and Forecast completion dates is due the need for a field corrosion assessment, delays in procuring a contractor to perform excavations for the corrosion assessment, and time to procure the design consultant.













Excavated pipe for corrosion assessment

CUW2730404 - SAPS Motor Control Centers

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-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.

Program: Water Transmission	Project Status: Design	Environmental Status: Not Initiated (CatEx)
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Project Cost:		Project Schedule:	
Approved 	\$7.20 M	Approved May-16 	Jan-23
Forecast* 	\$12.50 M	Forecast* May-16 	Mar-25
Actual 	\$0.48 M	Project Percent Complete: 6.3%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits			

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

Progress and Status:

The project team has obtained additional resources for a qualified engineering consultant to complete the design for this project and to provide engineering support during construction. The design was placed on hold during the 65% design phase after a major scope change requested by Operations required that the existing Main Control Panel (MCP) be demolished and that all MCP functions be field verified, relocated, and either incorporated into the MCC or programmed into SCADA. Operations also requested that the existing diesel generator system be removed from inside the SAPS and replaced with a new propane-fueled generator to be installed outside of the building. Design is anticipated to resume in January 2021 after the consultant contract has been awarded.



San Antonio Pump Station building looking southeast

Issues and Challenges:






The variance between the Approved Budget and Forecast Cost is due to the updated cost estimate that includes the addition of the major scope change, and the cost of escalation. The variance between the Approved and Forecast completion dates results from the additional time required to obtain engineering consultant resources, as well as from the scope addition.

I. Regional WECIP Quarterly Report

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 and emergency 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, 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)
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Project Cost:	Project Schedule:
Approved  \$55.92 M	Approved Sep-16  Oct-23
Forecast*  \$55.03 M	Forecast* Sep-16  Jun-26
Actual  \$1.19 M	Project Percent Complete: 2.5%

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

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

Progress and Status:

Work on procurement of consultant support services for final design continued. The Request for Proposals is anticipated to be advertised next quarter. Support was procured from San Francisco Public Works for surveying and geotechnical evaluation. Corrosion assessments also continued.

Issues and Challenges:

The variance between the Approved and Forecast completion dates is due to the delay in procurement of consultant design support services, anticipated to be available mid-2021, to complete the design phase.













Corrosion Investigation Site in Hillsborough

CUW2740102 - Pilarcitos Dam and Reservoir Improvements

Project Description: This project is to address concerns regarding the seismic stability of the Pilarcitos Dam and Reservoir facilities and to perform necessary upgrades identified during the Planning Phase. The primary objectives are to perform a condition and needs assessment of the dam and forebay outlet structure, outlet tunnel, and outlet pipeline as requested by the California Division of Safety of Dams (DSOD); to develop retrofit options if required; and to implement the chosen option. Secondary objectives are to perform the same evaluation and implementation for the spillway.

Program: Water Supply & Storage	Project Status: Planning	Environmental Status: Not Initiated (MND)
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Project Cost:		Project Schedule:	
Approved 	\$25.68 M	Approved Apr-14 	Sep-25
Forecast* 	\$30.09 M	Forecast* Apr-14 	Jun-29
Actual 	\$3.02 M	Project Percent Complete: 1.1%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits			

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

Progress and Status:

The design consultant started work on a spillway condition assessment and a dam embankment stability evaluation. The results for the hydraulic analysis of the spillway were presented to the project team. Once the dam embankment stability evaluation is completed, anticipated by mid-2021, the team will prepare an overall condition assessment report for the entire facility.

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost and the Approved Schedule and Forecast Schedule are both due to the more extensive than originally planned efforts for the geotechnical exploration during the pre-planning phase, and additional work that will be needed to complete the planning phase. The project budget and schedule will be re-forecasted once the scope of work for the entire project is fully defined during the alternative analysis phase of the project.









Pilarcitos spillway inspection

I. Regional WECIP Quarterly Report

CUW2740103 - San Andreas Dam Facility Improvements

Project Description: This project is to address concerns regarding the condition of the San Andreas Dam facility and to perform necessary upgrades identified during the Planning Phase. This project includes CUW2740103 (10015092) San Andreas Dam Facility Improvements (DFI), San Andreas Dam (SAD) Spillway 1003237, and a new project to assess the SAD embankment. San Andreas DFI project addresses the emergency drawdown outlets, as directed by the California Division of Safety of Dams (DSOD). The SAD Spillway project performs a spillway condition assessment mandated by DSOD and also budgets for the spillway replacement, if that should be required. The third project is the SAD embankment assessment for seismic stability associated with potential alluvium underneath the embankment. Construction of the emergency drawdown outlets will precede any potential upgrades to the spillway and/or embankment.

Program: Water Supply & Storage	Project Status: Planning	Environmental Status: Not Initiated (Various)		
Project Cost:		Project Schedule:		
Approved 	\$26.80 M	Approved Dec-13 	Apr-27	
Forecast* 	\$32.20 M	Forecast* Dec-13 	Dec-33	
Actual 	\$0.58 M	Project Percent Complete: 12.8%		
				
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 first task order for this project was issued to the design consultant. The design consultant is currently reviewing all the existing background information, including the nine alternatives identified and evaluated for the emergency drawdown outlet structures. Following this review, a work plan will be developed to provide implementation strategies to retrofit the emergency drawdown outlet structures, spillway, dam, and other ancillary facilities.

Issues and Challenges:






The variance between the Approved and Forecast completion dates and the variance between the Approved Budget and Forecast Cost, are both due to the additional work that will be needed to complete the planning phase and anticipated extended construction schedule based on the potential project scope. The project schedule and budget will be re-forecasted once the scope for the entire project is fully defined, at the end of the planning phase.



San Andreas Dam and Spillway

CUW2740600 - Potable Reuse & Other Supplies

Project Description: The SFPUC is identifying opportunities and investigating the potential for purified water projects through direct and indirect potable reuse (DPR and IPR) processes. The SFPUC is participating in research and regulatory review statewide and is working with other Bay Area water agencies to develop potential project opportunities for up to 15 mgd of drinking water with advanced treatment technologies for water needs anticipated within the planning horizon. Feasibility analyses and pilot efforts are anticipated to promote further development of purified water as a source of drinking water. The feasibility studies currently underway include the Bay Area Regional Reliability (BARR), Potable Reuse Exploratory Plan (PREP) Study Silicon Valley Clean Water, Evaluation of Purified Water Alternatives, and Los Vaqueros Expansion Opportunities. Additional opportunities are also being identified under this portfolio. Once one or more projects have been identified for planning to continue to move forward, pilot testing, environmental review, design, and construction phases will follow. The current funding will carry this work through the bid and award phase and cover a portion of construction.

Program: Water Supply & Storage	Project Status: Planning	Environmental Status: Not Initiated (EIR)
Project Cost:		Project Schedule:
Approved 	\$59.40 M	Approved Jan-17  Jun-26
Forecast* 	\$171.50 M	Forecast* Jan-17  Jul-30
Actual	\$0.75 M	Project Percent Complete: 0.7%
		

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

Progress and Status:

This project is part of the Alternative Water Supply Program and is currently in the planning phase. Updates on this project are being reported in the Alternative Water Supply Quarterly Report through the SFPUC Water Resources Division

Issues and Challenges:

Because this project is performing planning on multiple potential water supply projects, progress on the planning will be reported in the Alternative Water Supply Quarterly Report through the SFPUC Water Resources Division. As infrastructure projects are selected, defined, and funded for construction in the future, they will be reported in this WECIP Quarterly Report.



Proposed project service area

I. Regional WECIP Quarterly Report

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. This proposed 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 10 to 12-foot wide, all-weather surface trails; retaining structures to stabilize cut and/or fill slopes; drainage facilities; a 15,000-square-foot parking lot accommodating up to 14 cars; two to three pre-fabricated restrooms along the trail; site security features; and landscape restoration. In addition, trailhead improvements on SFPUC lands will be analyzed with the goals to support trail users, enhance educational opportunities, and ensure watershed protection.

Program: Watershed & Lands Management	Project Status: Design	Environmental Status: Active (EIR)		
Project Cost:		Project Schedule:		
Approved	█ \$19.34 M	Approved Oct-12	█	Jan-22
Forecast*	▨ \$21.81 M	Forecast* Oct-12	▨	Sep-23
Actual	▬ \$4.22 M	Project Percent Complete: 13.6%		
█ Approved; ▬ Actual Cost; * Forecast Status: █ Meet Requirements ▨ Need Attention ▨ Exceed Limits				
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/15/21	07/20/21	12/20/21	03/15/23

Progress and Status:

During the quarter, on November 9, the Environmental Consultant submitted to the San Francisco Planning Department for review the first administrative draft of the Response to Public Comments on the Draft EIR. Revisions to the geotechnical report were submitted to Caltrans for an encroachment permit. Project design was completed to the extent possible, pending any revisions to the project design in response to public comments on the Draft EIR. Next quarter, the final Response to Public Comments is anticipated to be under preparation, and the project plans and specifications will be prepared for bid advertisement.

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost is due to the complexity of environmental issues associated with the project, the increased duration of the overall project and related escalation of construction costs. The overall schedule variance results from the large volume of public comments on the DEIR and the extended Planning Department review periods, which may further delay certification of the EIR beyond the previously forecast date. In addition, the schedule variance results from an extension to the construction duration from 12-months to 16-months based upon feedback from the construction management team related to potential delays due to weather-related events (e.g., red flag








Section of Proposed Trail Alignment

days and winter rains).

10033555 - Rollins Road Building Renovations (CUW27703)

Project Description: The SFPUC purchased a property on Rollins Road in September 2017, securing an additional 10,000 square feet of office space for the SFPUC Water Enterprise (WE). The project is to perform tenant improvements, facilitating the consolidation of WE work groups and the elimination of trailers at the SFPUC WE Administration Building. Renovation of the facility is required to create useable office space, a limnology laboratory, conference rooms, additional showers, and a workshop and library for Natural Resources Division (NRD). In addition, the project will address deferred building maintenance, replace the roof, upgrade security, HVAC, phone, and electrical systems, and build storage space.

Program: Buildings and Grounds	Project Status: Design	Environmental Status: Completed (CatEx)
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Project Cost:	Project Schedule:
Approved  \$17.88 M	Approved Mar-18  Jan-22
Forecast*  \$5.19 M	Forecast* Mar-18  Jun-22
Actual  \$1.85 M	Project Percent Complete: 9.5%

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

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/30/20✓	09/18/20✓	12/08/20✓	12/30/21

Progress and Status:

During this quarter, EMB completed the 100% design of the fencing work. In addition, the security and electrical design reached 95% design completion. NTP was issued on December 8, 2020. Mobilization is expected shortly after the start of the new year. Next quarter, a supplemental task order will be issued for the exterior security, lighting and related electrical scope of 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. This will be the last quarterly update for the Rollins Road Building Renovation Project.

Issues and Challenges:

The variance between the Approved and Forecast completion dates is due to project scope reduction and the additional time required to re-design the security, electrical and civil scope. The variance between the Approved Budget and Forecast Cost is due to deleted scope resulting from the decision to move staff to the new Millbrae Yard Lab and Shops rather than long-term occupancy at Rollins Road.













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

I. Regional WECIP Quarterly Report

CUW27701 - Sunol Long Term Improvements

Project Description: The project includes general redevelopment of the existing Sunol Yard and construction of a Watershed Center near the Sunol Water Temple. Replacement structures will be constructed for existing maintenance shops and equipment storage. New structures to be built include a fueling center, a new administration building, four new pre-fabricated shop buildings, approximately 40,000 square feet of covered storage for vehicles and materials, and a re-surfaced area for vehicle traffic. To create space and lower maintenance costs, six existing dilapidated structures will be demolished. Near the Sunol Water Temple, a 13,000-square foot Watershed Center will be constructed. Additionally, work will be completed on the main gate and road to the Sunol Water Temple. This project is comprised of the following related projects: CUW27701, Sunol Long Term Improvements, and CUW2630601, Sunol Master Plan Support.

Program: Buildings and Grounds	Project Status: Construction	Environmental Status: Completed (MND)		
Project Cost:		Project Schedule:		
Approved	 \$91.68 M	Approved Jan-09		Sep-21
Forecast*	 \$106.18 M	Forecast* Jan-09		Sep-22
Actual	 \$68.40 M	Project Percent Complete: 75.1%		
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits				
Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	12/02/15✓	(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 closeout documents were completed in the reporting quarter. The SFPUC approved the contract closeout.

Watershed Center (Contract B): The installation of architectural concrete walls started in the reporting quarter. Site utility trenching work continued. Additional Native American burials and features were discovered this quarter during the excavation and trenching work and were removed and handled appropriately. The public art piece design and revised exhibit design work continued.

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost is for the Sunol Yard construction (Contract A) and is due to unforeseen archaeological findings, changes to excavation methods due to those findings, unsuitable soil conditions, additional landscaping work, contractor extended overhead, and additional construction management and support services costs resulting from delays.

The variance between the Approved and Forecast completion dates is due to several factors that delayed the issuance of contract NTP: the Watershed Center (Contract B) was redesigned to incorporate approved













Architectural Concrete Walls at Building Entrance

value engineering changes; the RFQ required additional time to complete; and bids received were higher than the Engineer's Estimate, necessitating a rebid of construction. In addition, the construction duration was changed to account for revised excavation methods related to the high potential for additional archaeological discoveries in the area and work stoppage due to COVID-19 shelter-in-place orders.

CUW2770304 - Millbrae Yard Laboratory and Shop Improvements

Project Description: Additional laboratory space is needed to meet current water regulations and to provide WSTD operations improvements. There are four major components to this project: (1) the construction of a new 13,500 square-foot shop building for WSTD; (2) the construction of a new 2,000 square-foot WQD Lab addition; (3) conversion of the existing WSTD Operations Supervisor wing of the existing Administration Building into a WQD laboratory; and (4) Tenant Improvements to the existing Administration Building laboratory. The scope includes remodeling a portion of the Administration Building with WQ sample receiving room upgrades, reconfiguring a conference and flavor profile room, lab additions with extraction lab, a calibration room, relocating and reconfiguring WSTD space, adding two offices for WSTD, server room renovation, a new south shop with WSTD office space, security upgrades and site improvements.

Program: Buildings and Grounds	Project Status: Planning	Environmental Status: Not Initiated (MND)
Project Cost: Approved  \$24.38 M Forecast*  \$169.56 M Actual  \$1.23 M		Project Schedule: Approved Nov-15  May-23 Forecast* Nov-15  Mar-28 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	07/27/23	11/06/24	04/15/25	N/A

Progress and Status:

The project is currently in the Planning Phase. The draft programming document has been issued for the project team’s internal review. The programming document will provide details of the new additional scope, which is the construction of an additional floor on top of the proposed two-story laboratory building. Workshops with the Water Enterprise divisions were held to discuss the divisions’ goals and needs for the proposed facilities. The project team continued to prepare the staff, vehicle, equipment, shop and warehouse program, and materials inventory. The business reviewers continued to review and provide comments to the draft Request for Proposal (RFP) for engineering services for this project.

Issues and Challenges:

The variances between the Approved and Forecasted cost and schedule are the result of the revision to the scope of work. The baseline scope of work associated with the approved cost and schedule consisted of a limited retrofit to the existing administration building. The revised scope consists of a three-phased approach to the work. Phase 1 includes a new laboratory and new south shop building intended both to alleviate problems with Water Enterprise undersized and outdated workspaces and to relocate mission-critical



Existing Administration Building

functions to code-compliant structures. The new laboratory will provide additional space to accommodate the relocation of all personnel from the Rollins Road Facility. 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 personnel. Phase 3 includes new covered storage for materials and equipment. Only the scope of work for Phase 1 is being implemented under this project.

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	04/29/21	\$ 32,821,922	\$ 32,968,156	-	(\$146,234)	96.1%
Buildings and Grounds								
CUW27701 - WD-2794B Sunol Long Term Improvements - Watershed Center	03/09/20	01/28/22	03/16/22	\$ 27,778,972	\$ 27,570,972	(47)	\$ 208,000	3.7%

Program Total for On-Going Construction	Approved	Current	Variance	
	Contract Cost	Forecasted Cost	Cost	Percent
	\$ 60,600,894	\$ 60,539,128	+\$61,766	+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

I. Regional WECIP Quarterly Report

9. COMPLETED PROJECTS






Project Title	Approved Project Completion	Actual Project Completion	Approved Project Budget	Project Expenditures To Date
Water Treatment				
10032938 - SVWTP Powdered Activated Carbon Feed Units (CUW27202)	12/18/19	12/18/19	\$ 8,600,000	\$ 7,410,861
Water Transmission				
CUW2730503 - Peninsula Pipelines Seismic Upgrade Phase III	02/27/19	10/28/20	\$ 11,653,000	\$ 11,194,160
TOTAL			\$ 20,253,000	\$ 18,605,021

10. PROJECTS WITHIN BUDGET AND SCHEDULE

CUW2730504 - SAPL2 Lockbar 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 54" diameter 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.

Program: Water Transmission	Project Status: Construction	Environmental Status: Completed (EIR Addendum)
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Project Cost:		Project Schedule:	
Approved 	\$45.64 M	Approved Mar-16 	Dec-21
Forecast* 	\$45.64 M	Forecast* Mar-16 	Dec-21
Actual 	\$40.18 M	Project Percent Complete: 85.1%	

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

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/17/17✓	10/09/18✓	05/01/19✓	04/29/21

Progress and Status:

The contractor completed all pipeline replacement work. The contractor is continuing with site restoration work and has started to demobilize.

Issues and Challenges:

None at this time.



Site restoration work at Segment 1

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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 26 suburban agencies in Alameda, Santa Clara, and San Mateo counties comprise the other two-thirds.

The Local Water System consists of water storage, treatment, and pumping facilities; water transmission and distribution infrastructure; and various lands in the City and County of San Francisco as well as several other small retail systems in Alameda, Santa Clara and San Mateo Counties where the SFPUC directly retails 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 used for fire suppression in San Francisco and developer-funded assets that have been conveyed to the SFPUC. Several large assets located in San Francisco are not included in the Local Water System because these assets are considered Regional Water System assets. The Local Water System Capital Improvement Program (Local Water CIP) is a 10-year plan of projects and activities to physically improve the system and to maintain levels of service. This CIP is updated each year and integrated with the SFPUC's Financial Plan and rate-setting.

The local water supply projects that were originally managed within the WSIP are included here to produce a comprehensive Local Water CIP report (the schedule for these projects extends beyond WSIP).

The capital planning process is used to inform the CIP with updates to master plans, asset condition assessment, and review of levels of service. There are seven programs in the 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 programs are:

- Local Water Conveyance/Distribution System Program
- Local Water Supply Program
- Local Tanks/Reservoir Improvements Program
- Pump Stations Program
- Buildings and Grounds Program
- Automated Water Meter Program
- Emergency Firefighting Water System Program

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 implementation 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, schedule, or necessity during annual review and approval of the 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

II. Local WECIP Quarterly Report

these budget modifications occur, the modified budget becomes the **Current Approved Budget**. Outside of formal budget adjustments, the project manager regularly estimates and records the anticipated final project cost as the **Forecasted Cost**.

Modifications to scope or schedule must be approved by the Assistant General Manager for Water Enterprise with input from the project's **Technical Oversight Committee** which generally consists of managers within the Water Enterprise and Infrastructure Division. Final **Project Closeout** must be approved by the Assistant General Manager for Water Enterprise.

2. CAPITAL IMPROVEMENT PROGRAM STATUS

This Quarterly Report presents the progress made on Local Water projects between October 1, 2020 and December 31, 2020. This document serves as the second (2nd) Quarterly Report in Fiscal Year 2020-2021 (FY21) published for the Water Enterprise Capital Improvement Program.

On December 11, 2018, SFPUC approved the Water Enterprise 2018 Proposed Baseline budget of \$631.0 million for Regional projects and \$1,602.1 million for Local projects (2018 Approved Baseline). The 2018 Approved Baseline is a subset of the Regional and Local Water Enterprise 10-year CIP for FY2019-2028 and includes individual projects over \$5 million that were then currently active or intended to be active by June 30, 2020 at the time proposed to the Commission on December 11, 2018. The status of projects included in the 2018 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 December 31, 2020. The number of projects currently active in each phase is shown in parentheses.

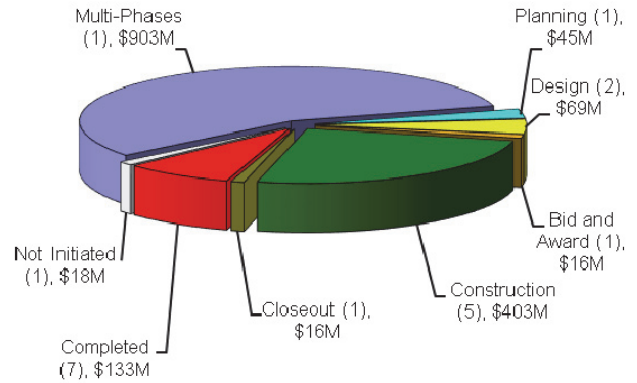


Figure 2.1 Total Current Approved Budget for Local Projects Active in Each Phase

Figure 2.2 shows the number of Local projects in the following stages as of December 31, 2020: Pre-construction, Construction, and Post-construction.

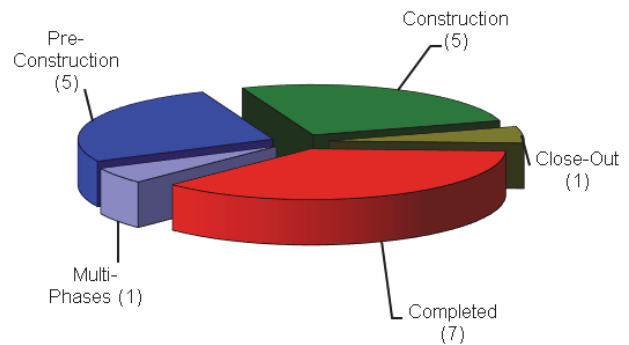


Figure 2.2 Number of Local Projects in Pre-construction, Construction, and Post-construction

Figure 2.3 summarizes the environmental review status of the Local projects as of December 31, 2020.

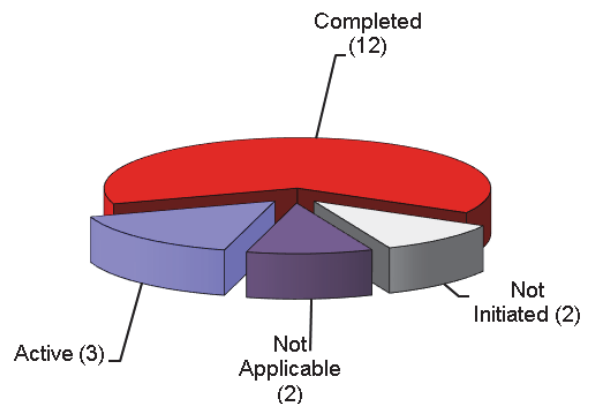
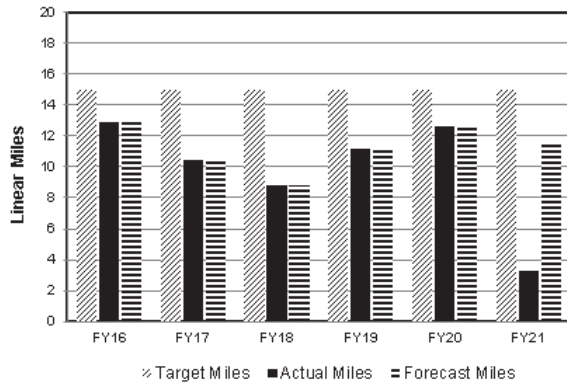


Figure 2.3 Local Program Environmental Status

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.



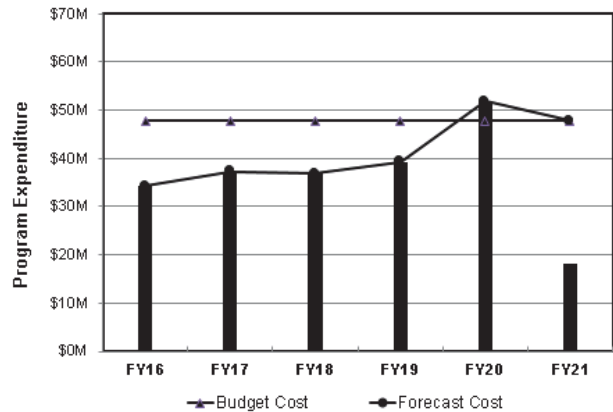
	FY16	FY17	FY18	FY19	FY20	FY21
Target Miles	15.0	15.0	15.0	15.0	15.0	15.0
Actual Miles	12.9	10.4	8.8	11.2	12.6	3.3
Forecast Miles						11.5

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

In FY12, the Commission approved annual increases to the program budget for three years to increase the pipeline replacement rate from 6 miles per year to 15 miles per year by FY16. The program expansion has required additional staff resources and inter-agency coordination to implement. While the City Distribution Division (CDD) has increased staffing in various trades to accommodate the expansion, additional resources will be needed to sustainably construct 15 miles of pipeline per year.

Water main replacement projects with construction underway in the 2nd quarter of FY21 included the City streets of Geary between 36th and 48th Avenues, Geary between Presidio and Van Ness, Geary between Van Ness and Kearny, L-Taraval between Sunset and SF Zoo, 22nd Street, Green Street, Pierce Street, Castro

Street, 21 Street, 17th Street, Baker Street, and 19th Avenue. Pipelines were replaced and water work was completed during the 2nd quarter of FY21 on Geary between Presidio and Van Ness. Projects achieving substantial completion, including all paving restoration and curb ramp improvements, during this quarter include Green Street. Projects anticipated to start replacement of water pipelines in the 3rd quarter of FY21 include Casitas Avenue. Construction had been anticipated to start in the second quarter of FY21 on Casitas Avenue but was delayed due to the additional time needed for contract certification and construction funding as well as to COVID-19 related impacts.



	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	\$18.1M
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:

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- 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 cost summary of the Local Water CIP. It shows the Expenditures to Date; 2018 Approved Budget, Current Approved Budget and Current Forecasted Cost; and the Cost Variance between the Current Approved Budget and Forecasted Cost.

The total Current Approved Budget is \$1,602.1 million, and the Current Forecasted Cost is \$1,420.4 million (\$181.7 million under the Current Approved Budget).

Table 3.1 Local Water CIP Cost Summary

Cost Categories	Expenditures To Date (\$ Million) (A)	2018 Approved Budget (\$ Million) (C)	Current Approved Budget (\$ Million) (D)	Current Forecasted Costs (\$ Million) (E)	Cost Variance (\$ Million) (F = D - E)
Local Water CIP	\$769.22	\$1,602.12	\$1,602.12	\$1,420.44	\$181.68
Local Water Conveyance / Distribution System	\$349.23	\$958.84	\$958.84	\$817.12	\$141.72
Construction Costs ⁽¹⁾	\$164.77	\$633.78	\$633.78	\$494.77	\$139.01
Delivery Costs ⁽²⁾	\$184.47	\$325.05	\$325.05	\$322.35	\$2.70
Other Costs ⁽³⁾	-	-	-	-	-
Local Water Supply	\$207.68	\$315.54	\$315.54	\$312.54	\$3.00
Construction Costs ⁽¹⁾	\$132.82	\$214.38	\$214.16	\$207.12	\$7.04
Delivery Costs ⁽²⁾	\$73.47	\$97.93	\$98.25	\$100.84	(\$2.59)
Other Costs ⁽³⁾	\$1.39	\$3.22	\$3.12	\$4.58	(\$1.46)
Local Tanks/Reservoir Improvements	\$0.80	\$16.32	\$16.32	\$19.28	(\$2.96)
Construction Costs ⁽¹⁾	-	\$14.28	\$12.38	\$14.80	(\$2.42)
Delivery Costs ⁽²⁾	\$0.80	\$2.03	\$3.94	\$4.49	(\$0.55)
Other Costs ⁽³⁾	-	-	-	-	-
Pump Stations	-	\$18.00	\$18.00	\$18.00	-
Construction Costs ⁽¹⁾	-	\$12.10	\$12.10	\$12.10	-
Delivery Costs ⁽²⁾	-	\$5.90	\$5.90	\$5.90	-
Other Costs ⁽³⁾	-	-	-	-	-
Buildings and Grounds	\$21.73	\$66.44	\$66.44	\$25.42	\$41.02
Construction Costs ⁽¹⁾	\$11.79	\$16.94	\$16.94	\$13.00	\$3.94
Delivery Costs ⁽²⁾	\$9.94	\$49.50	\$49.50	\$12.42	\$37.08
Other Costs ⁽³⁾	-	-	-	-	-
Automated Water Meter Program	\$69.41	\$70.24	\$70.24	\$71.34	(\$1.10)
Construction Costs ⁽¹⁾	\$59.81	\$61.72	\$61.72	\$61.74	(\$0.02)
Delivery Costs ⁽²⁾	\$9.60	\$8.51	\$8.51	\$9.60	(\$1.09)
Other Costs ⁽³⁾	-	-	-	-	-
Auxiliary Water Supply System	\$120.38	\$156.75	\$156.75	\$156.75	-
Construction Costs ⁽¹⁾	\$70.92	\$90.10	\$98.58	\$104.12	(\$5.54)

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Cost Categories	Expenditures To Date (\$ Million) (A)	2018 Approved Budget (\$ Million) (C)	Current Approved Budget (\$ Million) (D)	Current Forecasted Costs (\$ Million) (E)	Cost Variance (\$ Million) (F = D - E)
Delivery Costs ⁽²⁾	\$49.46	\$66.65	\$58.17	\$52.63	\$5.54
Other Costs ⁽³⁾	\$0.00	-	\$0.00	\$0.00	-
Regional Water CIP	\$143.29	\$630.99	\$630.99	\$952.15	(\$321.16)
Construction Costs ⁽¹⁾	\$88.41	\$458.97	\$458.97	\$556.83	(\$97.86)
Delivery Costs ⁽²⁾	\$54.64	\$170.81	\$171.63	\$383.73	(\$212.10)
Other Costs ⁽³⁾	\$0.24	\$1.22	\$0.40	\$11.60	(\$11.20)
Overall Water CIP	\$912.51	\$2,233.11	\$2,233.11	\$2,372.59	(\$139.48)

Notes:

- Construction Costs** include the Construction Base Bid and owner-provided equipment/material for all projects. Those costs include any construction contingency.
- Delivery Costs** include project management, planning, environmental (CEQA, permitting, construction compliance), design, construction management, and engineering support during construction.
- Other Costs** include environmental mitigation, art enrichment, security improvements, and real estate expenses.

4. CAPITAL IMPROVEMENT PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the 2018 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 2018 Approved and Forecasted Schedule completion for the overall Water CIP (including Regional and Local Programs) are in March 2029 and June 2035, respectively (75 months behind schedule). The 2018 Approved and Forecasted Schedule completion for the Local CIP are both in June 2028.

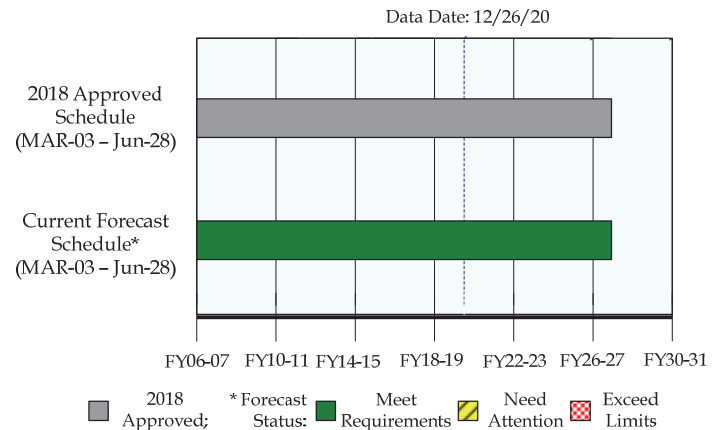


Figure 4.1 Program Schedule Summary

Table 4.1 2018 Approved vs. Current Forecast Schedule Dates

Sub-Program	2018 Approved Project Start	Actual Start	2018 Approved Completion	Current Forecast Completion	Schedule Variance (Months)
Local Projects	03/03/03	03/03/03✓	06/30/28	06/30/28	-
Regional Projects	01/01/09	01/01/09✓	03/20/29	06/29/35	75.4 (Late)
Overall Water Enterprise CIP	03/03/03	03/03/03✓	03/20/29	06/29/35	75.4 (Late)

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 12/26/20

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 - Westside Potable Auxiliary Water Supply System	PL	\$ 12,000	\$ 44,782	\$ 55,000	\$ 275	(\$10,218)	●	06/30/28	06/30/28	-	★	See Section 6
CUW28000 - Local Water Conveyance/Distribution System	MP	\$ 406,545	\$ 902,664	\$ 750,581	\$ 338,228	\$ 152,083	★	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	\$ 4,350	-	★	10/31/23	01/30/26	27.0 mo. Late	●	See Section 6
CUW30102 - San Francisco Groundwater Supply	CN	\$ 68,701	\$ 66,552	\$ 66,552	\$ 61,785	-	★	03/30/21	06/30/22	15.0 mo. Late	●	See Section 6
CUW30201 - San Francisco Westside Recycled Water	CN	\$ 133,048	\$ 216,317	\$ 213,316	\$ 141,544	\$ 3,001	★	03/28/22	07/27/23	16.0 mo. Late	●	See Section 6
Local Tanks/Reservoir Improvements												
CUW28301 - College Hill Reservoir Outlet	BA	\$ 2,183	\$ 16,317	\$ 19,283	\$ 796	(\$2,966)	●	09/28/21	12/27/23	27.0 mo. Late	●	See Section 6
Automated Water Meter												
CUW68601 - Automated Water Meter Program	CN	\$ 66,432	\$ 70,238	\$ 71,336	\$ 69,410	(\$1,098)	⚠	03/17/21	03/17/21	-	★	See Section 6

* 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.

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Q2-FY2020-2021 (10/01/20 - 12/31/20)

All costs are shown in \$1,000s as of 12/26/20

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
Auxiliary Water Supply System												
Physical Plant												
CUWAWS WD-2687 - Pump Station #2	CN	\$ 28,765	\$ 28,716	\$ 28,716	\$ 17,225	-	★	06/30/22	06/30/22	-	★	See Section 10
Pipelines												
CUWAW2AW29-44 - ESER 2014 Pipelines	DS	\$ 35,071	\$ 34,643	\$ 34,643	\$ 22,075	-	★	12/30/22	12/30/22	-	★	See Section 10
CUWAWSAW11-19 - ESER 2010 Pipes/Tunnels Construction	CN	\$ 7,505	\$ 18,870	\$ 18,870	\$ 7,215	-	★	03/31/21	03/31/21	-	★	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

10033816 - Westside Potable Auxiliary Water Supply System

Project Description: This project proposes to design and construct earthquake-resistant water pipeline in western San Francisco, particularly the Sunset and Richmond areas. This pipeline 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 Auxiliary Water Supply System, which is located in other areas of San Francisco. 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.

Program: Local Water Conveyance/Distribution System	Project Status: Planning	Environmental Status: Not Initiated
Project Cost: Approved  \$44.78 M Forecast*  \$55.00 M Actual \$0.27 M		Project Schedule: Approved Jan-19  Jun-28 Forecast* Aug-19  Jun-28 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	TBD	TBD	TBD	TBD

Progress and Status:

This project will fund portions of the Potable Emergency Firefighting Water System (PEFWS) construction for Contract WW-711 Wawona Area Stormwater Improvement and Vicente Street Water Main Replacement, and Public Works 19th Ave Contract 2652J. The Public Works Contract 2652J is in construction phase, and WW-711 is in bid and award phase, with bids due in January 2021. Remaining funding will be used to construct additional PEFWS pipelines in the next several years. These additional pipelines are in planning phase.











Issues and Challenges:

The variance between the Approved Budget and Forecast Cost is due to an increased commitment of funding from Water CIP that has been approved in the 10-Year CIP.

II. Local WECIP Quarterly Report

CUW30101 - Lake Merced Water Level Restoration

Project Description: The project consists of two 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 the level of Lake Merced. (2) In addition, the SFPUC is implementing a Demonstration Aeration Mixing Project to evaluate whether additional lake mixing might result in improved dissolved oxygen concentrations in the Lake.

Program: Local Water Supply	Project Status: Design	Environmental Status: Active (Various)
Project Cost: Approved  \$32.67 M Forecast*  \$32.67 M Actual  \$4.35 M		Project Schedule: Approved Jun-03  Oct-23 Forecast* Jun-03  Jan-26 Project Percent Complete: 13.9%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	(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 completed preparation of the 100% design documents during the quarter and shared this with SFPUC for final review. SFPUC completed review of the 100% design documents and Daly City reconciled the remaining unresolved comments. Daly City and SFPUC are currently working on evaluating temporary and permanent real estate uses required for project construction. Daly City received notification in November 2020 that the project had received preliminary inclusion in the State of CA SRF list of fundable projects for FY 19/20. This approval will allow Daly City to qualify for low interest loans from the State.

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



South Lake Merced







evaluations or decisions have been made to determine whether to proceed with the Aeration Mixing Phase II.

Issues and Challenges:

The variance between the approved schedule and forecasted completion date is due to the delays in Daly City's ability to secure funding and due to COVID-19 impacts on resource availability. Daly City now anticipates Bid and Award in Fall 2021 and construction commencing in spring 2022, assuming project funding can be secured.

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. The first phase consists of building four new groundwater well stations in the western part of San Francisco. All four stations will include a building to house the well pump and electrical equipment, with two stations having an additional room to provide chemical disinfection. Buried piping will be installed to connect three of these well stations to the Sunset Reservoir. Groundwater from the fourth well station will be piped to the nearby Lake Merced Pump Station, where it will be distributed to both the Sunset Reservoir and Sutro Reservoir. The second phase consists of converting two existing irrigation well facilities in Golden Gate Park to groundwater supply wells, and would be implemented after completion of the CUW30201, San Francisco Westside Recycled Water Project. In the second phase, buried piping will be installed to also connect these two wells to the Sunset Reservoir. Improvements to the facilities at the existing San Francisco Zoo Well No. 5 have been completed as part of the project, allowing this well to serve as an emergency potable water source.

Program: Local Water Supply	Project Status: Construction	Environmental Status: Completed (EIR)
Project Cost: Approved  \$66.55 M Forecast*  \$66.55 M Actual  \$61.78 M		Project Schedule: Approved Jun-03  Mar-21 Forecast* Jun-03  Jun-22 Project Percent Complete: 95.7%
		

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), the Contractor continued working on punchlist items during the quarter, including instrumentation and controls, other electrical items, and completion of the as-builts.

For Phase 2 (Contract C), the contractor continued working on the installation of cameras, fencing repairs, security programming, and electrical and plumbing. The contractor also started working on the change orders related to the Phase 1 contract, including those related to repairs to damaged cameras and to the booster pump. The contractor, continued working on punchlist items and closeout documents, including preparation of as-builts and the submittal of operational and maintenance manuals.

Issues and Challenges:











Phase 1 project final completion has been delayed due to additional time needed to complete punchlist items, primarily the instrumentation and controls and the as-built drawings. Phase 2 project final completion has

been delayed due to additional time needed to complete remaining scope and additional change order work; punchlist items; and closeout documents. An additional 15 months construction duration is being forecasted to allow time to complete all remaining work and start-up testing and provide for construction delays related to COVID-19.

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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 2 mgd of recycled water to Golden Gate Park (GGP), 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 GGP 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 GGP, and also 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:		Project Schedule:
Approved  \$216.32 M	Approved Mar-03  Mar-22	
Forecast*  \$213.32 M	Forecast* Mar-03  Jul-23	
Actual  \$141.54 M	Project Percent Complete: 54.3%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	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	10/01/21 06/10/21 08/19/18✓ 03/25/22

+ 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) continued during this quarter. Rough-in of mechanical, electrical, and plumbing also continued in the main treatment facility (Building 580). Work on the chemical storage facility (Building 510) continued, with the installation of chemical tanks, chemical tank piping, and fiberglass grating. Work on regulatory permitting continued, with follow-up discussions with the State, and revisions to permitting documents underway. Distribution Pump Station and Reservoir (Contract B): Forming and pouring of reservoir roof slab and beams was completed, and work on the pump station structure began.

Pipeline (Contract C) is complete.

Irrigation System Retrofit (Contract D): Contract WD-2852R was awarded to the responsible bidder with the lowest responsive bid last quarter. Notice to proceed is anticipated in mid-January. Following the demonstration to State regulatory personnel of the cross-connection testing protocol by staff last quarter







and receipt back of written comments, the test protocol is being revised for resubmittal in January 2021.

Issues and Challenges:

The project is trending behind schedule due to COVID-19 related delays. Equipment manufacturing, testing, and delivery on both WD-2776 (Contract A) and WD-2797 (Contract B) all have potential to impact the schedule further. Delays currently being experienced in the bidding and award of contract WD-2852R (Contract C) may also lead to an overall delay in project completion.

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. This project is comprised of the following related projects: CUW28301, College Hill Reservoir Outlet and CUW280PR09, College Hill Pipeline Improvements.

Program: Local Tanks/Reservoir Improvements	Project Status: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost: Approved  \$16.32 M Forecast*  \$19.28 M Actual  \$0.80 M		Project Schedule: Approved Jan-13  Sep-21 Forecast* Jan-13  Dec-23 Project Percent Complete: 15.8%
		

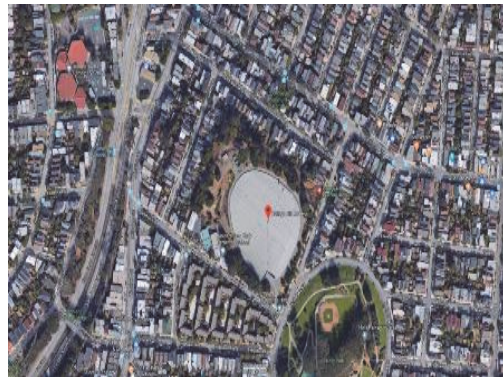
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/20/19✓	02/17/21	06/22/21	06/22/23

Progress and Status:

Final design was completed on November 6, 2020. Project is anticipated to advertise in February 2021. The 24-month construction duration is forecast to start in June 2021 under contract WD-2717.

Issues and Challenges:

The variance between the Approved and Forecast Completion Dates and between the Approved Budget and Forecast Cost are the result of additional time and cost required to accomplish the following: update the contract documents with current water quality equipment standards; incorporate State funding and environmental compliance requirements; revise transmission piping alignment; restore existing retaining walls disturbed by the pipeline replacement; conduct additional surveying associated with PG&E revised work scope; implement PG&E's design of power distribution for the new facilities, and add work scope to replace the reservoir roof as it is over 20 years old and has reached the end of its useful life. Additional time was also required between final design and advertisement due to availability of resources to finalize the Contract Documents for advertisement.













Aerial view of College Hill Reservoir

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CUW68601 - Automated Water Meter Program

Project Description: The Automated Water Meter Program (AWMP) will install meters with low-frequency radio signals to collect hourly water consumption data and transmit them four times a day from residential and commercial customers to our billing system and to share with customers on our My Account Website without the need for physical field visits and manual meter reading.

Program: Automated Water Meter Program	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost: Approved  \$70.24 M Forecast*  \$71.34 M Actual  \$69.41 M		Project Schedule: Approved Mar-09  Mar-21 Forecast* Mar-09  Mar-21 Project Percent Complete: 99.8%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	07/27/09✓	N/A	(A) 01/04/10✓ (B) 03/15/16✓	04/29/15✓ 06/20/17✓

+ Project includes multiple construction contracts: (A) Phase 1 & 2 Implementation of the Advanced Meter Infrastructure; and (B) Phase 3 Supply and Installation of Automatic Water Meter

Progress and Status:

The remaining scope under Phase 3 consists of installing roughly 7,000 water meter units which were either returned by the previous contractor for handling by CDD staff or only partially installed due to the presence of a metal lid on each of the meter vaults. The remaining scope is being performed primarily by CDD Construction and Maintenance, and Meter and Machine Shop crews, with a small portion handled by Customer Service Bureau Field Inspectors and is anticipated to be complete by March 2021. This anticipated completion date is highly dependent on the availability of CDD resources.

Issues and Challenges:

The variance between the Approved Budget and Forecast Cost is due to recently updated actual installation costs for these complex installations.



AWMP Data Collection Unit on the roof of the CDD Operations Building

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	07/09/22	\$ 7,023,834	\$ 7,078,834	-	(\$55,000)	25.9%
10033457 - WD-2692 GEARY/36TH AVE/48TH AVE POINT LOBOS	08/27/18	11/08/20	01/25/21	\$ 6,933,463	\$ 7,074,914	(78)	(\$141,451)	79.0%
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	61.8%
CUW280PR38 - WD-2719 22ND STREET/VALENCIA ST/POTRERO	06/17/19	02/20/21	02/20/21	\$ 3,981,007	\$ 4,156,007	-	(\$175,000)	73.9%
CUW280PR42 - WD-2616 BAKER STREET /SUTTER STREET	10/19/20	03/27/22	03/27/22	\$ 3,701,180	\$ 3,701,180	-	-	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)	2.3%
CUW280PR67 - WD-2614 GREEN/GOUGH/BRODERICK	08/26/19	12/31/20	12/31/20	\$ 2,763,377	\$ 2,919,358	-	(\$155,981)	62.4%
CUW280PR70 - WD-2766 TARAVAL STREET PHASE 1	07/01/19	09/06/21	05/16/21	\$ 4,588,340	\$ 4,944,862	113	(\$356,522)	30.4%
CUW280PR73 - WD-2775 19TH AVE/VICENTE/LINCOLN	10/19/20	01/09/23	01/09/23	\$ 6,457,251	\$ 6,457,251	-	-	2.5%
CUW280PR74 - WD-2693 21ST STREET/FORD/HANCOCK	05/26/20	12/31/21	09/29/21	\$ 3,861,835	\$ 3,970,422	93	(\$108,587)	30.0%

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 Conveyance/Distribution System								
CUW280PR88 - WD-2793 GEARY WEST/VAN NESS to STANYAN ST	10/27/18	01/01/21	02/09/21	\$ 7,457,894	\$ 7,135,759	(39)	\$ 322,135	88.9%
Local Water Supply								
CUW30102 - WD-2809 SF Groundwater Supply Phase 2	08/07/17	08/26/19	12/31/21	\$ 10,732,565	\$ 10,732,565	(858)	-	96.7%
CUW30102 - WD-2621R SF Groundwater Supply Well Stations Phase 1	03/16/15	04/03/17	03/31/21	\$ 16,480,953	\$ 16,480,953	(1,458)	-	98.4%
CUW30201 - WD-2797 Westside Recycled Water Pump Station and Reservoir	07/01/19	05/20/21	06/10/21	\$ 16,670,562	\$ 16,670,562	(21)	-	47.3%
CUW30201 - WD-2776 Westside Recycled Water Treatment Facility	10/16/17	03/18/21	10/01/21	\$ 90,005,093	\$ 90,005,093	(197)	-	69.0%
Auxiliary Water Supply System								
CUWAWSAW04 - WD-2687R Pump Station # 2	12/12/17	12/30/21	12/30/21	\$ 19,607,875	\$ 19,607,875	-	-	57.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 215,187,354	\$ 216,058,429	(\$871,075)	(0.4%)

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
Auxiliary Water Supply System				
CUWAWSAW05 - Pump Station #1	04/30/19	04/30/19	\$ 9,827,981	\$ 9,549,140
TOTAL			\$ 9,827,981	\$ 9,549,140

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9. COMPLETED PROJECTS

Project Title	Approved Project Completion	Actual Project Completion	Approved Project Budget	Project Expenditures To Date
Local Water Conveyance/Distribution System				
CUW26308 - Town of Sunol Fire Suppression System	06/28/19	10/30/20	\$ 11,391,719	\$ 10,728,099
Buildings and Grounds				
CUW28101 - Pacific Rod and Gun Club Remediation	12/31/19	11/02/20	\$ 17,406,989	\$ 13,727,114
CUW68800 - Buildings and Grounds Improvements	06/30/28	12/31/20	\$ 49,035,000	\$ 8,000,000
Auxiliary Water Supply System				
CUWAW2AW29-44 - ESER 2014 Pipelines				
CUWAW2AW31 - Candlestick Point Pipeline	12/29/17	12/29/17	\$ 999,831	\$ 999,831
CUWAW2AW33 - Irving St Pipeline	07/15/19	07/15/19	\$ 8,899,129	\$ 7,564,362
CUWAW2AW34 - Ashbury Bypass Pipeline	06/30/20	06/30/20	\$ 3,265,018	\$ 3,234,673
CUWAW2AW35 - Columbus Avenue Pipeline	12/29/17	12/29/17	\$ 1,028,088	\$ 1,013,566
CUWAW2AW39 - University Mound East Pipeline	03/31/20	03/31/20	\$ 1,697,840	\$ 1,698,190
CUWAW2AW42 - Ingleside Pipeline	07/24/20	07/24/20	\$ 888,993	\$ 398,778
CUWAW2AW43 - Mariposa Pipeline	06/30/20	06/30/20	\$ 3,049,328	\$ 2,800,390
CUWAW2AW44 - Sunset Pipeline	12/31/20	06/30/20	\$ 1,996,868	\$ 780,525
CUWAW2AW30 - ESER 2014 Assessment	01/31/17	01/31/17	\$ 1,186,194	\$ 1,185,452
CUWAWS WD-2685 - Reservoir and Tanks Improvements				
CUWAW2AW23 - Twin Peaks Reservoir - ESER 2014	05/31/17	05/31/17	\$ 643,519	\$ 643,519
CUWAWSAW01 - Jones Street Tank	05/31/17	05/31/17	\$ 6,408,365	\$ 6,408,365
CUWAWSAW02 - Ashbury Heights Tank	05/31/17	05/31/17	\$ 4,647,361	\$ 4,647,361
CUWAWSAW03 - Twin Peaks Reservoir	05/31/17	05/31/17	\$ 2,652,884	\$ 2,652,884
CUWAWSAW06-09 - Cisterns Construction				
CUWAWSAW06 - Cisterns Construction #1	07/19/13	07/19/13	\$ 508,057	\$ 508,057
CUWAWSAW07 - New Cisterns	06/29/18	06/29/18	\$ 34,540,819	\$ 34,540,819
CUWAWSAW08 - Cisterns Construction #3	07/05/13	07/05/13	\$ 50,718	\$ 50,718
CUWAWSAW09 - Cisterns Construction #4	07/19/13	07/19/13	\$ 124,191	\$ 124,191
CUWAWSAW10 - Pipes, Cisterns & Tunnels Study	06/30/14	06/30/14	\$ 2,739,289	\$ 2,739,289
CUWAWSAW11-19 - ESER 2010 Pipes/Tunnels Construction				
CUWAWSAW11 - Pipes/ Tunnels Construction #1	08/01/14	08/01/14	\$ 368,729	\$ 368,729
CUWAWSAW13 - Controls - Pipeline	08/23/18	08/23/18	\$ 771,888	\$ 771,888
CUWAWSAW15 - Jones Street Valves - Pipeline	05/31/17	05/31/17	\$ 641,402	\$ 641,402
CUWAWSAW16 - Manifolds - Pipeline	12/31/19	12/31/19	\$ 177,901	\$ 177,901

9. COMPLETED PROJECTS

Auxiliary Water Supply System				
CUWAWSAW17 - Pump Station #1 Tunnel	06/01/20	06/01/20	\$ 732,063	\$ 732,063
CUWAWSAW20 - AWSS Transition Projects	02/11/16	02/11/16	\$ 73,335	\$ 73,335
TOTAL			\$ 155,925,518	\$ 107,211,501











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10. PROJECTS WITHIN BUDGET AND SCHEDULE

CUW28000 - Local Water Conveyance/Distribution System

Project Description: This long-term renewal program consists of three major components:

1. Linear Assets Management Program: This program replaces and renews distribution system pipelines and customer service connections for the 1,230 miles of drinking water mains in San Francisco. Planning analysis has demonstrated a need to increase the annual replacement rate from the previous 6 miles per year to a target of 15 miles per year to minimize main breaks and meet customer service goals of uninterrupted service. The FY14 approved budget was for replacement or renewal of 9 miles of pipe; FY15 approved budget was to renew 12 miles pipelines, and FY16 and subsequent years are funded to renew 15 miles per year for the next 10 years. Improvements include replacement, rehabilitation, re-lining, and cathodic protection of all pipe size categories so as to extend or renew the pipeline's useful life. Coordination with construction projects from other City agencies, especially SFPUC Wastewater and SFPW paving, is emphasized to optimize efficiencies, reduce costs, and minimize customer disruptions.
2. Renew Services: This program replaces assets between the water main and the customer's service connection at the end of their useful life, including: replacement of 1-inch to 8-inch diameter service pipes made of galvanized steel, lead, or plastic with copper or ductile iron; replacement of broken meter boxes and outdated meters and associated piping; and subsequent restoration of associated sidewalk and roadway.
3. New Services: This program provides materials and labor for installing new domestic, fire, and irrigation services charged as a one-time flat rate to new customers and includes related sidewalk and roadway restoration. No increase over time is anticipated.

Program: Local Water Conveyance/Distribution System	Project Status: Multiple Phases	Environmental Status: Active (Various)
Project Cost:		Project Schedule:
Approved  \$902.66 M	Approved Jul-10  Jun-28	
Forecast*  \$750.58 M	Forecast* Jul-10  Jun-28	
Actual  \$338.23 M	Project Percent Complete: 36.8%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	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 Presidio and Van Ness, Geary between Van Ness and Kearny, L-Taraval between Sunset and SF Zoo, 22nd Street, Pierce Street, Castro Street, 21st Street, 17th Street, Baker Street, and 19th Avenue .

Issues and Challenges:

The variance between the approved budget and forecast cost is because of reducing the scope of the project to exclude the new services and the renew services since they will have a separate budget during FY20-21.

CUWAW2AW29-44 - ESER 2014 Pipelines

Project Description: These projects include construction of various pipelines using ESER 2014 bond funds.

Program: Auxiliary Water Supply System	Project Status: Design	Environmental Status: Active (StatEx)
Project Cost: Approved  \$34.64 M Forecast*  \$34.64 M Actual  \$22.07 M		Project Schedule: Approved Feb-15  Dec-22 Forecast* Feb-15  Dec-22 Project Percent Complete: 76.4%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/11/16✓ - 03/31/20✓	03/20/20✓ - 03/31/20✓	11/21/16 ✓ - 02/01/21	03/31/17 ✓ - 09/30/21

Progress and Status:

CUWAW2AW29 Clarendon Supply (ESER 2014 Partial Funding):

- Contract was awarded. Construction Notice-to-Proceed (NTP) is expected to be issued in February 2021.

CUWAW2AW32 19th Avenue Pipeline:

- This project is part of Public Works' 19th Avenue Roadway Improvements, Contract 2652J. Contract was awarded in May 2020. Construction NTP was issued during the quarter, in October 2020, Construction started in late November 2020.

10034292 Terry Francois Blvd (TFB) Mission South Pipeline:

- Construction completion expected in March 2021 for the new 20-inch diameter Emergency Firefighting Water System (EFWS) pipeline on TFB from Mission Rock St to Warriors Way.

10032909 Street Valve Motors:

- Construction completion is scheduled for December 2021.

10035104 PEFWS PS - Lake Merced:

- Planning in progress. AAR is expected to be completed in February 2021.

10035733 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.

10035734 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.

10035735 AWSS PS/Pipeline - Lake Merced:

- Project is in the planning phase.

10035860 Fillmore Haight:

- Construction was completed in the quarter, in December 2020.

10036324 EFWS Manifold Fort Mason:

- Planning in progress. The project includes rehabilitation of a fireboat manifold and installation of pipelines at Fort Mason and Pier 33.5.

Issues and Challenges:







None at this time.

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CUWAWS WD-2687 - Pump Station #2

Project Description: This project will provide seismic improvements to the Pump Station #2 building foundation, walls, and roof (the roof and skylights will be replaced). It will remove the rear portion of existing steam boilers while maintaining the front boiler facade. It will add fire sprinklers to the building and will construct an accessible work area and rest room, with associated electrical, mechanical, and plumbing work.

Program: Auxiliary Water Supply System	Project Status: Construction	Environmental Status: Completed (MND)
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Project Cost:		Project Schedule:	
Approved	 \$28.72 M	Approved Apr-11	 Jun-22
Forecast*	 \$28.72 M	Forecast* Apr-11	 Jun-22
Actual	 \$17.23 M	Project Percent Complete: 89.1%	
			

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/01/11✓	04/06/17✓	12/12/17✓	12/30/21

** The Mitigated Negative Declaration (MND) was completed under a SFPW project.

Progress and Status:

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

Issues and Challenges:

None at this time.








Interior view of PS2 showing a pump, valves, engine sound enclosure and exhaust, and building structural members

CUWAWSAW11-19 - ESER 2010 Pipes/Tunnels Construction

Project Description: These projects include various pipeline and tunnel construction using ESER 2010 bond funds.

Program: Auxiliary Water Supply System	Project Status: Construction	Environmental Status: Completed (Various)
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Project Cost:		Project Schedule:	
Approved 	\$18.87 M	Approved Apr-11 	Mar-21
Forecast* 	\$18.87 M	Forecast* Apr-11 	Mar-21
Actual 	\$7.22 M	Project Percent Complete: 99.4%	

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

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/08/14✓ - 10/07/19✓	11/30/15✓ - 03/20/20✓	11/30/15 ✓ - 12/02/19✓	12/01/15 ✓ - 01/29/21

Progress and Status:

The project team is targeting closeout of ESER 2010-funded EFWS projects by end of March 2021.

Issues and Challenges:

None at this time.

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APPENDICES

A PROJECT DESCRIPTIONS

B APPROVED PROJECT-LEVEL SCHEDULE

C LIST OF ACRONYMS

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APPENDIX A. PROJECT DESCRIPTION

A1. REGIONAL PROGRAMS

Water Treatment

10032938 - SVWTP Powdered Activated Carbon Feed Units (CUW27202) (Completed)

The project intent is to construct a powdered activated carbon (PAC) feed system at SFPUC's Sunol Valley Water Treatment Plant (SVWTP) to provide an intermediate-term solution to control taste and odor (T&O) issues during Hetch Hetchy shutdowns. In recent years, SVWTP has experienced more frequent T&O events than had occurred historically. The T&O events result from by-products of algae growing naturally in San Antonio and Calaveras Reservoirs, the plant's primary water sources. The project scope includes a pair of concrete PAC tanks, their associated chemical feed system, and other related upgrades at the SVWTP headworks. Although project 10033123, SVWTP Ozone system, will provide a long-term solution to control T&O events, it will not be completed until the 2023 Hetch Hetchy shutdown. So in the interim, the PAC system will be in place for the upcoming Hetch Hetchy shutdowns. This project is a continuation of project CUW2720206, SVWTP Phase 3, under which the planning, design, environmental review and bid & award phases were performed, and those costs are not included in the budget numbers presented herein.

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 than had occurred historically. The cause of the T&O events has been geosmin and/or 2-methylisoborneol (MIB) which are by-products of algae growing naturally in San Antonio and Calaveras Reservoirs, SVWTP's primary water sources. In early December 2016, San Antonio Reservoir was the source of a major T&O event. In addition to this specific recent event, algal blooms have also generally increased in magnitude and frequency in Calaveras Reservoir due to its lower water levels related to the dam reconstruction

project, the use of less effective algicides, and certain environmental factors. The algal blooms can occur at any time of year but are more likely in late spring and late autumn.

The project intent is to build an ozonation system that will provide a long-term solution to control T&O events encountered in the raw water supply from both the San Antonio and Calaveras Reservoir sources. The work will include installation of cryogenic oxygen tanks, liquid oxygen vaporizers, ozone generators, ozone injectors, an ozone contactor, an ozone building, an ozone destruct system, associated pumping/valving/piping/appurtenances, associated automatic controls, related facilities, an electrical building, site improvements, and offset power generation consisting of solar panels atop the treated water reservoir.

Water Transmission

10034578 - CSPL2 Reach 5 Rehabilitation

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 in the cities of South San Francisco and San Bruno is over 80 years old and has extensive lining failures. This project would replace the coal tar lining, and would also improve access and shutdown flexibility for maintenance by installing manway structures and valves on CSPL2 and San Andreas Pipeline No. 1 (SAPL1) near Baden Pump Station.

CUW2730404 - SAPS Motor Control Centers

The San Antonio Pump Station (SAPS) is one of the key facilities in the Sunol Valley, and was constructed in 1965 and modified in 1990. The existing motor control centers 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.

CUW2730503 - Peninsula Pipelines Seismic Upgrade Phase III (Completed)

This project completes the seismic reliability improvements to pipelines in the Peninsula geographic region leading to terminal reservoirs within the City of San Francisco. WD-2727 Phases I & II of the seismic reliability improvements project were completed under WSIP. Phase III is a non-WSIP project, and includes new isolation valves on San Andreas Pipeline No. 2 (SAPL2) at Belle Avenue and Junipero Serra Boulevard in San Francisco, and near 22nd Avenue and Sloat Boulevard in San Francisco. A new parallel pipeline will be installed within Sigmund Stern Grove in San Francisco to replace an approximately 580-foot segment of SAPL2.

CUW2730504 - SAPL2 Lockbar 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 54" diameter 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.

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 and emergency 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 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.

10036602 - Daly City Recycled Water

The Daly City Recycled Water Expansion Project was originally envisioned and planned under Local Water CUW278 (Other Recycled Water Projects). Planning for this and other recycled water projects was completed and identified in the Local CIP. Currently, the Daly City Recycled Water Expansion Project water delivery capacity is envisioned to help offset groundwater pumping in the Westside Basin and potential demands from the Regional Water System (RWS). The SFPUC is working with Daly City's North San Mateo County Sanitation District, Cal Water, the Town of Colma and potential customers to treat, transmit, store and deliver up to 3 million gallons per day (MGD) of additional recycled water supply. Facilities included in the project design consist of a new treatment facility co-located with Daly City's existing wastewater treatment plant, a transmission pipeline through Daly City and the Town of Colma, and a storage tank. Final design and construction of the project will be completed under the scope of this project

once planning is completed in fiscal year 2019.

CUW2740102 - Pilarcitos Dam and Reservoir Improvements

This project is to address concerns regarding the seismic stability of the Pilarcitos Dam and Reservoir facilities and to perform necessary upgrades identified during the Planning Phase. The primary objectives are to perform a condition and needs assessment of the dam and forebay outlet structure, outlet tunnel, and outlet pipeline as requested by the California Division of Safety of Dams (DSOD); to develop retrofit options if required; and to implement the chosen option. Secondary objectives are to perform the same evaluation and implementation for the spillway.

CUW2740103 - San Andreas Dam Facility Improvements

This project is to address concerns regarding the condition of the San Andreas Dam facility and to perform necessary upgrades identified during the Planning Phase. This project includes CUW2740103 (10015092) San Andreas Dam Facility Improvements (DFI), San Andreas Dam (SAD) Spillway 1003237, and a new project to assess the SAD embankment. San Andreas DFI project addresses the emergency drawdown outlets, as directed by the California Division of Safety of Dams (DSOD). The SAD Spillway project performs a spillway condition assessment mandated by DSOD and also budgets for the spillway replacement, if that should be required. The third project is the SAD embankment assessment for seismic stability associated with potential alluvium underneath the embankment. Construction of the emergency drawdown outlets will precede any potential upgrades to the spillway and/or embankment.

CUW27401TD - Turner Dam and Reservoir Improvements

This project addresses the Turner Dam spillway condition assessment, and the repair of the erosion downstream of the spillway, as directed by California Division of Safety of Dams (DSOD). The project also is budgeted for the spillway replacement, if that should be necessary.

CUW2740600 - Potable Reuse & Other Supplies

The SFPUC is identifying opportunities and investigating the potential for purified water projects through direct and indirect potable reuse (DPR and IPR) processes. The SFPUC is participating in research and regulatory review statewide and is working with other Bay Area water agencies to develop potential project opportunities for up to 15 mgd of drinking water with advanced treatment technologies for water needs anticipated within the planning horizon. Feasibility analyses and pilot efforts are anticipated to promote further development of purified water as a source of drinking water. The feasibility studies currently underway include the Bay Area Regional Reliability (BARR), Potable Reuse Exploratory Plan (PREP) Study Silicon Valley Clean Water, Evaluation of Purified Water Alternatives, and Los Vaqueros Expansion Opportunities. Additional opportunities are also being identified under this portfolio. Once one or more projects have been identified for planning to continue to move forward, pilot testing, environmental review, design, and construction phases will follow. The current funding will carry this work through the bid and award phase and cover a portion of construction.

Watershed & Lands Management

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. This proposed 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 10 to 12-foot wide, all-weather surface trails; retaining structures to stabilize cut and/or fill slopes; drainage facilities; a 15,000-square-foot parking lot accommodating up to 14 cars; two to three pre-fabricated restrooms along the trail; site security features; and landscape restoration. In addition, trailhead

improvements on SFPUC lands will be analyzed with the goals to support trail users, enhance educational opportunities, and ensure watershed protection.

Buildings and Grounds

10033555 - Rollins Road Building Renovations (CUW27703)

The SFPUC purchased a property on Rollins Road in September 2017, securing an additional 10,000 square feet of office space for the SFPUC Water Enterprise (WE). The project is to perform tenant improvements, facilitating the consolidation of WE work groups and the elimination of trailers at the SFPUC WE Administration Building. Renovation of the facility is required to create useable office space, a limnology laboratory, conference rooms, additional showers, and a workshop and library for Natural Resources Division (NRD). In addition, the project will address deferred building maintenance, replace the roof, upgrade security, HVAC, phone, and electrical systems, and build storage space.

CUW27701 - Sunol Long Term Improvements

The project includes general redevelopment of the existing Sunol Yard and construction of a Watershed Center near the Sunol Water Temple. Replacement structures will be constructed for existing maintenance shops and equipment storage. New structures to be built include a fueling center, a new administration building, four new pre-fabricated shop buildings, approximately 40,000 square feet of covered storage for vehicles and materials, and a re-surfaced area for vehicle traffic. To create space and lower maintenance costs, six existing dilapidated structures will be demolished. Near the Sunol Water Temple, a 13,000-square foot Watershed Center will be constructed. Additionally, work will be completed on the main gate and road to the Sunol Water Temple. This project is comprised of the following related projects: CUW27701, Sunol Long Term Improvements, and CUW2630601, Sunol Master Plan Support.

CUW2770304 - Millbrae Yard Laboratory and

Shop Improvements

Additional laboratory space is needed to meet current water regulations and to provide WSTD operations improvements. There are four major components to this project: (1) the construction of a new 13,500 square-foot shop building for WSTD; (2) the construction of a new 2,000 square-foot WQD Lab addition; (3) conversion of the existing WSTD Operations Supervisor wing of the existing Administration Building into a WQD laboratory; and (4) Tenant Improvements to the existing Administration Building laboratory. The scope includes remodeling a portion of the Administration Building with WQ sample receiving room upgrades, reconfiguring a conference and flavor profile room, lab additions with extraction lab, a calibration room, relocating and reconfiguring WSTD space, adding two offices for WSTD, server room renovation, a new south shop with WSTD office space, security upgrades and site improvements.

A2. LOCAL PROGRAMS

LOCAL WATER CONVEYANCE/ DISTRIBUTION SYSTEM

10033816 - Westside Potable Auxiliary Water Supply System

This project proposes to design and construct earthquake-resistant water pipeline in western San Francisco, particularly the Sunset and Richmond areas. This pipeline 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 Auxiliary Water Supply System, which is located in other areas of San Francisco. 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.

CUW26308 - Town of Sunol Fire Suppression System (Completed)

In 2010, the SFPUC committed to the implementation of a fire hydrant system for the Town of Sunol via an MOU with Alameda County. The project will involve construction of a fire hydrant system, including new pipelines, pump stations, monitoring equipment, and storage tanks. The project may be integrated into the existing local potable water system or may be independent.

CUW28000 - Local Water Conveyance/ Distribution System

This long-term renewal program consists of three major components:

1. Linear Assets Management Program: This program replaces and renews distribution system pipelines and customer service connections for the 1,230 miles of drinking water mains in San Francisco. Planning analysis has demonstrated a need to increase the annual replacement rate from the previous 6 miles per year to a target of 15 miles per year to minimize main breaks and meet customer service goals of uninterrupted service. The FY14 approved budget was for replacement or renewal of 9 miles of pipe; FY15 approved budget was to renew 12 miles pipelines, and FY16 and subsequent years are funded to renew 15 miles per year for the next 10 years. Improvements include replacement, rehabilitation, re-lining, and cathodic protection of all pipe size categories so as to extend or renew the pipeline's useful life. Coordination with construction projects from other City agencies, especially SFPUC Wastewater and SFPW paving, is emphasized to optimize efficiencies, reduce costs, and minimize customer disruptions.

2. Renew Services: This program replaces assets between the water main and the customer's service connection at the end of their useful life, including: replacement of 1-inch to 8-inch diameter service pipes made of galvanized steel, lead, or plastic with copper or ductile iron; replacement of broken meter boxes and outdated meters and associated piping; and subsequent restoration of associated sidewalk and roadway.

3. New Services: This program provides materials and labor for installing new domestic, fire, and irrigation services charged as a one-time flat rate to new customers and includes related sidewalk and roadway restoration. No increase over time is anticipated.

Local Water Supply

CUW30101 - Lake Merced Water Level Restoration

The project consists of two 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 the level of

Lake Merced. (2) In addition, the SFPUC is implementing a Demonstration Aeration Mixing Project to evaluate whether additional lake mixing might result in improved dissolved oxygen concentrations in the Lake.

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. The first phase consists of building four new groundwater well stations in the western part of San Francisco. All four stations will include a building to house the well pump and electrical equipment, with two stations having an additional room to provide chemical disinfection. Buried piping will be installed to connect three of these well stations to the Sunset Reservoir. Groundwater from the fourth well station will be piped to the nearby Lake Merced Pump Station, where it will be distributed to both the Sunset Reservoir and Sutro Reservoir. The second phase consists of converting two existing irrigation well facilities in Golden Gate Park to groundwater supply wells, and would be implemented after completion of the CUW30201, San Francisco Westside Recycled Water Project. In the second phase buried piping will be installed to also connect these two wells to the Sunset Reservoir. Improvements to the facilities at the existing San Francisco Zoo Well No. 5 have been completed as part of the project, allowing this well to serve as an emergency potable water source.

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 2 mgd of recycled water to Golden Gate Park (GGP), 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 GGP 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 GGP, and also 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. This project is comprised of the following related projects: CUW28301, College Hill Reservoir Outlet, and CUW280PR09, College Hill Pipeline Improvements.

Pump Stations

CUW28401 - McLaren Park Pump Station Upgrades

This project is to rebuild the McLaren Park Pump Station. This facility is the backup to the Alemany Pump Station and provides water to the McLaren Park Tanks. The project includes the demolition of the existing building, construction of a new reinforced concrete building with bridge crane,

new pumps and motors, a fire sprinkler system, a new electrical system, a new standby generator and generator building, replacement of surge tanks, a new Lenel security system, new fencing, water quality monitoring, landscaping and other site work. The new pump station will be automated and operated through the existing Water SCADA system.

Buildings and Grounds

CUW28101 - Pacific Rod and Gun Club Remediation (Completed)

The City owns the property, and the SFPUC has exclusive jurisdiction over the property. The SFPUC leases the property to the Pacific Rod and Gun Club (PRGC) which has used it for skeet and trap shooting since 1934. Until 1994 and 2000 respectively, shotgun shells containing lead shot and clay pigeons containing polycyclic aromatic hydrocarbons (PAHs) were used on the property. Elevated concentrations of lead, PAHs, other heavy metals, and arsenic have been detected in site soil; of these, the detected concentrations of lead and PAHs are the primary constituents that contribute to potential human health risk at the site.

The SFPUC wants to preserve all options for future use of the property. Under this project, the SFPUC proposes to excavate and dispose of impacted soils at an approved landfill over a period of up to 50 weeks. This project includes planning, environmental review, excavation, and loading and offsite disposal of about 45,000 cubic yards of contaminated soils located throughout the property. Contaminated soils will be excavated to a depth of up to 7 feet below ground surface at various locations. Following removal of impacted soils, excavated areas will be backfilled with clean soil.

The project is needed to implement remediation of contaminated soils at the PRGC site in order to reduce soil contamination below applicable human health screening levels, and would enable future unrestricted safe reuse of the property. The project will also utilize technology, to the extent possible, in conformance with the SFPUC's technology policy (adopted on 7/24/12). Areas where technology may be used include: cost

management, environmental impact assessment and resource management, and regulatory compliance.

CUW68800 - Buildings and Grounds Improvements

This project covers capital improvements to CDD non-operational facilities and structures, primarily benefitting the CDD corporate yard, to address health, safety, reliability, and security issues. This project will replace obsolete and inefficient HVAC equipment, improve office and warehouse efficiencies, and replace the underground Fueling Station, which has reached the end of its useful service life and poses an environmental risk. In addition, the program includes the construction of a future CDD Control Center (a seismically reliable building to house CDD's communications and control systems, with space for Operations, Administration, and Support staff), and as-needed improvements to ancillary facilities to reduce operating and maintenance costs, improve reliability to maintain routine and emergency operations of the potable and auxiliary water systems, and increase efficiency.

Automated Water Meter Program

CUW68601 - Automated Water Meter Program

The Automated Water Meter Program (AWMP) will install meters with low-frequency radio signals to collect hourly water consumption data and transmit the data four times a day from residential and commercial customers to our billing system and to share with customers on our My Account Website. This will remove the need for physical field visits and manual meter reading. In addition to installation or retrofit of approximately 180,000 residential and commercial water meters in San Francisco, project implementation includes deployment of the data collection network of 84 data collection units (DCUs) and establishment of an FCC licensed private RF channel and a Verizon data connection for transmittal of the data from the meters to a network control computer. The network control computer will be equipped with software to collect and analyze the meter reading data

interfaced to the SFPUC's billing system and My Account Website portals. The program also involves potential connection of Power Enterprise electric meters to the AWMP collection network.

Auxiliary Water Supply System

10034292 - TFB Mission South Pipeline

Install new AWSS pipeline and appurtenances on Terry Francois Boulevard from Mission Rock Street to South Street.

CUWAW2AW23 - Twin Peaks Reservoir - ESER 2014 (Completed)

In order to reduce leakage occurring from the Twin Peaks Reservoir basins, sealant materials will be installed along the joints at Twin Peaks Reservoir in this project.

CUWAW2AW24 - PS 2 (ESER 2014)

This project will provide seismic improvements to the Pump Station #2 building foundation, walls, and roof (the roof and skylights will be replaced). It will remove the rear portion of existing steam boilers while maintaining the front boiler facade. It will add fire sprinklers to the building and will construct an accessible work area and rest room, with associated electrical, mechanical, and plumbing work.

CUWAW2AW29 - Clarendon Supply (ESER 2014 Partial Funding)

Provide a new AWSS water supply near the crest of Clarendon Avenue at Dellbrook Avenue.

CUWAW2AW30 - ESER 2014 Assessment (Completed)

This study will help decide which projects to pursue with Earthquake Safety and Emergency Response (ESER) 2014 bond funding among candidate projects derived from the AWSS Planning Study, considering the need for flexible water supply systems and taking into account CCSF obligations under various land development agreements. A Network Surge Analysis will also assess the potential for pressure surge conditions in the AWSS pipeline and recommend solutions if any such conditions are identified. Additional assessments will analyze

the structural integrity of various AWSS components for seismic reliability.

CUWAW2AW31 - Candlestick Point Pipeline (Completed)

This project will install a new 20" AWSS pipe on Carroll Avenue from Ingalls Street to Hawes Street. This project is being performed in coordination with the Candlestick Point development project and will be constructed as part of Public Works' Potrero Streetscape project.

CUWAW2AW32 - 19th Avenue Pipeline

This project will install a new 20" AWSS pipe on 19th Avenue from Irving Street to Kirkham Street, replacing the existing 12" pipe. It will also construct pipe crossings under 19th Avenue at four locations for the FWSS. This project is part of Public Works' 19th Avenue project.

CUWAW2AW33 - Irving St Pipeline

This project will install a new 20" AWSS pipe on Irving Street from 7th Street to 19th Street, replacing most of the existing 12" pipe. This project is part of Public Works' Irving Street project.

CUWAW2AW34 - Ashbury Bypass Pipeline

This project will install new 20" AWSS pipe near Ashbury Heights Tank to allow Twin Peaks Reservoir to connect with the lower (Ashbury and Jones Street) pressure zones without need for the Ashbury Tank valve house devices. This new connection is anticipated to be used in the event the valve house is damaged.

CUWAW2AW35 - Columbus Avenue Pipeline (Completed)

Replace existing AWSS pipe with new AWSS pipe at the intersection of Columbus Avenue and Green Street to eliminate an existing sewer conflict. This work will be part of Public Works' Columbus Avenue project starting in early 2016.

CUWAW2AW36 - Lake Merced Pipeline

Install new 20" AWSS pipe from Lake Merced Pump Station across Lake Merced Boulevard to the intersection of Vidal Drive and Higuera Avenue. Modify lake-pump discharge piping.

This project is being performed in coordination with the Parkmerced development project.

CUWAW2AW37 - McLaren Tank Flexible System (Eliminated)

Project is cancelled due to logistical and operational issues.

CUWAW2AW38 - Sunset Reservoir Flexible System (Eliminated)

Project is cancelled due to logistical and operational issues.

CUWAW2AW39 - University Mound East Pipeline

This project will install new 20" AWSS pipe from the University Mound Reservoir to the existing 20" AWSS pipeline on Third Street in the vicinity of Jamestown Avenue.

CUWAW2AW40 - Repairs - Pipeline (2014) (Eliminated)

This project will assess the condition of AWSS pipeline and establish a capital improvement program for abandonment, repair, or replacement activities as needed. Assessments of corrosion potential, utility conflicts, liquefiable areas, joint restraints, pipeline settlement, and related factors are being planned.

CUWAW2AW41 - FWSS Crossings (Eliminated)

Project is cancelled due to logistical and operational issues.

CUWAW2AW42 - Ingleside Pipeline

This project will install new 20" AWSS pipe from existing Ocean Avenue AWSS pipe to the intersection of Ocean Ave and Jules Ave.

CUWAW2AW43 - Mariposa Pipeline

This project will install new 20" AWSS pipe from Mariposa St/3rd St to South St via Terry Francois Blvd.

CUWAW2AW44 - Sunset Pipeline

This project will install new Potable AWSS pipeline from Sunset Reservoir.

CUWAWSAW01 - Jones Street Tank

(Completed)

Construction at Jones Street Tank will reinforce the connection between the existing 750,000-gallon water tank wall and foundation. It will improve the seismic capacity of pipes, fittings, supports, restraints, joints, valves, and related items leading away from the tank and to the valve house. It will add electric actuators on selected gate valves with Supervisory Control and Data Acquisition (SCADA) interface. It will replace valve house skylights and re-surface the roof. Work includes installing micropiles to stabilize the tank foundation, adding a curb to better connect the tank wall to the foundation, and improving or repairing various architectural, mechanical, and electrical elements of Jones Street Tank.

CUWAWSAW02 - Ashbury Heights Tank (Completed)

Construction at Ashbury Heights Tank will replace the existing 500,000-gallon water tank and improve the seismic capacity of pipes, fittings, supports, restraints, joints, valves, and related items connecting the tank to the valve house. Work includes removing the existing riveted steel tank, installing drilled piers into rock for the foundation, and installing a new bolted glass-fused steel tank of equivalent storage capacity.

CUWAWSAW03 - Twin Peaks Reservoir (Completed)

Construction at Twin Peaks Reservoir will improve the seismic capacity of pipes, valves, gates, and related items. The work also includes repairing miscellaneous concrete spall and cracks, replacing sluice gates and discharge screens, and replacing and motorizing selected gate valves.

CUWAWSAW04 - Pump Station #2

This project will provide seismic improvements to the Pump Station #2 building foundation, walls, and roof (the roof and skylights will be replaced). It will remove the rear portion of existing steam boilers while maintaining the front boiler facade. It will add fire sprinklers to the building and will construct an accessible work area and rest room, with associated electrical, mechanical, and

plumbing work.

CUAWSAW05 - Pump Station #1

This project will replace the seawater pump engines and engine controls. It will replace the existing pump room ventilation system to provide adequate combustion air and allow ambient air flow. The work includes installing four new diesel engines, a new backup power generator, engine controls with SCADA interface, new engine exhaust piping, and pump room ventilation; replacing seawater intake pipes; anchoring seawater pumps; and repairing the concrete slab supporting one of the pumps.

CUAWSAW06 - Cisterns Construction #1 (Completed)

The initial analysis of existing cisterns indicated no need for repairs. Project is being consolidated under CUAWSAW07 New Cisterns.

CUAWSAW07 - New Cisterns (Completed)

This project will construct new cisterns for storage of water for firefighting.

CUAWSAW08 - Cisterns Construction #3 (Completed)

Initial design of new cisterns. Project is being consolidated under CUAWSAW07 New Cisterns.

CUAWSAW09 - Cisterns Construction #4 (Completed)

Initial design of new cisterns. Project is being consolidated under CUAWSAW07 New Cisterns.

CUAWSAW10 - Pipes, Cisterns & Tunnels Study (Completed)

Joint Venture Consultant AECOM/AGS provided planning support services for repair, improvement, and expansion of the AWSS pipelines, cisterns, and tunnels. The planning incorporated results of work by EMB for Twin Peaks Reservoir, Ashbury Heights Tank, Jones Street Tank, Pumping Station 1, and Pumping Station 2. The work also included planning-level assessment of the effects of proposed AWSS modifications on fire insurance premiums for

property owners in San Francisco. The objective was to review existing configurations, analyze system hydraulics and water demands, and make recommendations for pipelines, control systems, cisterns, and seawater intake tunnels to optimize benefits to the AWSS, given the potential for seismic activity in the area. A critical goal of this work was to maximize the likelihood that the AWSS will effectively provide required fire suppression capabilities after a major seismic event.

CUAWSAW11 - Pipes/ Tunnels Construction #1 (Completed)

New 16" fill pipe was installed by CDD at Twin Peaks Reservoir.

CUAWSAW12 - 4th Street Pipeline (Eliminated)

This project was cancelled because it is no longer hydraulically needed.

CUAWSAW13 - Controls - Pipeline (Completed)

Design and construct improvements to the AWSS SCADA control and telecommunications systems.

CUAWSAW14 - Gate Valve Motors - Pipeline

This project will motorize street valves, and replace a non-functioning street valve on AWSS pipelines, to better control water flows. This work is planned to occur near the intersections of Bayshore/Cesar Chavez, Clarendon/Twin Peaks, Evans/Napoleon, Kearny/Sacramento, and Van Ness/Bay.

CUAWSAW15 - Jones Street Valves - Pipeline (Completed)

This project will design and construct motorized actuators for Jones Street Tank valves to allow remote control of pressure zone connections. This project is being constructed as part of contract WD-2685 Reservoir and Tanks Improvements (CUAWSAW 01 - 03 and CUAW2AW23).

CUAWSAW16 - Manifolds - Pipeline

Repair existing AWSS fireboat manifolds at Fort Mason Pier 1 and Embarcadero Pier 33.

CUWAWSAW17 - Pump Station #1 Tunnel

Design and construct seismic improvements and concrete repair to the Embarcadero seawall tunnel, installing resilient inserts at the existing Embarcadero sewer-box crossing, the mid-tunnel inflection, and the sand-rock interface, and repairing minor concrete spalling and exposed steel reinforcing.

**CUWAWSAW18 - Repairs - Pipeline (2010)
(Eliminated)**

Assess the condition of AWSS pipeline and establish a capital improvement program for abandonment, repair, or replacement activities as needed. Assessments of corrosion potential, utility conflicts, liquefiable areas, joint restraints, pipeline settlement, and related factors are planned.

**CUWAWSAW19 - Clarendon Supply (ESER
2010 Partial Funding)**

Provide a new AWSS water supply near the crest of Clarendon Avenue at Dellbrook Avenue.

Appendix B. Water Enterprise Approved Project Level Schedules Regional Programs

Project Name	Start	Finish	FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027				FY2028	
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2				
Water Regional Improvement Projects	01-Jan-09	20-Mar-29																																										
Water Treatment	27-Jun-17	09-Sep-24																																										
10032938 SVWTP Powdered Activated Carbon Feed Units (CUW)	16-Apr-18	18-Dec-19																																										
10033123 SVWTP Ozone (CUW27202)	27-Jun-17	09-Sep-24																																										
Water Transmission	03-Dec-12	10-Oct-23																																										
10034578 CSPL2 Reach 5 Rehabilitation	25-Feb-19	30-Nov-22																																										
CUW2730404 SAPS Motor Control Centers	12-May-16	27-Jan-23																																										
CUW2730503 Peninsula Pipelines Seismic Upgrade Phase III	03-Dec-12	27-Feb-19																																										
CUW2730504 SAPL2 Lockbar Replacement	01-Mar-16	08-Dec-21																																										
CUW2730505 CSPL2 Reach 2 and 3 Rehabilitation	12-Sep-16	10-Oct-23																																										
Water Supply & Storage	11-Dec-13	20-Mar-29																																										
10015232 Merced Manor Reservoir Facilities Repairs	01-Jul-19	28-Feb-24																																										
CUW2740102 Pilarcitos Dam and Reservoir Improvements	07-Apr-14	05-Sep-25																																										
CUW2740103 San Andreas Dam Facility Improvements	11-Dec-13	20-Apr-27																																										
CUW27401TD Turner Dam and Reservoir Improvements	02-Jan-20	20-Mar-29																																										
10036602 Daly City Recycled Water	01-Oct-19	19-Sep-25																																										
CUW2740600 Potable Reuse & Other Supplies	06-Jan-17	30-Jun-26																																										
Watershed and Lands Management	31-Oct-12	21-Jan-22																																										
CUW2751801 Southern Skyline Blvd Ridge Trail Extension	31-Oct-12	21-Jan-22																																										
Buildings and Grounds	01-Jan-09	03-May-23																																										
10033555 Rollins Road Building Renovations (CUW27703)	01-Mar-18	31-Jan-22																																										
CUW27701 Sunol Long Term Improvements	01-Jan-09	01-Sep-21																																										
CUW2770304 Millbrae Yard Laboratory and Shop Improvements	02-Nov-15	03-May-23																																										



Appendix B. Water Enterprise Approved Project Level Schedules Local Programs

Project Name	Start	Finish	FY2017				FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027			
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4				
Water Local Improvement Projects	03-Mar-03	30-Jun-28																																												
Local Water Conveyance / Distribution System	01-Jan-09	30-Jun-28																																												
10033816 Westside Potable Auxiliary Water Supply System	02-Jan-19	30-Jun-28																																												
CUW28000 Local Water Conveyance/Distribution System	01-Jul-10	30-Jun-28																																												
CUW26308 Town of Sunol Fire Suppression System	01-Jan-09	28-Jun-19																																												
Local Water Supply	03-Mar-03	31-Oct-23																																												
CUW30101 Lake Merced Water Level Restoration	16-Jun-03	31-Oct-23																																												
CUW30102 San Francisco Groundwater Supply	16-Jun-03	30-Mar-21																																												
CUW30201 San Francisco Westside Recycled Water	03-Mar-03	28-Mar-22																																												
Local Tanks/Reservoir Improvements	24-Jan-13	28-Sep-21																																												
CUW28301 College Hill Reservoir Outlet	24-Jan-13	28-Sep-21																																												
Pump Stations	03-Feb-20	21-Apr-26																																												
CUW28401 McLaren Park Pump Station Upgrades	03-Feb-20	21-Apr-26																																												
Buildings and Grounds	01-Oct-08	30-Jun-28																																												
CUW28101 Pacific Rod and Gun Club Remediation	20-Aug-13	31-Dec-19																																												
CUW68800 Buildings and Grounds Improvements	01-Oct-08	30-Jun-28																																												
Automated Water Meter	02-Mar-09	17-Mar-21																																												
CUW68601 Automated Water Meter Program	02-Mar-09	17-Mar-21																																												
Auxiliary Water Supply System	01-Apr-11	31-Dec-20																																												
Physical Plants	01-Apr-11	31-Dec-20																																												
CUWAW2AW30 ESER 2014 Assessment	13-Nov-14	31-Jan-17																																												
CUWAWS WD-2685 Reservoir and Tanks Improvements	01-Apr-11	31-May-17																																												
CUWAWSAW05 Pump Station # 1	01-Apr-11	29-Jul-19																																												
CUWAWS WD-2687 Pump Station #2	01-Apr-11	31-Dec-20																																												
Cistern	01-Apr-11	29-Jun-18																																												
CUWAWSAW06-09 Cisterns Construction	01-Apr-11	29-Jun-18																																												
Pipelines	01-Apr-11	31-Dec-20																																												
CUWAWSAW10 Pipes, Cisterns, & Tunnels Study	01-Apr-11	30-Jun-14																																												
CUWAWSAW11-19 Pipes/ Tunnels Construction	01-Apr-11	30-Nov-20																																												
CUWAW2AW29-44 ESER 2014 Pipelines, Tunnels, and Flexibl	23-Feb-15	31-Dec-20																																												
CUWAWS01 AUXILIARY WATER SUPPLY SYSTEM*	01-Apr-11	31-Dec-20																																												
CUWAW200 2014 AUXILIARY WATER SUPPLY SYSTEM*	06-Nov-14	31-Dec-20																																												




APPENDIX C. LIST OF ACRONYMS

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

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.

London N. Breed
Mayor

Sophie Maxwell
President

Anson Moran
Vice President

Tim Paulson
Commissioner

Ed Harrington
Commissioner

Newsha Ajami
Commissioner

Michael Carlin
Acting
General Manager

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

Quarterly Report

Water Enterprise Capital Improvement Program

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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

I. Regional WECIP Quarterly Report

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.

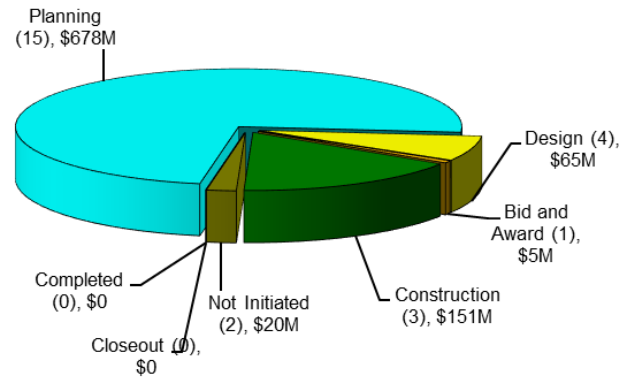


Figure 2.1 Total Current Approved Budget for Regional Projects Active in Each Phase

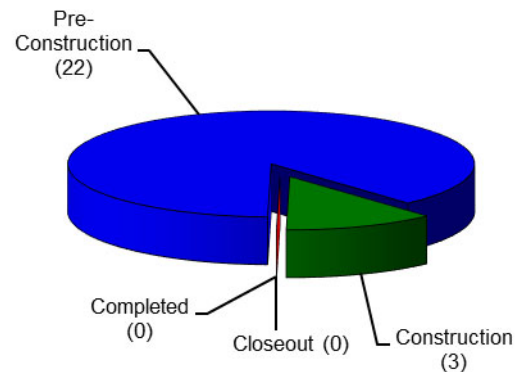


Figure 2.2 Number of Regional Projects in Pre-construction, Construction, and Post-construction

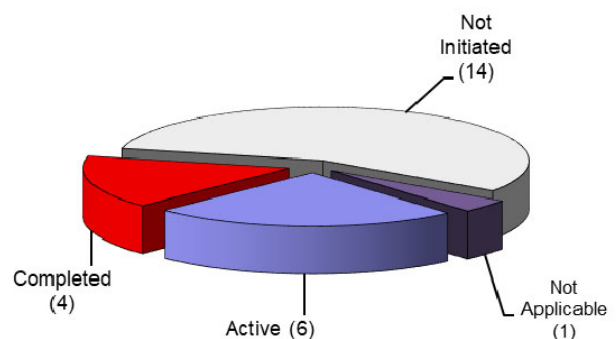


Figure 2.3 Regional Program Environmental Review

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:

- 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.
- Delivery Costs** include project management, planning, environmental (CEQA, permitting, construction compliance), design, construction management, and engineering support during construction.
- Other Costs** include environmental mitigation, art enrichment, security improvements, and real estate expenses.
- 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.
- 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.

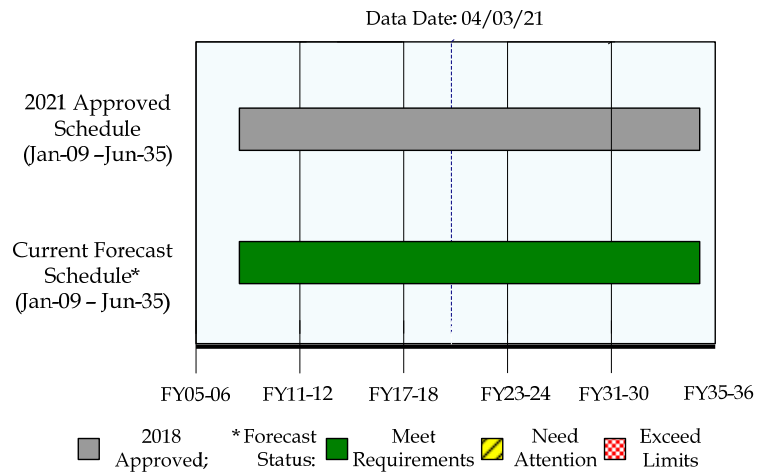


Figure 4.1 Program Schedule Summary

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.

I. Regional WECIP Quarterly Report

Q3-FY2020-2021 (01/01/21 - 03/31/21)

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	Current	Variance	
	Contract Cost	Forecasted Cost	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%	
			

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.

I. Regional WECIP Quarterly Report

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%		
					
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: Approved \$14.40 M Forecast* \$14.40 M Actual \$0.00 M		Project Schedule: Approved Nov-20 Jun-24 Forecast* Nov-20 Jun-24 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.



Filter underdrain failure










Issues and Challenges:

None at this time.

I. Regional WECIP Quarterly Report

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:		Project Schedule:
Approved  \$13.03 M	Approved Feb-19  Sep-25	
Forecast*  \$13.03 M	Forecast* Feb-19  Sep-25	
Actual  \$0.62 M	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.

I. Regional WECIP Quarterly Report

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		

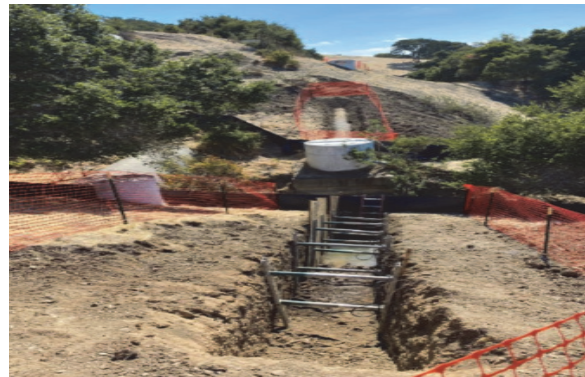
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	03/31/22	04/22/22	09/29/22	05/26/23

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

I. Regional WECIP Quarterly Report

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.

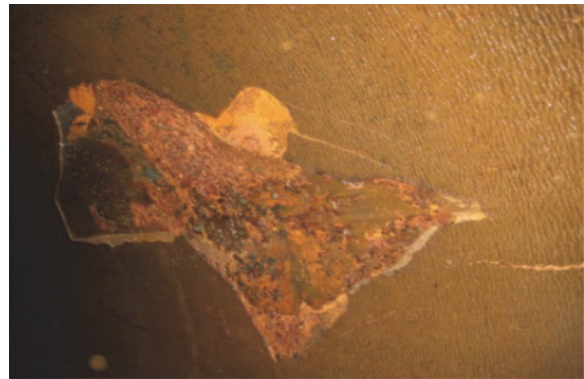
Program: Water Transmission		Project Status: Planning		Environmental Status: Active	
Project Cost:			Project Schedule:		
Approved		\$9.35 M	Approved Sep-16		Aug-28
Forecast*		\$9.35 M	Forecast* Sep-16		Aug-28
Actual		\$0.06 M	Project Percent Complete: 1.3%		
					
Key Milestones:	Environmental Approval	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%	
		

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

I. Regional WECIP Quarterly Report

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)
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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)
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Project Cost:		Project Schedule:	
Approved 	\$45.64 M	Approved Mar-16 	Dec-21
Forecast* 	\$45.64 M	Forecast* Mar-16 	Dec-21
Actual 	\$41.93 M	Project Percent Complete: 96.4%	
			

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

I. Regional WECIP Quarterly Report

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)
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Project Cost:	Project Schedule:
Approved  \$50.04 M	Approved Sep-16  Jun-26
Forecast*  \$50.04 M	Forecast* Sep-16  Jun-26
Actual  \$0.66 M	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: <i>Water Supply & Storage</i>	Project Status: <i>Planning</i>	Environmental Status: <i>Not Initiated (EIR)</i>
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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: <i>0.3%</i>	
			

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

I. Regional WECIP Quarterly Report

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.

Issues and Challenges:

None at this time.








Pilarcitos spillway inspection

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)
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Project Cost:	Project Schedule:
Approved  \$32.20 M	Approved Dec-13  Dec-33
Forecast*  \$32.20 M	Forecast* Dec-13  Dec-33
Actual  \$0.74 M	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.

I. Regional WECIP Quarterly Report

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.




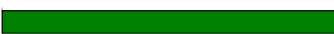


Sunol Regional Wilderness Park High Valley Area

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: <i>Water Supply & Storage</i>	Project Status: <i>Planning</i>	Environmental Status: <i>Not Initiated</i>
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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: <i>0.1%</i>	

 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

I. Regional WECIP Quarterly Report

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%		
				
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)
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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%	
			

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.

I. Regional WECIP Quarterly Report

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:		Project Schedule:		
Approved	 \$5.19 M	Approved Mar-18		Jun-22
Forecast*	 \$5.19 M	Forecast* Mar-18		Jun-22
Actual	 \$2.14 M	Project Percent Complete: 42.9%		
				
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:		Project Schedule:	
Approved 	\$5.50 M	Approved Jan-17 	Nov-23
Forecast* 	\$5.50 M	Forecast* Jan-17 	Nov-23
Actual 	\$0.28 M	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.

I. Regional WECIP Quarterly Report

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:		Project Schedule:		
Approved	 \$100.41 M	Approved Jan-09		Sep-22
Forecast*	 \$100.41 M	Forecast* Jan-09		Sep-22
Actual	 \$71.59 M	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:		Project Schedule:		
Approved	█ \$169.56 M	Approved Nov-15	█	Mar-28
Forecast*	█ \$169.56 M	Forecast* Nov-15	█	Mar-28
Actual	█ \$1.40 M	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

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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 the **Forecasted Cost and Forecasted Schedule**.

II. Local WECIP Quarterly Report

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.

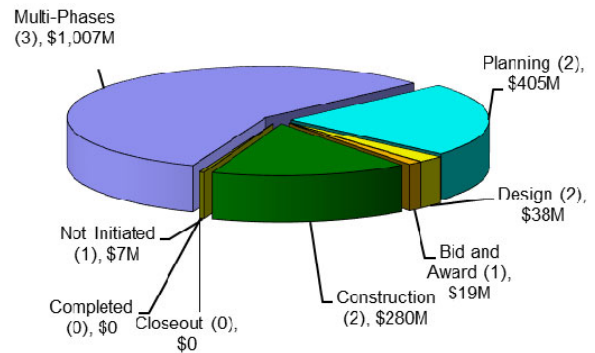


Figure 2.1 Total Current Approved Budget for Local Projects Active in Each Phase

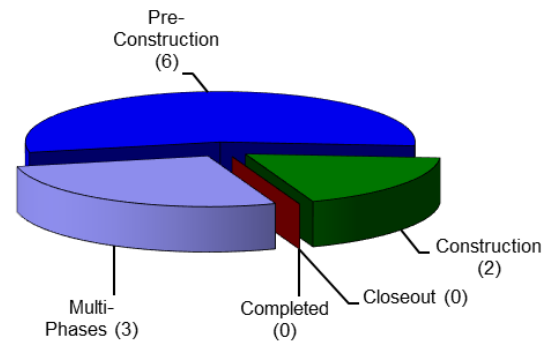


Figure 2.2 Number of Local Projects in Pre-construction, Construction, and Post-construction

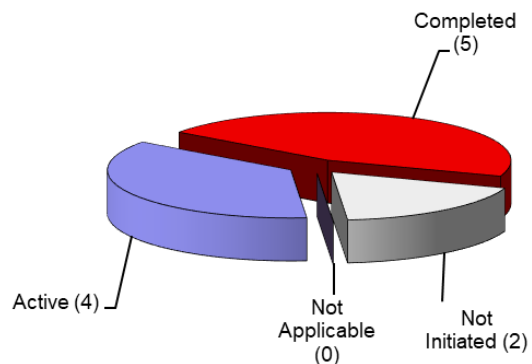
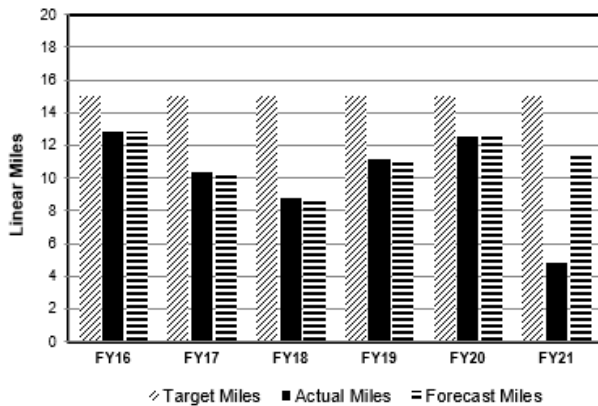


Figure 2.3 Local Program Environmental Status

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.



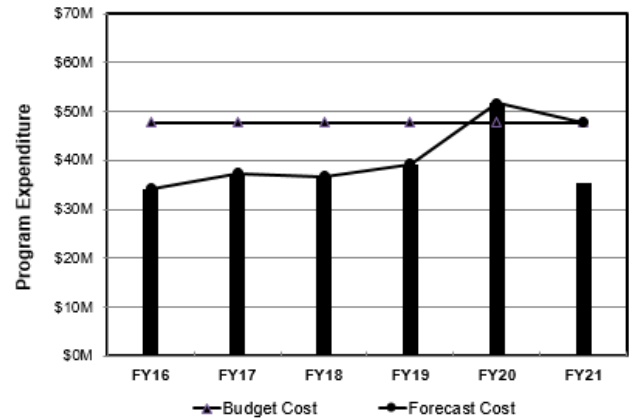
	FY16	FY17	FY18	FY19	FY20	FY21
Target Miles	15.0	15.0	15.0	15.0	15.0	15.0
Actual Miles	12.9	10.4	8.8	11.2	12.6	4.8
Forecast Miles						11.5

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:

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- 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:

- 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.
- Delivery Costs** include project management, planning, environmental (CEQA, permitting, construction compliance), design, construction management, and engineering support during construction.
- Other Costs** include environmental mitigation, art enrichment, security improvements, and real estate expenses.
- 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.
- 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.

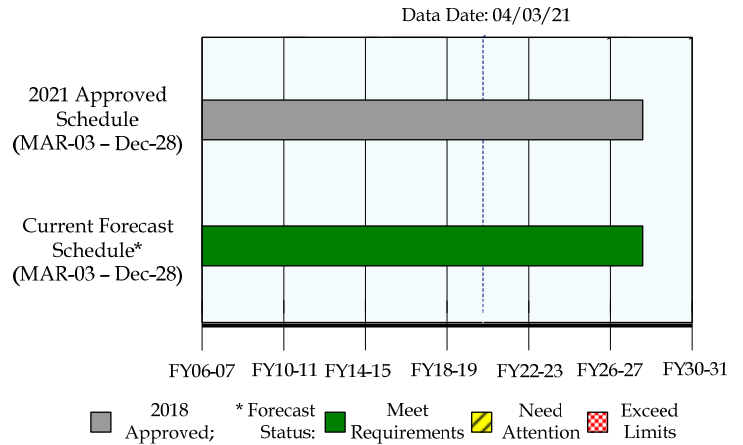


Figure 4.1 Program Schedule Summary

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.

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Q3-FY2020-2021 (01/01/21 - 03/31/21)

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	Current	Variance	
	Contract Cost	Forecasted Cost	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.

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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

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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:			Project Schedule:		
Approved		\$55.00 M	Approved Aug-19		Jun-28
Forecast*		\$55.00 M	Forecast* Aug-19		Jun-28
Actual		\$0.40 M	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:		Project Schedule:	
Approved 	\$5.00 M	Approved Jun-19 	Apr-23
Forecast* 	\$5.00 M	Forecast* Jun-19 	Apr-23
Actual 	\$1.91 M	Project Percent Complete: 37.8%	
			

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.



Exposed Town of Sunol Pipeline crossing Arroyo de la Laguna Creek







Issues and Challenges:

None at this time.

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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%		
					
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



WD-2766 Taraval Casings under Tracks







Street, Pierce Street, Castro Street, 21st Street, 17th Street, Baker Street, and 19th Avenue, and Casitas.

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:		Project Schedule:
Approved  \$32.67 M	Approved Jun-03  Jan-26	
Forecast*  \$32.67 M	Forecast* Jun-03  Jan-26	
Actual  \$4.46 M	Project Percent Complete: 13.7%	
		

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



Looking South across Lake Merced North Lake

whether to proceed with the Aeration Mixing Phase II.







Issues and Challenges:

None at this time.

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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:		Project Schedule:
Approved  \$66.55 M	Approved Jun-03  Jun-22	
Forecast*  \$66.55 M	Forecast* Jun-03  Jun-22	
Actual  \$61.95 M	Project Percent Complete: 94.1%	
		

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:		Project Schedule:
Approved  \$213.32 M	Approved Mar-03  Jan-23	
Forecast*  \$213.32 M	Forecast* Mar-03  Jan-23	
Actual  \$159.83 M	Project Percent Complete: 40.0%	
		

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.

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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.

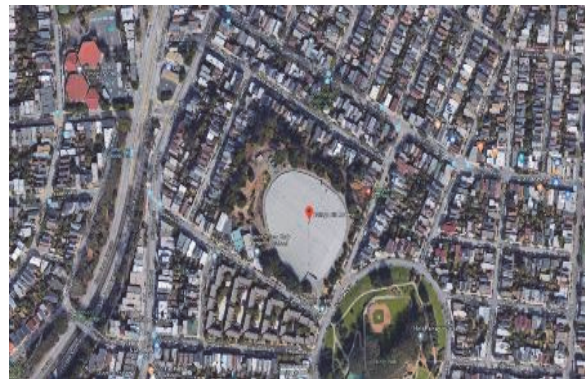
Program: Local Tanks/Reservoir Improvements	Project Status: Bid and Award	Environmental Status: Completed (CatEx)		
Project Cost: Approved  \$19.28 M Forecast*  \$19.28 M Actual  \$0.92 M		Project Schedule: Approved Jan-13  Jan-24 Forecast* Jan-13  Jan-24 Project Percent Complete: 5.0%		
 Approved;  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.



Aerial 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.

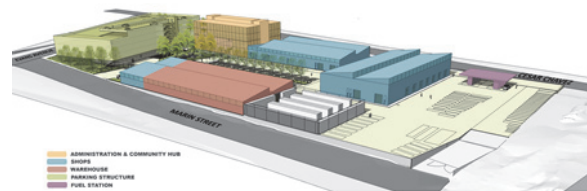
Program: Buildings and Grounds		Project Status: Planning		Environmental Status: Active	
Project Cost:			Project Schedule:		
Approved		\$350.19 M	Approved Feb-20		Jun-28
Forecast*		\$350.19 M	Forecast* Feb-20		Jun-28
Actual		\$0.03 M	Project Percent Complete: 0.0%		
					
Key Milestones:	Environmental 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

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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:			Project Schedule:		
Approved		\$205.51 M	Approved Apr-11		Dec-28
Forecast*		\$205.51 M	Forecast* Apr-11		Dec-28
Actual		\$29.36 M	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.

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APPENDICES

A PROJECT DESCRIPTIONS

B APPROVED PROJECT-LEVEL SCHEDULE

C LIST OF ACRONYMS

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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 and 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

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

Project Name	Start	Finish	FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027				FY2028				FY2029
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1
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																																	
CUWAW501 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	MW	Megawatt
ADEIR	Administrative Draft of the Environmental Impact Report	NEPA	National Environmental Policy Act
AWMP	Automated Water Meter Program	NLWS	North Lake Well Station
AWSS	Auxiliary Water Supply System	NRD	Natural Resources Division
BARR	Bay Area Regional Reliability	NTP	Notice to Proceed
BRT	Bus Rapid Transit	O&M	Operation and Maintenance
C&M	Construction and Maintenance	PAC	Powdered Activated Carbon
CalTrans	California Department of Transportation	PAH	Polycyclic Aromatic Hydrocarbons
CATEX	Categorical Exemption	PMF	Probable Maximum Flood
CDD	City Distribution Division	PREP	Potable Reuse Exploratory Plan
CEQA	California Environmental Quality Act	PRGC	Pacific Rod and Gun Club
CER	Conceptual Engineering Report	PS	Pump Station
CIP	Capital Improvement Program	PUC	Public Utilities Commission
CM	Construction Management	RF	Radio Frequency
CMB	Construction Management Bureau	RFP	Request for Proposal
COVID-19	Coronavirus Disease of 2019	RFQ	Request for Qualifications
CSPL2	Crystal Springs Pipeline Number 2	ROW	Right-of-Way
DCU	Data Collection Unit	RWQCB	Regional Water Quality Control Board
DFI	Dam Facility Improvements	RWS	Regional Water System
DIP	Ductile Iron Pipe	SAD	San Andreas Dam
DSOD	Division of Safety of Dams (State of California)	SAPL1	San Antonio Pipeline Number 1
EFWS	Emergency Firefighting Water System	SAPL2	San Antonio Pipeline Number 2
EIR	Environmental Impact Report	SAPS	San Antonio Pump Station
EIS	Environmental Impact Statement	SCADA	Supervisory Control and Data Acquisition
EMB	Engineering Management Bureau	SF	San Francisco
ESER	Earthquake Safety and Emergency Response	SFPUC	San Francisco Public Utilities Commission
FCC	Federal Communications Commission	SFPW	San Francisco Public Works (formerly SFDPW)
FY	Fiscal Year	STATEX	Statutory Exemption
GGNRA	Golden Gate National Recreation Area	SVWTP	Sunol Valley Water Treatment Plant
GGP	Golden Gate Park	SWWS	South Windmill Well Station
HTWTP	Harry Tracy Water Treatment Plant	T&O	Taste and Odor
HVAC	Heating, Ventilation, and Air Conditioning	TBD	To be determined
ITS	Information Technology Services	UV	Ultra Violet
JOC	Job Order Contract	VNBRT	Van Ness Bus Rapid Transit
MCC	Motor Control Centers	WE	Water Enterprise
MCP	Main Control Panel	WECIP	Water Enterprise Capital Improvement Program
MG	Million Gallons	WQD	Water Quality Division
MGD	Million Gallons per Day	WSIP	Water System Improvement Program
MIB	2-Methylisoborneol	WSTD	Water Supply and Treatment Division
MND	Mitigated Negative Declaration		
MOU	Memorandum of Understanding		

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DATE: August 17, 2021

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

FROM: Michael Carlin, Acting General Manager 

RE: Water Enterprise Capital Improvement Program
Quarterly Report (4th Quarter / FY 2020-2021)

Enclosed is the Water Enterprise Capital Improvement Program (WECIP) Quarterly Report for the period ending on June 30, 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.

London N. Breed
Mayor

Sophie Maxwell
President

Anson Moran
Vice President

Tim Paulson
Commissioner

Ed Harrington
Commissioner

Newsha Ajami
Commissioner

Michael Carlin
Acting
General Manager

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 design criteria for flow rates and hydraulics, structural design criteria, Ozone building configuration, in-plant electrical power requirements, and facility layout. Two criteria for the Ozone facility were selected during the reporting period, including the number of ozone generators and the configuration for the ozone cooling and carriage water system. The Geotechnical Interpretive Report was finalized. The Round 1 and 2 treatability testing work was completed. The Round 3 treatability testing work started.
- Construction of the San Andreas Pipeline No. 2 Lockbar Replacement project achieved Final Completion and the project is in closeout. The Commission accepted the work and authorize final payment to the contractor for the construction contract at its regular meeting on July 13, 2021.
- Excavation and corrosion assessment were completed for the Crystal Springs Pipeline No. 2 Reach 5 project. A draft Alternatives Analysis Report identifying the recommended alternative is being circulated for review. For the CSPL2 Reaches 2 and 3 project, geotechnical and survey work continued, and exploratory excavations for corrosion assessment will be performed next quarter.
- The Pilarcitos Dam Improvements project team completed the dam embankment stability analysis and coordinated with DSOD for review. In addition, the spillway hydraulic analysis was also completed.
- The Final Environmental Impact Report for the Southern Skyline Boulevard Ridge Trail Extension Project was approved by the Planning Commission, and the project was subsequently approved by the San Francisco Public Utilities Commission on May 11.
- Sunol Yard (Contract A): The as-built drawings and O&M manuals were turned over to Operations. The preparation of the project close-out dossier continued. Watershed Center (Contract B): The construction work on the architectural concrete walls, roof decking, sewage holding tank, rain harvest tank, and rough grading was completed during the reporting period. The construction work on the interior utilities, wall framing, HVAC and duct systems, and aquarium systems continued. The public art piece design work continued.
- No proposals were received during the bid opening of the Request for Proposals (RFP) PRO.0186 for consultant services for the Millbrae Yard Laboratory and Shops project. Discussion is ongoing regarding the contracting strategy in acquiring specialized services for the project moving forward.

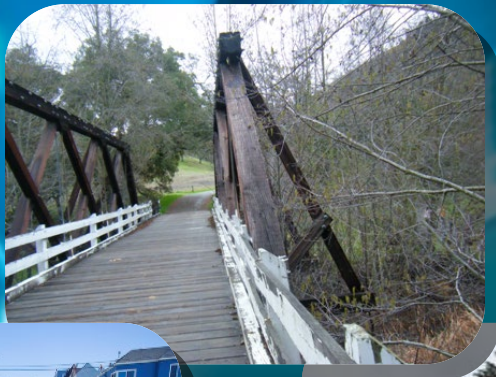
2. Local/In-City Water Enterprise Capital Improvement Program:

- At the start of FY21, the forecast mileage for FY21 was 11.5 miles, which correlated to the approved FY21 Capital Improvement Plan (CIP) Budget for 11.5 miles for FY20-FY21. Due to challenges with the COVID-19 pandemic, delays from joint projects lead by other agencies, and CIP funding limitations a total of only 8.4 miles were replaced. Projects currently under construction include the City streets of Geary between Van Ness and Kearny, L-Taraval between Sunset and SF Zoo, Pierce Street, Castro Street, 21st Street, 17th Street, Baker Street, 19th Avenue, and Casitas.
- The San Francisco Westside Recycled Water project made substantial progress on three construction contracts. At the treatment facility being constructed at Oceanside Plant, power, lighting, and instrumentation conduits and panels were installed. At the distribution pump station, concrete work was completed and pumps were installed. In Golden Gate Park, two backflow preventors were installed and the cross connection control testing began in April 2021.
- For the recycled water treatment facility, the ultraviolet light disinfection test protocol, the revised Engineering Report, and the Cross Connection Control Test Plan were submitted to the State Department of Drinking Water (DDW) for review. Project Operations Notification was also submitted to the State Regional Water Quality Control Board and the EPA. Work on the development of standard operating procedures (SOPs) and operator training modules began.
- Construction bids were opened for the College Hill Reservoir Outlet project on April 22; the lowest responsive bid received was below the engineer's estimate. The Commission awarded the contract on June 8.
- Proposals for design services for the New CDD Headquarters were received by May 18; these design services will supplement ongoing services from the Bureau of Architecture (BOA), Public Works. The Construction Management/General Contractor (CM/GC) Request for Qualifications/Proposals (RFQ/P) was advertised on June 18.

Enclosure



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



QUARTERLY REPORT

Water Enterprise Capital Improvement Program
Q4 FY 2020 | 2021
April 2021 — June 2021

Published: August 2, 2021

Quarterly Report

Water Enterprise Capital Improvement Program

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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 Water 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.

Projects move from the planning, design, and environmental review phase to contract-award and 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 (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 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 April 1, 2021 and June 30, 2021. This document serves as the fourth (4th) Quarterly Report in Fiscal Year 2020-2021 (FY21) published for the Water Enterprise Capital Improvement Program.

On April 13, 2021, the 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 June 30, 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 June 30, 2021: Pre-construction, Construction, and Post-construction.

Figure 2.3 summarizes the environmental review status of the 25 Regional projects as of June 30, 2021.

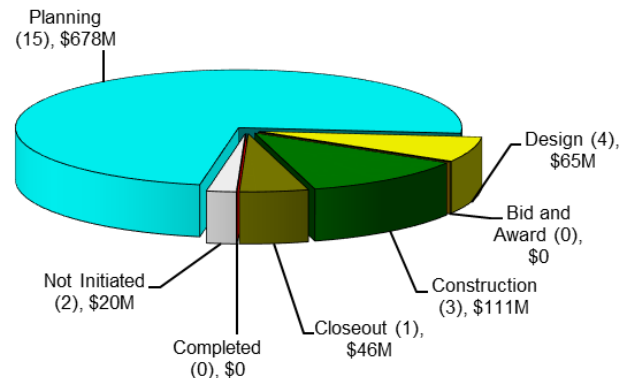


Figure 2.1 Total Current Approved Budget for Regional Projects Active in Each Phase

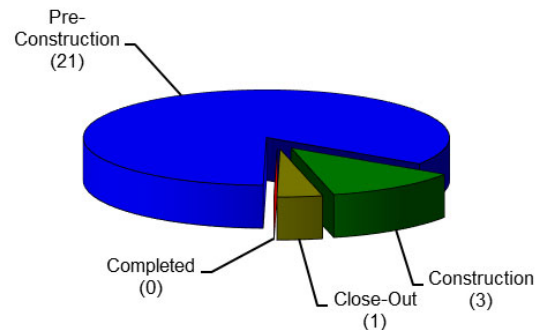


Figure 2.2 Number of Regional Projects in Pre-construction, Construction, and Post-construction

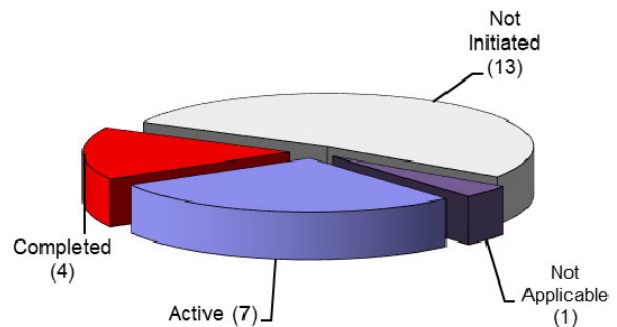


Figure 2.3 Regional Program Environmental Review

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 Q4/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 each \$2,674.2 million. The Current Approved Budget and Forecasted Cost at completion for only the Regional Program (including construction contingency) are each \$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)	Q4/FY20-21 Forecasted Costs (\$ Million) (E)	Cost Variance (\$ Million) (F = D - E)
Regional Improvement Projects	\$146.98	\$866.61	\$865.09	\$864.46	\$0.63
Construction Costs ⁽¹⁾	\$73.12	\$571.73	\$570.21	\$574.73	(\$4.52)
Program Delivery Costs ⁽²⁾	\$73.56	\$283.18	\$283.18	\$277.92	\$5.26
Other Costs ⁽³⁾	\$0.30	\$11.70	\$11.70	\$11.81	(\$0.11)
Construction Contingency for Regional Projects ⁽⁴⁾	\$6.49	\$52.18	\$53.70	\$54.33	(\$0.63)
Regional Program with Contingency	\$153.47	\$918.79	\$918.79	\$918.79	
Local Improvement Projects	\$605.13	\$1,755.36	\$1,755.36	\$1,755.36	-
PROGRAM TOTAL	\$758.60	\$2,674.16	\$2,674.16	\$2,674.16	-

Notes:

- 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.
- Delivery Costs** include project management, planning, environmental (CEQA, permitting, construction compliance), design, construction management, and engineering support during construction.
- Other Costs** include environmental mitigation, art enrichment, security improvements, and real estate expenses.
- 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.
- 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 each in June 2035. The 2021 Approved and Forecasted Schedule completion for the Regional CIP alone are also each in June 2035.

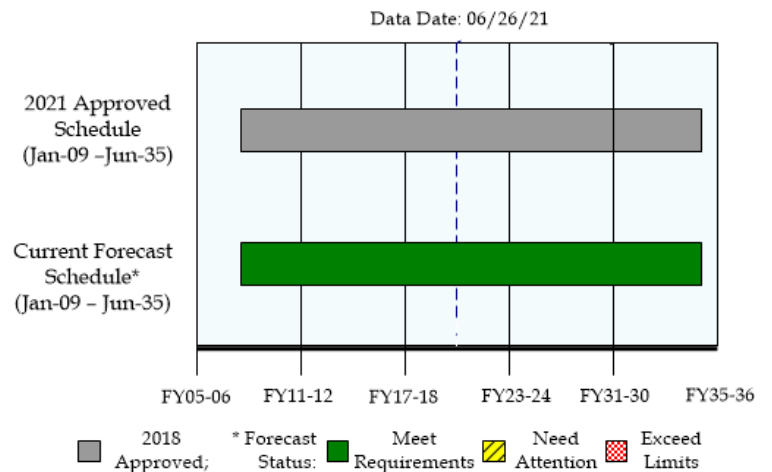


Figure 4.1 Program Schedule Summary

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 06/26/21

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	\$ 7,319	\$ 165,130	\$ 165,130	\$ 3,668	-	★	06/30/27	06/30/27	-	★	See Section 10
CUW272020402 - SVWTP Phase 3 and 4	PL	\$ 8,091	\$ 70,132	\$ 70,132	\$ 7,720	-	★	06/30/26	06/30/26	-	★	See Section 10
10037349 - HTWTP Improvements Capital	PL	\$ 577	\$ 14,404	\$ 14,404	\$ 70	-	★	06/28/24	06/28/24	-	★	See Section 10
10037350 - Regional Groundwater Treatment Improvement	PL	\$ 2,200	\$ 38,600	\$ 38,600	\$ 48	-	★	12/27/29	12/27/29	-	★	See Section 10
Water Transmission												
10034578 - CSPL2 Reach 5 Lining Replacement	PL	\$ 2,031	\$ 13,031	\$ 13,031	\$ 683	-	★	09/19/25	09/19/25	-	★	See Section 10
10035029 - As-Needed Pipeline Repairs	PL	\$ 1,800	\$ 6,795	\$ 6,795	\$ 147	-	★	08/25/28	08/25/28	-	★	See Section 10
10036839 - BDPL4 PCCP Repair	PL	\$ 500	\$ 54,750	\$ 54,750	\$ 73	-	★	11/22/23	11/22/23	-	★	See Section 10
10036840 - BDPL 1-4 Lining Repair	PL	\$ 500	\$ 9,350	\$ 9,350	\$ 110	-	★	08/25/28	08/25/28	-	★	See Section 10
CUW27301 - Corrosion Control	DS	\$ 10,450	\$ 24,900	\$ 24,900	\$ 7,102	-	★	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.

I. Regional WECIP Quarterly Report

Q4-FY2020-2021 (04/01/21 - 06/30/21)

All costs are shown in \$1,000s as of 06/26/21

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	\$ 632	-	★	03/19/25	03/19/25	-	★	See Section 10
CUW2730505 - CSPL2 Reaches 2 and 3 Rehabilitation	PL	\$ 2,520	\$ 50,041	\$ 50,041	\$ 1,393	-	★	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	\$ 207	-	★	06/29/35	06/29/35	-	★	See Section 10
CUW2740102 - Pilarcitos Dam Improvements	PL	\$ 6,680	\$ 30,087	\$ 30,087	\$ 3,332	-	★	06/29/29	06/29/29	-	★	See Section 10
CUW2740103 - San Andreas Dam Facility Improvements	PL	\$ 24,366	\$ 32,195	\$ 32,195	\$ 914	-	★	12/30/33	12/30/33	-	★	See Section 10
Watershed & Lands Management												
CUW2751401 - EBRPD WATER SYSTEM	CN	\$ 5,076	\$ 5,376	\$ 5,376	\$ 1,374	-	★	10/31/22	10/31/22	-	★	See Section 10
10015108 - Sneath Lane Gate/North San Andreas	PL	\$ 173	\$ 6,698	\$ 6,698	\$ 13	-	★	01/27/28	01/27/28	-	★	See Section 10
CUW2751801 - Southern Skyline Blvd Ridge Trail Extension	DS	\$ 5,846	\$ 21,805	\$ 21,805	\$ 4,850	-	★	09/11/23	09/11/23	-	★	See Section 10
CUW2752201 - SA-1 Service Road/Ingoing Road	PL	\$ 962	\$ 9,568	\$ 9,568	\$ 294	-	★	12/31/26	12/31/26	-	★	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 06/26/21

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												
10033555 - Rollins Road Building Renovations (CUW27703)	CN	\$ 5,192	\$ 5,192	\$ 5,192	\$ 2,371	-	★	06/30/22	06/30/22	-	★	See Section 10
10034526 - Millbrae Warehouse Settlement & Admin. Bldg. HVAC	DS	\$ 2,580	\$ 5,500	\$ 5,500	\$ 363	-	★	11/30/23	11/30/23	-	★	See Section 10
CUW27701 - Sunol Long Term Improvements	CN	\$ 107,155	\$ 100,414	\$ 100,414	\$ 74,833	-	★	09/13/22	09/13/22	-	★	See Section 10
CUW2770304 - Millbrae Yard Laboratory and Shop Improvements	PL	\$ 2,487	\$ 169,563	\$ 169,563	\$ 1,833	-	★	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	
Watershed & Lands Management								
CUW2751401 - WD-2865 PUC Sunol Rgnl WP WTR Sys	05/10/21	05/28/22	05/28/22	\$ 2,634,808	\$ 2,634,808	-	-	0.0%
Buildings and Grounds								
CUW27701 - WD-2794B Sunol Long Term Improvements - Watershed Center	03/09/20	03/16/22	03/16/22	\$ 29,440,773	\$ 29,440,773	-	-	43.0%

Program Total for On-Going Construction	Approved	Current	Variance	
	Contract Cost	Forecasted Cost	Cost	Percent
	\$ 32,075,581	\$ 32,075,581	\$0	0 %

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
Water Transmission				
CUW2730504 - San Andreas Pipeline No. 2 Replacement	06/07/21	04/13/21	\$ 35,517,646	\$ 32,540,499
TOTAL			\$ 35,517,646	\$ 32,540,499

9. COMPLETED PROJECTS











There are no completed projects.

I. Regional WECIP Quarterly Report

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: Approved  \$165.13 M Forecast*  \$165.13 M Actual  \$3.67 M		Project Schedule: Approved Jun-17  Jun-27 Forecast* Jun-17  Jun-27 Project Percent Complete: 2.3%		
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits				
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/02/23	08/09/23	12/21/23	12/19/26

Progress and Status:

The planning work continued to develop criteria for basin design flow rates and hydraulics, structural requirements, ozone building configuration, in-plant electrical power requirements, and facility layout. Two criteria for the ozone facility were selected during the reporting period, including the number of ozone generators and the configuration of the ozone cooling and carriage water systems. The Geotechnical Interpretive Report was finalized. The Round 1 and 2 treatability testing work was completed. The Round 3 treatability testing work started.













Example of Ozone Generator Unit

Issues and Challenges:

None at this time.

CUW272020402 - 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: Approved  \$70.13 M Forecast*  \$70.13 M Actual  \$7.72 M		Project Schedule: Approved Mar-14  Jun-26 Forecast* Mar-14  Jun-26 Project Percent Complete: 4.7%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

Progress and Status:

The project team continued analyzing and delineating the current total of twenty-five (25) scope items and developing the project delivery strategies and the work plan. The project team continued to review Technical Memoranda prepared for some of the scope items. Site visits to further refine scope requirements will occur during the next reporting period.

Issues and Challenges:

None at this time.








Concrete Scaling within SVWTP Sedimentation Basin to be Repaired by Project

I. Regional WECIP Quarterly Report

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.

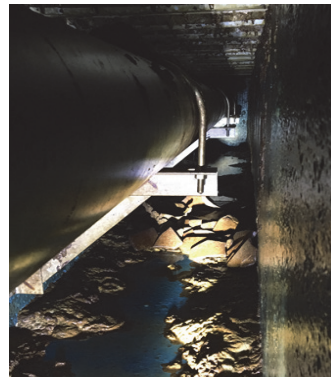
Program: Water Treatment		Project Status: Planning		Environmental Status: Not Initiated	
Project Cost:			Project Schedule:		
Approved		\$14.40 M	Approved Nov-20		Jun-24
Forecast*		\$14.40 M	Forecast* Nov-20		Jun-24
Actual		\$0.07 M	Project Percent Complete: 2.7%		
					
Key Milestones:	Environmental 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 Conceptual Engineering Report was finalized for the replacement of the existing plastic underdrains of Filters 1-6 with stainless steel underdrains. The design phase was initiated during the quarter. Fifty percent design milestone is anticipated to be completed within the next quarter.

Issues and Challenges:

None at this time.








Filter Gullet beneath Plastic Underdrains with Failed Grout

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
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Project Cost:		Project Schedule:	
Approved	 \$38.60 M	Approved Aug-20	 Dec-29
Forecast*	 \$38.60 M	Forecast* Aug-20	 Dec-29
Actual	\$0.05 M	Project Percent Complete: 0.1%	
			

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:

The final workshop to review the various treatment options was held with Operations. Responses to comments on the final draft report on the various treatment options are being prepared and the final report will be available in the next quarter.

Issues and Challenges:

None at this time.









Typical Well Pump

I. Regional WECIP Quarterly Report

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
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Project Cost:		Project Schedule:	
Approved	 \$13.03 M	Approved Feb-19	 Sep-25
Forecast*	 \$13.03 M	Forecast* Feb-19	 Sep-25
Actual	 \$0.68 M	Project Percent Complete: 5.6%	
			

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:

The alternatives for this project were scored by the scoring committee. The highest scoring alternative, lining replacement of the existing pipeline with cement mortar lining, will be presented to the Technical Steering Committee to be moved forward to the Conceptual Engineering Phase next quarter.









CSPL2 Reach 5 Alignment inside the Golden Gate National Cemetery

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 	\$0.15 M	Project Percent Complete: 4.3%
		

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:

The Conceptual Engineering Report was circulated for review and presented to the Technical Steering Committee; approval was granted to proceed with the design phase. In preparing the pipeline repair design and contract documents, consideration will be given to assure safe entry into the pipelines for personnel and to coordinate regional transmission pipeline shutdowns to ensure water demands are met during the construction period.



Typical Pipeline Repair with WEKO Seals






Issues and Challenges:

None at this time.

I. Regional WECIP Quarterly Report

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		\$0.07 M	Project Percent Complete: 0.5%		
					
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 draft technical memorandum with recommendations for proposed improvements is being finalized and is anticipated to be distributed later this year. While project field investigations were being performed during the past quarter, several new leaks were discovered. The pipeline was dewatered for an internal inspection, and temporary repairs were performed. Further investigation is needed to identify the cause of the leaks and to determine if changes to the project scope, budget and schedule are needed.

Issues and Challenges:







None at this time.



Excavation of Pipeline to Locate Source of Leak

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  \$0.11 M	Project Percent Complete: 1.4%	
		

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:

The Conceptual Engineering Report was circulated for review and presented to the Technical Steering Committee. Approval has been given to proceed with the design phase. In preparing the lining repair design and contract documents, consideration will be given to assure safe entry into the pipelines for personnel and to coordinate regional transmission pipeline shutdowns to ensure water demands are met during the construction period.



Typical Lining Defect











Issues and Challenges:

None at this time.

I. Regional WECIP Quarterly Report

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 into 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		\$7.10 M	Project Percent Complete: 28.7%		
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	06/29/18✓	08/27/21	02/01/22	12/29/23	

Progress and Status:

The Corrosion Control Phase 2 sub-project is currently in design. The project team is developing the design from 95% to 100% for eleven (11) of the fourteen (14) sites. Stanford University has signed the Purchase and Sale Agreement for the Temporary Construction Easement (TCE) deed for one (1) site. The TCE is needed for staging materials during construction at this one site located in the south east corner of Quarry Road and El Camino Real, Santa Clara, California.

Issues and Challenges:

The project team has not received response from PG&E for new power facilities at three (3) of the fourteen (14) sites. In order to not delay construction for the other sites, if this information is not received by bid date, construction at these three (3) sites will be postponed until the next phase.








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)
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Project Cost:	Project Schedule:
Approved  \$12.50 M	Approved May-16  Mar-25
Forecast*  \$12.50 M	Forecast* May-16  Mar-25
Actual  \$0.63 M	Project Percent Complete: 7.5%

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

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

Progress and Status:

The design team continued with the 65% design of the project. Several meetings were held with stakeholders to finalize the design requirements for all the electrical and Instrumentation and Controls (I&C) work. A site survey was also initiated to finalize the locations for the generator and for other auxiliary equipment.

Issues and Challenges:

None at this time.








San Antonio Pump Station building looking southeast

I. Regional WECIP Quarterly Report

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)
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Project Cost:	Project Schedule:
Approved  \$50.04 M	Approved Sep-16  Jun-26
Forecast*  \$50.04 M	Forecast* Sep-16  Jun-26
Actual  \$1.39 M	Project Percent Complete: 1.7%

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

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

Progress and Status:

San Francisco Public Works is performing additional surveying and geotechnical investigation work to be included in the draft Conceptual Engineering Report. A JOC contractor is scheduled to begin excavation for the corrosion investigation work early next quarter.

Issues and Challenges:

None at this time.









CSPL2 alignment along creek bank

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)
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Project Cost:		Project Schedule:	
Approved 	\$7.50 M	Approved Oct-20 	Jun-35
Forecast* 	\$7.50 M	Forecast* Oct-20 	Jun-35
Actual 	\$0.21 M	Project Percent Complete: 1.6%	
			

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/30/31	07/01/31	01/02/32	12/29/34

Progress and Status:

As part of the spillway condition assessment, design team completed a sub-drain inspection and a Ground Penetrating Radar (GPR) survey. A preliminary spillway condition assessment will be presented in the next quarter. A geotechnical investigation work plan for the site, including the dam embankment, spillway, and access road, was developed. Next quarter, this plan will be reviewed by the project team to ensure its coordination with environmental requirements, and then submitted to DSOD for review and approval.



Sub-Drain Inspection at the Turner Dam Spillway







Issues and Challenges:

None at this time.

I. Regional WECIP Quarterly Report

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		\$3.33 M	Project Percent Complete: 11.1%		
					
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:

During the reporting period, the project team completed the dam embankment stability analysis and coordinated with DSOD for its review. In addition, the spillway hydraulic analysis was also completed. Overall condition and needs assessment for the dam embankment, forebay outlet structure, spillway, outlet tunnel, and outlet pipeline is currently underway, and preliminary results will be available in the next quarter.

Issues and Challenges:











None at this time.



Pilarcitos spillway

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  \$0.91 M		Project Schedule: Approved Dec-13  Dec-33 Forecast* Dec-13  Dec-33 Project Percent Complete: 3.2%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

Design consultant completed the preliminary condition and needs assessment for the spillway and the emergency drawdown outlet structures. Preliminary embankment stability analysis and dam seismic hazard analysis continued during the quarter. A geotechnical investigation workplan for the dam embankment, spillway, and outlet works was developed. Environmental clearance and DSOD review and approval were all initiated. A bathymetric survey was completed during the reporting period.



Launching of barge for the Bathymetric Survey

Issues and Challenges:







The baseline schedule assumes the work on the spillway and emergency drawdown outlet structures will proceed independently of, and two years earlier than, the work on the dam embankment. However, based on the preliminary findings, it is recommended that alternatives analyze the interdependence of all system components, which may change the assumptions for construction sequencing. In addition, per the discussion with DSOD, their review and approval process for the geotechnical investigation for the entire project will take a minimum of 6 months. While this will not impact the schedule for the Condition and Needs Assessment phase, it will prolong the duration of the Alternatives Analysis phase. The schedule will be reforecast due to these

schedule impacts and provided in future quarterly reports.

I. Regional WECIP Quarterly Report

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: Construction	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	 \$1.37 M	Project Percent Complete: 26.2%		
				
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/05/20✓	10/09/20✓	05/10/21✓	05/28/22

Progress and Status:

Due to more time needed to obtain environmental permits and with the intent to avoid delay, two separate Notice to Proceeds (NTPs) were issued to the contractor (Cratus, Inc.) during the quarter. The first one was issued on May 10, 2021 for non-ground disturbance activities (activities not involving any manipulation of the environment) such as preparing required submittals. The second NTP followed on June 14, 2021, after the environmental permits were acquired, and allowed the contractor to proceed on all construction activities (including "ground disturbance activities"). The contractor mobilized to the site, and will proceed with construction activities in the next reporting period.



Sunol Regional Wilderness Park High Valley Area






Issues and Challenges:

None at this time.

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: <i>Water Supply & Storage</i>	Project Status: <i>Planning</i>	Environmental Status: <i>Not Initiated</i>
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Project Cost:		Project Schedule:	
Approved 	\$6.70 M	Approved Feb-21 	Jan-28
Forecast* 	\$6.70 M	Forecast* Feb-21 	Jan-28
Actual	\$0.01 M	Project Percent Complete: <i>0.4%</i>	
			

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 work continued this quarter. San Francisco Public Works began its work on the conceptual engineering report.

Issues and Challenges:

None at this time.









Sneath Lane Trailhead

I. Regional WECIP Quarterly Report

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)
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Project Cost:		Project Schedule:	
Approved 	\$21.81 M	Approved Oct-12 	Sep-23
Forecast* 	\$21.81 M	Forecast* Oct-12 	Sep-23
Actual 	\$4.85 M	Project Percent Complete: 23.6%	
			

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	05/11/21✓	07/20/21	12/20/21	03/15/23

Progress and Status:

During this quarter the Planning Department certified the Southern Skyline Blvd Ridge Trail Extension Final Environmental Impact Report (EIR) on April 29, and the San Francisco Public Utilities Commission adopted the findings and approved the project on May 11. Next quarter, the project team will prepare the construction contract for bid advertisement.



View of southern trail alignment







Issues and Challenges:

None at this time.

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)
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Project Cost:		Project Schedule:	
Approved 	\$9.57 M	Approved Jun-16 	Dec-26
Forecast* 	\$9.57 M	Forecast* Jun-16 	Dec-26
Actual 	\$0.29 M	Project Percent Complete: 2.2%	
			

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	03/16/23	07/25/23	01/02/24	01/01/25

Progress and Status:

The Alternative Analysis Report (AAR) was completed this quarter. The project team initiated the Conceptual Engineering Report (CER). Slope stabilization requirements will be further defined in the CER. A geotechnical survey and flight survey for the project were completed during the quarter. The biological survey and the habitat survey, both needed for environmental permit documentation, are underway. A third party estimator has been hired to provide independent estimates at the CER phase.

Issues and Challenges:

The construction cost estimate produced for the AAR was higher than the approved baseline construction cost estimate due to increased scope recommended for slope stabilization and also due to further definition of the project scope. The forecast will not be changed until an updated engineer’s estimate is provided at the CER phase. In addition, the project team will evaluate potential means to reduce the project cost to bring the cost back to the baseline.









Project Map – SA-1 Service Road/Ingoing Road

I. Regional WECIP Quarterly Report

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:		Project Schedule:		
Approved	 \$5.19 M	Approved Mar-18		Jun-22
Forecast*	 \$5.19 M	Forecast* Mar-18		Jun-22
Actual	 \$2.37 M	Project Percent Complete: 46.3%		
				
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, Notice to Proceed was issued for supplemental JOC task orders to perform exterior electrical, lighting, and security work. Next quarter, the JOC contractor will mobilize to perform the remaining scope of work.

Issues and Challenges:











None at this time.



View of newly installed fence on north property line

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:		Project Schedule:
Approved 	\$5.50 M	Approved Jan-17  Nov-23
Forecast* 	\$5.50 M	Forecast* Jan-17  Nov-23
Actual 	\$0.36 M	Project Percent Complete: 6.9%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	10/29/21	(A) 09/01/20✓ (B) 11/23/21	(A) 06/16/21✓ (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:

Construction Phase started for the Millbrae Warehouse Settlement subproject. Notice To Proceed (NTP) was issued for the Millbrae Loading Dock Repair subproject. Field work will start in July.

During the 35% design development of the Millbrae Administration Building HVAC Upgrades subproject, the project team considered that the existing building may not be designed for the new HVAC system's structural load and seismic requirements. The team is evaluating the option to install the new HVAC equipment outdoors to avoid increasing the seismic load on the building. The impact of this potential change will be further evaluated next quarter.



Existing Millbrae Administration Building











Issues and Challenges:

None at this time.

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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:		Project Schedule:		
Approved	 \$100.41 M	Approved Jan-09		Sep-22
Forecast*	 \$100.41 M	Forecast* Jan-09		Sep-22
Actual	 \$74.83 M	Project Percent Complete: 76.0%		
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits				
Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction+ NTP	Construction+ Final Completion
Current Forecast	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 as-built drawings and O&M manuals were turned over to Operations. The preparation of the project close-out dossier continued. Watershed Center (Contract B): The construction work on the architectural concrete walls, roof decking, sewage holding tank, rain harvest tank, and rough grading was completed during the reporting period. The construction work on the interior utilities, wall framing, HVAC and duct systems, and aquarium systems continued. The public art piece design work continued.



View of Future Watershed Center Entrance

Issues and Challenges:

The team received comments regarding ADA compliance concerning the text font size used on the exhibit signage; this change will require either an increase in the size of the signs themselves or a 50% reduction in the sign content. There is a delay to the bluestone etching work due to shortage of materials. The impacts from these issues will be reported in the next quarter.

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: Active (MND)		
Project Cost:		Project Schedule:		
Approved	█ \$169.56 M	Approved Nov-15	█ Mar-28	
Forecast*	█ \$169.56 M	Forecast* Nov-15	█ Mar-28	
Actual	█ \$1.83 M	Project Percent Complete: 1.1%		
█ Approved; █ Actual Cost; * Forecast Status: █ Meet Requirements █ Need Attention █ Exceed Limits				
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/27/23	11/06/24	04/15/25	10/02/27

Progress and Status:

The project is currently in the Conceptual Engineering Report (CER) phase. The scope of work for site and pipeline survey and potholing is being developed. A scope is also being developed to analyze the laboratory building layout and whether the laboratory and office spaces should be combined in the same building or housed in separate adjacent buildings. Coordination has also started with the real estate team regarding the Millbrae Yard property boundary, Caltrain easement along the east side, and current leases within the south side of the Millbrae Yard. In April of this quarter, no proposals were received in response to the Request for Proposals (RFP) for consultant planning and design services under contract PRO.0186. Discussion began thereafter and is ongoing regarding potential changes to the contracting strategy to acquire specialized services needed for the project design and engineering support during construction.



Existing Administration Building

Issues and Challenges:

The delay to acquiring consultant specialized services will delay completion of the CER phase. The project team is evaluating strategies to mitigate potential costs and schedule impacts for the delay and will provide updates on any impacts in future quarterly reports.

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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.

Projects move from the planning, design, and environmental review phase to contract-award and 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 the **Forecasted Cost and Forecasted Schedule**.

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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 April 1, 2021 and June 30, 2021. This document serves as the fourth (4th) Quarterly Report in Fiscal Year 2020-2021 (FY21) published for the Water Enterprise Capital Improvement Program.

On April 13, 2021, the 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 June 30, 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 June 30, 2021: Pre-construction, Construction, and Post-construction.

Figure 2.3 summarizes the environmental review status of the Local projects as of June 30, 2021.

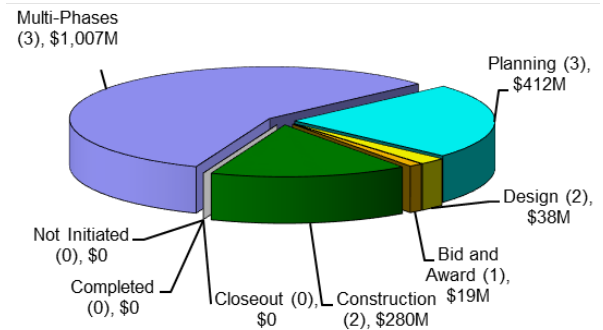


Figure 2.1 Total Current Approved Budget for Local Projects Active in Each Phase

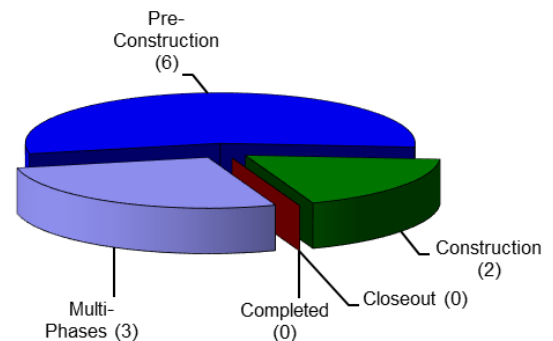


Figure 2.2 Number of Local Projects in Pre-construction, Construction, and Post-construction

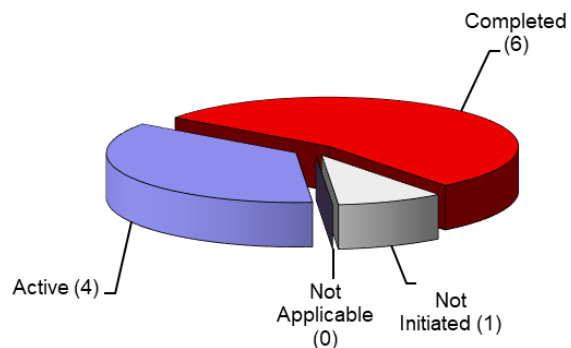
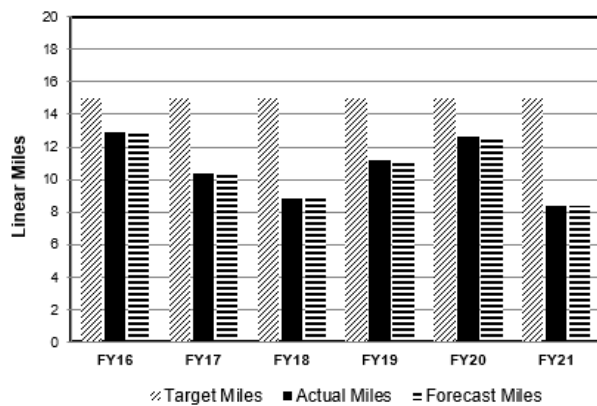


Figure 2.3 Local Program Environmental Status

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 were forecasted to be replaced and their construction to have achieved substantial completion by the start of FY22. However, challenges related to the COVID-19 pandemic caused delays to construction as well as delays to starting new construction projects, and thus a total of only 8.4 miles of pipe were replaced during FY21.



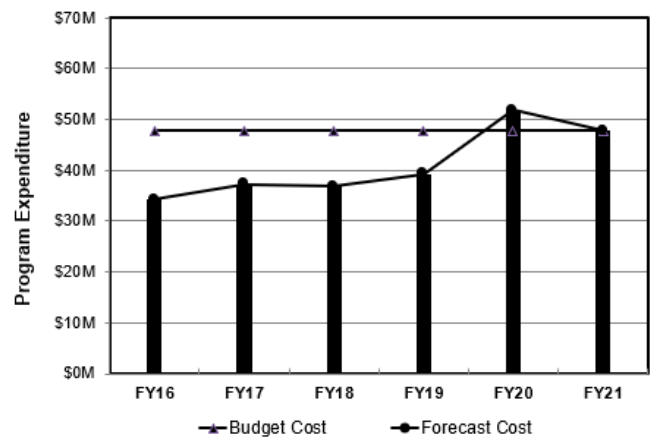
	FY16	FY17	FY18	FY19	FY20	FY21
Target Miles	15.0	15.0	15.0	15.0	15.0	15.0
Actual Miles	12.9	10.4	8.8	11.2	12.6	8.4
Forecast Miles						8.4

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

Water main replacement projects with construction underway in the 4th quarter of FY21 included the City streets of Pierce Street, Castro Street, 17th Street, Baker Street, 19th Avenue, and Casitas. Pipelines were replaced and water work was completed during the 4th quarter of FY21 on L-Taraval between Sunset and SF Zoo, 21st Street, and Geary between Van Ness and Kearny. Projects achieving substantial completion, including all paving restoration and curb ramp improvements during this quarter include L-Taraval between Sunset and SF Zoo.

Projects anticipated to start replacement of water pipelines in the 1st quarter of FY22 include Wawona Area Stormwater Improvement and Vicente Street Water Main Replacement (Vicente) as well as College Hill Reservoir and Pipeline (College Hill). Below are highlights of key projects scheduled to start next quarter:

- College Hill: Installation of 1,690 feet of 8-inch to 36-inch diameter seismically reliable welded steel and Earthquake Resistant Ductile Iron Pipe (ERDIP) distribution and transmission water mains associated with the inlet and outlet pipelines of College Hill Reservoir and surrounding area.



	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	\$47.8M
Forecast Expenditure						\$47.8M

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 will exceed the budgeted amount of

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\$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.
- 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 Q4/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 each \$2,674.2 million. The Current Approved Budget and Forecasted Cost at completion for only the Local Program (including construction contingency) are each \$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)	Q4/FY20-21 Forecasted Costs (\$ Million) (E)	Cost Variance (\$ Million) (F = D - E)
Local Improvement Projects	\$602.31	\$1,702.31	\$1,702.31	\$1,702.55	(\$0.24)
Construction Costs ⁽¹⁾	\$379.59	\$1,213.20	\$1,211.90	\$1,210.51	\$1.39
Program Delivery Costs ⁽²⁾	\$221.31	\$481.70	\$483.00	\$483.29	(\$0.29)
Other Costs ⁽³⁾	\$1.41	\$7.41	\$7.41	\$8.74	(\$1.33)
Construction Contingency for Local Projects ⁽⁴⁾	\$2.81	\$53.05	\$53.06	\$52.82	\$0.24
Local Program with Contingency	\$605.13	\$1,755.36	\$1,755.36	\$1,755.36	-
Regional Improvement Projects	\$153.47	\$918.79	\$918.79	\$918.79	-
PROGRAM TOTAL	\$758.60	\$2,674.16	\$2,674.16	\$2,674.16	-

Notes:

- 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.
- Delivery Costs** include project management, planning, environmental (CEQA, permitting, construction compliance), design, construction management, and engineering support during construction.
- Other Costs** include environmental mitigation, art enrichment, security improvements, and real estate expenses.
- 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.
- 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 each in June 2035. The 2021 Approved and Forecasted Schedule completion for the Local CIP are both each in December 2028.

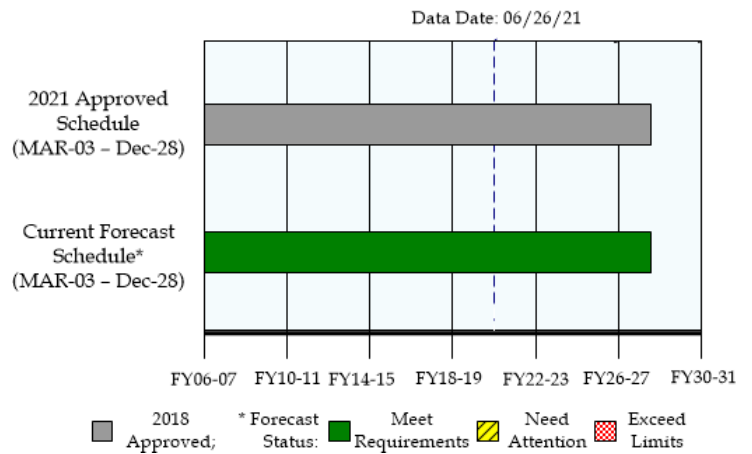


Table 4.1 2021 Approved vs. Current Forecast Schedule Dates

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 06/26/21

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	\$ 743	-	★	06/30/28	06/30/28	-	★	See Section 10
10033818 - Town of Sunol Pipeline	DS	\$ 3,925	\$ 5,000	\$ 5,000	\$ 2,006	-	★	04/03/23	04/03/23	-	★	See Section 10
CUW28000 - Local Water Conveyance/Distribution System	MP	\$ 438,693	\$ 750,581	\$ 750,581	\$ 298,851	-	★	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	\$ 4,534	-	★	01/30/26	01/30/26	-	★	See Section 10
CUW30102 - San Francisco Groundwater Supply	CN	\$ 68,701	\$ 66,552	\$ 66,552	\$ 62,087	-	★	06/30/22	06/30/22	-	★	See Section 10
CUW30201 - San Francisco Westside Recycled Water	CN	\$ 206,319	\$ 213,316	\$ 213,316	\$ 160,924	-	★	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	\$ 1,025	-	★	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.

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Q4-FY2020-2021 (04/01/21 - 06/30/21)

All costs are shown in \$1,000s as of 06/26/21

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
Pump Stations												
10015231 - HARDING PARK PS	PL	\$ 910	\$ 6,527	\$ 6,527	\$ 215	-	★	04/03/26	04/03/26	-	★	See Section 10
Buildings and Grounds												
10037249 - New CDD Headquarters	PL	\$ 10,000	\$ 350,192	\$ 350,192	\$ 170	-	★	06/28/28	06/28/28	-	★	See Section 10
Emergency Firefighting Water System												
Pipelines												
EFWS PL - EFWS Pipelines	MP	\$ 39,490	\$ 205,263	\$ 205,263	\$ 30,324	-	★	12/29/28	12/29/28	-	★	See Section 10
Pump Stations												
EFWS PS - EFWS Pump Stations	MP	\$ 49,388	\$ 45,245	\$ 45,245	\$ 38,788	-	★	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	01/24/22	\$ 6,663,324	\$ 6,948,360	166	(\$285,036)	42.8%
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	-	-	9.5%
10035043 - WD-2834 GEARY RAPID EAST of VAN NESS	07/22/19	10/26/21	11/12/21	\$ 4,214,400	\$ 4,069,400	(17)	\$ 145,000	64.2%
CUW280PR42 - WD-2616 BAKER STREET /SUTTER STREET	10/19/20	03/27/22	03/27/22	\$ 3,701,180	\$ 3,701,180	-	-	18.7%
CUW280PR48 - WD-2739 CASTRO STREET 19TH/26TH STREET	08/17/20	08/16/22	08/16/22	\$ 10,858,087	\$ 11,497,837	-	(\$639,750)	53.5%
CUW280PR73 - WD-2775 19TH AVE/VICENTE/LINCOLN	10/19/20	01/09/23	01/09/23	\$ 6,606,915	\$ 6,606,915	-	-	6.8%
CUW280PR74 - WD-2693 21ST STREET/FORD/HANCOCK	05/26/20	12/30/21	12/30/21	\$ 3,970,422	\$ 4,208,422	-	(\$238,000)	50.8%

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	-	-	7.0%
CUWAWSAW04/CUWAW2AW24 - WD-2687R Pump Station # 2	12/12/17	12/30/21	12/30/21	\$ 20,623,887	\$ 20,623,887	-	-	69.6%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 187,152,950	\$ 188,170,736	(\$1,017,786)	(0.5%)

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.

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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

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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: Completed (CatEx)		
Project Cost:		Project Schedule:		
Approved	 \$55.00 M	Approved Aug-19		Jun-28
Forecast*	 \$55.00 M	Forecast* Aug-19		Jun-28
Actual	 \$0.74 M	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	N/A	N/A	TBD	TBD

Progress and Status:

Under the EFWS Pipelines project during this quarter, the configuration, routes, and construction sequencing for the multiple PEFWS pipeline contracts were analyzed. The project funding in 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.









Earthquake Resistant Ductile Iron Pipe with flexible joints that may be used in the PEFWS projects

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 (MND)
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Project Cost:		Project Schedule:	
Approved 	\$5.00 M	Approved Jun-19 	Apr-23
Forecast* 	\$5.00 M	Forecast* Jun-19 	Apr-23
Actual 	\$2.01 M	Project Percent Complete: 43.9%	
			

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	TBD	07/13/21	01/05/22	10/04/22

Progress and Status:

During this reporting period, the project design team completed the sizing of the tunnel based on geotechnical investigation. It was concluded that a larger diameter tunneling machine and casing would be required than originally anticipated, which would substantially increase the construction cost. The team evaluated that the alternative of open-cut trenching across Arroyo de la Laguna would be much less expensive than the microtunneling alternative. Thus, the team stopped the 65% design for the microtunneling and restarted the 10% design for the alternative open-cut trenching across Arroyo de la Laguna. Coordination with the various Caltrans projects in the area continued to be discussed with Caltrans. The Highway 680 Crossing construction by Alameda County Transportation Agency has also started.



Exposed Town of Sunol Pipeline crossing Arroyo de la Laguna Creek

the completion of the Mitigated Negative Declaration (MND), environmental permits, and real estate negotiations. The new forecast will be available in the next quarterly report.







Issues and Challenges:

Due to the substantial increase in construction costs for the 65% tunneling design, the project is currently evaluating the cost and schedule to complete the project using open-cut trenching instead. While this will reduce the construction cost significantly, the duration will be increased for at least thirty months for

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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	 \$298.85 M	Project Percent Complete: 33.8%		
				
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:

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 commercial and residential areas. At the start of FY21, the forecast mileage for FY21 was 11.5 miles, which correlated to the approved FY21 Capital Improvement Plan (CIP) Budget for 11.5 miles for FY21-FY22. Due to challenges with the COVID-19 pandemic, delays from joint projects lead by other agencies, and CIP funding limitations, a total of only 8.4 miles were replaced during FY21. Projects currently under construction include the City streets of Geary between Van Ness and Kearny, L-Taraval between Sunset and SF Zoo, Pierce



Water Main Replacement at Castro and 21st Street







Street, Castro Street, 21st Street, 17th Street, Baker Street, 19th Avenue, and Casitas.

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:		Project Schedule:
Approved 	\$32.67 M	Approved Jun-03  Jan-26
Forecast* 	\$32.67 M	Forecast* Jun-03  Jan-26
Actual 	\$4.53 M	Project Percent Complete: 14.3%
		

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 interests in real estate that might support planned construction activities. SFPUC and Daly City have restarted regulatory coordination with the Regional Water Quality Control Board (RWQCB) in order to facilitate project discharge permitting. Bid and Award is currently scheduled for early 2022.

Aeration Mixing System (Contract B): In August 2017 the SFPUC implemented a demonstration project to improve the 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 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



South Lake Merced

Mixing Phase II.

Lake Merced Recycled Water Diversion (Contract C): SFPUC is continuing preliminary design and water quality evaluation of the proposal to divert excess recycled water from the new Westside Recycled Water Plant into Lake Merced to manage lake levels.







Issues and Challenges:

None at this time.

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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:		Project Schedule:
Approved  \$66.55 M	Approved Jun-03  Jun-22	
Forecast*  \$66.55 M	Forecast* Jun-03  Jun-22	
Actual  \$62.09 M	Project Percent Complete: 95.2%	
		

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 at the end of last quarter, on 3/31/2021. The contractor continued preparation of final as-built drawings during the reporting quarter. The Commission resolved to approve close out of the project at its May 11 regular meeting.

For Phase 2 (Contract C), the contractor continued working on punchlist items; closeout documents; processing of remaining change orders, including change orders relating to COVID cost impact, deductive bid items, 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:		Project Schedule:
Approved  \$213.32 M	Approved Mar-03  Jan-23	
Forecast*  \$213.32 M	Forecast* Mar-03  Jan-23	
Actual  \$160.92 M	Project Percent Complete: 42.8%	
		

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 04/29/22 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): 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. The first draft of the start-up test and commissioning sequence and schedule was submitted and reviewed by the project team. The ultraviolet light disinfection test protocol was submitted to the State Department of Drinking Water (DDW) for review. The revised Engineering Report, and Cross Connection Control Test Plan were also submitted to the State DDW. Project Operations Notification was also submitted to the State Regional Water Quality Control Board and the EPA. Work on the development of standard operating procedures (SOPs) and operator training modules began.

Distribution Pump Station and Reservoir (Contract B): Concrete work at the pump station was completed. The pumps were installed, and installation of mechanical piping began.

Pipeline (Contract C) is complete.

Irrigation System Retrofit (Contract D): The installation of purple quick connect couplers and valve tags began, with several sections of Golden Gate Park completed by the end of the quarter. Two backflow preventors were installed. The cross connection control testing of Golden Gate Park began in April 2021.







Issues and Challenges:

None at this time.

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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:		Project Schedule:		
Approved	 \$19.28 M	Approved Jan-13	 Jan-24	
Forecast*	 \$19.28 M	Forecast* Jan-13	 Jan-24	
Actual	 \$1.02 M	Project Percent Complete: 5.2%		
				
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/20/19✓	02/24/21✓	08/09/21	09/02/23

Progress and Status:

Bid opening occurred on April 22, 2021. A total of four bids ranging from \$12,180,497 to \$20,589,800 were received. The Engineer's Estimate was \$12,500,000 to \$13,500,00. On June 8, 2021, the SFPUC Commission awarded the construction contract to Ranger Pipelines for a total contract price of \$12,180,497. Construction Notice to Proceed is estimated for August 2021.

Issues and Challenges:











None at this time.



Aerial View of College Hill Reservoir

10015231 - HARDING PARK PS

Project Description: 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.

Program: Pump Stations	Project Status: Planning	Environmental Status: Not Initiated
Project Cost: Approved  \$6.53 M Forecast*  \$6.53 M Actual  \$0.21 M		Project Schedule: Approved Jul-21  Apr-26 Forecast* May-21  Apr-26 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	N/A	02/02/24	10/04/24	10/03/25

Progress and Status:

The project team started developing the scope of work for Needs Assessment and Alternatives Analysis and solicited a cost proposal from Department of Public Works for engineering support.

Issues and Challenges:

None at this time.

II. Local WECIP Quarterly Report

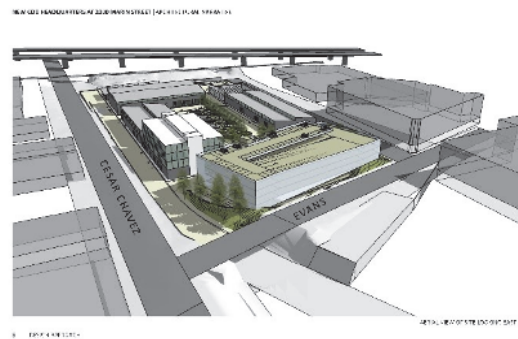
10037249 - New CDD Headquarters

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		\$0.17 M	Project Percent Complete: 0.2%		
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	06/30/23	06/18/21✓	07/03/23	12/31/27	

Progress and Status:

Schematic Design is underway. Proposals in response to the RFP for PRO.0198 Design Services were received during the quarter on May 18. PRO.0198 Design Services is intended to supplement services from the Bureau of Architecture, Public Works. This project will be delivered through a Construction Management/General Contractor (CM/GC) contract. The CM/GC RFQ/P was advertised on June 18, 2021. Bids are due in early August 2021.













Aerial Rendering of Campus

Issues and Challenges:

None at this time.

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  \$205.26 M Forecast*  \$205.26 M Actual  \$30.32 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 last quarter on February 1, 2021. Construction activity this quarter has been delayed while awaiting results of a tree removal appeal.
- 19th Avenue Pipeline:
This project is part of Public Works’ Contract 2652J, 19th Avenue Roadway Improvements. The goal of this project is to install two pipe segments on 19th Avenue: a new 20-inch diameter Emergency Firefighting Water System (EFWS) pipeline on 19th Avenue from Irving St to Kirkham St and a new 36-inch diameter welded steel Potable Emergency Firefighting Water System (PEFWS) pipeline on 19th Ave from Vicente Street to Sloat Blvd. Construction continues and completion is expected in December 2022.
- Terry Francois Blvd (TFB) Mission South Pipeline:
Construction continues and is on track to be completed by July 2021 for the new 20-inch diameter EFWS pipeline on TFB from Mission Rock Street to Warriors Way.
- Street Valve Motorization:
Project team is coordinating with other project teams on specifications for construction contract.
- EFWS Studies:
Future fire water demands and seawater supply studies were completed in June 2021 and were shared with the Board of Supervisors in response to a commitment made to the Civil Grand Jury. Future EFWS development study is expected to be completed by December 2021.
- PEFWS Pipeline:
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 Wastewater Enterprise Construction Contract, WW-711. The contract was awarded, and NTP is expected in July 2021. This pipe will connect to the PEFWS pipeline installed on 19th Avenue.

- AWSS PS/Pipeline - Lake Merced:
Project is in the planning phase.
- Fireboat Manifolds:
Planning in progress. The project includes installation of new fireboat manifolds and pipelines at Fort Mason and near Pier 33.5.







Issues and Challenges:

None at this time.

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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:			Project Schedule:		
Approved		\$45.25 M	Approved Apr-11		Dec-28
Forecast*		\$45.25 M	Forecast* Apr-11		Dec-28
Actual		\$38.79 M	Project Percent Complete: 93.7%		
					
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. The conclusion from the final draft AAR is to proceed with the Central Pump Station site. The final draft AAR is being circulated for signature approval, expected July 2021.

Issues and Challenges:

None at this time.



Roof installation of Pump Station No. 2

APPENDICES

A PROJECT DESCRIPTIONS

B APPROVED PROJECT-LEVEL SCHEDULE

C LIST OF ACRONYMS

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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 and 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

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

Project Name	Start	Finish	FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027				FY2028				FY2029			
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4
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																																				
CUW2752201 San 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																																				



APPENDIX C. LIST OF ACRONYMS

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

Appendices

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